Casino Project

# Executive Summary

September 2025

CASINO

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SECTION E.1

# Introduction

**This Executive Summary summarizes the Environmental and Socio-economic Effects (ESE) Statement prepared by Casino Mining Corporation (Casino) for the proposed Casino Project (Casino Project or Project).**

This document provides a non-technical overview of the ESE Statement and the studies and assessments that informed the Project description and the effects assessments detailed in the ESE Statement. The latter section summarizes the outcomes related to the Valued Environmental and Socio-economic Components (VESECs), including potential Project-related and cumulative environmental and socio-economic effects, proposed mitigation, management and compensation measures, and significance considerations.

Residual effects of the Project and residual cumulative effects were predicted to be not significant across all VESECs.

## E.1.1 Casino Project Overview

Exploration began in the Casino Project area in the early 20th century, with the first mineral claim staked in 1917. After decades of exploration activities by others, Western Copper and Gold Corporation acquired the Casino Project site in 2006 and established Casino Mining Corporation (Casino), a wholly owned subsidiary of Western Copper and Gold.

Casino proposes the construction, operation, and closure of a copper, gold, molybdenum, and silver mine in west central Yukon, Canada. Key Project components include:

- an open pit mine;
- processing facilities such as a mill and heap leach facility (HLF);
- waste management infrastructure including a tailings management facility (TMF) and waste rock dumps;
- a power plant;
- water supply, management and treatment systems;
- initial and main camps;
- access and site roads; and
- an airstrip.

> **The Project is expected to produce an approximate average of 164 million pounds of copper, 259 thousand ounces of gold, and 15 million pounds of molybdenum annually over a 27-year mine life, which would position Casino as Canada's second-largest copper producer and its largest molybdenum producer.**

## A STRATEGIC CRITICAL MINERALS PROJECT

Casino's guiding focus - *Critical Minerals, Developed Together* – reflects the Project's purpose: to deliver lasting social, economic, and strategic benefits of national importance to the Yukon and Canada.

The proposed Project, reflects Casino's efforts over nearly two decades of work to develop a robust and sustainable project that:

- Incorporates best available technologies to achieve safety and environmental objectives;
- Reflects Indigenous knowledge and interests;
- Delivers significant social and economic benefits to First Nations, Yukoners, and Canadians by supporting the energy transition and providing multi-generational economic opportunities; and
- Advances Canada's reconciliation, environmental, economic security, and Arctic security goals.

The Project's scale provides a foundation for strategic infrastructure development in the Yukon, while its critical minerals production supports national supply chain objectives and allied partnerships. Its northern location and long operational timeline contribute to Arctic security through sustained economic activity and population stability.

## PROJECT BENEFITS

Substantial economic benefits are expected at local, territorial, and federal levels during construction and throughout the 27-year mine life, enabling investments in infrastructure, education, healthcare and other sectors. With an estimated $3.6 billion in initial capital investment and $645 million in average annual operating expenditures, the Project represents one of the largest private sector investments ever proposed in the Yukon.

It is projected[1] to:

- Contribute an estimated $44.1 billion to Canada's Gross Domestic Product, with $37.2 billion generated within the Yukon
- Employ approximately 1,400 people during construction, 700 during operation, and 350 during closure at the mine site, plus thousands of indirect positions across Canada
- Generate annual tax revenues during mine operation of $175 million territorially and $231 million federally.

Beyond its economic contributions, the Project will help address projected supply gaps in critical minerals essential for renewable energy infrastructure and advanced manufacturing. Copper is vital to the global energy transition, supporting renewable energy systems, electric vehicles, battery storage, and grid electrification. Molybdenum is key to producing high-strength, corrosion-resistant steel alloys used in modern infrastructure and emerging technologies such as wind, solar, and geothermal power. These benefits - subject to regulatory approval and successful Project execution - align with Canada's policy priorities for economic growth, supply chain resilience, climate action, environmental protection, Indigenous reconciliation, and northern development.

## COMMITMENT TO ENGAGEMENT, ENVIRONMENTAL AND SOCIAL PERFORMANCE

Casino takes seriously the interests and concerns of affected First Nations and other parties. Since acquiring the Project in 2006 and initiating Yukon's project review processes, Casino has engaged extensively with affected First Nations, communities, stakeholders, the Yukon Environmental and Socio-economic Assessment Board (YESAB), and territorial and federal agencies to gather knowledge, feedback, and information. This input has informed the Project design, and the ESE Statement assessments and environmental management and monitoring plans.

1 *Based on prices used in the 2022 Feasibility Study; this included assumptions of long-term commodity prices of US$1,700 per ounce for gold and US$3.60 per pound for copper.*

The ESE Statement outlines how this engagement has shaped the assessment. Recognizing the value of collaboration, Casino will continue to engage with these groups throughout the life of the Project.

Casino is committed to excellence in environmental and social performance. Project development is guided by modern best practices in mining and a governance framework aligned with international environmental, social, and governance (ESG) standards. Indigenous reconciliation is a central pillar of Casino's ESG approach.

The company recognizes the rights and interests of Yukon First Nations, including those established under the Umbrella Final Agreement (UFA) and Final Agreements, and is committed to negotiating Impact and Benefit Agreements (IBAs) with affected First Nations. These agreements will provide hiring, training, and business development opportunities, embedding Indigenous participation and leadership into employment and contracting, and establishing durable pathways for shared prosperity and long-term governance.

Overall, the Casino Project represents a transformative opportunity for the Yukon. With careful planning and responsible implementation, it has the potential to drive economic growth, create jobs, develop infrastructure, generate revenue, and promote social and environmental responsibility - while meeting international standards for sustainability and corporate responsibility.

The Project is undergoing an environmental assessment by an independent review Panel appointed by YESAB. While potential effects must be carefully considered, they should be weighed against the considerable potential benefits to affected First Nations, Yukoners, and Canada as a whole.

## E.1.2 ESE Statement Overview

The purpose of the ESE Statement is to describe the Casino Project, identify its potential environmental and socio-economic effects and benefits, assess the significance of likely adverse effects, and outline mitigation measures and alternatives to reduce those effects. The ESE Statement was prepared in accordance with the *Revised Environmental and Socio-economic Effects Statement Guidelines – Casino Mine Project Review*, issued by YESAB in September 2023 under the *Yukon Environmental and Socio-Economic Assessment Act* (YESAA). Statement development, including the selection of VESECs was informed by extensive consultation with First Nations, the public, decision bodies, and government agencies.

This Executive Summary satisfies the requirement under the Guidelines to provide a concise overview of the ESE Statement. For comprehensive details on the full effects assessment, please refer to the complete ESE Statement.

## E.1.3 Yukon Assessment Overview

Major development projects require a comprehensive evaluation of the potential risks and effects on the surrounding physical, biological, cultural, social, and socio-economic environment. The legislative and regulatory framework governing the Casino Project is both robust and thorough. YESAA establishes a transparent and rigorous process for assessing the environmental and socio-economic effects of specific activities in the Yukon. The Casino Project is an activity subject to assessment under YESAA[2].

Following screening of the original project proposal submitted by Casino in 2014, the Executive Committee of YESAB referred the Casino Project to a Panel Review[3] in 2016.

2 *Pursuant to the Assessable Activities, Exceptions and Executive Committee Projects Regulations (SOR/2005-379).*

3 *The roles, responsibilities, requirements, and procedures for environmental and socio-economic assessment are set out in YESAA, regulations, and in various rules and guidance documents issued by YESAB. The review process is administered by the YESAB. More information about YESAA, YESAB, and the assessment process can be found at http://www.yesab.ca.*

In 2023, after extensive consultation with First Nations, and decision bodies, YESAB issued the *Revised Environmental and Socio-economic Effects Statement Guidelines – Casino Mine Project Review*. These Guidelines outline the information required in Casino's ESE Statement to support the Panel Review process. The Guidelines reflect updates to the Project design, changes in environmental and socio-economic conditions, and enhancements to YESAB's assessment methodology and practices. This ESE Statement supersedes the original 2014 proposal submitted to YESAB by Casino, as it includes updated design information, current standards and best practices, expanded baseline data, and current modelling and analytical approaches.

The Panel process is designed to evaluate potential effects of the Project and determine the need for measures to protect environmental quality, socio-economic values, heritage resources, and the well-being of First Nations and other Yukon residents, in alignment with the goals of YESAA. Casino recognizes the importance of a robust and transparent environmental assessment process in supporting informed government decision-making – balancing potential adverse effects with effective mitigation measures and the significant benefits the Project offers to First Nations, Yukoners, and Canadians.

The submission of this ESE Statement represents the culmination of many years of work to develop a comprehensive, high-quality body of information that meets the Guidelines and provides sufficient technical detail – both quantitative and qualitative – to support review by the Panel, affected First Nations, and other interested parties, and to inform subsequent decision-making.

The Panel's mandate, scope of assessment, and procedural requirements will be further defined in Terms of Reference (TOR) to be developed by YESAB following ESE Statement submission, as outlined in the Rules for Reviews Conducted by Panels of the Yukon Environmental and Socio-economic Assessment Board.

The Panel review process is expected to include the following key steps:

- Executive Committee reviews the ESE Statement to determine whether sufficient information has been provided for a Panel to proceed with technical analysis
- Once deemed sufficient, the Executive Committee establishes the Panel and finalizes the TOR
- The Panel undertakes technical analysis of the ESE Statement
- Public hearings are held by the Panel
- Panel prepares a final report with recommendations and rationale for decision bodies

A favorable decision by the decision bodies will allow Casino to proceed with licensing and permitting applications to acquire approvals to construct, operate, and close and reclaim the mine. Key approvals include a Quartz Mining License from the Government of Yukon under the Quartz Mining Act, and a Type A Water Licence from the Yukon Water Board under the Waters Act, along with various other federal, territorial, and any required First Nations authorizations.

SECTION E.2

# Project Studies and Planning

**Casino's team has undertaken a progressive and evolving program of environmental, socio-economic, and engineering studies from 2007 to 2025 to inform Project planning and design.**

The program has included:

- Wide-ranging baseline surveys to collect data on physical, biological, social, and cultural conditions in the Project area and the broader region;
- Technical inputs to support facility siting and the design of Project components; and
- An extensive engagement program involving affected First Nations, local communities, and government.

Comprehensive baseline and engineering studies were conducted to support the submission of Casino's original proposal to the YESAB Executive Committee in January 2014 for screening under YESAA. Some studies continued beyond that period, followed by a substantial update to baseline characterization and additional design studies undertaken between 2021 to 2025 for the current proposed Project. This substantive body of work provides a strong foundation for the effects assessments presented in the ESE Statement.

Examples include:

- To assess potential effects on the Klaza caribou herd (KCH), Casino has conducted aerial and ground surveys, analyzed Yukon government data, and incorporated input from biologists, First Nations (including traditional knowledge), researchers, and local residents. This comprehensive effort—supported by modern technology and modeling—provides a strong ecological basis for understanding herd distribution, population trends, habitat use, and hunting pressures.
- The Project has advanced through extensive resource exploration and a series of prefeasibility, and feasibility studies, and detailed alternatives assessments, each contributing to a design informed by geotechnical, geochemical, hydrological, hydrogeological, and metallurgical related data. These efforts have led to significant refinements in Project design, particularly to the TMF. The TMF has undergone iterative optimization through a collaborative process involving a multi-party Tailings Working Group. This group included affected First Nations, regulatory bodies, YESAB, and a best available technology (BAT) study was completed. The resulting TMF design promotes long-term geochemical and physical stability of tailings and waste rock, tailored to the cold climate conditions of the Project site.
- Casino's Independent Engineering Review Panel (IERP) was established in 2016 and continues to provide independent review and advice on the design and operation of both the TMF and HLF. The current Project description incorporates recommendations from the IERP. The Project design and processes are aligned with the IERP's recommendations as well as those from the Independent Review Board's July 2025 report on the Eagle Gold Mine HLF failure, reinforcing Casino's commitment to safe and responsible mine development.

- Feasible alternatives were assessed to identify options that meet Project objectives while minimizing environment and social effects. Alternatives were evaluated based on technical feasibility, cost-effectiveness, and environmental and social acceptability. Key alternatives were considered in the following areas: placement of the mine infrastructure (TMF, HLF and access road), TMF design, and mine closure strategies.
- Environmental protection has been a central priority in Project design, with particular focus on safeguarding groundwater and surface water. In response to concerns raised by affected First Nations and other stakeholders, Casino conducted extensive technical studies and quantitative modelling to inform water management strategies that minimize potential effects. The conservative scenario applied in modelling resulted in protective water quality estimates and mitigation measures that are conservatively scaled. The Project integrates a comprehensive suite of Effects Management Measures (EMMs) and adaptive management strategies to protect surrounding ecosystems and communities.

While the Project design will continue to evolve through subsequent planning and development stages, it has already been meaningfully optimized to reduce potential adverse effects and incorporate a comprehensive suite of management measures to protect both the natural and human environment.

At this assessment stage, the ESE Statement describes the Project in sufficient detail to identify and understand potential Project-related effects and propose appropriate management measures. In the subsequent licensing, permitting, and detailed engineering stages, designs will become more detailed and specific mitigation and monitoring programs will be refined. Project optimization will continue to further reduce risks and environmental and socio-economic effects and strengthen long-term closure outcomes.

SECTION E.3

# Casino Project Description

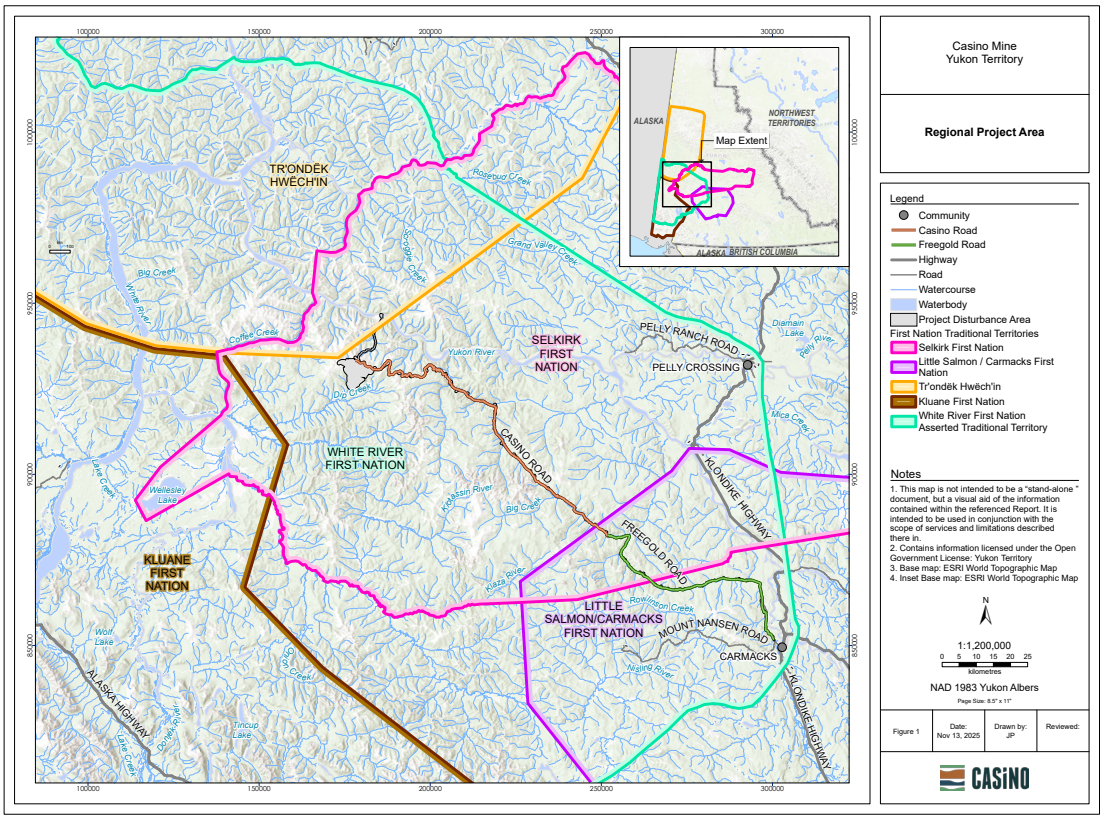
**This section describes the project setting and project components, presents the project schedule, and summarizes key activities occurring during mine construction, operation, closure, and post-closure phases.**

## E.3.1 Project Setting

The Casino Project is located in the Yukon, approximately 300 kilometres (km) northwest of Whitehorse, 150 km northwest of Carmacks, and 115 km west of Pelly Crossing (Figure ES.1).

The mine site and a portion of the access road are located within the Traditional Territory of Selkirk First Nation (SFN). A portion of the access road is located within the Traditional Territory of Little Salmon/Carmacks First Nation (LSCFN). Tr'ondëk Hwëch'in (TH) is located downstream from the Project, and a portion of the water supply pipeline is in their Traditional Territory. Kluane First Nation (KFN) Traditional Territory is located downstream from the Project, and the Project is within the asserted Traditional Territory of White River First Nation (WRFN).

*Figure ES.1 Location of the Casino Project and First Nation Traditional Territories*



The Casino Project overlaps two ecoregions: Klondike Plateau and Yukon Plateau-Central. Most of the Project is situated in the Dawson Range of the Klondike Plateau, including the mine and some of the Access Road, with the remainder of the Access Road in the Yukon Plateau-Central.

