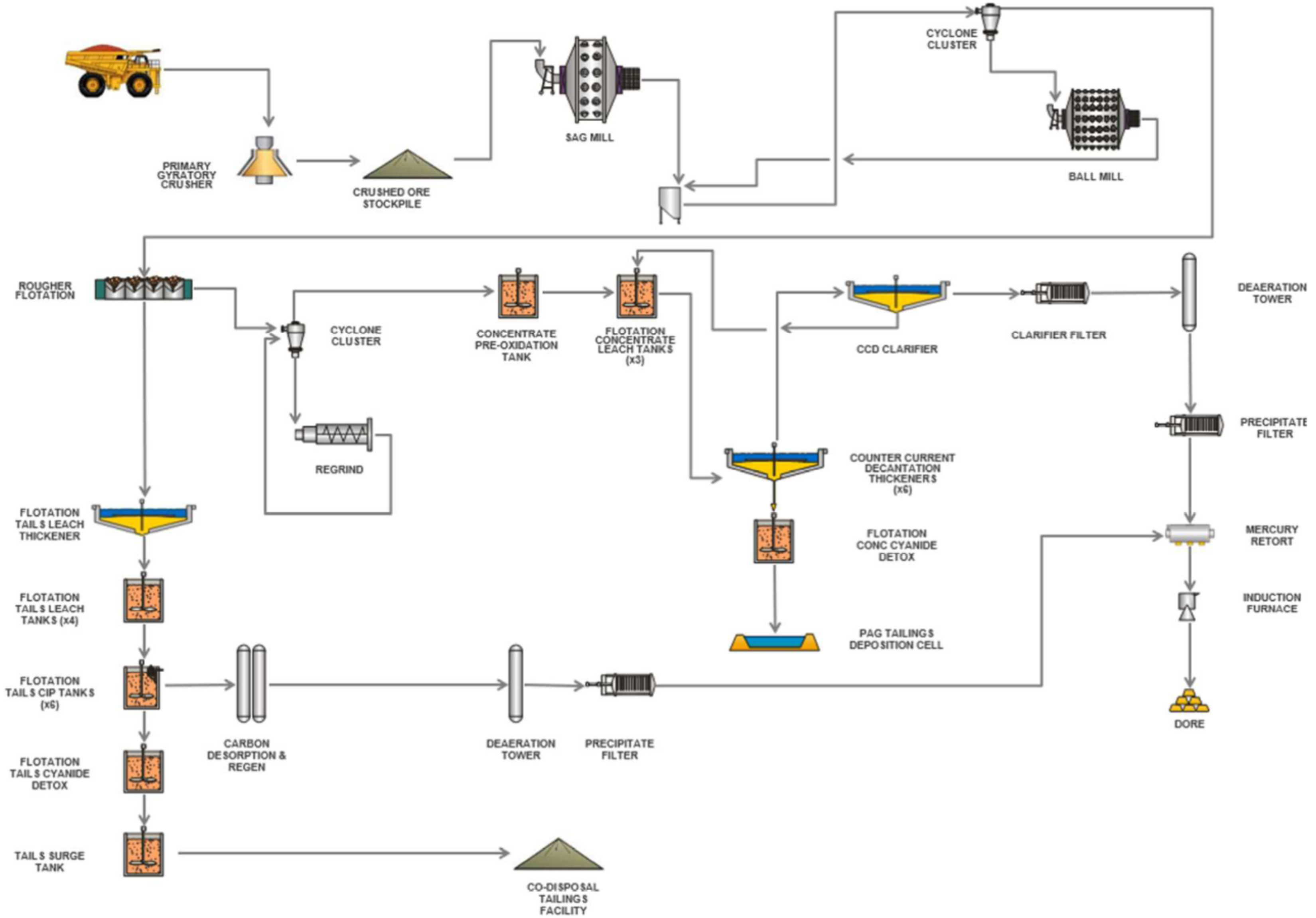


X:\CA\CAOAK300-OAK\MIS-FS1-Project\2021\Projects\ONS2104_FMG_Springpole_EIS\11_GIS\EIS\MXD\Prelim_Process_Flowsheet_4.mxd

LEGEND

NOTES:
- Preliminary Process Flowsheet provided by Ausenso, Response to RFI ONS2104-RFI-055 Rev 1. Ausenco Document No. 104496-ER-E0000-11102-001 Rev 1. 14 April 2023.

FIRST MINING GOLD

wsp

SPRINGPOLE GOLD PROJECT

Current Process Flowsheet

PROJECT N°: ONS2104	**FIGURE: 5.9-2**
SCALE: N.T.S.	DATE: June 2024

5.10 Co-disposal Facility

5.10.1 Materials Requiring Storage

The Project will produce approximately 133 Mm^3 of mine rock. Mine rock will be used for CDF construction along with quarried construction rock. Approximately 81 Mm^3 of construction material will be required to construct the CDF dams. Any surplus mine rock will require permanent storage over the life of the mine. As described further in Section 5.7.4 and Appendix K, the geochemistry of the mine rock varies across the open pit including by rock type and will be the determining factor on how the rock is managed.

Approximately 78 Mm^3 of tailings will be produced by the process plant over the life of the mine. The Project will produce two tailings streams in order to best manage the potential for acid generation from the tailings in the long term: a thickened NAG tailings (80% by mass) and a conventional slurry PAG tailings (20% by mass):

- **Thickened NAG tailings (approximately 62 Mm^3):** produced by passing a portion of the tailings through thickeners. Although thickened, the tailings are still able to be hydraulically conveyed through a high density polyethylene (HDPE) tailings pipeline for final deposition in the north cell of the CDF.
- **Conventional slurry PAG tailings (approximately 15.5 Mm^3):** produced in a conventional slurry form at the process plant and transported to their final storage location in the dedicated south cell of the CDF by HDPE pipeline. This conventional tailings deposition approach for 20% portion of tailings that are PAG helps keep the material saturated and mitigates ARD potential in the long term.

5.10.2 Overall Approach

Through a comprehensive alternatives assessment following the ECCC requirements (Sections 4.9 to 4.13 and Appendix E), it was determined that the best means to manage mine rock and tailings for the Project would be in a single CDF with a dedicated cell for the PAG portion of tailings. The primary advantages of a single CDF as compared to the use of a separate mine rock stockpile and tailings management facility is a considerable reduction in Project footprint, and GHG emission reduction from reduced haulage of construction and mine waste materials (Appendix E). By thickening 80% of the tailings and co-mingling the thickened NAG tailings with mine rock, a relatively small portion of conventional slurry tailings remain for management. This approach reduces the volume of water present during operations in the south cell that is dedicated for the storage of conventional slurry tailings and further simplifies the closure strategy.

Co-disposal of mine wastes has been practiced in the mining industry for decades and for over 20 years the concept of purposely optimizing the different properties of tailings and mine rock has been a subject in the technical literature. The CDF is designed to take advantage of the different properties of the mine wastes, (tailings and mine rock). In particular, the lower permeability of the tailings will be used to provide an oxygen barrier for the mine rock. The use of soil and tailings as an oxygen barrier has also been successfully implemented in Ontario.

The NAG tailings will function as an oxygen barrier for the PAG/ML mine rock. Limiting the influx of oxygen will limit the rate of oxidation and consequently limit metal leaching. The comprehensive alternative assessment described in Section 4 and Appendix E also considered the best location for the CDF. Key considerations in the selection of the location of the CDF and the storage methods are as follows:

- Proximity to the open pit and process plant to achieve operational efficiencies and minimize transportation risks and emissions;

- Geotechnical characteristics for foundations;
- Geochemistry of the materials to be stored;
- Avoidance of waterbodies and watercourses as practicable;
- Minimizing the overall environmental footprint of the Project as practicable;
- Reducing the footprint and height of the storage facility;
- Designing for final decommissioning and closure; and
- Consideration for reasonable distance from the mine site and land tenure.

The preferred CDF location is adjacent to the west of the open pit, and maintains a minimum setback of 120 m from Springpole Lake and Birch Lake, in accordance with the MNR shoreline reservation policy.

5.10.3 Preliminary Design

The CDF is proposed as a two-cell facility with a total surface area of approximately 380 ha (Figure 5.10-1). A final average height of approximately 77 m provides the required storage for mine rock and tailings. It has been designed to effectively use NAG mine rock for construction purposes and to permanently store PAG mine rock, NAG thickened tailings and PAG conventional slurry tailings. Overall, the majority of the CDF will be composed of mine rock by mass (~65%) with the remaining 35% of the structure consisting of the co-located tailings. The NAG tailings will be co-managed with the PAG mine rock in the north cell of the CDF, while the conventional PAG slurry tailings will be kept saturated in the south cell of the CDF to mitigate ARD potential.

An elevation difference will be maintained between the north and south cells so that runoff and tailings water reports to the south cell primarily by gravity. The thickened tailings will allow slightly steeper beaches to be formed during deposition to promote passive drainage through the internal dam and into the south cell. The internal dam will not be lined to intentionally promote water to pass through to the south, and enhancements to drainage including culverts could be added if needed. The CDF design meets all relevant requirements of the CDA, as well as provincial requirements under the *Lakes and Rivers Improvement Act*. The CDF will be designed to meet the factors of safety required for long-term, static loading conditions, as well as pseudo-static loading conditions and will be designed in stages with early construction and placement of material focused on the south cell of the CDF. By using predominantly, mine rock to construct the CDF dams, the overall stability of the facility is not affected by the strength of the thickened and slurry tailings. In addition, FMG will have a qualified geotechnical engineer dedicated to the safe design, construction and operation of the CDF.

Extensive geotechnical investigations have been undertaken in connection with the proposed CDF foundation conditions inclusive of:

- Fracflow (2020) – 6 boreholes and 13 test pits;
- Ausenco (2022) - 4 boreholes and 17 test pits;
- Knight Piésold (2022) – 11 boreholes and 39 test pits; and
- WSP (2024) – 7 boreholes and 4 monitoring wells.

Results of these investigations show that the major portion of CDF dams will be constructed on a robust bedrock foundation, with remaining portions being constructed mainly on areas of shallow overburden amenable to construction preparation. In addition to highly favourable geotechnical characteristics, the bedrock foundation uniformity across the CDF footprint provides highly effective mitigation for seepage management and capture.

The CDF design includes perimeter dams constructed from NAG rock on the downstream side sourced from the open pit and onsite quarries. The dams will be constructed with 3H:1V upstream slopes and 2H:1V downstream slopes for both the north and south cells. The north cell will have a centreline construction while the south cell will use a downstream raise construction method. The perimeter dam of the south cell is designed to be lined with a geosynthetic liner or other low permeability material such as clay excavated from the open pit basin for seepage mitigation. The geosynthetic clay liner or equivalent will be anchored to bedrock at the upstream toe.

The north cell (285 ha) of the CDF will co-manage PAG mine rock and thickened NAG tailings. The thickened NAG tailings produced at the process plant will be pumped through a HDPE pipeline to the north cell of the CDF for storage. The intent of co-disposal in the north cell is for the placement of the thickened NAG tailings to effectively encapsulate the PAG mine rock, thereby isolating the mine rock from atmospheric oxygen, which will mitigate potential acid generation and ML concerns.

The south cell (95 ha) will be designed to be water retaining, and will comprise a slurry PAG tailings cell, with an internal water management pond during the operations phase. The south cell dam is proposed to be lined with a low permeable liner to mitigate seepage. Maintaining the PAG tailings in a saturated condition mitigates acid generation. Conventional slurry tailings will be pumped from the process plant to the south cell by means of a HDPE pipeline.

Seepage from the CDF will be captured to the extent practical through site infrastructure and ditching systems. Interflow, defined as water that has infiltrated into the subsurface and returned to surface as overland flow, will be captured by the CDF and returned to the respective contact water management pond, before being transferred with surface runoff, to the CFD internal pond (Section 5.12.3.1).

The design requires separate 3.4 km long HDPE pipelines for both the NAG and PAG tailings. Both the NAG and PAG tailings pipelines will have spill detection instrumentation installed and will be double-walled or contained within collection areas such as ditches, ponds or topographic lows.

An Independent Geotechnical and Tailings Review Board (IGTRB) has been formed and is composed of an independent three-person panel of experts. The purpose of the IGTRB is to provide independent oversight on the design, construction, operation, performance and closure planning for the CDF, with the objective of long-term safety and environmental protection. The IGTRB will review the detailed permitting designs, construction, ongoing operations and closure design of the CDF. The IGTRB has reviewed the updated CDF design and provided advice on the design, construction and operational performance of the dams. In the IGTRB report (Appendix V-3.4), the IGTRB has indicated that the FMG has positively advanced the design concepts. The report states with the CDF dams founded on competent bedrock, there is ample foundation stability. In addition, with a negative water balance and no external runoff catchment, there would be no risk of overtopping the dams (Appendix V-1).

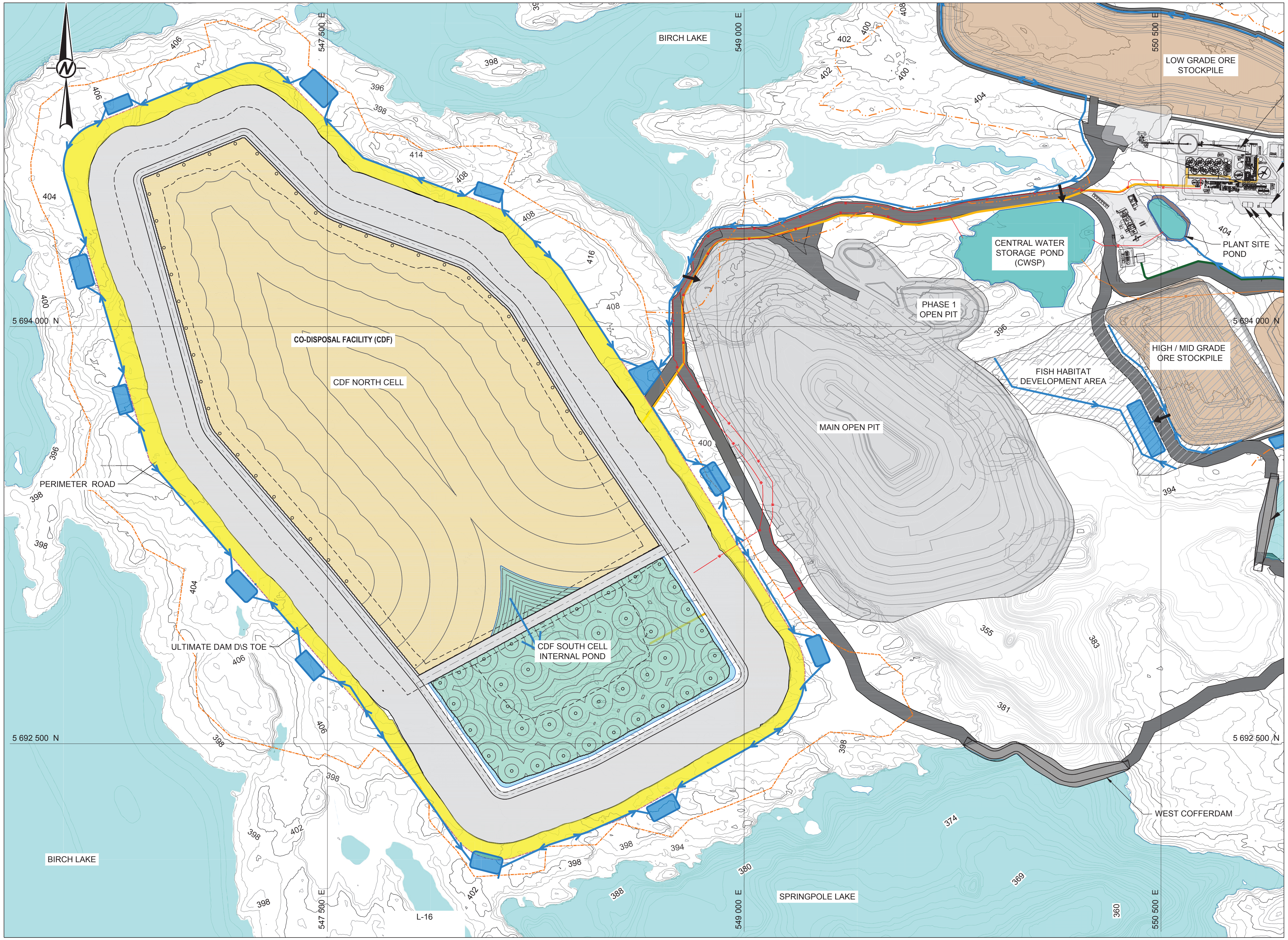
5.10.4 Construction and Operations

The footprint of the CDF will be cleared where required to support dam stability needs. Materials that are removed but not re-used during site preparation will be stored in the surficial soil stockpile located east of the open pit, or potentially at other temporary locations during construction within the Project footprint and away from waterbodies. The initial dams will be built during the construction phase for the Project, so that the facility is ready to accept PAG mine rock and NAG / PAG tailings when produced. Included in the construction is the lining of the dam of the south cell with a low permeability material. A quarry (CDF quarry) will be located within the north cell of the CDF as described in Section 5.16 to provide construction material for the CDF starter dams.