The Klondike Plateau ecoregion provides habitat for a diverse range of wildlife species. Moose, caribou, grizzly and black bear, grey wolf, wolverine, Canada lynx, American marten, coyote, and red fox are present. Many bird species use the habitats within the region, including raptors, waterfowl, and upland birds. Vegetation in this ecoregion consists mainly of open forest stands of white spruce and/or black spruce. Mixed aspen and/or birch forests are common on well-drained slopes. Stunted aspen stands with associated grass and forb dominate steep dry slopes. Subalpine areas are dominated by open coniferous stands with a dense shrub layer. Low and dwarf shrubs dominate as elevation increases. Alpine areas mainly support dwarf shrubs, forbs, mosses, and lichens.

The Yukon Plateau-Central ecoregion provides some habitat for moose and woodland caribou. Predators such as grizzly and black bears, American marten, and wolverine are not very abundant in this ecoregion. This ecoregion also provides habitat for snowshoe hare, Canada lynx, northern river otters, American beavers, and collared pika. This ecoregion also consists mainly of white and/or black spruce stands, lodgepole pine and aspen stands. The most common wetlands are usually dominated by tussock sedge or sphagnum moss. This ecoregion does have an extensive presence of grasslands on all low-elevation, south-facing slopes, where sagewort, rose, juniper, and kinnikinnick are typical species growing on these slopes. Willow and shrub birch commonly dominate the subalpine area, commonly with crowberry and blueberry.

The region is characterized by relatively long cold winters, short warm summers, and little precipitation, with conditions varying according to altitude and aspect.

The Project is situated primarily in the Casino Creek watershed (which includes Brynelson Creek), with a small portion of the Open Pit transecting the Canadian Creek watershed and the Airstrip in the adjacent Sunshine Creek watershed. Casino Creek flows in a southerly direction before joining Dip Creek, which drains to the southwest into the Klotassin River. Canadian Creek flows in a northerly direction before joining Britannia Creek, which discharges directly into the Yukon River. Sunshine Creek drains northeast into Issac Creek, which flows north into the Yukon River. Casino, Britannia, and Dip Creek watersheds support fish communities, including Chinook salmon, Arctic grayling, round whitefish, burbot, and slimy sculpin.

The ESE Statement includes a Regional Historic Overview that presents a qualitative narrative of the natural and human history of southwest Yukon. Spanning approximately 13,000 years—from post-glacial landscapes to the late-1800s gold rush—the overview traces key shifts in the region, including changes to traditional Indigenous land use and seasonal movements, increased prospecting and mining activity, the development of major highways, and associated population growth. This account was informed in part by Traditional Land Use studies provided by affected First Nations and serves to deepen understanding of the Project area's evolving context.

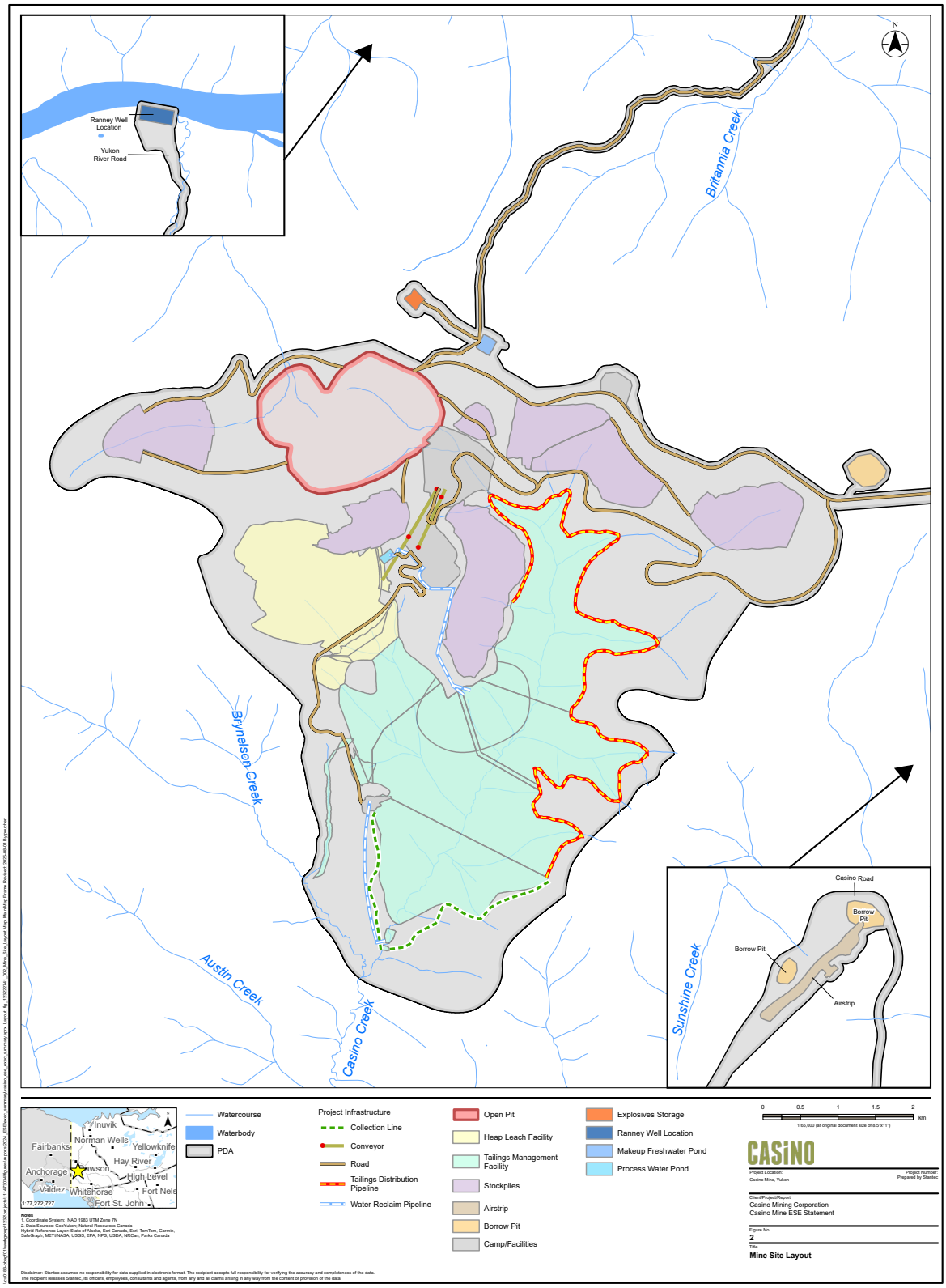
## E.3.2 Project Components

The Project footprint, referred to as the Project Disturbance Area (PDA), will encompass the areas occupied by the main and supporting components listed in Table ES.1 and shown for the mine site area in Figure ES.2.

*Table ES.1 Main and Supporting Project Components*

| Main Project Components | Supporting Project Components |
|---|---|
| Access Road | Camp and supporting infrastructure |
| Open pit | Yukon River water well and pipeline |
| Process plant (mill) | Airstrip |
| Heap leach facility (HLF) | Roads within the mine site, to the airstrip and freshwater well |
| Tailings management facility (TMF) | Quarries and borrow pits |
| Water treatment plants | Explosive storage facility |
| Ore, waste, overburden, and topsoil stockpiles | Fuel handling and storage infrastructure |
| Main and supplemental power plants | |

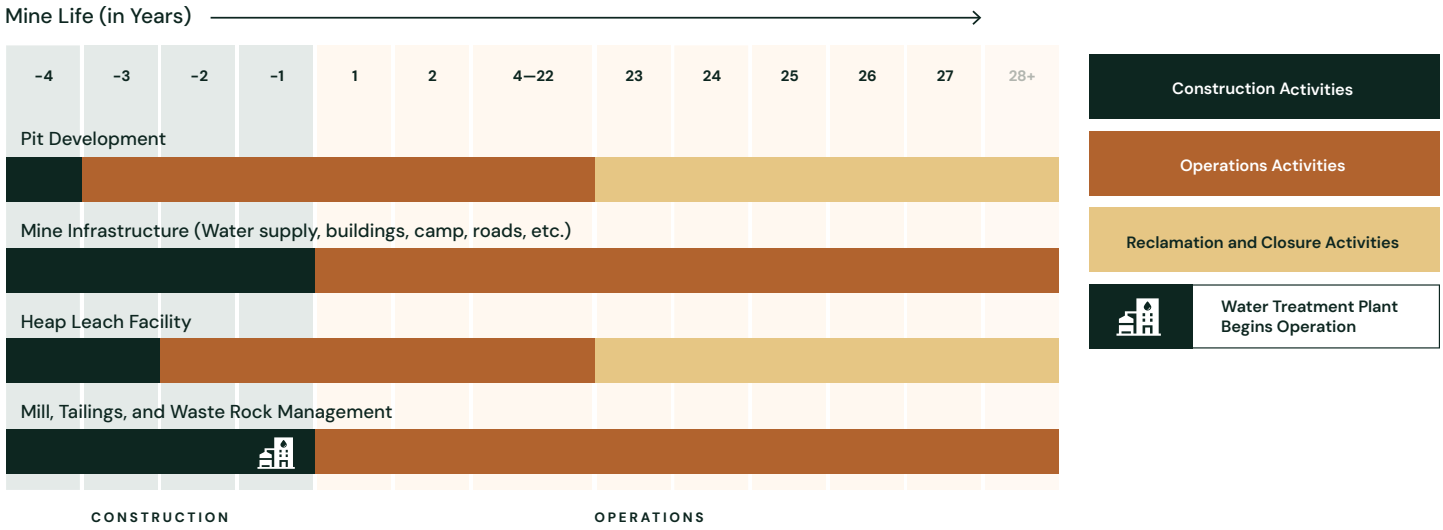
*Figure ES.2 Casino Project Mine Site General Arrangement*



## E.3.3 Project Schedule

The schedule shown in Figure ES.3 outlines the sequence of construction, operations, closure, decommissioning, and post-closure activities for key infrastructure. Project Years -4 to 27 represent the full mine life, from construction through operations. Closure and post-closure activities extend beyond then.

*Figure ES.3 Project Schedule*




Following project approvals, construction will begin in Year -4 with the construction of camps, the access road, and airstrip, followed by the power plant, water management systems, mine site infrastructure, processing facilities - including the mill and initial stages of the heap leach facility (HLF) - and the tailings management facility (TMF). Water treatment systems for site-wide and HLF-specific contact water will be operable during the construction phase of the Project. Mill operations are scheduled to start in Year 1, ramping up to full production in Year 2 and continuing through the 27-year operating phase. The mine will operate continuously, 24 hours a day, 365 days a year.

At the end of mining in Year 22, the pit will be backfilled with waste rock, tailings, and water. Infrastructure that is no longer required will be progressively decommissioned through the life of the mine. The bulk of closure activities are expected to begin in Year 28. The mill site facilities will be decommissioned through dismantling, demolition, and removal of equipment and buildings. Land surfaces will be recontoured and reclaimed. The Project is designed to meet closure objectives focused on physical and chemical stability, long-term water quality protection, and progressive reclamation where feasible. A Conceptual Reclamation and Closure Plan, included in the ESE Statement, outlines options to restore the site to a landscape that supports ecological function and traditional land uses.

As closure planning is iterative, ongoing technical studies, operational learnings, and feedback from affected First Nations and regulators will guide refinements to the conceptual plan. Post-closure activities will focus on operating and maintaining water management and treatment systems, along with long-term monitoring and adaptive management. This phase will end once active water treatment prior to discharge is no longer required.

## E.3.4 Project Activities

The Casino Project is expected to produce approximately 4.27 billion pounds of copper, 346 million pounds of molybdenum, 6.95 million ounces of gold, and 36.09 million ounces of silver. Construction will begin with the installation of camps at the mine site and along the access road to support development. Initial site preparation will include vegetation clearing, grubbing, salvaging and stockpiling of topsoil and overburden for future reclamation, and bulk excavation to level ground for infrastructure. Temporary facilities to support construction will include laydown areas, concrete batch plants, rock quarries, borrow pits, fuel, and explosives storage.

The following summaries provide an overview of construction, operations, and closure activities for key Project components.

### ACCESS ROAD

Construction of a 198 km mine access road from the end of the Carmacks Bypass, near the Village of Carmacks to the mine site, will consist of upgrades to 78 km of the public Freegold Road and construction of the 120 km Casino Road. The Casino Road generally follows the historic Casino Trail from Big Creek, before ascending the north face of the Dawson Range to the mine site. Both roads will be built as two lane, all-weather routes for highway-legal haul trucks.

Construction activities for the Freegold and Casino roads will be completed by Years -3 and -2, respectively, and supported by temporary camps locate near active construction works. The Freegold Road will remain public, while access to Casino Road will be restricted to permit holders with a 24/7 staffed gate at Big Creek in accordance with the Yukon Resource Roads Regulation.

Once access is established, additional heavy equipment will be mobilized to begin mine site development. Equipment, materials, and supplies will be transported via truck along the access road during construction and continue through operation when concentrate will also be transported on this road. The road will remain in operation until all decommissioning and closure activities are complete, and water treatment is no longer required.

### AIRSTRIP

Personnel will access the mine site from Whitehorse and other Yukon communities by aircraft. A new 1,745 m airstrip, located approximately 6 km east of the main camp, will be constructed to accommodate high-wing turboprop aircraft such as the ATR 42 and Dash 8-200 Series. An access road will connect the airstrip to the camp. A pre-engineered terminal building will support personnel transfers. At post-closure, the operation airstrip will be decommissioned and reclaimed. In its place, a smaller airstrip suited to the reduced post-closure activities will be constructed.

### OPEN PIT

Open pit pre-production development activities will occur in Year -3 to Year -1, and production is scheduled in five mining phases over a total of 25 years. Open pit development will involve drilling large diameter blast holes, blasting with a bulk emulsion, and loading into large off-road trucks with cable shovels and a hydraulic shovel. Excavated material will be transported for direct feeding of the crushing plants for either the HLF or the process plant or to various stockpiles for subsequent crushing or for permanent storage, depending on material type, including overburden, waste rock, sulphide ore, and oxide (leach cap) ore and milling schedules.

Once all mine site facilities are operational:

- Sulphide ore will be crushed and fed into a mill, where metals will be separated into concentrates that will each be transported off-site for further refining;
- Open pit dewatering will supply some water required for mill processing;
- Oxide ore will be placed progressively on a graded and lined HLF pad; and
- Waste rock will be placed inside the TMF.

As pit areas are mined, they will be progressively backfilled, when feasible. In the final years of mining, the pit will serve as long-term subaqueous (underwater) storage for potentially acid generating (PAG) tailings and waste rock and ultimately will be closed as a pit lake. To restore groundwater levels more quickly and reduce the accumulation of weathering products on pit walls, water from the Yukon River well and TMF will be pumped into the pit starting in Year 23 to accelerate filling. The pit lake is projected to be at the desired closure level in Year 35 which marks the beginning of the post-closure phase.

### PROCESS PLANT (MILL)

Process plant (mill) construction is projected to begin in Year -3 and involve the development of a concrete foundation and construction of buildings to accommodate the installation of crushers, conveyors, mills, flotation circuits, and thickeners, and development of the concentrate storage and loadout areas. Ditches will be constructed to route surface water around the temporary ore stockpiles near the mill to the TMF. During operation, sulphide ore will be crushed by a primary crusher located near the open pit, then placed on a covered conveyor for delivery to the process plant. Dust collectors will be installed at transfer points and other required areas to limit fugitive dust emissions. Using froth flotation systems, sulphide minerals will be concentrated to produce separate bulk copper-gold-silver and molybdenum concentrates. Reagent storage and mixing facilities for the flotation circuits will be located within a structurally independent building adjacent to the flotation building. The nominal mill production capacity is estimated to be 120,000 tonnes per day of ore, or 43.8 million tonnes per year over 27 years of full production.

### TAILINGS MANAGEMENT FACILITY

The TMF will be located southeast of the open pit within the valley formed by the headwaters of Casino Creek. The TMF is designed for long-term geochemical and physical stability and cold climate conditions for the effective management of mine tailings, waste rock, and water. TMF construction will begin in Year -3 and continue until the final dam elevation is reached in Year 23. Over this period, the main and west saddle lined embankment dams and central divider berm will be progressively raised, and three waste storage dumps, including the divider berm, will progressively develop.

Other components that will be constructed prior to TMF operation include two lined impoundment cells for non-acid generating (NAG) and PAG mine tailings, a cyclone sand plant and overflow tailings thickener, tailings distribution lines, and a water management pond and associated systems to safely store mine by products and manage water for processing. A partially lined seepage collection pond located downstream of the main dam will be constructed to collect any seepage through the main dam, water recovered from the cyclone sand embankment construction, and surface runoff via underdrain and surface ditch systems. The initial main (starter) dam and saddle dam will be constructed using compacted NAG rockfill, and subsequent dam lifts will use cyclone underflow sand. The use of cyclone underflow sand, mechanically produced by dewatered NAG tailings, is common practice globally for tailings construction. Waste rock, overburden, and sulphide ore mill tailings will be stored in the TMF[4]. Ultimately, the TMF will have capacity for 1790 Mt, including NAG and PAG tailings, PAG waste rock, overburden, and cyclone underflow sand (used for embankment construction).

During operations, contact water from seepage and runoff from the TMF embankments, process water (and tailings) from sulphide ore processing, and runoff flow to the open pit will be directed to the TMF water management pond. The water management system includes underdrains and surface ditches and pumps. The TMF water management pond will be the primary supply source for mill process water and will also supply water for open pit filling to establish a pit lake. When the pit lake filling is complete (projected to be Year 35), the TMF is predicted to have a water surplus. Water will be treated before being directed to the closure spillway for discharge.

Discharge of NAG tailings, or placement of other suitable materials around the facility during the final years of operation will establish a final tailings surface and water pond that will facilitate post-closure surface water management and reclamation. The NAG tailings or other suitable material will be used to encapsulate and maintain the PAG tailings and waste rock in a saturated state. Suitable cover material and seeding will be placed on the tailings beach surface to promote revegetation and reduce dust generation. The tailings and reclaim water delivery systems, cyclone sand plant and all pipelines, structures, and equipment not required to support mine closure will be decommissioned, and the areas reclaimed.

*4 Waste rock is rock mined from the Open Pit that does not contain economically viable quantities of targeted minerals, while overburden is soil and unsuitable-for-construction rock above the mineral deposit.*

### WATER TREATMENT FACILITIES

During mine operation, runoff from the mine area will drain towards and be collected in the TMF water management pond. A water treatment plant for metals removal, specifically contaminants of potential concern (COPCs), will be installed and operational at the TMF by Year -1 in case early treatment is required. Intermittent water treatment is expected to start in Year 10, and the plant will continue to operate in post-closure to treat surplus water from the TMF until active water treatment prior to discharge is no longer required.
Excess water from the HLF, which contains cyanide and elevated levels of metals, must also be treated. An INCO $SO_2$/Air process will be used to break down cyanide in the solution. Once treated, the water will be pumped to either the TMF or the open pit. The system is not designed to discharge water directly into the environment.

### HEAP LEACH FACILITY

HLF construction will take place in six stages, with the first stage starting in Year -3 with the construction and installation of all HLF components, and successive stages involving HLF expansion as operational capacity is needed. HLF components include a lined confining embankment, pad liner system, leachate collection system, leak detection and recovery system, events pond, stormwater management system (including sediment control ponds and surface runoff diversions) and geotechnical monitoring instrumentation, plus buildings for crushing and gold recovery.

Oxide ore from open pit pre-production will be placed on the lined HLF pad and leaching operations will begin in Year -2. Cyanide leaching will be used to extract gold, silver, and copper into a pregnant solution. The pregnant solution will be collected by an under-liner system and a series of pipes and pumped to the adsorption, desorption, and recovery / sulphidization, acidification, recycling, and thickening facility (ADR/SART Facility). The gold and silver will be recovered by an ADR process and copper in the oxide ore will be recovered as a copper precipitate using SART technology. Once the minerals are removed from the solution, the solution will be recycled for reapplication to the HLF pad. The HLF is estimated to process 25,000 tonnes per day of mined ore, for a total of 210 million tonnes during life-of-mine operation.

Towards the end the operation phase, the heap will be closed by first recycling the solution (with no additional cyanide) and then detoxified by recycling and draining down the collected solution. The drained-down water will be treated, then pumped to the open pit. The seepage collection ponds/sumps and recycle pumps will be retained until monitoring results indicate that any seepage from the HLF is of suitable quality for discharge to the open pit, to the TMF, or direct release to downstream waters.

To close the HLF, the confining embankment, events pond embankment, perimeter toe berm, and diversion and collection ditches will be levelled and graded. Associated infrastructure (such as irrigation system, conveyors, stackers) will be removed for disposal. The heap will be resurfaced to a stable slope, covered with low permeability cover, and revegetated.

### CAMP

Camp construction will begin in Year -4 with the 300-person, tent-style camp and then the addition of a 200-person dormitory. This initial camp, located off of the access road, will be expanded to become the main camp. At its peak capacity, the accommodations will serve approximately 1,400 personnel. The main camp will be constructed by Year -3.

The main camp will be operational during closure, until the bulk of work is complete. The camp will be progressively dismantled and removed towards the end of the closure phase, and this smaller camp will support the smaller crew overseeing water treatment and undertaking monitoring activities.

### POWER PLANT

Power plant construction will occur in two phases to support construction and operation activities. The installation of three 2,250 kW diesel-powered generators for the initial 6.75 MW power plant (referred to as the supplemental power plant) in Year -4 will supply power for construction activities and camp operations (i.e., initial mine site camp and main camp), as well as oxide ore crushing, conveying, and HLF operation. The installation of the main power plant, comprised of three turbine generators powered by liquified natural gas (LNG) and a steam generator for 200 MW installed capacity, will meet the approximately 130 MW running load power requirements during mine operation. The main power plant installation and construction of the LNG receiving, storage, regasification, and distribution facilities will begin in Year -3, with operation planned for Year 1.

For main power plant operation, LNG will be transported to the site via tanker trucks and stored on site. The supplemental power plant will provide power for black start capability, emergency power, and to complement the gas turbines when required. As dictated by power demand, the plants will be decommissioned when no longer needed to support closure or post-closure activities.

### FRESHWATER SUPPLY

Freshwater will be supplied primarily from the Yukon River located approximately 17 km north of the mine. A Ranney Well consisting of a caisson structure in the aquifer adjacent to the river will house pumps that will draw water from the Yukon River. Water will be pumped via a pipeline that will follow the existing Yukon River Road, located alongside Britannia Creek, south to a freshwater pond located northwest of the main camp. When no longer needed to support closure activities, the well and pipeline will be dismantled for disposal, and the sites regraded and reclaimed. The Yukon River Road, however, is expected to remain open after the Project is closed and will continue to be used as a public access road.

## E.3.5 Project-specific Water Quality Objectives

The Project has been designed and assessed with a strong emphasis on environmental protection, particularly concerning water resources. The Project will be required to meet stringent effluent discharge limits prescribed in the Metal and Diamond Mining Effluent Regulations (MDMER) under the *Fisheries Act*. As part of the Water Licence under the Yukon *Waters Act*, the Project will also be subject to Effluent Quality Standards (EQSs), which must be at least as stringent as the limits prescribed in the MDMER. [EQSs are enforceable concentration limits for COPCs so discharges do not compromise the ability of the receiving water to meet site-specific Water Quality Objectives (WQOs)]. Site-specific WQOs are values that define the environmental protection goals of receiving water, which are expressed as numerical concentrations for their respective parameters, and are set to protect the designated uses of water.

Site-specific WQOs will be developed (typically during the licensing process) for an appropriate WQO monitoring location downstream of the discharge point (and, for the purposes of assessment, assumed to be monitoring station W5, near the confluence of Casino and Dip creeks), in accordance with the *Yukon Guide for Developing Water Quality Objectives and Effluent Quality Standards* (Guide). This location is considered suitable as it provides for an ecologically relevant and hydrologically integrated assessment of potential effects on aquatic life and downstream users and aligns with the use-protection category of WQO selection according to the Guide.

Site-specific WQOs will be derived from national water quality guidelines and adapted using local data, including hydrological and geochemical characteristics of the receiving environment, site-specific water quality parameters, like pH, hardness, and sulphate, which may affect other COPC concentrations, bioavailability factors and assimilative capacity, and site-specific aquatic species sensitivity, to reflect the unique conditions of the receiving environment.

This approach supports development of water quality management outcomes that are protective of aquatic life, appropriate for the receiving environment, and suited to the nature of the specific project.

Ongoing monitoring will be required to validate and ensure attainment of the EQSs and site-specific WQOs. WQO monitoring will be carried out at monitoring station W5. Monitoring will also be carried out at other locations on Casino Creek to inform adaptive management in the event elevated concentrations are observed. If monitoring reveals a risk that objectives might not be met, adaptive management plans will be implemented to mitigate effects, as per the *Guidelines for developing adaptive management plans in Yukon: Water-related components of quartz mining projects*.

To support the assessment of potential effects, Casino developed preliminary WQOs for monitoring station W5. The preliminary WQOs were derived from generic guideline values that do not necessarily reflect the specific ecological and geochemical conditions of the Project area. Casino will develop site-specific WQOs — a practice that has been successfully implemented at several other mining projects in the Yukon and across Canada.

SECTION E.4

# Consultation and Engagement

**Casino has been actively engaging First Nations governments and citizens, community leaders and residents, regulatory agencies, and stakeholder groups since 2008, and will continue to do so over the life of the Project.**

The purpose of Casino's engagement program is to gather and consider comments, recommendations, and other information from affected First Nations, affected communities, interested persons, and stakeholders. This input is integrated, where appropriate, into the design of the Project, the ESE Statement and other regulatory filings, and environmental management planning.

Casino will continue to address concerns and provide feedback to First Nations on their review of this ESE Statement, and supplementary documents will be filed as they are developed.

## E.4.1 Affected First Nations

There are five First Nations affected by the proposed Casino Mine: SFN; LSCFN; TH; KFN; and WRFN. Over the course of Casino's engagement, affected First Nations raised concerns and recommendations related to:

- Engagement and capacity constraints including funding
- Project design components
- Climate change
- Wildlife baseline modelling
- Effects to water, fish, and other aquatic resources
- Field program plans and baseline data collection
- Closure and reclamation
- Effects to rights, culture, and traditional land use
- Other Project-related environmental and socio-economic effects

Aboriginal and Treaty rights are afforded constitutional protection under section 35(1) of the *Constitution Act, 1982*. Both the federal and territorial Crown have a constitutional duty to consult with Indigenous peoples when contemplating conduct that may adversely affect potential or established Aboriginal or Treaty rights. The duty to consult ensures that the Crown acts honourably by preventing it from acting unilaterally in ways that undermine these constitutionally protected rights. While the Crown is ultimately responsible for fulfilling its duty to consult and, where appropriate, accommodating Indigenous peoples with respect to adverse effects on Aboriginal or Treaty rights, the Crown may delegate procedural aspects of consultation to project proponents, like Casino. As part of the ESE Statement review, the Panel will address aspects of the Project's potential adverse effects on Aboriginal and Treaty rights. Casino has engaged affected First Nations to better understand the significance of, and respond to, these potential effects. The Panel process will provide opportunities for First Nations to make presentations and give evidence regarding impacts to Aboriginal and Treaty rights.

In fulfilling its duty to consult, and potentially accommodate, the Crown may take into account:

- the Panel process and results;
- the evidence and submissions of First Nations; and
- Casino's record of engagement with First Nations (along with any Impact and Benefit Agreements that are entered into).

The ESE Statement provides a summary of the Project's potential effects on the ability of affected First Nations to exercise Aboriginal or Treaty rights, based on Casino's engagement process to date and publicly available sources.

Casino continues to engage affected First Nations to identify potential effects on Aboriginal and Treaty rights, assess Project effects, and reasonably address First Nation comments. Casino hears and respects First Nation concerns and remains committed to ongoing consultation throughout the Panel process and the entire lifecycle of the Project.

## E.4.2 Affected Communities, Interested Persons, and Stakeholders

Affected communities were identified as the Town of Dawson City, the City of Whitehorse, and the villages of Pelly Crossing, Carmacks, and Carcross. Interested persons and stakeholders include various resource and planning councils, fish and wildlife management boards, and tenure holders. Casino also completed a number of public engagement events throughout 2022 to 2025.

SECTION E.5

# Environmental and Socio-economic Effects Assessment Approach

**The ESE Statement presents a comprehensive assessment of the Project's potential effects on the environment and local communities and is divided into separate chapters, each addressing a particular VESEC.**

The 16 VESECs selected for the assessment of the Casino Project are:

- Air Quality
- Noise
- Groundwater Quality and Quantity
- Surface Water Quantity
- Surface Water Quality
- Fish and Aquatic Resources
- Rare Plants and Vegetation Health
- Wildlife – Ungulates
- Wildlife – Furbearers and Other Mammals
- Wildlife – Birds
- Employment and Economy
- Community Services and Vitality
- Human Health and Well-being
- Cultural Continuity and Cultural Expression
- Land Use and Tenure
- Heritage Resources

Community-specific assessments were conducted for Pelly Crossing and the Village of Carmacks and WRFN. Casino collaborated with WRFN to complete WRFN Dän k'e/Dineh k'èh Assessment. The ESE Statement also includes a holistic assessment, an assessment of the effects of the environment on the Project, and an assessment of effects from potential accidents and malfunctions.

## E.5.1 Effects Assessment Methods

Project and cumulative effects are evaluated for each VESEC within the following spatial boundaries:

- The Project Disturbance Area (PDA) encompasses the physical footprint of disturbance for Project components. The PDA is the same for all VESECs.
- Local Assessment Areas (LAAs) are defined for each VESEC and encompass the PDA plus the area where direct and/or indirect Project-related effects are expected to occur on the VESEC.
- Regional Assessment Areas (RAAs) are defined for each VESEC and encompass the broader area to provide the context for evaluating Project-related effects. The RAA is also used to assess cumulative effects from the interaction of the effects of the Project with the effects of other past, present and likely future projects and activities.

### VESEC ASSESSMENT

Each VESEC assessment includes information on what sub-components or species the VESEC focuses on, how engagement and traditional knowledge influenced the assessment, and how the assessment informs or is informed by other VESECs.

The methodological steps in each VESEC assessment include:

- Description of baseline conditions
- Identification of effect pathways related to Project activities in each phase
- Description of potential effects of project activities on the VESEC, including sub-components
- Description of EMMs to be implemented by Casino to eliminate, reduce, control, or offset potential adverse effects, as well as to enhance positive effects
- Evaluation of residual Project effects after implementation of EMMs
- Determination of significance of any residual effects
- Evaluation of potential cumulative effects, and residual cumulative effects after implementation of EMMs
- Description of follow-up programs, including monitoring proposed to verify effects predictions and/or EMM effectiveness, and adaptive management to address unforeseen changes or conditions, if and as required.

### EFFECTS MANAGEMENT MEASURES

EMMs are measures that Casino proposes to implement to avoid or minimize adverse effects and to rehabilitate or offset when effects are unavoidable. EMMs may also be implemented to maximize the benefits of the Project through the way it is designed, built, and operated.
A summary of proposed EMMs is provided at the end of this Executive Summary.

### RESIDUAL EFFECTS CHARACTERIZATION

After considering the implementation of EMMs, residual Project effects are characterized in terms of magnitude, geographic extent, timing, duration, frequency, and reversibility. Quantitative and/or qualitative definitions are presented for each of these criteria in the VESEC assessments; the definitions for magnitude, timing, and duration are VESEC-specific.

### CUMULATIVE EFFECTS ASSESSMENT

To support the assessment of cumulative effects, a Project Inclusion List was developed to identify past, present, and likely future projects and activities (i.e., physical activities), which included major mining and infrastructure projects within the Yukon plus other land use activities within 50 km of the Project. Mining activities (including exploration, development, operation, and reclamation), development and use of roads and highways, and other infrastructure development and operation are recognized as important regional drivers of change in southwest Yukon.

### SIGNIFICANCE DETERMINATION

Although the Panel selected by YESAB will ultimately determine the significance of likely adverse Project effects using effects characterization criteria and contextual factors, for the purpose of the ESE Statement, threshold criteria were defined beyond which a residual effect is considered significant for a particular VESEC. These thresholds were defined in consideration of territorial and federal regulatory requirements, standards, objectives, and/or guidelines, where applicable. Where thresholds are not set by regulatory requirements, thresholds may be based on engagement and/or professional judgement. Within each VESEC assessment, the significance of predicted residual effects of the Project and cumulative effects are determined in accordance with the pre-established threshold criterion for that VESEC.

SECTION E.6

# Assessments of Effects

## E.6.1 Air Quality

### ASSESSMENT CONTEXT

The air quality assessment considered potential **changes in ambient air quality** and **changes in greenhouse gas (GHG) emissions**. These factors were compared to established standards and targets, and predicted changes were subsequently evaluated for their potential effects on fish and aquatic resources, rare plants and vegetation health, wildlife, and human health and well-being.

A numerical atmospheric dispersion model was used to quantitatively predict ambient air constituent concentrations. The model produced a conservative prediction of future air quality, because it assumed the use of older equipment with higher emissions, assessed the peak-year emission rates for construction and operations, and included conservative emission rates for the Project and the expected rates from the undeveloped Coffee Gold Project. This conservative modelling scenario predicts higher future Project-related emissions and concentrations relative to those that are likely to be realized.

Predicted concentrations were compared to Yukon Ambient Air Quality Standards and other provincial and federal benchmarks. Receptor sites where the air contaminant concentrations were predicted at included traditional land use sites, trails, and worker camps proximal to the mine site, and businesses and residences.

GHG emissions—including carbon dioxide, methane, and nitrous oxide—will result from fuel combustion and land-use changes during all project phases. GHG emissions were estimated quantitatively using relevant published GHG quantification methods. The predicted GHG emissions were compared to territorial, national, and global projections, and applicable targets.

### POTENTIAL EFFECTS

Potential air quality effects are expected during all project phases from the use of equipment and vehicles with combustion engines (such as off-road equipment, haul trucks), from the detonation of explosives, operation of the power plant, and from the generation of fugitive dust from drilling and blasting, surface disturbance activities including road use, the loading, unloading, and crushing of material, and wind erosion. Air dispersion modelling predicts that most air contaminant concentrations will generally remain below established air quality standards at most receptors. While some pollutants (e.g., $PM_{10}$, dustfall) may occasionally exceed standards near the Project boundary, these exceedances are expected to be localized and infrequent.

GHG emissions from the Project are projected to account for 0.15% of Canada's 2030 forecast and 0.001% globally and could double the Yukon's annual emissions during peak operation. While this is significant locally, the project contribution to global climate change is considered negligible. For GHG emissions, it is understood that a single project contributes a negligible amount to global GHG emissions and thus climate change. On this basis, no significance determination is concluded for effects of Project GHG emissions.