The perimeter dams of the CDF will be raised through centreline construction (north cell) and downstream raise construction (south cell) during operations in advance of predicted storage requirements, to a final estimated elevation of 485 m asml for the north cell and 480 m asml for the south cell. It is expected that annual construction of approximately 8 m high lifts will be required in a continuous manner throughout operations so that both the north and south dams are sized to contain a minimum of 12 months of production.

During operations, PAG mine rock will be trucked to the north cell for co-disposal, while the thickened NAG tailings and PAG conventional slurry tailings will be pumped to the north and south cells, respectively. PAG mine rock will be trucked from the open pit and placed within the north cell and NAG tailings will be end discharged over the PAG mine rock. It is expected that hydraulically pumped NAG tailings will flow and permeate into PAG mine rock pores creating the co-located matrix of PAG mine rock and NAG tailings. NAG tailings will also be spigotted from the perimeter dam to develop a low permeability zone of tailings against the perimeter dam. Spigotted tailings around the perimeter helps enclose the co-disposed PAG mine rock with a low permeability NAG tailings zone to limit oxygen ingress. Runoff from the north cell will be directed to the south cell, either through ongoing grading and temporary structures or using internal sump and pump locations. Towards the end of LOM, it is anticipated that milling ore from stockpiles will continue after mining ceases. This means NAG tailings will be available after mine rock production ceases. Following completion of PAG mine rock disposal within the north cell, NAG tailings will be deposited over the entire north cell covering the co-disposed PAG mine rock.

The south cell will be operated to keep the PAG tailings in a saturated condition to similarly isolate the PAG tailings from atmospheric oxygen and restrict the potential for acid generation. Contact water from the CDF will be directed to report to the internal pond in the south cell with transfer for re-use in the process plant, or CWSP as needed so that sufficient freeboard is retained in the facility.



LEGEND

- 400 — CONTOUR
- PROPOSED DRAINAGE COLLECTION DITCH
- 120 m WATER BODY / OPEN PIT OFFSET
- EFFLUENT DISCHARGE LINE
- TAILINGS LINE
- WATERSHED
- CDF PROPOSED DESIGN DOWNSTREAM TOE
- PUMPED WATER LINE
- CLEAN WATER LINE
- ROAD
- WATER
- SUMP
- OFFSET ALLOWANCE FOR PERIMETER DITCH AND ACCESS ROAD
- TAILINGS BEACH
- PROPOSED CULVERT

NOTES

1. THIS FIGURE ILLUSTRATES THE CO-DISPOSAL FACILITY CONCEPTUAL DESIGN PLAN VIEW OF ULTIMATE CONFIGURATION.
2. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS. GRID COORDINATES ARE IN NAD 1983 UTM ZONE 15N.
3. NORTH AND SOUTH CELLS STARTER DAMS WERE SIZED TO CONTAIN 1 YEAR OF COMMERCIAL PRODUCTION.
4. PERIMETER DAMS ARE TO BE FOUNDED ON PREPARED FOUNDATION (DENSE OVERBURDEN OR BEDROCK).
5. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING REPORT.

REFERENCES

1. THE DIGITAL FILES FOR THE BASE MAP WERE PRODUCED FROM DRAWING 105877-0000-G-001, PROVIDED BY AUSENCO.

CLIENT
FIRST MINING GOLD

CONSULTANT
WSP

YYYY-MM-DD	2024-10-30
DESIGNED	MM
PREPARED	JY
REVIEWED	MM
APPROVED	MM

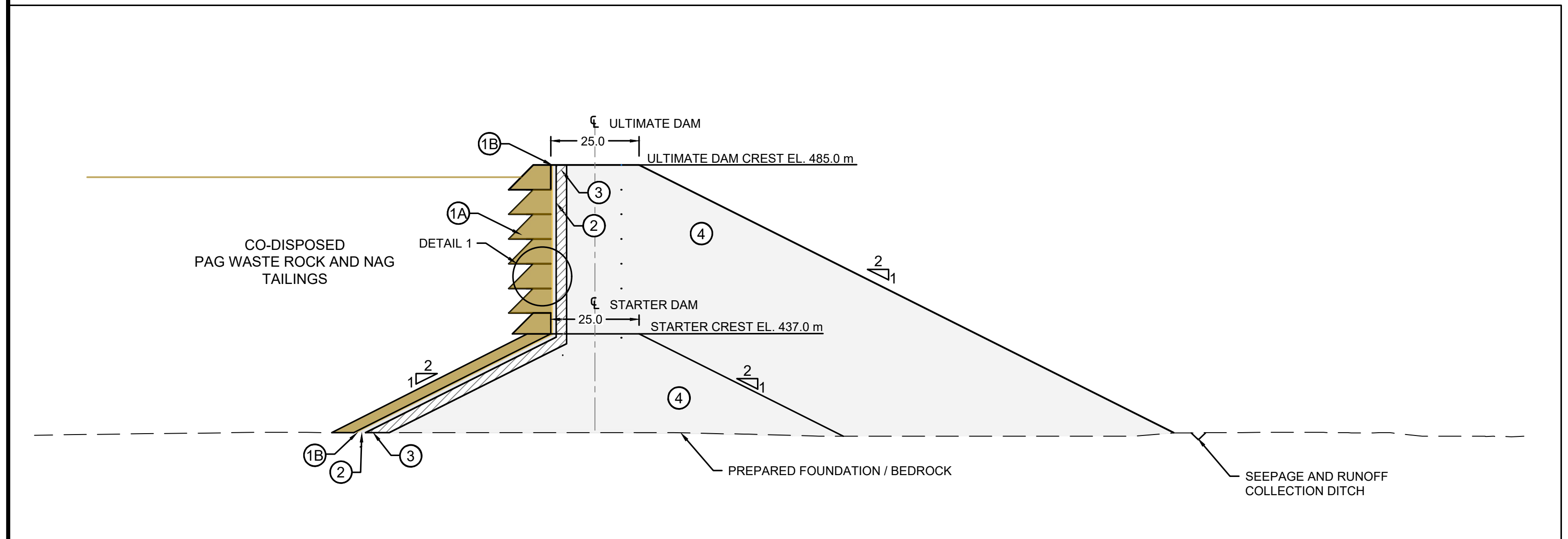
PROJECT
SPRINGPOLE GOLD PROJECT
CO-DISPOSAL FACILITY

TITLE
TYPICAL CO-DISPOSAL FACILITY ULTIMATE CONFIGURATION DESIGN ARRANGEMENT

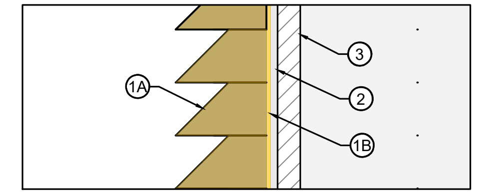
PROJECT NO.	CONTROL	REV.	FIGURE
ONS2104A	0001	B	5.10-1

NOTES:

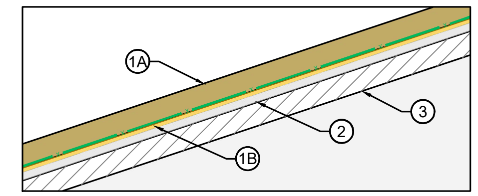
1. THIS FIGURE ILLUSTRATES THE CO-DISPOSAL FACILITY PERIMETER DAMS TYPICAL SECTIONS AND DETAILS.
2. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS. GRID COORDINATES ARE IN NAD 1983 UTM ZONE 15N.
3. THE DIGITAL FILES FOR THE BASE MAP WERE PRODUCED FROM DRAWING 105877-0000-G-001, PROVIDED BY AUSENCO.
4. NORTH AND SOUTH CELLS STARTER DAMS WERE SIZED TO CONTAIN 1 YEAR OF COMMERCIAL PRODUCTION.
5. A LIMITED SEGMENT OF NORTH CELL STARTER DAM (APPROXIMATELY 200 M) IS ASSUMED TO BE LINED WITH GCL TO MINIMIZE SEEPAGE LOSSES FROM SOUTH CELL.
6. PERIMETER DAMS ARE TO BE FOUNDED ON PREPARED FOUNDATION (DENSE OVERBURDEN) OR BEDROCK.
7. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH THE ACCOMPANYING CONCEPTUAL REPORT.