### EFFECTS MANAGEMENT MEASURES

To mitigate air contaminant and GHG emissions, the Project will implement several EMMs as part of an **Air Quality Management Plan**, including:

- Optimization of haul roads and infrastructure to reduce haul distances
- Dust collection systems and wet scrubbers
- Advanced combustion controls on LNG-fired turbines
- Maintenance of engines and exhaust systems
- Use of low-sulphur diesel fuel
- Reduced idling and cold starts
- Road maintenance and dust suppression
- Stabilization of stockpile surfaces
- Energy efficient building design
- Waste composting to reduce incineration emissions

Under the air quality monitoring program, particulate matter ($PM_{2.5}$, $PM_{10}$, total suspended particulates), and dustfall will be measured. Adaptive management will ensure emissions remain within acceptable limits.

Beyond the technologies planned for Project construction and the start of operation, Casino is committed to progressing a Net-zero GHG Plan to identify additional GHG effects management measures that could be implemented during operation and closure phases. Of note, is that a connection to the BC electrical grid may become technically and economically feasible during the life of the Project, resulting in a substantial reduction in the Project's GHG emissions.

### CONCLUSIONS

Cumulative effects from other sources, including the undeveloped Coffee Gold Project and other road vehicle traffic, were considered in the assessment. With the implementation of EMMs and adaptive management strategies, Project-related residual and residual cumulative effects on air quality are predicted to be **not significant**.

## E.6.2 Noise

### ASSESSMENT CONTEXT

The noise assessment evaluated potential changes in **noise** and **vibration levels** from construction, operation, and closure activities at the mine site and associated infrastructure and along the roads, camps and traditional use areas.

Key noise sources will include mine equipment, vehicles, and aircraft. Sources of vibration will include earthworks, drilling, and blasting, which may affect nearby receptors.

Quantitative acoustic modelling was used to assess noise changes during construction and operation. Noise level predictions were conservative, as the modelled scenario did not consider noise-reducing EMMs and assumed:

- Peak-year emission rates applied to all Project years
- Worst-case weather for sound propagation
- The maximum number of equipment operating at rated capacity
- Assumed all equipment operate continuously during both daytime and nighttime hours

Predicted increases in noise and vibration were subsequently evaluated for their potential effects on wildlife, human health and wellbeing, cultural continuity, First Nation and community assessments, and land use and tenure.

### POTENTIAL EFFECTS

The construction phase noise assessment predicted short-term and localized exceedance of regulatory thresholds, during peak activity years. Four receptor locations are potentially affected (without implementation of noise-reducing EMMs):

- a recreational trail access location along the Freegold road
- a Yukon River high-use area along Casino Road
- two traditional and land resource use (TLRU) receptors at the Yukon River near the Ranney Well

The operation phase noise assessment predicted exceedance of relevant regulatory thresholds at nine receptors (without implementation of noise-reducing EMMs):

- Two recreational use trail access locations along the Freegold road
- A Yukon River high-use area along Casino Road
- Three fish camps, a TLRU site, and a cabin along Freegold Road
- A TLRU receptor at the edge of the PDA

Blasting vibration thresholds, without implementation of EMMs, are predicted to be exceeded at one of the construction camps, the main camp, and a TLRU receptor at the edge of the PDA.

#### EFFECTS MANAGEMENT MEASURES

EMMs such as operational controls (e.g., construction activities scheduling, haul road traffic scheduling) and engineered controls (e.g., earth berm, portable noise barrier, and broad band backup alarm), will be implemented during construction and operation to reduce noise to acceptable levels. To reduce vibration from blasting activities for receptors outside and within the PDA, EMMs, such as administration control and blast design, will be implemented. An adaptive management approach will inform further adjustments to minimize effects on receptors both within and outside the PDA.

#### CONCLUSIONS

With the implementation of EMMs, the noise and vibration increases predicted at some receptors will be reduced to acceptable levels below the regulatory thresholds, and residual Project-related effects on noise are predicted to be **not significant**. Cumulative effects from other regional projects may increase noise levels, but with EMMs, these effects are also expected to remain **not significant**.

## E.6.3 Groundwater Quality and Quantity

#### ASSESSMENT CONTEXT

The assessment considered potential changes in **groundwater quality** and **quantity**, and is closely linked to surface water quality, fish and aquatic resources, wildlife, human health and wellbeing, and cultural continuity and cultural expression.

A 3D numerical groundwater flow model was developed to predict potential changes to groundwater quantity and quality across all project phases. Conservative assumptions—such as excluding natural attenuation and other contaminant-reducing factors—were incorporated to predict results, resulting in overestimated predictions of potential effects.

#### POTENTIAL AND RESIDUAL EFFECTS

Primary potential effects on groundwater quantity include changes in groundwater elevation and flow due to activities such as open pit dewatering, stockpiling, and infrastructure development. These activities may lower groundwater levels, alter flow, and affect recharge rates, potentially influencing nearby surface water drainages. Groundwater quality may be affected by contact water recharge from mine facilities, leading to changes in groundwater chemistry near these facilities. This could affect groundwater quality in surface water bodies if located nearby.

Residual effects (after implementation of EMMs) on groundwater quality are expected from seepage from the TMF, ore stockpiles, and pit lake. These effects will be confined to the PDA during active phases and may extend into the LAA during post-closure, particularly in the Brynelson Creek catchment. Residual effects on groundwater quantity include drawdown near the open pit and reduced stream discharge, with minor changes from facility operations and permafrost degradation. Changes are expected to remain within a few kilometres of the PDA and not extend beyond the LAA.

No known groundwater users exist along the predicted flow paths: no springs or wells serving as water sources for human consumption were identified within the LAA, reducing the risk of direct human receptors being affected by groundwater quality or quantity changes.

### EFFECTS MANAGEMENT MEASURES

To mitigate potential effects, a range of EMMs will be implemented. These include minimizing disturbance areas, installing liners at facilities to limit seepage, and installing collection and pump-back systems to collect runoff and seepage and provide redundant controls. The EMMs are based on proven technology and best management practices and will reduce the potential for seepage to bypass collection. Surface water sumps will limit seepage from the TMF from reporting to Brynelson Creek, while a TMF seepage collection pond will collect seepage and runoff for treatment and reuse. The HLF liner system includes a geomembrane liner overlying compacted low-permeability soil, combined with a leak detection and seepage collection system installed beneath the heap footprint. This engineered solution is designed to contain process solutions and prevent groundwater contamination. Best practices and management plans will be developed for nitrogen management to reduce blasting residues.

Accelerated filling of the open pit using water from the Ranney Well adjacent to the Yukon River will restore groundwater levels more quickly and reduce the accumulation of weathering products on pit walls, resulting in lower concentrations of COPCs in the pit lake compared to passive filling. Further design and monitoring details will be developed through the Yukon Water Board licensing process. Groundwater monitoring is included as part of the site's Water Monitoring Plan to ensure early detection of any changes in groundwater quantity and quality.

### CONCLUSIONS

With EMMs in place, Project-related residual effects on groundwater quality and quantity are predicted to be **not significant**. Cumulative effects from other regional activities may interact with the Project, but with mitigation measures applied across all projects, residual cumulative effects are expected to remain localized and **not significant**.

## E.6.4 Surface Water Quantity

### ASSESSMENT CONTEXT

The assessment of effects on **surface water quantity** is closely linked to the assessments of groundwater quantity and quality, surface water quality, fish and aquatic resources, wildlife, human health and wellbeing, and cultural continuity and cultural expression.

A quantitative water balance model was used to estimate receiving environment streamflow changes across all Project phases. The model incorporated conservative assumptions, including high-emission climate scenarios and direct discharge of seepage without attenuation, to evaluate the upper range of water that may require management. Multiple scenarios were run to address uncertainties in climate conditions and climate change, source terms, and seepage rates.

### POTENTIAL AND RESIDUAL EFFECTS

During all Project phases, Project activities such as water diversion, storage, use, and management may alter streamflow and drainage patterns. Surface water drainage patterns may be altered due to open pit development, construction and operation of mine infrastructure (e.g., TMF, HLF), water management, water withdrawals from the Ranney Well, pit flooding, and access road construction. Landcover changes from site preparation, and construction may also influence hydrological processes by reducing precipitation interception and increasing snowmelt rates.

Surface water will be the primary source for operational needs, and withdrawals may reduce streamflow. Water management will continue through closure and post-closure, continuing the Project's influence on surface water quantity. Project-related residual effects are expected to be more pronounced in headwater areas of the LAA (Brynelson, Casino, and Canadian Creeks) than downstream (Dip, Britannia, and Sunshine Creeks).

### EFFECTS MANAGEMENT MEASURES

To manage the effects on surface water quantity, Casino will implement a **Water Management Plan** and **Water Monitoring Plan** to confirm that downstream flows remain within ranges simulated by the water balance and water quality model. Access road crossings will be designed to minimize drainage alteration, and facilities will be built to reduce ground disturbance, supported by an **Erosion and Sediment Control Plan** (including monitoring).

### CONCLUSIONS

With EMMs in place, Project-related residual effects on surface water quantity are predicted to be not significant. Cumulative effects may arise if future activities in the region also involve water collection, diversion, or storage. The Project may contribute to streamflow reductions in the Canadian and Britannia watersheds and changes in the Casino/Dip watershed. However, with mitigation measures applied across all projects, residual cumulative effects on surface water quantity are also predicted to be **not significant**.

## E.6.5 Surface Water Quality

### ASSESSMENT CONTEXT

The assessment considered potential **changes to surface water quality** and **sediment quality**. The assessment is associated with surface water quantity and groundwater quality and quantity. It also supports the assessments of fish and aquatic resources, rare plants and vegetation health, wildlife, land use and tenure, cultural continuity and cultural expression, and human health and well-being.

Construction activities may increase erosion, sedimentation, and dustfall, affecting water and sediment quality. Blasting can release dust, and residues can disperse into the receiving environment. Potential effects on surface water and sediment quality by erosion, sedimentation and dustfall can continue during operation due to ongoing open pit mining, increased traffic from the access road and airstrip, and during ore handling.

Discharges from the TMF water treatment plant, runoff, and groundwater seepage, or untreated discharge from Project facilities could also affect water and sediment quality in the receiving environment through multiple Project phases. Sediment quality was assessed qualitatively, based on changes in surface water quality.

A water balance and water quality model (WBWQM) was used to assess effects on surface water quality, incorporating conservative assumptions such as:

- High-case climate scenarios;
- No natural attenuation processes (such as dilution, dispersion, sorption, or precipitation and co-precipitation);
- Conservative source terms so that geochemical loadings and concentrations were not under-predicted;
- All nitrogen from blasting residues is released immediately upon first contact with cyanide leach solution; and
- A portion of the ore will become acidic each year, although PAG rocks may remain non-acidic for years to decades.

The conservative modelling approach results in higher water quality parameter concentrations than are likely to be realized under actual conditions if the Project proceeds.

### POTENTIAL AND RESIDUAL EFFECTS

Model predictions were compared to preliminary WQOs at monitoring station W5 near the confluence of Casino and Dip creeks. Predicted changes in water quality for some parameters include non-measurable to low magnitude increases, defined as an increase more than 20% above baseline concentrations, but below preliminary WQOs developed for monitoring station W5. Similarly, non-measurable to low magnitude increases are predicted in sediment quality at W5. Model-predicted parameter concentrations remain largely consistent relative to the baseline for the Klotassin River, Isaac Creek, Britannia Creek and Canadian Creek (and by extension, the Yukon River).

Since water quality parameter concentrations (modelled conservatively) are predicted to remain below preliminary WQOs developed for the Project, residual effects of the Project on surface water quality and sediment are predicted to be non-measurable to low magnitude.

## EFFECTS MANAGEMENT MEASURES

Water discharged from the Project will be treated, and EMMs will be implemented to reduce contaminants and sediment loading from Project activities.

EMMs to mitigate effects on surface water quality include strategic infrastructure siting and design, as well as water treatment, use reduction, and management strategies, including:

- **Seepage collection:** The TMF seepage collection pond will collect contact water for treatment or reuse.
- **Liner Systems:** Composite liner systems with leakage detection and underdrain features will be incorporated at the TMF and HLF. The TMF itself incorporates engineered seepage control measures, including an upstream face liner on the main dam, underdrains, and the downstream seepage collection pond.
- **Water collection infrastructure:** Engineered drainage ditches, sumps, and pumps will collect and convey contact water from the TMF, HLF, ore stockpiles, and open pit to on-site water management facilities.
- **Cyanide treatment:** A cyanide destruction facility will treat residual cyanide in heap leach solutions before recycling or discharge.
- **Water treatment:** The TMF water treatment plant will treat contact water so concentrations meet Effluent Quality Standards (EQSs) at the point of release. It will be operational from construction, in case early treatment is required, and will remain operational in post-closure to treat surplus water from the TMF until water quality from the TMF is acceptable to meet WQOs.
- **TMF closure cover:** A cover will decrease infiltration and percolation through the TMF, reducing seepage during post-closure.
- **Climate resilience:** Climate change projections have been incorporated into the site water balance and design capacity modelling so that the TMF, water treatment plant, and associated infrastructure can accommodate a wide range of hydrological conditions over the life of the Project.

Management plans will be implemented to reduce fugitive dust and release of suspended solids and contact and non-contact water. Sedimentation controls and water management will be active during construction and operation to reduce potential effects on surface water and sediment quality in the receiving environment. Water management and treatment infrastructure will remain in place through post closure until no longer required.

Long-term monitoring and adaptive management will be conducted through the **Water Monitoring Plan** (construction and operation) and the **Reclamation Monitoring Plan** (closure and decommissioning, and post-closure). Monitoring stations will be located within the mine site as well as upstream and downstream, including one on the Klotassin River to monitor water quality in this salmon-bearing watercourse. Adaptive management will ensure treated water meets EQSs and any potential water quality degradation is responded to before site-specific WQOs are exceeded.

## CONCLUSIONS

With EMMs in place, Project-related residual effects on surface water and sediment quality are predicted to be **not significant**. Cumulative effects from other regional activities may interact with Project effects. However, with mitigation measures applied across all projects, residual cumulative effects are expected to be low in magnitude and spatial extent, and **not significant**.

## E.6.6 Fish and Aquatic Resources

### ASSESSMENT CONTEXT

The assessment of effects on fish and aquatic resources considered three potential effects: **habitat loss and alteration, lethal effects to fish, sub-lethal effects to fish**. This assessment is integrated with evaluations of surface water quality and quantity, air quality, human health and well-being, cultural continuity and cultural expression, and land use and tenure.

### POTENTIAL AND RESIDUAL EFFECTS

Habitat loss and alteration is expected during construction due to development of the Open Pit, TMF, Access Road, Yukon River Water Pipeline, and during operation from site water management. These activities will result in direct effects to aquatic and riparian habitats. Lethal effects on fish may occur from blasting, in-stream construction, site water management, and increased fishing pressure due to improved access. Sub-lethal effects, such as impaired growth, reproduction, or habitat avoidance, may result from changes in water quality, sedimentation, dust, and noise.

During construction, residual habitat loss and alteration is anticipated within the PDA and LAA, including habitat loss in Casino Creek and temporary habitat alternations during access road construction. However, during operations, closure, and post-closure, with offsetting and EMMs in place, no residual habitat loss or alteration is expected.

Fish mortality may occur during construction incidentally even with implementation of EMMs, but such events are expected to be infrequent, localized, and not measurable at the population level. Therefore, no residual effects at the population level related to fish mortality are predicted. Residual sub-lethal effects may occur during all phases due to changes in water quality and flow, particularly in Casino Creek downstream of the TMF. These effects are considered moderate in magnitude.

### EFFECTS MANAGEMENT MEASURES

To mitigate these effects, the Project will implement a comprehensive suite of EMMs designed to comply with the Fisheries Act, including the MDMER, and other relevant regulations. These measures include:

- Use of clear-span bridges and culvert designs to reduce effects on habitat and fish passage
- Habitat offsetting strategies to compensate for spatial and functional loss of habitat
- Implementation of **Erosion and Sediment Control Plans** to reduce water quality degradation
- Adherence to regulatory standards and Best Management Practices throughout all phases of the Project

An **Aquatic Resources Monitoring Plan** will be implemented using an adaptive management framework. This plan will set out the requirements to verify the effectiveness of mitigation and offsetting measures, detect unanticipated ecological changes, and guide responsive management actions. Monitoring will compare project-affected areas to baseline and reference sites and incorporate requirements under the MDMER. If adverse effects are detected or thresholds exceeded, predefined adaptive responses will be initiated in collaboration/consultation with regulatory agencies and through engagement with First Nations.

### CONCLUSIONS

Overall, with implementation of EMMs and habitat offsetting, Project-related residual effects on fish and aquatic resources effects are predicted to be **not significant**.

As the Project is not predicted to result in residual habitat loss or alteration or residual lethal effects on fish, taking EMMs into account (including offsetting), it will not contribute to cumulative habitat loss or cumulative fish mortality. It is assumed other regional projects apply similar mitigation strategies aligned with federal and territorial standards.

Residual cumulative sub-lethal effects from water quality and quantity changes are predicted, but are anticipated to be **not significant**, with no measurable effects on fish mortality, health, or community composition.

## E.6.7 Rare Plants and Vegetation Health

### ASSESSMENT CONTEXT

The assessment of rare plants and vegetation health (vegetation assessment) considered three potential effects: **loss of plant communities, changes in abundance** of plant species of interest, and **reduced vegetation health**.

The vegetation assessment is linked to the assessments on air quality, surface water quantity, surface water quality, wildlife, land use and tenure, cultural continuity and cultural expression, and human health and well-being.

### POTENTIAL AND RESIDUAL EFFECTS

Most interactions between the Project and vegetation will occur during construction, when vegetation clearing occurs. That loss of vegetation will be permanent in some areas or persist in others until successful reclamation has been achieved. Project activities are expected to increase the amount of dust deposition, potentially leading to an increase in trace metal uptake by plants and resulting in a measurable residual effect in vegetation adjacent to the PDA.

Residual Project effects include loss of plant communities in the PDA, variations in the abundance of certain plant species of interest in the PDA, and changes to vegetation health in both the PDA and extending into the LAA. However, additional habitat remains available and there is no anticipated threat to the persistence or viability of plant populations within the RAA. Ecological community loss within the PDA amounts to 7,932 hectares, of which approximately 2,239 hectares are identified as having a high potential for supporting rare plants habitat, and 4,579 ha are considered to have ecological communities with berry-producing species being dominant.

### EFFECTS MANAGEMENT MEASURES

EMMs focus on reducing the loss of vegetation and its associated habitat and include engineering design, implementation of applicable guidelines, and best management practices that will reduce the amount of vegetation cleared and disturbed to the extent practicable.

Progressive reclamation will be applied to disturbed areas during each phase of the Project as soon as areas are no longer needed. Invasive species management strategies will be implemented to reduce the introduction and spread of invasive species. Implementing the **Vegetation Monitoring Plan**, as well as the **Air Quality Management Pla**n, which includes ambient air monitoring and dust management, will help reduce adverse effects on vegetation and vegetation health.

### CONCLUSIONS

With the implementation of EMMs, Project-related residual effects on rare plants and vegetation health are predicted to be **not significant**.

Project-related loss of ecological communities cumulatively adds to losses that have already occurred in the RAA due to other past and present projects and activities. Likely future projects are anticipated to have similar effects on vegetation and are assumed to implement similar EMMs to reduce their effects on vegetation.

Cumulative effects on loss of plant communities, change in abundance of plant species of interest, and reduced vegetation health are predicted to be long-term but reversible and should not threaten the persistence of plant communities and the viability of plant populations across the RAA. With the implementation of EMMs, residual cumulative effects on rare plants and vegetation health are predicted to be **not significant**.

## E.6.8 Wildlife-Ungulates

### ASSESSMENT CONTEXT

The assessment on ungulates included the Klaza and Fortymile caribou herds, Dall's Sheep and moose. Key potential effects on ungulates included changes in habitat, movement, and mortality risk.

The ungulates assessment is linked to the effects assessment for air quality, noise, surface water quantity and quality, rare plants and vegetation health, and land use and tenure, and supports the effects assessment for employment and economy, human health and well-being, and cultural continuity and cultural expression.

The Klaza caribou herd (KCH) is a Northern Mountain population of woodland caribou, which are listed as Special Concern under Schedule 1 of the federal Species at Risk Act. The Fortymile Caribou Herd (FCH) is a barren-ground caribou herd that migrates between Alaska and Yukon and typically occurs in the Project area during the winter. Moose is a valued species in the Yukon and a primary harvest species in the Project region.

The assessment of effects for KCH is a particular focus in the ESE statement and relies on:

- Baseline data collected by Casino from 2006 to 2025, including aerial and ground-based surveys
- Data provided by the Government of Yukon including composition and abundance data to summarize KCH population status and trends, harvest data to summarize hunting pressure and mortality risk, and aerial survey and global positioning system collar location data to quantify KCH annual and seasonal ranges and habitat selection
- Other sources of information such as TK, local knowledge, and literature
- Development of annual and seasonal ranges
- Quantitative assessment of change in habitat from the baseline

This in-depth work has allowed Casino to establish a strong ecological basis for assessment and provide a more accurate picture of KCH, using the newest technology available and contemporary modelling standards.

While a common assessment approach was applied for all ungulates, thresholds for characterizing the magnitude and significance of residual effects for ungulates were species-specific.

### POTENTIAL AND RESIDUAL EFFECTS

#### Klaza caribou herd

Project activities are anticipated to alter KCH habitat through physical removal and reduced forage availability. Indirect effects—such as noise, dust, and human presence—may lower habitat quality and displace caribou into riskier areas. Physical barriers and sensory disturbances can fragment habitat and disrupt movement, particularly for sensitive groups like cows and calves. Mortality risks may increase due to vehicle collisions or facilitated access for hunters and predators.

The Project is expected to affect less than 1% of moderate-to-high quality habitat units within the KCH RAA and is not anticipated to affect the herd's use of its annual range. Temporary displacement may occur during construction, operation, closure and decommissioning but movement outside the PDA will remain unrestricted. Mortality risks are expected to remain low due to access controls, speed limits on Casino Road, and hunting regulations.

With mitigation measures in place, including habitat avoidance, access restrictions, and monitoring, Project effects were evaluated to determine whether the KCH's ability to sustain itself over time would be compromised, given the herd's habitat needs and current population status.

## Fortymile caribou herd

The Project will result in direct and indirect habitat loss for the Fortymile Caribou Herd (FCH). Direct loss will occur through vegetation clearing and topsoil removal, eliminating forage, cover, and thermal habitat. Indirect loss will result from sensory disturbances (e.g., noise, dust, human activity), which may cause caribou to avoid otherwise suitable habitat near the Project.

Infrastructure such as roads and pipelines may act as barriers or filters to movement, potentially altering migration timing and routes. These effects are most concerning during migration. Mortality risks include vehicle collisions and increased access for hunters and predators.

The Project is expected to affect less than 1% of moderate-to-high quality habitat units within the FCH Regional Assessment Area (RAA), with no measurable change to overall habitat. While some movement disruption may occur - particularly near the open pit, access road, and Yukon River water pipeline - mitigation measures (e.g., speed limits, wildlife crossings, observation protocols) will reduce, though not eliminate, these effects.

Direct mortality is considered unlikely, and residual effects are not expected to influence the FCH population's sustainability.

## Moose

The Project will result in direct habitat loss for moose through vegetation clearing and topsoil removal, and indirect loss from sensory disturbances (e.g., noise, dust), which may cause avoidance of otherwise suitable habitat. Linear infrastructure such as the access road may act as physical or sensory barriers, disrupting movement patterns. Moose mortality risks may include vehicle collisions and increased access for hunters and predators.

Up to 2% of suitable moose habitat within the Wildlife RAA may be affected. Temporary displacement and movement disruption may occur during construction and operation, particularly near infrastructure like the Casino Road. While mortality risks exist throughout all Project phases, mortalities are expected to be irregular and result in no measurable change to the moose population.

## Dall's Sheep

The Project is not expected to interact with Dall's sheep or their habitat, and therefore no effects assessment was conducted for this species. Key factors supporting this conclusion include the significant distance between the PDA and known Dall's sheep habitat—over 14 km from escape terrain and Wildlife Key Areas, and at least 10–20 km from infrastructure such as the airstrip and open pit. There is no evidence of Dall's sheep movement through the valley where the Casino Road is planned, and access to the road will be restricted to mine-related vehicles under the Resource Roads Regulation, minimizing potential disturbance.

### EFFECTS MANAGEMENT MEASURES

Key mitigation measures for the KCH focus on Access Road design and operation, including speed limits, caribou right-of-way protocols, snowbank management, and embankment profiles to reduce movement barriers. Access will be restricted under the Resource Roads Regulation.

Additional measures include limiting site clearing, controlling noise and dust, wildlife awareness training, and progressive reclamation. These are implemented through the **Wildlife Mitigation and Monitoring Plan**, which includes effectiveness monitoring and adaptive management.

Key EMMs proposed to address Project-related influences on the FCH and moose are similar to those identified above for KCH, and include restricting site clearing, controlling dust and noise, restricting access and limiting speeds on Casino Road, implementing the **Wildlife Management and Monitoring Plan**, and implementing wildlife awareness training.

### CONCLUSIONS

With implementation of EMMs, Project-related residual effects on the KCH, FCH and moose habitat, movement, and mortality risk are predicted to be **not significant**. For KCH, this determination of non-significant effects considered that the Project residual effects would not threaten the herd's long-term viability or its role in maintaining biodiversity and ecosystem function.

Cumulative effects are predicted for KCH, FCH, and moose habitat, movement, and mortality risk from likely future projects and activities, including infrastructure and human presence. Habitat loss and movement barriers from project infrastructure may cause displacement to ungulates. However, the amount of habitat that may be affected at a given time is unknown. Access controls and project-specific management are expected to reduce hunting-related mortality risks. Ongoing monitoring will inform decisions about future projects and help manage these risks. While collision risk may increase, the overall collision rate is not expected to increase due to low road density and EMMs identified.

With implementation of EMMs by Casino and other proponents, and continued oversight by territorial and federal governments, residual cumulative effects on KCH, FCH, and moose habitat, movement, and mortality risk are predicted to be **not significant**.

## E.6.9 Wildlife–Furbearers and Other Mammals

### ASSESSMENT CONTEXT

The assessment of effects on furbearers and other mammals includes grizzly bear, collared pika, wolverine, little brown myotis, and other furbearers. The Mammals assessment is linked to the effects assessment for air quality, noise, surface water quantity and quality, fish and aquatic resources, rare plants and vegetation health, and land use and tenure, and supports the effects assessment for employment and economy, human health and well-being, and cultural continuity and cultural expression.

Collared Pika, wolverine, and the little brown myotis bat are species of management concern in Yukon and Canada. Thresholds for characterizing the magnitude and significance of residual effects for furbearers and other mammals were species-specific.

### Grizzly Bear

#### POTENTIAL AND RESIDUAL EFFECTS

Key potential effects on grizzly bears include changes in habitat and localized habitat use, population fragmentation, changes in health, and increased mortality risk. Project activities are predicted to cause direct and indirect habitat changes year-round, potentially affecting reproduction, survival, and movement patterns. Sensory disturbances (e.g., noise, traffic, blasting, human presence) may lead to habitat avoidance, while attractants (e.g., food waste, roadside vegetation) could draw bears to Project areas.

Infrastructure may fragment populations, particularly near the mine site and access road. Health effects may occur through exposure to contaminants via food sources. Mortality risks are linked to increased access and human presence, including vehicle collisions, hunting, and human-bear conflicts. The Project is predicted to affect less than 2% of suitable grizzly bear habitat in the RAA, with low magnitude residual effects on movement and population connectivity. Residual health effects are conservatively rated as high magnitude due to potential selenium exposure from fish consumption, based on conservative water quality modelling.

Residual change in mortality risk is predicted to be moderate in magnitude, with an estimated one to two female deaths every five years from vehicle collisions and increased access for subsistence harvesting.

#### EFFECTS MANAGEMENT MEASURES

- **Habitat loss and population fragmentation** will be reduced by careful construction planning, limiting vegetation clearing, and avoiding sensitive areas. Indirect effects are managed with dust control and water quality measures. Sensitive locations are protected through activity timing, equipment enclosures, traffic management, and staff training.
- **Health risks from chemicals** will be reduced through the management of dust from mine activities and traffic, as well as the reduction of potential aquatic effects.
- **Grizzly bear mortality** will be limited by controlling access, traffic, attractants, and encounters, as well as wildlife awareness programs for staff and contractors. Casino Road will be subject to the new Resource Roads Regulation, which will restrict access to authorized users.

The **Wildlife Mitigation and Monitoring Plan** will outline requirements to manage potential environmental effects of the Project on wildlife, including furbearers and other mammals, including through implementation of EMMs, monitoring of EMMs effectiveness, and employing adaptive management to address unforeseen issues.

#### CONCLUSIONS

With implementation of EMMs, residual Project effects on grizzly bear are not expected to alter their population viability to a point where the population may no longer be self-sustaining or is unavailable to contribute meaningfully to ecosystem function. Project-related residual effects are predicted to be **not significant**.

Cumulative effects on grizzly bear habitat, habitat use, and population fragmentation are predicted to be low with implementation of mitigation measures (EMMs). Cumulative effects on mortality risk are expected to be moderate to high due to increased access and human presence. Ongoing monitoring by Casino, First Nations, and the Government of Yukon will support adaptive management, including adjustments to road access and user controls. These efforts will help address changes in female mortality in the short term before long-term population effects occur. With EMMs and collaborative management, residual cumulative effects on grizzly bears are predicted to be **not significant**.

## Collared Pika

### POTENTIAL AND RESIDUAL EFFECTS

Key potential effects on collared pika include **habitat loss, indirect disturbance to habitat**, and **sensory disturbance**.

Site clearing is predicted to result in loss of collared pika habitat within the PDA, with potential fragmentation and isolation of habitat patches outside the PDA. Fugitive dust may reduce forage quality, increasing extirpation risk in otherwise suitable habitat outside the PDA. Elevated noise and vibration—especially during construction and operation—may disrupt critical behaviours or lead to habitat abandonment. Blasting near occupied habitat could cause injury or mortality of individuals.

The Project is predicted to permanently affect less than 10% of suitable pika habitat in the LAA, with no expected effect on population viability or persistence of the species within habitat clusters. Dust deposition is predicted to remain at low-risk levels for vegetation outside the PDA, considering mitigation measures and natural suppression from rain and snowfall. Noise and vibration effects will be localized and are not expected to affect pika persistence within habitat clusters.

### EFFECTS MANAGEMENT MEASURES

Key EMMs to reduce effects on collared pika include careful construction planning, limiting vegetation clearing, and avoiding sensitive areas. Indirect effects are managed with dust control measures, lighting and noise management measures, and site-specific blasting plans. Sensitive locations are protected through activity timing, equipment enclosures, traffic management, and staff training.

### CONCLUSIONS

With the implementation of EMMs, Project-related residual effects on collared pika are predicted to be **not significant**.

The Project's residual effects, combined with past, present, and likely future activities, are likely to have cumulative effects on collared pika, including habitat loss, indirect disturbance to habitat, and sensory disturbance. It is assumed future activities will adhere to similar species management objectives and EMMs. Cumulative effects on collared pika are not anticipated to alter the pika's population viability or persistence beyond an acceptable level. With the implementation of EMMs, residual cumulative effects on collared pika are predicted to be **not significant**.

## Wolverine and American Marten

### POTENTIAL AND RESIDUAL EFFECTS

Key potential effects include changes in habitat, movement patterns, and mortality risk. Direct habitat loss may result from vegetation clearing and ground disturbance during construction, and from surface water management in all phases. Indirect effects may occur due to sensory disturbances. Project activities and infrastructure may disrupt movement, though effects are expected to decline with reduced activity and progressive revegetation starting in decommissioning and closure.

Access roads are predicted to be the main source of increased mortality risk, through vehicle collisions. Additional mortality risk may also arise from the euthanasia of problem animals, entrapment, chemical exposure. Access roads may also increase access for trapping and predator movement. Less than 1% of suitable habitat in the RAA is predicted to be lost or altered, each for wolverine and for marten, and changes in mortality and movement patterns may also occur. These changes are not expected to compromise population viability, and proposed mitigation measures (EMMs) will help reduce effects.

### EFFECTS MANAGEMENT MEASURES

To reduce changes in habitat and mortality risk, the Project will implement careful design, no-activity buffers, and progressive reclamation. Dust and noise will be controlled through worker transport strategies and dust suppression agents. Blasting will be managed using electronic detonators, careful pattern planning, and adaptive timing. Sediment control ponds will protect water quality.

Wildlife protection measures include access and traffic controls, worker conduct policies, pre-clearing surveys, activity restrictions during sensitive periods, and a mandatory **Wildlife Education Program**. These actions will be guided by the **Wildlife Mitigation and Monitoring Plan**, which includes effectiveness monitoring and adaptive management.

### CONCLUSIONS

With the implementation of EMMs, Project-related residual effects on Wolverine and American marten are predicted to be **not significant**.

The cumulative effects of the Project and past, present, and likely future projects and activities are predicted to not alter the population viability or persistence of Wolverine and American marten within the RAA. Previous ongoing and future projects are anticipated to have similar residual effects, addressed with comparable EMMs. With the implementation of EMMs, residual cumulative effects on furbearers are predicted to be **not significant.**

## Little Brown Myotis

### POTENTIAL AND RESIDUAL EFFECTS

Key potential effects on Myotis include changes in habitat and changes in mortality risk. The Project may cause direct habitat alteration through development and indirect alteration from sensory disturbances (e.g., noise, human presence), potentially leading to reduce habitat suitability, habitat avoidance and barriers to movement. Mortality risks include vehicle collisions, removal of maternity roosts, and exposure to contaminants via insect prey.

Approximately 1% of suitable habitat within the RAA may be affected, and changes in mortality risk may occur. These changes are not expected to affect Myotis population viability or persistence within the RAA. The area affected by the Project represents a portion of the available suitable habitat, and the proposed EMMs are expected to reduce the effects.

### EFFECTS MANAGEMENT MEASURES

To reduce habitat disturbance and mortality risk, the Project will avoid sensitive areas (e.g., Myotis habitat features, wetlands) through careful design and no-activity buffers. Progressive reclamation and revegetation will shorten the duration of habitat effects.

Disturbance from dust and noise will be reduced through worker transport strategies, dust suppression agents, and blasting management (e.g., electronic detonators, careful pattern planning, adaptive timing). Water quality will be protected via sediment control ponds.

Wildlife protection includes access and traffic controls, worker conduct policies, pre-clearing surveys, restrictions during sensitive periods, and mandatory wildlife education. These measures are guided by the **Wildlife Mitigation and Monitoring Plan**.

### CONCLUSIONS

With implementation of mitigation measures (EMMs), Project-related residual effects on Myotis are predicted to be **not significant**.