SECTION 1 NORTH CELL PERIMETER DAM - TYPICAL SECTION
SCALE: 1:1000



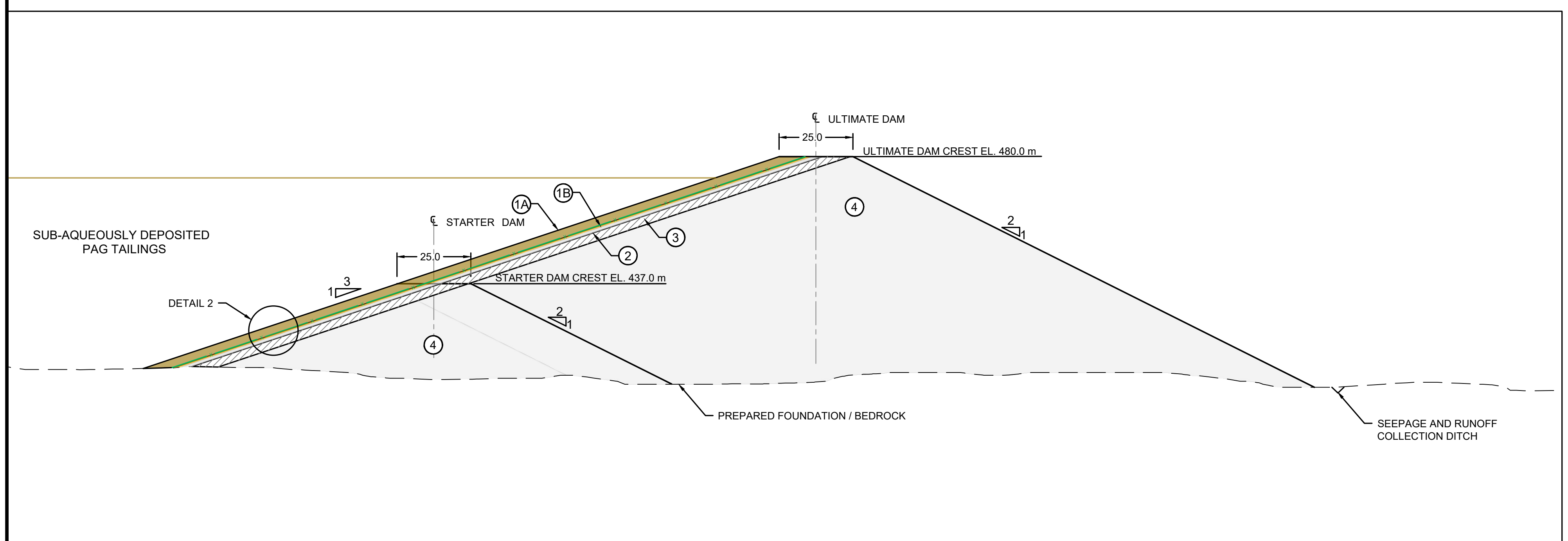
DETAIL 1
SCALE: 1:500

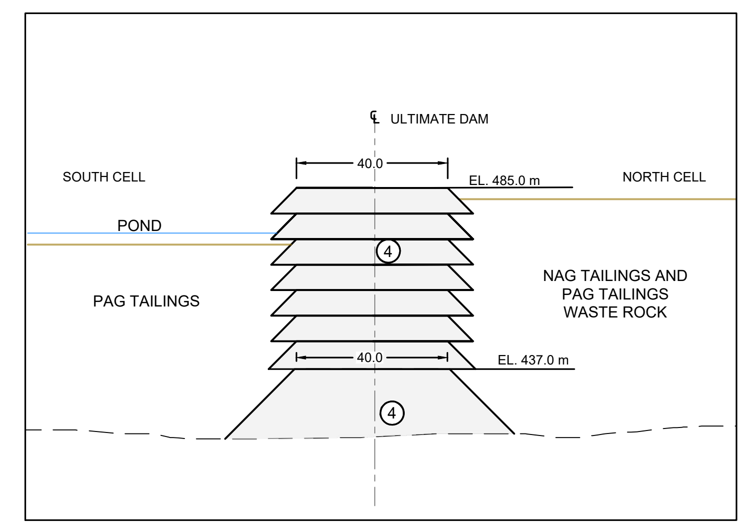


DETAIL 2
SCALE: 1:500

CONSTRUCTION MATERIALS:

- 1A — ZONE 1A (3M THICK): TAILINGS OR SILTY/CLAYEY FILL, PROTECTION LAYER OVER GCL
- 1B — ZONE 1B (0.6 M THICK): BEDDING - SAND & GRAVEL
- 2 — ZONE 2 (1.0 M THICK): TRANSITION ZONE (150 MM MINUS)
- 3 — ZONE 3 (5 M THICK): ROCKFILL (600 MM MINUS)
- 4 — ZONE 4: COARSE ROCKFILL (900MM MINUS)
- GCL (PROVIDE GEOTEXTILE UNDERNEATH)





SECTION 3 INTERNAL DAM TYPICAL SECTION
SCALE: 1:1000

0m 10 20 30 40 50
1:1000

SECTION 2 SOUTH CELL PERIMETER DAM -TYPICAL SECTION
SCALE: 1:1000

CLIENT LOGO	CLIENT:	DWN BY:	COMPANY LOGO	PROJECT	DATE:
FIRST MINING GOLD	FIRST MINING GOLD	SC	wsp	SPRINGPOLE GOLD PROJECT	JUNE 2024
		CHK'D BY: GN			PROJECT NO: OMGM2215
	WSP Canada Inc. 6925 Century Avenue, Suite 600 Mississauga, Ontario, Canada, L5N 7K2	DATUM: UTM NAD 83		TITLE	REV. NO.: A
		PROJECTION: ZONE		TYPICAL CO-DISPOSAL FACILITY CROSS-SECTIONS	FIGURE No. 5.10-2
		SCALE: AS SHOWN			

X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2021\Projects\ONS2104_FMG_Springpole_EIS\13_CAD\03_Figures\XXX – EIS Report Figures\FIGURE 5.9-1&5.9-2.dwg – 5.9-2 – Jun. 12, 2024 6:08pm – wds_nadine.rondon

5.11 Fisheries Compensation Components

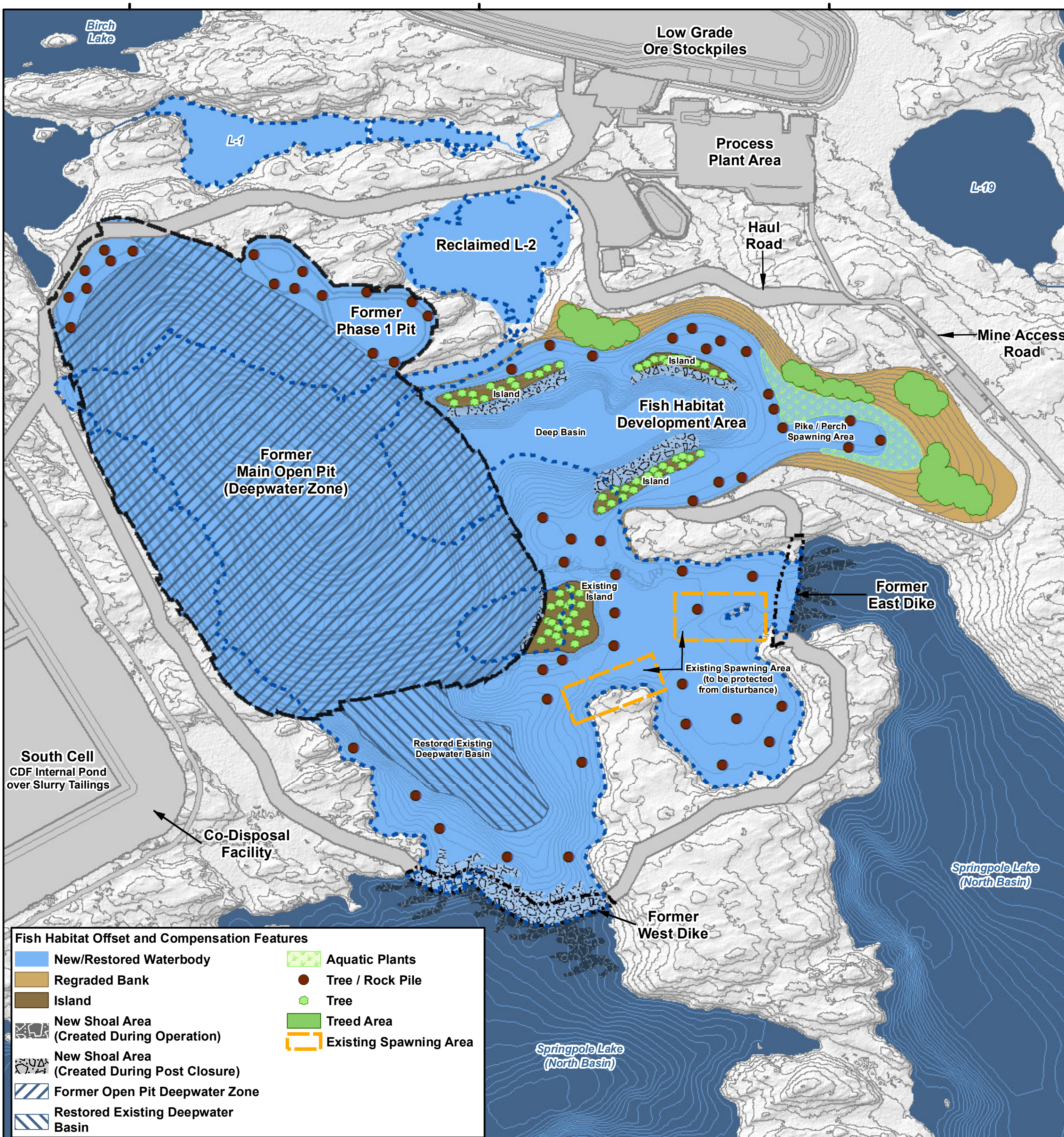
Efforts have been made to design the Project to minimize encroaching on fish habitat; however, avoidance of fish habitat is not entirely feasible, given the location of the ore body and the number of watercourses and waterbodies in the area. Mitigation measures detailed in Section 6.10 will be implemented for the Project for effects on fish and fish habitat in accordance with offsetting or compensation methods under the *Fisheries Act* regulations and policies, in a manner similar to most other mining projects in Canada.

During the life of mine, approximately 213 ha of fish habitat is anticipated to be impacted, but a combination of reclaimed habitat at closure, the addition of the fish habitat development area and complementary measures will result in an overall net benefit to fish and fish habitat in the system. Fish habitat overprinted during life of mine will require either a Schedule 2 listing under the MDMER or authorization under Paragraphs 34.4(2)(b) and 35(2)(b) of the *Fisheries Act*. An updated draft Fisheries Offsetting and Compensation Plan is provided in Appendix F.

A description is provided below of physical offsetting / compensation measures associated with the Project as shown in Figure 5.11-1. Initial offset and compensation measures presented in the draft EIS/EA were further reviewed and discussed with regulators and Indigenous communities and has contributed to the proposed list of measures. It is fully expected that additional adjustments to offsetting and compensation measures under the *Fisheries Act* may be evaluated and made part of the final plan during the permitting process. However, the draft plan demonstrates that there are several opportunities available to meet or exceed regulatory requirements and ultimately increase overall fish habitat and productivity.

The majority of the affected fish habitat is associated with the open pit basin so that mining can occur safely. Efforts have been made to minimize the disturbed area by placing the dikes near the open pit while accounting for geotechnical foundation conditions. This has resulted in being able to preserve 94% of Springpole Lake during operations and returns it to 103% of the lake area at closure. The primary mitigation (offset / compensation) option proposed for the Project will be the establishment of a new fish habitat area and reclamation of an expanded basin in Springpole Lake after mining ceases (Figure 5.11-1 and Figure 5.19-1). Offsetting features may include the following:

- Overbuild and integrate spawning shoals along the active lake-facing embankments of the dikes to replace Lake Trout and Lake Whitefish spawning opportunities lost within the dewatered basin.
- Coordinate with the provincial government (MINES) to implement the reclamation of the abandoned South Bay Mine.
- Implement the investigation and study of Lake Sturgeon in the Birch River and Cat River system and consider measures to reinstate or augment the population.
- Place coarse wood structure along Springpole Lake shorelines currently lacking structural diversity.
- Construct a new and significant embayment (46 ha fish habitat development area) to the east of the dewatered area to be functional at closure.
- Enhance the open pit basin (dewatered) area for selected key species (determined during engagement and consultation) by modifying cover, structure and substrates to improve habitat suitability where appropriate.
- Contour the north end of the main open pit and the Phase 1 pit and optimize fish habitat structures, substrates and depth for selected key species as determined during engagement and consultation.
- Restore flow to unnamed lake L-1 on completion of mining and filling of the dewatered basin.



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LEGEND

Proposed Project Features

- Filled Open Pit
- Dike (Removed at Closure)
- Other Project Feature
- Dewatered Area (During Operation)
- 230 kV Transmission Line
- Waterbody
- Watercourse
- Bathymetry Contour (2 m intervals)
- Contour (2 m intervals)

NOTES:
- Contours extracted from 2020 LiDAR survey and 2017 Story Environmental Springpole Lake Bathymetry.
- Proposed site plan provided by Ausenco, drawing number 104496-GX-03000-31344-003, Rev 1. 26 June 2023 and modified by WSP July 2023.
- 230 kV transmission line provided by First Mining Gold, April 2024.

Datum: NAD83
Projection: UTM Zone 15N

0 0.1 0.2 0.4 0.6 0.8 1 Kilometres

N E S W

FIRST MINING GOLD | WSP

SPRINGPOLE GOLD PROJECT

On site Fish Habitat Offset and Compensation Areas

PROJECT N°: ONS2104 | **FIGURE: 5.11-1**

SCALE: 1:15,000 | DATE: October 2024

5.12 Water Management and Treatment Facilities

5.12.1 Water Management Plan

Water management for the Project incorporates best management practices:

- Contact water from the site is collected in ditches, sumps and constructed ponds and transferred into the integrated site water management system for containment, re-use, treatment and discharge to the environment in accordance with applicable regulatory requirements, as needed.
- Contact water is recycled as practicable, primarily for use in processing in the process plant.
- Treated effluent discharge location(s) are selected based primarily on the assimilative capacity of the receiving water.
- The number of final discharge locations to the environment is minimized.

A water management plan for the operations phase of the Project was developed to describe the way site contact water will be collected, contained, treated and discharged to the southeast arm of Springpole Lake (the proposed receiving environment). A comprehensive review of site topography was completed to determine the location of ditches and local collection ponds to minimize the mine contact water footprint and prevent uncontrolled discharge to the environment. The water management plan considers Project-specific design criteria, site limitations and opportunities, as appropriate.

The water management system design uses standard engineering criteria for ditches, water storage ponds, and any necessary emergency spillway. Storage ponds and water management structures are designed to manage the EDF without discharge of untreated water to the environment. An EDF is a hypothetical flood (peak discharge or hydrograph) adopted as the basis in the engineering design of project components The EDF provides a basis of the safety of a structure against failure by overtopping (e.g., during a flood) and for flood control and drainage work to provide safety to downstream areas against flooding (Jain and Singh 2003.

For the operations phase, the EDF has been defined as a flood event with a 1:100-year return period, which is a typical requirement for mines in Ontario. Durations for this return period included:

- High-intensity shorter duration 24-hour event;
- 30-day rain on snow; and
- 365-day cumulative rain or water equivalent depth.