Past, current, and likely future projects and activities are predicted to result in long-term but reversible Myotis habitat loss and alteration, and direct mortality from vehicle collisions and vegetation clearing. However, these projects and activities are expected to follow management measures, BMPs, and relevant regulations and legislation. The Project's residual effects, in combination with the residual effects of other past, present, and likely future projects and activities within the RAA, are not predicted to result in a change to the viability or persistence of Myotis. With the implementation of EMMs, residual cumulative effects on Myotis are predicted to be **not significant**.

## E.6.10 Wildlife–Birds

### ASSESSMENT CONTEXT

The assessment of effects on birds focuses on three bird groups: passerine birds and bird species at risk, waterfowl, and cliff-nesting raptors.

The birds assessment is linked to the effects assessment for air quality, noise, surface water quantity and quality, rare plants and vegetation health, human health and well-being, and cultural continuity and cultural expression.

Thresholds for characterizing the magnitude and significance of residual effects for birds are specific to each of the groups assessed.

### Passerine Birds and Bird Species at Risk

#### POTENTIAL AND RESIDUAL EFFECTS

Key potential effects on passerine birds and bird species at risk include **changes in habitat** and **mortality risk**. Habitat loss is expected due to ground clearing and vegetation removal for the PDA during the construction phase. Indirect habitat loss may occur from activities expected to elevate noise, light, and visual stimuli beyond current levels within the LAA.

Direct mortality of birds can occur through vehicle collisions and various mining activities including vegetation clearing and excavation required for mine development, which may unintentionally destroy or damage active bird nests.

The Project is expected to affect less than 1.5% of suitable breeding habitat within the RAA, and is not anticipated to affect population viability. Mortality risk from traffic is considered low, based on low projected traffic volumes using regional benchmarks. Nest disturbance and associated mortality are also expected to remain low.

#### EFFECTS MITIGATION MEASURES

Key measures include reducing construction footprints, restricting clearing to approved areas, avoiding sensitive habitats, conducting pre-disturbance surveys, and establishing buffers around active nests. Vegetation clearing will be scheduled outside the core breeding season where practicable.

Lighting will be managed (e.g., downlighting) to reduce sensory disturbance. Traffic-related mortality risk is minimized through speed limits and restricted access to Casino Road. These actions are supported by the **Wildlife Mitigation and Monitoring Plan**.

#### CONCLUSIONS

With the implementation of EMMs, Project-related residual effects on passerine birds and bird species at risk are predicted to be **not significant**.

Other developments in the RAA are expected to have similar habitat and mortality effects, primarily due to increased traffic. However, future projects are assumed to undergo comparable assessments and implement similar EMMs to manage effects. With consistent application of EMMs, cumulative effects are not expected to affect population viability. Residual cumulative effects on passerines and bird species at risk are predicted to be **not significant.**

## Waterfowl

### POTENTIAL AND RESIDUAL EFFECTS

Key potential effects on waterfowl include **habitat loss, reduced habitat effectiveness, adverse health effects**, and **mortality**.

The Project is predicted to cause direct habitat loss (less than 1% of suitable nesting habitat in the RAA) from ground clearing and vegetation removal, and reduced habitat effectiveness near the PDA due to noise, light, and human activity. Adverse health effects and mortality risk may increase from exposure to contaminated water bodies (e.g., TMF, HLF Events Pond), especially during closure and decommissioning and post closure phases.

While individual waterfowl may be affected, the TMF will offer minimal breeding or foraging habitat, and mitigation measures will deter waterfowl use. Residual effects are not expected to impact population viability within the RAA.

### EFFECTS MANAGEMENT MEASURES

Various EMMs are proposed to reduce these effects, including reducing construction footprints, avoiding sensitive environmental features, conducting pre-disturbance surveys, establishing no-disturbance buffers around active nests, implementing lighting measures, enforcing speed limits on roads, implementing wildlife deterrence within mine water bodies, and monitoring water quality. In addition, the **Wildlife Mitigation and Monitoring Plan** will be implemented to manage potential environmental effects of the Project on wildlife.

### CONCLUSIONS

With the implementation of EMMs, residual Project effects on waterfowl are predicted to be **not significant**.

Previous, ongoing, and likely future projects are expected to have similar residual effects, which will be addressed through comparable EMMs. The cumulative loss of habitat, including both direct and indirect, is predicted to be low in magnitude, not anticipated to exceed 15%. With the implementation of EMMs, residual cumulative effects on waterfowl are not expected to affect the population viability of waterfowl and are predicted to be **not significant**.

## Cliff-Nesting Raptors

### POTENTIAL AND RESIDUAL EFFECTS

The cliff-nesting raptors in the RAA include peregrine falcon, gyrfalcon, and golden eagle. Key potential effects include **habitat loss, reduced habitat effectiveness**, and changes in **mortality risk**.

Construction is predicted to result in direct loss within the PDA of 3% of cliff-nesting habitat mapped in the RAA, making nesting and foraging areas unavailable until closure. Sensory disturbances (e.g., noise, dust, traffic) may reduce habitat quality, leading to nest abandonment and reduced hunting activity. Mortality risk is primarily from vehicle collisions.

No active nest sites have been confirmed in the LAA. Mitigation measures—including reduced disturbance, pre-clearing surveys, and nest-specific buffers—will minimize effects. Given low traffic volumes and raptor hunting behaviour, few individuals are expected to be affected. Residual effects are not expected to effect population viability.

### EFFECTS MANAGEMENT MEASURES

Various EMMs are proposed to reduce these effects, including reducing construction footprints, avoiding sensitive environmental features, conducting pre-disturbance surveys, establishing no-disturbance buffers around active nests, conducting nest occupancy surveys in the LAA every three years, developing nest specific management plans for nests inside the PDA or within 1,000 m of the PDA, and limiting access and enforcing speed limits on roads. In addition, the **Wildlife Mitigation and Monitoring Plan** will describe requirements to manage potential environmental effects of the Project on wildlife.

### CONCLUSIONS

With the implementation of EMMs, residual effects of the Project on cliff-nesting raptors are predicted to be **not significant**.

Cumulative effects on cliff-nesting raptors from the Project and other developments in the RAA are expected to be similar and addressed through comparable EMMs. With EMMs in place, residual cumulative effects are not expected to effect population viability or persistence of the species within the RAA, and are considered to be **not significant**.

## E.6.11 Employment and Economy

### ASSESSMENT CONTEXT

The assessment of employment and economy considered potential effects including changes to: **employment and employability; employment income; business sector; local and regional economic development; territorial government revenue;** and **cost of living**.

The employment and economy assessment is linked to the effects assessment of community services and vitality, human health and well-being, cultural continuity and cultural expression, as well as the First Nation and community assessments.

### POTENTIAL AND RESIDUAL EFFECTS

The Project is expected to generate local and regional employment, increase income, and stimulate business activity. It will contribute substantially to Yukon's GDP and government revenues:

GDP Contributions:

- $429 million/year during construction
- $1.3 billion/year during operation
- $28 million/year during closure

Government Revenue Contributions:

- $28 million/year during construction
- $175 million/year during operation
- $2.1 million/year during closure

Potential adverse effects include increased cost of living due to increased competition for labour and greater demand for housing.
Through the implementation of EMMs, the Project is expected to enhance the benefits that accrue to the Yukon through increased uptake of employment opportunities, employment income and business opportunities. EMMs are also expected to increase the diversity of the workforce.

### EFFECTS MANAGEMENT MEASURES

EMMs include employment and community hiring initiatives, education and training initiatives, a procurement strategy, an engagement strategy, and a community feedback mechanism. Additionally, there will **be a Socio-economic Management and Monitoring Plan**, and initiatives to manage potential socio-economic effects from mine closure.

Key EMMs for predicted increased cost of living include employment and community hiring initiatives, and education and training initiatives, that will encourage local employment to reduce in-migration and therefore ease increased demand for housing.

### CONCLUSIONS

Overall, the Project is predicted to have substantial positive residual effects during all Project phases on employment and employability, employment income, business sectors, local and regional economic development, and government revenues. With the implementation of EMMs, the one Project-related adverse residual effect on cost of living is predicted to be **not significant**.

Project spending on labour, goods, and services combined with expenditures of current and likely future projects and activities will increase demand for labour in the RAA, potentially driving up wages and business costs. This may lead to higher prices for consumables and increased cost of living, especially due to housing demand from transient and in-migrating workers.

Over time, market conditions are expected to stabilize as projects transition to operation. With implementation of mitigation measures (EMMs), residual cumulative effects on cost of living are predicted to be **not significant**.

## E.6.12 Community Services and Vitality

### ASSESSMENT CONTEXT

The assessment of community services and vitality considered potential effects including changes to housing, education, municipal infrastructure and services, municipal government costs and revenues, and traffic volume and road safety.

The community services and vitality assessment is linked to the effects assessment of employment and economy, human health and well-being, cultural continuity and cultural expression, and First Nation and community assessments.

### POTENTIAL EFFECTS

The Project will drive population growth, increasing demand for housing, education, and municipal services. These effects will begin during construction and intensify during operation, primarily due to indirect and induced employment. Growth is expected to align with Yukon government forecasts and local communities' plans, with market conditions such as housing availability acting as a natural limiting factor. Casino will continue to engage with First Nations and local governments to support community planning and housing initiatives. Municipal costs will rise with service demand but are expected to be offset by increased tax revenues from a growing population.

Freegold Road will be upgraded, and a new 120 km Casino Road will be constructed. Despite increased traffic, Freegold Road is expected to operate at Level of Service C. Casino Road will remain a controlled access resource road throughout the Project's life.

With implementation of EMMs and continued engagement with First Nations and local governments to support planning, no persistent exceedance of available or planned service capacity or decline in service quality is expected. Roadway capacity in the LAA is predicted to accommodate increased traffic without compromising safety.

### EFFECTS MANAGEMENT MEASURES

Project design features—such as the camp, airstrip, recreation facilities, and on-site services (e.g., water, sewage, power)—will help reduce pressure on local infrastructure. Plans and policies (e.g., **Recruitment, Training and Employment Plan**, engagement strategy, community feedback mechanism, **Socio economic Management and Monitoring Plan, Community and Personal Safety Plan, Emergency Response Plan, Waste Management Plan, Conceptual Road Use Plan, and Traffic Management Plan**) will further mitigate effects.

### CONCLUSIONS

With the implementation of EMMs, residual adverse effects of the Project on community services and vitality are predicted to be **not significant**.

Transient and in-migrating workers associated with the Project and other projects and activities may cumulatively increase demand for community services and increase traffic volumes in the RAA. This could affect the availability, quality, or cost of housing, education, municipal infrastructure, and road safety. Projects with workforce and transportation needs that overlap with those of the Project are most likely to contribute to cumulative effects.

The Project's EMMs are expected to reduce its contribution to cumulative effects on community services and traffic. Other proponents are also anticipated to implement standard EMMs in compliance with regulatory requirements.

Baseline data and population growth forecasts indicate that the Yukon can accommodate these changes without exceeding service or infrastructure capacity or causing persistent declines in service quality or road safety. With EMMs in place, residual cumulative effects on community services and traffic are predicted to be **not significant**.

## E.6.13 Human Health and Well-being

### ASSESSMENT CONTEXT

The assessment of human health and well-being considered potential effects including changes in: **health from contaminant emissions; access to health and social services; rates of communicable diseases; food security; mental health and family cohesion; cultural and spiritual well-being;** and **community and personal safety**.

Health and well-being is a holistic concept and the assessment is closely linked to the effects assessments of air quality, noise, surface water quantity and quality, fish and aquatic resources, rare plants and vegetation health, wildlife, employment and economy, community services and vitality, cultural continuity and cultural expression, and land use and tenure.

A Human Health and Ecological Risk Assessment was conducted to assess risks from environmental contaminants.

### POTENTIAL AND RESIDUAL EFFECTS

The Project may benefit human health and well-being by providing income that could reduce food insecurity and improve mental health and family dynamics for those employed. Additionally, the Project will generate revenue for municipal, territorial, and federal governments, supporting health and social services. Population growth from worker migration may also increase federal transfer payments and local tax revenue, enhancing service funding. Food security effects may include both benefits (e.g., improved access to harvesting areas via Casino Road) and challenges (e.g., increased food costs), but no community-level changes to baseline food insecurity are anticipated.

Potential adverse effects on health and well-being include:

- Exposure to environmental contaminants (air, water, soil, country foods) affecting physical health
- Increased demand on health and social services, risk of communicable disease transmission, and safety concerns
- Rotational work schedules may impact mental health, family cohesion, and participation in traditional activities
- Project-related fear and uncertainty (in particular due to changes in the environment, potential mining accidents or ecological contamination) may contribute to stress and mental health issues
- Reduced access to country food and increased cost of living may affect food security for First Nations
- Increased income may contribute to higher substance use and related crime

The Project may disproportionately affect sub-populations such as First Nations, First Nation women and girls, women, low-income individuals and households, 2SLGBTQQIA+ persons and children and youth. Changes in community and personal safety may disproportionately affect women, First Nation women and girls and 2SLGBTQQIA+ persons due potential gender-based violence, workplace harassment and instances of sexual abuse in the workplace. Men may also disproportionately be affected by changes in mental health and family cohesion due to social stigma in accessing mental health services.

### EFFECTS MANAGEMENT MEASURES

Project design features (e.g., camp accommodations, on-site airstrip, recreation services) and EMMs will reduce adverse effects on human health and well-being. Specific EMMs include:

- **A Health and Safety Plan**, that will include:
    - Provisions of health and medical personnel and services for emergencies and non urgent care
    - Protocols for med-evac workers with life-threatening illnesses or injuries
    - Communicable disease prevention and outbreak protocols
    - Description of access to mental health supports on site, in camp accommodations, and available to workers off site
    - Description of onsite clinic and equipment available
    - Health promotion measures, such as worker education, health awareness, and health initiatives
    - Substance use and harm reduction measures
- Flexible work schedules to support First Nations' cultural participation, where practicable
- Cultural awareness training and culturally appropriate recreational programming
- Worker food security program
- Financial literacy supports (e.g., direct deposit, money management training)
- **Socio-economic Management and Monitoring Plan** that outlines that Casino will develop community and personal safety measures including:
    - Provisions for safety and security services
    - An anti-harassment and violence in the workplace policy including zero tolerance, reporting mechanisms, and follow-up procedures
    - Mandatory anti-harassment and violence in the workplace training for workers and contractors upon on-boarding, and annually. Training will be designed and/or delivered from people with lived experience, women, 2SLBGTQQIA+ community members, and/or First Nation women.
    - Hiring of First Nations, women, and/or members of the 2SLGBTQQIA+ community to support recruitment and human resource processes.
    - Worker code of conduct and respectful workplace training.
    - Contaminant inhalation risks will be managed through monitoring and adaptive measures under the Air Quality Management Plan.

Surface water quality protections will reduce risks to ecological and human health in the Casino Creek watershed.

### CONCLUSIONS

Overall, with implementation of EMMs, Project-related residual adverse effects on human health and well being are predicted to be **not significant**.

The effects of other current and future developments with large out-of-region workforces may interact cumulatively with the Project's effects on health and well-being in the RAA. Potential cumulative effects on human health and well-being include:

- Exposure to contaminants in surface water, limited to Casino Creek, primarily affected by treated water discharge from the TMF and land disturbance
- Health and social services, which are already strained, may face increased demand due to population growth and presence of transient workers
- Community safety and communicable disease risks may rise with increased worker presence

Casino's EMMs will reduce its contribution to cumulative effects. Project-generated revenue and taxes may further support health and social services in the LAA. With mitigation, residual cumulative effects on human health and well-being are predicted to be **not significant**.

## E.6.14 Cultural Continuity

### ASSESSMENT CONTEXT

Since 2014, Casino has engaged with affected First Nations—SFN, LSCFN, TH, KFN, and WRFN. In 2021, engagement efforts intensified to support the ESE Statement. Through TLU studies, engagement activities, and public information review, First Nations contributed traditional knowledge (TK), identified concerns, and provided recommendations related to cultural continuity.

Casino shared cultural continuity baseline reports and a draft of the cultural continuity assessment with SFN, LSCFN, TH, and KFN for feedback.

WRFN conducted its own Dän k'e/Dineh k'èh Assessment. The cultural continuity assessment incorporated TK, traditional use information and feedback from all affected First Nations. The assessment evaluated potential effects of changes to:

- **Availability of resources** for cultural continuity and cultural expression;
- **Access to resources and areas** for cultural continuity and cultural expression;
- **Sites or areas** for cultural continuity and cultural expression; and
- **Cultural expression**

This assessment is intrinsically connected to effects assessments for other VESECs, including wildlife, vegetation, aquatic resources, air and water quality, noise, community services, health, economy, and land use. Each VESEC assessment reflects TK and engagement input available, and the cultural continuity assessment considers effects individually for SFN, LSCFN, TH, and KFN (WRFN is considered in the Dän k'e/Dineh k'èh Assessment chapter).

### POTENTIAL EFFECTS

This assessment evaluates potential Project effects on the availability, distribution, and quality (both perceived and measurable) of wildlife, fish, and plant resources essential to cultural continuity and expression.

It draws on related assessments of habitat loss, alteration, and health risks to wildlife, vegetation, and aquatic resources. The Project may also affect sites or areas, as well as access to those sites and areas for cultural continuity and cultural expression through direct effects (e.g., trail disruption, vegetation clearing, restrictions on travel to and through preferred areas) and indirect effects (e.g., sensory disturbances from air quality, noise, and traffic). These changes may influence the ability or willingness to transmit knowledge and language, raise safety and community concerns, and increase living costs—affecting cultural expression.

### EFFECTS MANAGEMENT MEASURES

EMMs proposed to mitigate effects on air quality, surface water quality and quantity, wildlife, fish and aquatic resources, and vegetation and habitat (among other VESECs) will also help reduce effects on cultural continuity and cultural expression.

Additional targeted EMMs include:

- A **Communication Plan** to share project information and support ongoing dialogue with affected First Nations
- Engagement on development of site-specific EMMs for culturally important areas potentially affected by construction or operation
- Opportunities for First Nations to participate in vegetation, wildlife, and watercourse monitoring

Known trails, travelways, overnight sites, and special sites within the PDA, LAA, and RAA continue to be used by affected First Nations. Casino will work with Nations to identify site locations, assess potential effects, and develop site-specific EMMs. Post-closure, some disturbed areas may become accessible again for cultural activities (e.g., hunting, trapping, gathering, fishing), though areas like the Open Pit will remain permanently inaccessible.

### CONCLUSIONS

Overall, with the application of proposed EMMs, Project-related residual effects on cultural continuity and cultural expression (for SFN, LSCFN, TH, and KFN) are predicted to be **not significant.**

The Project, in combination with other past, present, and likely future projects and activities, is expected to contribute to residual cumulative effects on cultural continuity. Despite these effects, EMMs and the Project's limited incremental contribution mean long-term changes to resource availability, access, or cultural sites are not expected to prevent affected First Nations from continuing cultural practices within the VESEC RAAs. It is expected that standard EMMs and other management measures will be applied by other proponents to reduce their effects on biophysical components linked to cultural practices across Traditional Territories that overlap with the RAAs of those projects.
Casino acknowledges that some First Nations may view cumulative effects as irreversible due to historical and ongoing dispossession and changes to availability of resources. It also recognizes that cultural, spiritual, aesthetic or personal reasons may influence decisions not to engage in cultural activities in affected areas. Casino remains committed to ongoing engagement with affected First Nations about effects on cultural continuity.

With mitigation, residual cumulative effects on cultural continuity are predicted to be **not significant**.

## E.6.15 Land Use and Tenure

### ASSESSMENT CONTEXT

The assessment of land use and tenure considered potential effects on non-traditional land use and tenure including changes in: **fisheries; hunting; guide outfitting and trapping; recreation and tourism; and mining, exploration,** and **mineral tenures**.

The land use and tenure assessment is linked to the effects assessments of noise, fish and aquatic resources, wildlife, and community services and vitality.

### POTENTIAL EFFECTS

Project construction and operation may affect the viability of, restrict access to, or result in the loss of lands used for fishing, hunting, trapping, guide outfitting, and recreation and tourism activities. These activities may also be affected by resource loss (e.g., wildlife/fish mortality, habitat loss) and nuisance effects (e.g., noise, dust, light, aesthetics), which could effect user experience and harvesting success.

Closure and decommissioning may temporarily disrupt land use but may result in restored access over time. The assessment also considers effects on mining, exploration and mineral tenures, including potential loss or restricted access to claims and leases.

Residual effects on land use and tenure are closely tied to effects on underlying resources. With EMMs in place, these effects are expected to be low to moderate in magnitude and extend to the LAA. Existing land use activities are anticipated to continue at or near current levels due to the availability of alternative resources and lands.

### EFFECTS MANAGEMENT MEASURES

The Project will align with existing land use plans, policies, and bylaws related to land use and development. Key EMMs to manage land use effects include:`

- Ongoing communication of project activities with affected First Nations, land users, interest groups, and local authorities
- A **Community Feedback Mechanism** for reporting unanticipated effects
- Access management measures and a **Traffic Management Plan**
- A **Fish Habitat Offsetting Plan**
- Additional EMMs addressing air, water, fish, wildlife, vegetation, and habitat

### CONCLUSIONS

With the implementation of EMMs, Project-related residual effects on land use and tenure are predicted to be **not significant**.

Mining and infrastructure development have modified portions of the hunting, guide outfitting, and trapping RAA over the past 60 years. The Project, alongside likely future developments, will contribute to cumulative effects on land use and tenure, including changes in access, nuisance/disturbance, changes to fish habitat, and resource availability.

Future projects subject to regulatory review are anticipated to apply similar mitigation. Casino will collaborate with the Government of Yukon, First Nations, and tenure holders in the RAA to manage access and reduce environmental effects. With implementation of proposed EMMs, residual cumulative effects are expected to be low to moderate in magnitude and not occur at levels that would compromise the ability for land use activities to continue at current levels. Residual cumulative effects are predicted to be **not significant**.

## E.6.16 Heritage Resources

### ASSESSMENT CONTEXT

The assessment of heritage resources considers potential **damage to or loss of heritage resources**.

The heritage resources assessment, informed by TLU studies and First Nations engagement, is closely linked to the effects assessments for cultural continuity and cultural expression, and land use and tenure. Heritage resources are important and demonstrate First Nation presence on the land since time immemorial.

### POTENTIAL EFFECTS

Project-related ground disturbance could result in damage or loss of heritage resources. Ground disturbance would be associated with construction of the Access Road and Airstrip, mine site development, borrow source extraction, drilling, blasting, vegetation and soil removal, grubbing, soil stockpiling, recontouring, and reclamation activities.

### EFFECTS MANAGEMENT MEASURES

With implementation of site-specific mitigation measures, potential effects can be appropriately managed. These measures are designed to document, recover, research, preserve, manage, and disseminate information about heritage resources for the benefit of future generations. Casino will implement a **Heritage Resources Protection Plan** (HRPP) with measures to avoid and reduce effects on heritage resources, developed in collaboration with the Heritage Resources Unit and affected First Nations. The HRPP will include site-specific management measures (*e.g.*, avoidance, ground disturbance monitoring, archaeological systematic data recovery), and the Chance Finds Procedure. If previously unrecorded resources are encountered, the Chance Finds Procedure will guide appropriate recording of the find and effects are mitigated through a site-specific management plan. Where avoidance of heritage resources is not possible, data recovery and long-term curation may contribute to a positive effect, in that the information recovered from the site can be used by future generations.

### CONCLUSIONS

Overall, with the implementation of the HRPP, Project-related residual effects on heritage resources are predicted to be **not significant**.

Once a site has been impacted, cumulative effects to the site from residual effects from other projects are not possible. Therefore, cumulative effects on Heritage Resources are not predicted.

## E.6.17 First Nation and Community Assessments

Casino led community-specific assessments for SFN/Pelly Crossing and Carmacks. WRFN and Casino conducted the WRFN Dän k'e/Dineh k'èh Assessment. Casino is also working with TH on a TH-specific assessment.

### SELKIRK FIRST NATION AND PELLY CROSSING ASSESSMENT

The Casino Project has the potential to deliver economic and social benefits to the SFN community in Pelly Crossing. Increased employment and income from the Project could improve health, education, housing, and food security, supporting long-term economic stability. Investments in cultural revitalization and food security, along with inclusive hiring and training initiatives, could reinforce cultural identity and provide a platform for meaningful social engagement. Additionally, the Project could enhance community services, infrastructure, and overall vitality, contributing to improved health outcomes and resilience.

The Casino Project may affect the cultural continuity, employment, economy, community services, and human health and well-being of residents of Pelly Crossing. Increased noise, traffic, and industrial activities could disrupt wildlife and traditional practices, while economic changes may result in social issues like substance abuse. The Project could strain local infrastructure and services, exacerbate housing and cost-of-living challenges, and intensify competition for land use. Additionally, it may pose health risks due to working conditions and potential communicable disease transmission. Casino will implement comprehensive planning to manage these adverse effects, including community engagement, financial management training, and enhanced safety measures for Indigenous women and vulnerable groups.

Self-reliance has been identified by SFN as a factor for considering the overall positive and adverse effects of the Project. The Casino Project analyzed the protection of Rights, sustainability, economic development and self-determination as components of self-reliance and concluded that through meaningful engagement that enables self-determination for SFN and providing economic and employment opportunities, there is potential for Pelly Crossing to realize positive effects on self-reliance. The Project has the potential to adversely affect self-reliance through the rights and benefits established under Selkirk First Nation Final Agreement, including those related to land use, harvesting, cultural practices and connection to the land, and economic development measures. The Project aligns with several goals and priorities that were identified in the Selkirk First Nation/ Pelly Crossing Integrated Community Sustainability Plan 2007 and other territorial and national sustainable initiatives. Casino will continue to collaborate with SFN throughout the development of the Project to further capture SFN priorities and interests.

### COMMUNITY OF CARMACKS

The Carmacks Based Assessment provides a focused assessment of relevant Project-related effects that could interact with Carmacks' and LSCFN's socio-economic and cultural conditions. The extent to which Carmacks will experience positive and adverse effects of the Project on its socio economic environment is related to the size of the in-migrating population compared to the baseline population, the demographic composition of the in-migrating population, the timing and duration of population change, and the ability of communities to absorb population growth. It has been estimated that Project-related population growth will be greatest in Whitehorse and that Carmacks will see a peak population increase of 3% during operation.

Carmacks residents are likely to experience positive effects of Project employment as a result of labour income and indirect and induced employment resulting from Project expenditures and purchases of goods and services. The Village of Carmacks has expressed that its residents are interested in Project employment and Casino will implement measures, such as Project-related education and training programs, to facilitate their employment. Carmacks is likely to see other Project benefits associated with population growth, such as additional educational facilities and programs and an increase in health and social services. Casino will enhance these positive effects with the implementation of EMMs, including employment and community hiring initiatives, education and training initiatives, a procurement strategy, and a food security program.

The socio-economic environment of Carmacks may be adversely affected by the Project, but to a lesser degree than that of the larger LAA communities, such as Whitehorse. For instance, Carmacks may experience residual adverse effects if the Project causes its economy to become too reliant on the mining industry. Even a small increase in the population of Carmacks may place additional strain on its already limited housing and community health services.

Cultural and environmental disruptions due to the presence of the Project may adversely affect mental health outcomes amongst Carmacks residents, particularly LSCFN members who rely heavily on their land for cultural, subsistence, and recreational purposes, including seasonal fishing, hunting, and trapping activities.

Casino is committed to reducing adverse effects on the Village of Carmacks and LSCFN through the provision of a self-contained camp to accommodate Project workers at the mine site during all phases of the Project, development and implementation of a socio-economic effects monitoring and adaptive management process, development and implementation of a worker code of conduct, including ethics and respectful workplace training, and where practical, providing flexibility in work schedules to enable the continued participation of First Nation workers in traditional and cultural activities. Casino will continue to engage with Carmacks residents and LSCFN members throughout the Project.

### WHITE RIVER FIRST NATION DÄN K'E/DINEH K'ÈH ASSESSMENT

The Casino Project has the potential to impact White River First Nation's (WRFN) Dän k'e/Dineh k'èh, meaning 'People's Way' in Northern Tutchone and Upper Tanana, and encompassing WRFN Rights, Cultures, and Ways of Life. Engagement between Casino and WRFN resulted in the parties pursuing a collaborative assessment process to examine the potential Project impacts to Dän k'e/Dineh k'èh and WRFN's ability to sustain Dän k'e/Dineh k'èh for future WRFN generations. The collaborative assessment methodology implements a holistic approach and relies on primary research, in the form of WRFN Indigenous Knowledge and western science, secondary research, and current practices in environmental, social, and Indigenous impact assessment. The WRFN-selected term 'Impact Factors' replaces the conventional 'valued components' terminology, for the values prioritized by WRFN for the assessment of potential Project impacts. The Impact Factors chosen for assessment are: Sense of Place; Living on the Land; Governance and Cultural Expression; and Wellbeing and Community. The collaborative assessment includes the application of both conventional and novel methodological techniques, to account for impacts specific to the sustainability of WRFN Dän k'e/Dineh k'èh. The Casino Project has the potential to affect WRFN Dän k'e/Dineh k'èh, which should be viewed as a system of dynamic and interconnected components, through multiple potential impact pathways. This section includes the introduction, methodology, scope, and limitations of the collaborative assessment, as well as a description of the baseline conditions. A confidential baseline report, authored by WRFN, will be appended. The remainder of this collaborative assessment, including the assessment of potential Project impacts on the Impact Factors, overall impacts to WRFN Dän k'e/Dineh k'èh, and consideration of cumulative impacts, unplanned scenarios, and potential EMMs, will be provided in a supplemental filing as agreed to by WRFN and Casino.

**TR'ONDËK HWËCH'IN**

TH and Casino are engaged in constructive and collaborative discussions regarding a TH-specific assessment, which both parties recognize is an iterative process that remains ongoing. TH and Casino will be working on this process in parallel with the Panel process and will provide to the Panel results from it as they are available, including a comprehensive assessment of the Project on TH's rights and interests and applicable measures to avoid, mitigate, or manage impacts thereto.

## E.6.18 Holistic Assessment

The ESE Statement includes a Holistic Assessment of Project effects in which the interconnectedness of the VESECs and cause-effect pathways are explored further to better understand how the Casino Project may affect First Nations, including their ability to exercise Aboriginal and Treaty rights (Figure ES.4). The Holistic Assessment demonstrates the interwoven complexities of nature and human connections with nature that align with First Nations worldviews.

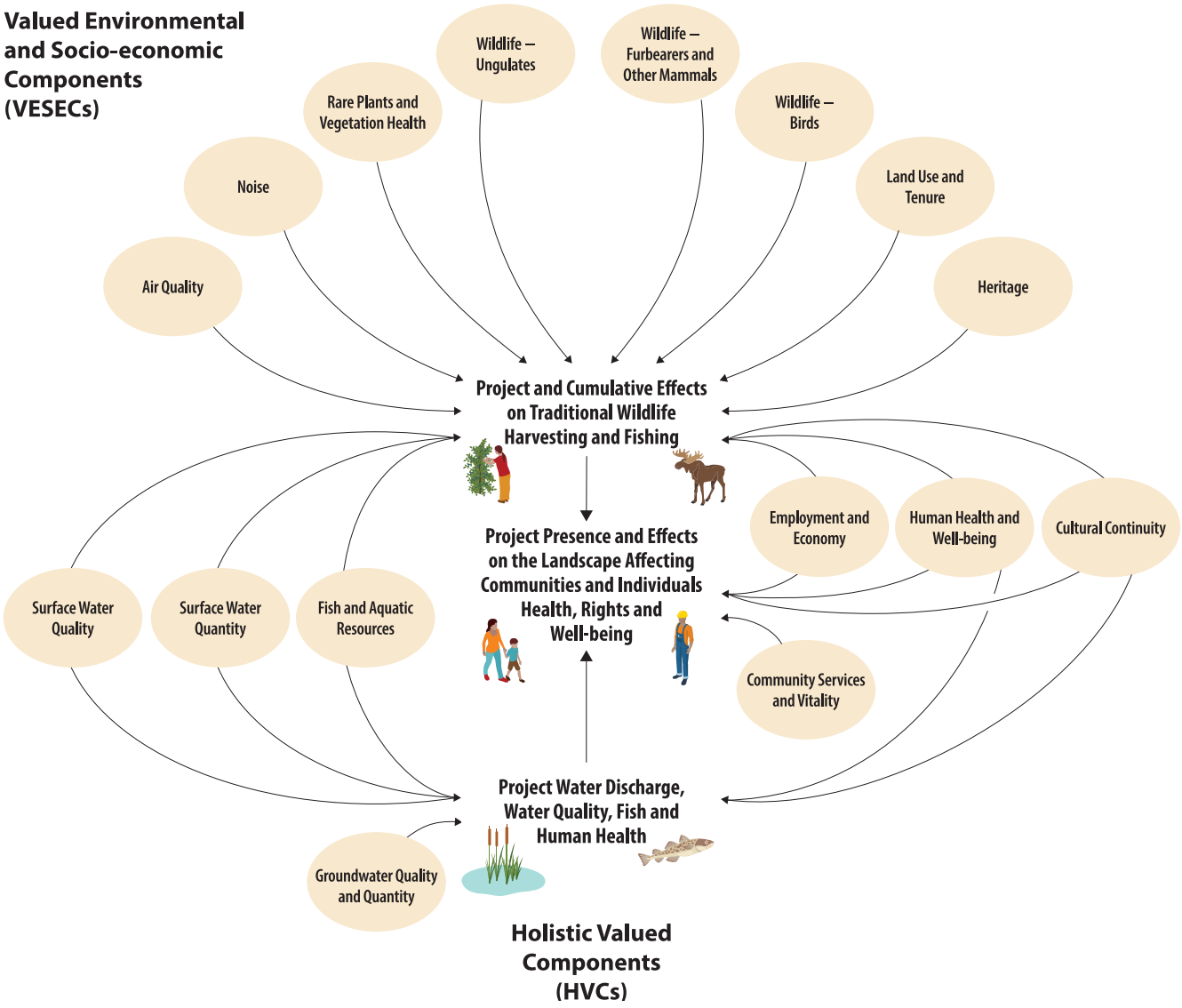
Biophysical effects of Project development and operation may include direct, indirect, and cumulative effects on fish, wildlife, and habitat, which in turn can affect the ability of First Nations to practice cultural and traditional use activities and harvest country food resources. These changes may affect (reduce) food security for First Nations, cultural continuity and cultural expression, community and individual health and well-being, and the ability of First Nations to exercise Aboriginal and Treaty rights.

Project employment and procurement and associated training, skills development, and economic growth opportunities have the potential to generate long-lasting positive effects for workers and their families, local communities, and the Yukon, if properly managed. However, employment of workers, particularly rotational shift work and in-migration of out-of-region workers, may lead to changes in cost of living, availability of affordable housing and community services, community demographics, and family and community dynamics.