To meet the above design criteria, surface water management infrastructure such as ditching, berms and pumps are required to convey contact water to water storage facilities for re-use or for treatment and discharge to the environment in accordance with applicable regulatory requirements. The mine site runoff collection systems will also be designed to contain a 1:100 year flood event. Typically, the design of mine site water management systems in Northern Ontario is governed by the spring freshet (which is a long duration event, lasting several weeks) or a summer rainstorm (which is a shorter period, ranging from several hours to several days). For the ditch sizing, a short duration storm event will produce the largest peak flow and therefore govern the sizing. Conveyance requirements for the collection ditches were also conservatively developed to convey the peak flow from the 100-year flood event.

A layout of planned surface water management infrastructure is provided in Figure 5.7-5 with the resulting operations phase sub-watersheds.

5.12.2 Construction Water Management

Facilities described in Section 5.12.3 for the operations phase will be developed as needed to support the water management during the construction phase. Additional temporary ditching, sumps and ponds not described in that section may also be used to facilitate water collection and transfer during construction. Water management during construction is designed to accommodate appropriate design storms reflective of the shorter duration (two to three years) associated with construction. As described in Section 5.7.1, controlled dewatering of the open pit basin during construction will initially involve the transfer of lake water out of the isolated basin back into Springpole Lake on the downstream side of the dikes within the north basin. During initial controlled dewatering of the open pit basin, it is anticipated that water quality will not exceed water quality guidelines, such that direct discharge to Springpole Lake can occur. A detailed water quality monitoring program will be implemented to demonstrate this during the dewatering activity. The initial dewatering will continue until the threshold for TSS in the discharged water is approached and likely to be reached (likely 15 mg/L monthly average or 30 mg/L single grab sample, according to MDMER Schedule 4). Once the TSS threshold is approached / reached, the remaining water in the isolated open pit basin will be directed to a settling pond and/or other form of treatment (e.g., clarification, filtering, flocculation) to reduce TSS prior to discharge to the receiving environment.

A water balance assessment for the open pit basin was completed to determine the timing required to complete the dewatering process (Section 5.7.1.2).

5.12.3 Operations Water Management

Contact water arising from precipitation and groundwater is collected in ditches, sumps and ponds and transferred into the integrated site water management system for containment, treatment and discharge to the environment in accordance with applicable regulatory requirements, as needed. The water management strategy is to collect site runoff in local collection ponds within each sub-watershed. The largest ponds are the CDF internal pond, CWSP and ponds located within the open pit sub-watershed. The water collected in these ponds is considered as contact water and requires treatment through the ETP prior to discharge to the environment. Designs and locations for perimeter ditching and ponds consider distances from nearby infrastructure and natural waterbodies and maintain setbacks from these features. For example, perimeter collection ponds will be strategically located in the topographic low points surrounding the CDF.

The storage requirements for the major water storage is based on the EDF (1:100-year return period). For the pond sizing, the ability to contain various durations of the 1:100-year event is a function of the available storage and pumping capacity. The minimum necessary pump rates were estimated such that the EDF volume is pumped out within one year. These minimum pumping rates and associated storage requirements adopted for the water management plan are summarized in Table 5.12-1. Additionally, the design of the dikes includes 5 metres of freeboard (height above the lake level). The freeboard provides a reliable buffer to accommodate waves and ice movement, as well as natural year-to-year lake level fluctuations and major precipitation events. Should ongoing lake level monitoring indicate an increasing trend during operations, the crest height of the dikes can be raised to provide additional contingency to safely continue operations.

The IDF is defined as the largest runoff event that a facility is designed to safely withstand and prevent overtopping of the water containment structures. Consistent with the *Co-Disposal Facility Conceptual Design Report - DRAFT* (WSP, 2024b), it has been conservatively assumed that the CDF will have an 'Extreme' hazard classification, and as such the IDF for the CDF will be defined as the Probable Maximum Flood (PMF). The 72-hr Probable Maximum Precipitation was calculated to be about 400 mm by Knight Piésold (March 2021) and has been used as the IDF criteria for the internal pond in the CDF.

The integrated site water management system for the operations phase includes the key water collection locations and infrastructure described in Sections 5.12.3.1 to 5.12.6, most of which are shown in Figure 5.12-1 and schematically in Figure 5.12-2.

5.12.3.1 Co-disposal Facility Internal Pond

The CDF internal pond collects water from both the north and south cells and from CDF perimeter seepage collection ponds. Water collected in the CDF internal pond will be reclaimed to the plant/mill, reducing the need for freshwater demands from Birch Lake. Excess water will be pumped to the CWSP for monitoring, treatment, and discharge to the environment in accordance with applicable regulatory requirements to environment, as needed.

The CDF internal pond will require approximately 1.4 Mm^3 of active storage assuming a minimum pumping rate of 100 cubic metres per hour (m^3/h) (to the CWSP) and reclaim rate of 1,178 m^3/h (to the process plant). These rates are necessary to manage the 1:100-year event within one year. The 1.4 Mm^3 storage is required in addition to the following storage that will be considered at a later engineering / design stage:

- The maintenance of saturated tailings conditions to prevent acid generation;
- An operational volume to account for typical seasonal fluctuations; and
- Freeboard between the maximum IDF water level and the dam crest.

5.12.3.2 Central Water Storage Pond

The CWSP is the ultimate collection point for contact water and will provide make-up water to the process plant as needed. Excess water will be pumped to the effluent treatment plant (ETP) for treatment, and subsequently discharged to the environment in accordance with applicable regulatory requirements. The storage required to contain the EDF is estimated to be approximately 0.7 Mm^3, assuming a minimum discharge / treatment rate of 950 m^3/h required to manage the 1:100-year event. Higher treatment rates may be considered to reduce the storage required and optimize the operating ranges within the pond. Based on bathymetric data for the CWSP (unnamed lake L-2; Appendix O-3) and an assumed water surface elevation of 393.0 m amsl (from 2020 LiDAR survey), the CWSP storage capacity is estimated to be approximately 1 Mm^3.

5.12.3.3 Open Pit Basin

The open pit basin watershed storage will include temporary ponds to provide storage and house the dewatering pumps. Additional temporary ponds or ditching may also be provided in the open pit basin to help control runoff entering the pit. The combined open pit basin contact water (surface and groundwater) will be pumped from the sumps to the CWSP. A combined storage within the open pit basin of approximately 0.8 Mm^3 would be required during an EDF event, assuming a minimum pump rate of 500 m^3/h to manage the 1:100-year event.

5.12.3.4 Ore and Surficial Soil Stockpiles

The high / mid grade ore stockpile is located just south of the process plant. Runoff from the southern end of high / mid grade ore stockpile will be collected by ditching, directed to a local collection pond, and transferred to the CWSP as needed. This local collection pond will also capture runoff from the western side of the haul road during operations. Excess water will be pumped to the CWSP if topography does not allow gravity drainage.

The low grade ore stockpile will require collection ponds at surrounding topographic low points to manage the surface water and seepage from the sub-watershed (Figure 5.7-5). Contact water collected in these ponds may be partially consolidated before being pumped to the CWSP.

Water from the surficial soil stockpile will be directed to a contact water management pond or a collection ditch and pumped to the CWSP.

5.12.3.5 Plant Site Area and Plant Site Pond

The plant site area will be built up on a pad and graded towards ditches that drain by gravity to the plant site pond. The plant site pond will also capture runoff from the northern portion of the surficial soil stockpile. Runoff from the surficial soil stockpile will be directed by ditching and culverts towards the plant site pond.

The plant site pond will be either pumped to the CWSP or drain by gravity if grading allows.

5.12.3.6 Haul Roads

Surface water management infrastructure such as ditching, berms and pumps are required to convey contact water to water storage facilities for re-use, or for treatment and discharge to the environment in accordance with applicable regulatory requirements. All contact water from the Project mine site development area will be captured and managed by the water management system; this includes all haul roads but excludes the access road and treated effluent pipeline corridor. Ditching and berms will also be used to divert non-contact water from site facilities and haul roads. The collection system for the haul roads has been added to the site plan (Figure 5.12-1).

5.12.4 Fresh Water Facilities – Operations

Fresh water will be required so that sufficient water is available for processing at all times of the year, and as needed for specialty uses where use of recycled water is not appropriate. These fresh water requirements are expected to include the following:

- Gland water for pumps;
- Make-up water;
- Elution circuit make-up water;
- Fire water for use in the sprinkler and hydrant system;
- Cooling water for mill motors and mill lubrication systems (closed loop); and
- Potable water.