These socio-economic changes may combine with changes to traditional wildlife harvesting and fishing due to biophysical effects on the landscape and lead to effects on food security, cultural and spiritual well-being, community and individual health and safety, and the ability of First Nations to exercise Aboriginal and treaty rights. Project water discharges, if not adequately managed, may affect water and sediment quality, fish health and survival, and consequently the quality and availability of country food.

Casino continues to work in consultation with First Nations to identify potential effects on the exercise of their Aboriginal and Treaty rights and to understand the significance of those effects. Casino is committed to ongoing engagement with First Nations during advancement of Project design and planning and will implement various EMMs to reduce adverse Project and cumulative effects and enhance positive effects of the Project.

*Figure ES.4 Schematic of Interactions between Valued Environmental and Socio-economic Components to the Holistic Valued Components*



## E.6.19 Effects of the Environment on the Project

### ASSESSMENT CONTEXT

The assessment evaluated how environmental factors—such as seismic activity, extreme weather, terrain instability, wildfire, and climate change—could affect the Casino Project. These events may damage infrastructure or disrupt operations, potentially leading to environmental effects. Project design, scheduling, and operational strategies incorporate mitigation measures to reduce these risks and maintain performance.

### SEISMIC ACTIVITY

The Casino Project is located in a region of low seismicity, with higher seismic risk areas to the west and south. Seismic events could disrupt operations or damage infrastructure, potentially affecting safety and schedules. These risks have been addressed through design and planning across all Project phases. The TMF is engineered for a 10,000-year return period earthquake, consistent with its dam classification and in accordance with Canadian Dam Association guidelines, Yukon regulations, and the National Building Code of Canada. Regular inspections and maintenance will help maintain infrastructure integrity and reduce safety risks.

### EXTREME WEATHER EVENTS

Extreme weather events, including heavy precipitation and runoff from snowmelt, may cause flooding, erosion, washout of roads, and strain on water management infrastructure and the TMF. These risks are addressed through proactive planning, design, and scheduling, as well as routine maintenance to maintain infrastructure integrity and minimize operational disruptions.

### TERRAIN INSTABILITY AND PERMAFROST

Terrain-related hazards—including landslides, avalanches, rockfalls, and permafrost thaw—may pose challenges to the design, construction and/or operation of Project infrastructure. The PDA lies within a discontinuous permafrost zone, requiring adaptive design and monitoring. Engineering measures will focus on avoidance, reduction, and accommodation of terrain instability risks. A **Permafrost Monitoring Program** will support long-term risk management. With implementation of EMMs, terrain instability and permafrost are not expected to damage project infrastructure or result in significant safety or schedule impacts.

### WILDFIRE

The Project is located in wildfire-prone ecological zones. Fire prevention and response are supported by the Wildland Fire Management Branch through remote fire detection and suppression systems, personnel training, and community protection programs and the FireSmart program. Casino has further established on-site measures to reduce wildfire risks to infrastructure and personnel.

### CLIMATE CHANGE

Climate change and extreme weather have been considered and integrated into Project design, operations, and closure planning in accordance with Yukon guidelines. Risks—such as temperature extremes, freeze-thaw cycles, intense rainfall, permafrost thaw, and wildfire—were assessed under current and future climate scenarios for all Project phases. Climate risks and adaptation strategies for the closure and reclamation phases are outlined in the **Conceptual Reclamation and Closure Plan** and will be updated periodically. Project planning will continue to consider climate change[5], including consideration of new climate projection data from the Intergovernmental Panel on Climate Change (IPCC).

### RISK MANAGEMENT MEASURES

Environmental risks—including gradual changes (e.g., rising temperatures) and extreme events (e.g., intense rainfall causing flooding)—are addressed through Project design, scheduling, and adherence to industry standards and best management practices. Engineering design will adhere to applicable codes, including the Mining Association of Canada's Toward Sustainable Mining initiative, the Global Industry Standard on Tailings Management, and International Council on Mining and Metals guidelines, thereby promoting infrastructure resilience under site-specific conditions.

### CONCLUSIONS

With implementation of management measures, environmental forces—including seismic activity, extreme weather, terrain instability, permafrost, wildfire, and climate change—are not expected to cause damage to project infrastructure that would compromise safety or result in unmanageable repairs or major schedule delays. Routine maintenance, inspections, and monitoring will contribute to infrastructure compliance with design criteria, codes and standards, while supporting prompt response to emerging issues.

*5 Future climate change scenarios were carefully selected and incorporated into the prediction of project effects for all atmospheric and biophysical VESECs*

## E.6.20 Accidents and Malfunctions

The Casino Project has assessed the potential for accidents and malfunctions—rare, unplanned events that could result from technical failure, human error, natural causes, or some combination thereof. Eleven categories were evaluated in accordance with Yukon and federal guidance:

For each category, a representative scenario was developed to illustrate a credible event that, while unlikely, could have relatively high consequences if it occurred. A structured Failure Modes and Effects Analysis provided a consistent, transparent framework for evaluating likelihood and consequence and for informing design, management, and emergency planning.

- Embankment failure
- Slope failure
- Spill or leak
- Transportation accident
- Water management failure
- Fire or explosion
- Erosion and sediment control measures failure
- Reclamation measures failure
- Health emergency
- Water treatment failure
- Unscheduled closure

Project design and operational planning integrate federal, territorial, and industry standards and best management practices to reduce the likelihood and consequence of these scenarios. Dams and containment structures, for example, are engineered in accordance with the CDA *Dam Safety Guidelines* (2013), with layered preventive measures built in across all phases of mine life. Active monitoring, adaptive management, and regular review to help address emerging risks as the Project advances.

Risks such as fires, explosions, reclamation failures, and health emergencies are managed through dedicated safety programs, staff training, and rapid response capacity. Proactive actions, including continuous water quality monitoring and erosion control, further minimize the potential for significant residual effects.

Although the probability of these scenarios is low, the Project has developed a site-specific **Emergency Response Plan**, supported by detailed management and training programs. This plan will be updated over time and coordinated with regulators, affected First Nations, and local communities to support clear communication and rapid, effective response if needed.

SECTION E.7

# Environmental Management and Monitoring Plans

**Casino has prepared conceptual environmental management plans and monitoring plans for the Project. These conceptual plans will be developed into detailed plans as Project planning advances. Plans will be reviewed and updated on a regular basis over the life of the Project.**

Environmental management plans specify the EMMs to be implemented in applicable phases to mitigate predicted project effects. Monitoring plans include monitoring programs to verify predictions and the effectiveness of EMMs. The monitoring plans incorporate an adaptive management framework, described in the **Adaptive Management Plan** (AMP), that will enable Casino to determine whether additional or modified measures are needed to mitigate unforeseen adverse effects of the Project. Additional or modified measures could involve adaptation of the EMMs described in environmental management plans. As such, the Adaptive Management Plan is the foundation of the mitigation and monitoring framework.

Together, environmental management plans, monitoring plans, and the AMP form a dynamic, evidence based system that allows operations to adapt to changing environmental conditions, minimize effects, and maintain regulatory compliance throughout the life of a project.

*Table ES.2 Casino Management and Monitoring Plans*

| Conceptual Environmental Management Plans | Conceptual Monitoring Plans |
|---|---|
| • Air Quality Management Plan<br>• Cyanide Management Plan<br>• Erosion and Sediment Control Plan<br>• Heritage Resource Protection Plan<br>• Hazardous Materials Management Plan<br>• Metal Leaching Acid Rock Drainage Management and Monitoring Plan<br>• Road Use Plan<br>• Salvage Plan for Cleared Timber<br>• Socio-economic Management and Monitoring Plan<br>• Spill Contingency Management Plan<br>• Waste Management Plan<br>• Waste Rock Management Plan<br>• Water Management Plan<br>• Wildlife Mitigation and Monitoring Plan | • Aquatic Resources Monitoring Plan<br>• Meteorological Monitoring Program<br>• Permafrost Monitoring Program<br>• Reclamation Monitoring Plan<br>• Water Monitoring Plan<br>• Vegetation Monitoring Plan |
| Adaptive Management Plan | |

SECTION E.8

# Summary of Effects Management Measures

**To responsibly manage the environmental and socio-economic effects of the proposed Project, Casino has identified a comprehensive suite of 394 EMMs. These measures are designed to mitigate potential adverse effects across a wide range of VESECs, so that the Project proceeds in a manner that is both environmentally sustainable and socially responsible.**

Table ES.3 provides a representative selection of key EMMs associated with each VESEC. While not exhaustive, it offers a strategic overview of key mitigation commitments identified for the Project. An adaptative management approach will be applied to all VESECs to further mitigate unforeseen adverse effects of the Project.

*Table ES.3 Summary of Key Effects Management Measures*

| VESEC | Effects Management Measures |
|---|---|
| Air Quality and GHG Emissions | • Dust collection systems and wet scrubbers<br>• Advanced controls on LNG-fired turbines<br>• Maintenance of engines and exhaust systems<br>• Use of low-sulphur diesel<br>• Reduced idling and cold starts<br>• Road maintenance and dust suppression<br>• Stabilization of stockpile surfaces<br>• Air quality monitoring program for PM2.5, PM10, total suspended particulates, and dustfall |
| Noise and Vibration | • Engineered controls (e.g., earth berm, portable noise barrier, and broad band backup alarm)<br>• Operational controls (e.g., construction activities scheduling, haul road traffic scheduling)<br>• Administration control and blast design to reduce vibration effects |
| Groundwater Quality and Quantity | • Minimizing disturbance areas<br>• Using liners to limit seepage<br>• Installing collection and pump-back systems<br>• Surface water sumps to prevent seepage from TMF to Brynelson Creek<br>• Seepage Collection Pond to treat and reuse runoff<br>• HLF lined with geomembrane and compacted soil<br>• Seepage collection system to protect groundwater<br>• Nitrogen management plans to reduce blasting residues<br>• Accelerated filling of the Open Pit using water from a nearby Ranney well<br>• Surface and groundwater monitoring program<br>• Further design and monitoring through Yukon Water Board licensing under the Waters Act |

| VESEC | Effects Management Measures |
|---|---|
| Surface Water Quality and Quantity | • Water Management Plan and Water Monitoring Plan<br>• Access road crossings designed to minimize drainage disruption<br>• Facilities built to reduce ground disturbance<br>• Erosion and Sediment Control Plan with monitoring<br>• Seepage Collection Pond for treatment or reuse of contact water<br>• Composite liner systems with leakage detection and underdrain features<br>• Engineered seepage control measures at TMF<br>• Water collection infrastructure (ditches, sumps, pumps)<br>• Cyanide destruction facility<br>• TMF water treatment plant to meet EQSs<br>• TMF closure cover to reduce seepage<br>• Climate resilience incorporated into water balance and infrastructure design<br>• Management plans for fugitive dust, suspended solids, and water management<br>• Sedimentation controls during construction and operation<br>• Monitoring stations on-site and upstream/downstream including Klotassin River |
| Fish and Aquatic Resources | • Use of clear-span bridges and culvert designs<br>• Habitat offsetting strategies<br>• Erosion and Sediment Control Plans<br>• Adherence to regulatory standards and Best Management Practices<br>• Monitoring to compare project-affected areas to baseline and reference sites<br>• Incorporation of MDMER requirements<br>• Predefined adaptive responses in collaboration with regulatory agencies and First Nations |
| Rare Plants and Vegetation Health | • Engineering design to reduce vegetation loss<br>• Implementation of applicable guidelines and best management practices<br>• Progressive reclamation of disturbed areas<br>• Invasive species management strategies |
| Wildlife: Ungulates | • Access Road design and operation (speed limits, caribou right-of-way protocols, snowbank management, embankment profiles)<br>• Restricted access under Resource Roads Regulation<br>• Limiting site clearing, controlling noise and dust<br>• Wildlife awareness training<br>• Progressive reclamation |

| VESEC | Effects Management Measures |
|---|---|
| Wildlife: Furbearers and other mammals<br>Grizzly Bears | • Careful construction planning and limiting vegetation clearing<br>• Avoiding sensitive areas<br>• Dust control and water quality measures<br>• Activity timing, equipment enclosures, traffic management, staff training<br>• Management of dust and reduction of aquatic effects<br>• Controlling access, traffic, attractants, and encounters<br>• Wildlife awareness programs for staff and contractors<br>• Restricted access to Casino Road under Resource Roads Regulation |
| Wildlife: Furbearers and other mammals<br>Collared Pika | • Careful construction planning and limiting vegetation clearing<br>• Avoiding sensitive areas<br>• Dust control measures<br>• Lighting and noise management<br>• Site-specific blasting plans<br>• Activity timing, equipment enclosures, traffic management, staff training |
| Wildlife: Furbearers and other mammals<br>Wolverine and American Marten | • Careful design and no-activity buffers<br>• Progressive reclamation<br>• Dust and noise control through worker transport strategies and dust suppression agents<br>• Blasting management using electronic detonators and adaptive timing<br>• Sediment control ponds to protect water quality<br>• Access and traffic controls<br>• Worker conduct policies<br>• Pre-clearing surveys and activity restrictions during sensitive periods<br>• Mandatory Wildlife Education Program |
| Wildlife: Furbearers and other mammals<br>Little Brown Myotis (bat) | • Avoiding sensitive areas (e.g., Myotis habitat features, wetlands) through careful design and no-activity buffers<br>• Progressive reclamation and revegetation<br>• Dust and noise control through worker transport strategies and dust suppression agents<br>• Blasting management (electronic detonators, careful pattern planning, adaptive timing)<br>• Sediment control ponds to protect water quality<br>• Access and traffic controls<br>• Worker conduct policies<br>• Pre-clearing surveys and restrictions during sensitive periods<br>• Mandatory wildlife education |

| VESEC | Effects Management Measures |
|---|---|
| Wildlife: Birds<br>Passerines and Bird Species at Risk | • Reducing construction footprints<br>• Restricting clearing to approved areas<br>• Avoiding sensitive habitats<br>• Conducting pre-disturbance surveys<br>• Establishing buffers around active nests<br>• Scheduling vegetation clearing outside core breeding season where practicable<br>• Lighting management (e.g., downlighting)<br>• Minimizing traffic-related mortality risk through speed limits and restricted access |
| Wildlife: Birds<br>Waterfowl | • Reducing construction footprints<br>• Avoiding sensitive environmental features<br>• Conducting pre-disturbance surveys<br>• Establishing no-disturbance buffers around active nests<br>• Implementing lighting measures<br>• Enforcing speed limits on roads<br>• Implementing wildlife deterrence within mine water bodies<br>• Monitoring water quality |
| Wildlife: Birds<br>Cliff-nesting Raptors | • Reducing construction footprints<br>• Avoiding sensitive environmental features<br>• Conducting pre-disturbance surveys<br>• Establishing no-disturbance buffers around active nests<br>• Conducting nest occupancy surveys in the LAA every three years<br>• Developing nest-specific management plans for nests inside the PDA or within 1,000 m of the PDA<br>• Limiting access and enforcing speed limits on roads |
| Employment and Economy | • Employment and community hiring initiatives<br>• Education and training initiatives<br>• Procurement strategy<br>• Community engagement plan<br>• Feedback mechanism<br>• Community investment initiative<br>• Initiatives to manage socio-economic effects from mine closure<br>• Local hiring initiatives to reduce in-migration and ease housing demand |

| VESEC | Effects Management Measures |
|---|---|
| Community Services and Vitality | • Project design features (camp, airstrip, recreation facilities, on-site services)<br>• Recruitment and employment plans<br>• Health, safety and emergency plans<br>• Waste and traffic management plans |
| Human Health and Well-being | • Health and safety plans<br>• Flexible work schedules to support First Nations' cultural participation<br>• Cultural awareness training and culturally appropriate recreation<br>• Worker greenhouse program<br>• Financial literacy supports (e.g., direct deposit, money management training)<br>• Disease prevention and outbreak protocols<br>• Worker code of conduct and respectful workplace training<br>• Surface water quality protections to reduce risks in Casino Creek watershed |
| Cultural Continuity | • Communication Plan to support dialogue with First Nations<br>• Engagement on site-specific EMMs for culturally important areas<br>• First Nations participation in vegetation, wildlife, and watercourse monitoring<br>• Identification /assessment of known trails, travelways, overnight and special sites<br>• Development of site-specific EMMs<br>• Post-closure access to some disturbed areas for cultural activities |
| Heritage Resources | • Site-specific management measures<br>• Chance Finds Procedure for unrecorded resources<br>• Site-specific management plan for chance finds<br>• Data recovery and long-term curation to benefit future generations |

SECTION E.9

# Conclusion

**The Casino Project is guided by a long-term strategy to responsibly develop, operate, and close a major critical mineral mine in southwest Yukon, with a strong emphasis on environmental stewardship, community engagement, and economic sustainability. The proposed Project has been shaped by extensive technical studies, collaborative design processes, and input from Indigenous communities, regulators, and stakeholders.**

With the implementation of comprehensive suite of EMMs, including mitigation measures, management and monitoring plans, and an adaptive management approach, Project-related residual effects and any cumulative residual effects were assessed to be not significant.

Casino's approach to Project planning and design reflects a commitment to adaptive management, continuous improvement, and alignment with best practices in mine development, environmental protection, and social responsibility. Casino hears and respects First Nation concerns and remains committed to ongoing engagement throughout the entire lifecycle of the Project. The Casino Project will deliver lasting benefits to both Yukoners and Canadians — particularly affected First Nations — through employment, training, business opportunities, and infrastructure development, while minimizing environmental and socio-economic effects.

CASINO

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