A fresh water intake is proposed for Birch Lake, a very large waterbody located close to the primary fresh water use locations (process plant and accommodations complex). The intake will be located and designed to minimize environmental effects, including potential fish entrainment and impingement. Fresh water will be pumped from Birch Lake to water storage tank(s) until needed. Approximately 2.14 Mm^3/year of fresh water will be required for the process plant and an additional 0.03 Mm^3/year for the accommodations complex, on average, over the Project life.

A potable water treatment system will be established to treat water intended for human consumption, although bulk bottled water may be used for drinking purposes, particularly during the construction phase.

5.12.5 Effluent Treatment Plant and Discharge

Effluent treatment will be in addition to the cyanide destruction and metal reduction that will occur within the process plant and the natural physical and chemical processes that will occur within the site ditching and ponds.

The ETP will be designed to produce an effluent quality appropriate for discharge to the environment in accordance with applicable regulatory requirements, including the MDMER, and the effluent concentrations required by the MECP to protect the receiving water and aquatic resources. Best available technologies that are economically achievable will be considered for the ETP to meet protection requirements.

The preliminary ETP considered in the Pre-feasibility Study was a modular effluent treatment system. Additional engineering has optimized the water treatment concept as follows:

- A biological process will be used based on the moving bed bioreactor concept, where plastic carriers with attached biofilm move freely in the water column and remove contaminants present in the wastewater. The moving bed bioreactor will also be used for cyanide destruction in addition to the in-plant destruction of cyanide in tailings using the sulphur dioxide / oxygen (SO_2/O_2) treatment process (Section 5.9.4). The by-products are nitrate, carbon dioxide (CO_2) and associated biomass.
- The treatment process will continue to the removal of metals. Arsenic removal will be achieved by ferrous sulphate and iron co-precipitation principles. This will be followed by sulphide precipitation for further metals removal with the dosing of sodium sulphide. Adjustment of pH will be controlled by dosing acid and caustic to alkaline conditions of 7.5 to 8 as needed.
- The final stage involves flocculation, which includes a mixing tank before feeding to a clarification process. Following clarification, the fully treated effluent will be confirmed to meet all applicable regulatory discharge criteria before being released to the environment at the final discharge location in the southeast arm of Springpole Lake.

The southeast arm of Springpole Lake (Figure 5.7-5) was selected as the preferred discharge location for treated effluent through the comprehensive alternatives assessment (Section 4.17). This channelized section of Springpole Lake was selected as the primary effluent discharge location as it provides enhanced effluent mixing / attenuation, which will be supplemented with the use of a diffuser at the point of discharge. Although part of Springpole Lake, this portion of the lake has a defined current, much like a river. There is the potential that other minor discharge locations could be identified for the Project during construction, which could include aggregate operations if developed below the water table.

Effluent is proposed to be pumped to the discharge location through an HDPE pipeline, a distance of 9.3 km (Figure 5.7-5). The pipeline will be situated adjacent to the mine access road for a portion of the distance and then along a section of new access road to the discharge location for ease of construction and maintenance.

Further detail regarding effluent discharge from the Project and the receiving water quality is provided in Section 6.9 and Appendices M-2 and M-3.

5.12.6 Water Balance

A site-wide water balance was completed to estimate the quantity of mine site contact water expected to be managed during the construction, operations and closure phases of the Project (Appendix M-2). The water balance model considers the precipitation and groundwater gains, and losses such as porewater loss, evaporation and infiltration.

A total of 17 scenarios were modelled for the construction, operations, active closure - pit filling, active closure and post closure phases, under various climate conditions. These scenarios are detailed in Appendix M-2.

Throughout all phases and scenarios, inflows to the Project are largely driven by site runoff generated by precipitation on the Project site. Water losses (apart from site discharge) are driven by porewater (void) loss in the CDF during operations, and evaporation outside of operations.

Discharge of treated water to the environment is expected to be necessary through all Project phases, with the exception of extreme dry climate conditions during the operations phase, during which only STP discharge is required. During the operations phase, the average treated water discharge (ETP and STP) is expected to be 6.82 Mm^3/year. The highest treated water discharge simulated occurs during the construction and active closure phases under a 1:100 wet year climate condition. A treatment and discharge rate of 4.58 and 4.9 Mm^3/year is required for construction and active closure phases, respectively. During construction, additional discharge related to the open pit basin dewatering is also required (Section 5.6.1).

During the operations phase, water takings from Birch Lake will be required to support the process plant and accommodations complex. The greatest fresh water takings are estimated to occur during the operations phase, under the 1:100 dry year climate scenario, at a rate of 3.96 Mm^3/year.

Table 5.11-2 provides a summary of annual inflows and outflows from the integrated site water management system during the operations phase when mining is occurring, for average conditions. A summary for a 1:100 wet year (simulated in the final year of operations) and 1:100 dry year (simulated in the first year of operations) are also provided.

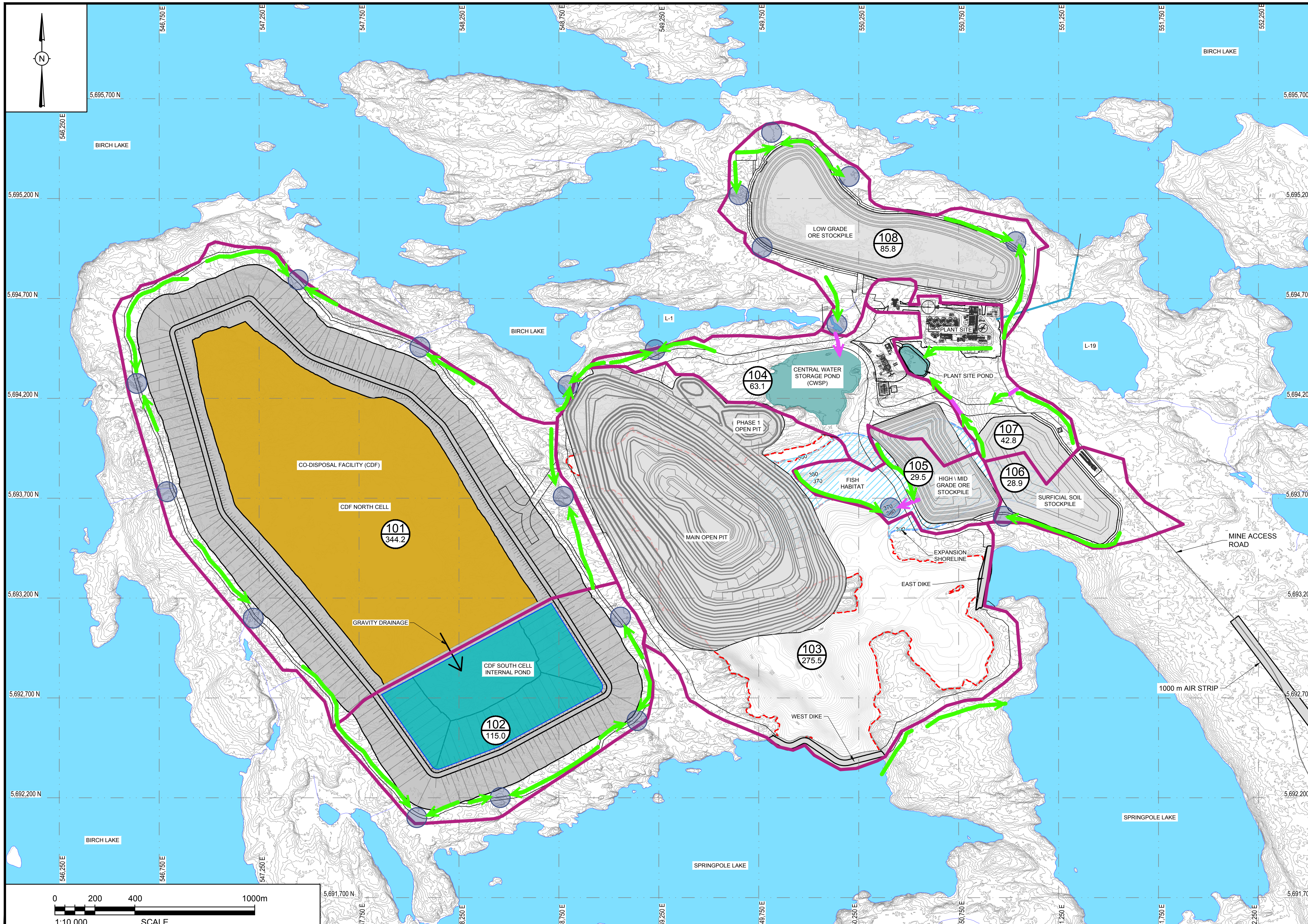
Table 5.12-1: Summary of Environmental Design Flood Storage and Pumping Requirements

Location	Storage Required (Mm^3)	Pump Rate (m^3/h)
CDF Internal Pond	1.4	100
Open Pit watershed Area	0.8	500
CWSP	0.7	950
Total Project Site	2.9	950

Table 5.12-2: Average Annual Water Balance

	Water Volumes (Mm^3/year)		
	Average	**1:100 Wet Year**	**1:100 Dry Year**
Inflows			
Water in Ore	0.58	0.58	0.58
Freshwater Takings for Process Plant from Birch Lake	2.14	1.91	3.93
Freshwater Takings for Potable Water from Birch Lake	0.03	0.03	0.03
Groundwater Inflows to Open Pit	0.77	0.95	0.27
Total Site Runoff	4.47	6.76	2.36
Total Inflows	**7.99**	**10.23**	**7.17**
Losses			
Loss to Tailings Voids	6.50	6.05	6.89
Total Site Evaporation	0.38	0.40	0.30
Total Losses	**6.88**	**6.45**	**7.19**
Required Discharge (Total)	**1.11**	**3.59**	**0.03**

Note:
*Total inflows are not equal to total losses and discharges due to accumulated or reduction in storage on site.



NOTES:

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METERS. GRID COORDINATES ARE IN NAD 1983 UTM ZONE 15N.
2. THE DIGITAL FILES FOR THE BASE MAP WERE PRODUCED FROM DRAWING SP-0000-GX-LYD-0003-1.dwg, PROVIDED BY AUSENCO.

LEGEND:

- CONTOUR (1 m INTERVAL)
- BATHYMETRY CONTOUR (1 m INTERVAL)
- WATERBODY
- SUB-WATERSHED
- WATERSHED ID (101) / WATERSHED AREA (ha) (115)
- DITCH
- CULVERT
- SUMP/LOCAL COLLECTION POND
- BERM / WATER CONTROL STRUCTURE

WATERSHED AREAS SUMMARY TABLE

CATCHMENT ID	CATCHMENT AREA (ha)
101	344.2
102	115.0
103	275.5
104	63.1
105	29.5
106	28.9
107	42.8
108	85.8
TOTAL:	984.8

CLIENT LOGO: FIRST MINING GOLD

CLIENT: FIRST MINING GOLD

WSP E&I Canada Limited
6925 Century Ave., Mississauga
Ontario, Canada, L6H 6X7

DWN BY:
CHK'D BY:
DATUM: UTM NAD 83
PROJECTION: ZONE
SCALE: AS SHOWN

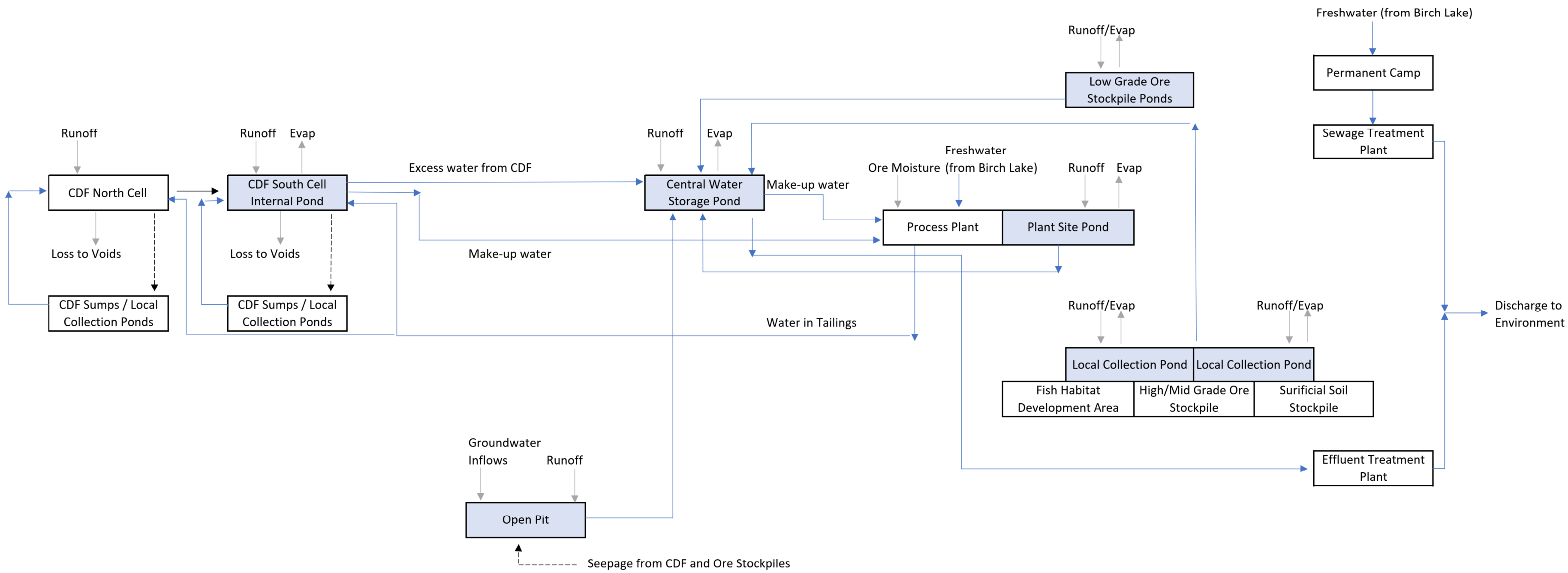
COMPANY LOGO: WSP

PROJECT: SPRINGPOLE GOLD PROJECT MINE SITE WATER BALANCE

TITLE: ULTIMATE OPERATIONS SITE PLAN WITH CONCEPTUAL WATER MANAGEMENT PLAN

DATE: DECEMBER 2023
PROJECT NO:
REV. NO.: B
FIGURE No. 5.12-1

\\corp.pbwan.net\GLB-E&I\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2021\Projects\ONS2104_FMG_Springpole_EIS\13_CAD\03_Figures\005 - Water Management Planning\02_10-11-2023 Updated Figures\LAND USE FIG 3-1A.dwg - 3-1A - Mar. 28, 2024 11:43am - wds_kyle.johnson



X:\CA\CAOAK300-OAK\MIS-FS1-ProjectF\2021\Projects\ONS2104_FMG_Springpole_EIS\11_GIS\EIS\MXD\Water_Management_Schematic_Operations_S5_2.mxd

LEGEND

- Input/Loss
- Pumped Flow
- Gravity Flow
- Seepage

NOTES:

FIRST MINING GOLD

wsp

SPRINGPOLE GOLD PROJECT

Operations Phase
Water Management During Mining

PROJECT N^{o}: ONS2104	**FIGURE: 5.12-2**
SCALE: N.T.S.	DATE: October 2024

5.13 Fuel and Chemicals, Storage and Management

The chemicals to be used and stored at the Project site are: process-related chemicals and reagents (Section 5.9.3); fuels (diesel, propane gas and gasoline); and equipment maintenance materials (oil, grease, lubricants and coolants). Table 5.13-1 provides an overview of the expected storage requirements for the expected fuel and mechanical fluids at the Project site as currently understood. All chemicals will be transported, stored and handled in accordance with applicable regulations and best management practice.

Most of the fuel required at the Project will be diesel needed to operate the heavy equipment fleet. A fuel depot will be established south of the process plant site and truck shop to store fuel products and will be accessible to the mine fleet for fuel dispensing. The fuel depot is expected to store about 150,000 to 250,000 litres (L) of ultra-low sulphur diesel and approximately 20,000 L of diesel exhaust fluid. Smaller quantities of gasoline will also be used for selected small trucks, all-terrain vehicles, snowmobiles, boats and gas-powered tools. Diesel and gasoline will be stored in double-walled Enviro tanks, or equivalent, with sufficient storage on site to provide appropriate inventory without need for re-supply in the event of supply disruptions due to winter storms or other causes.

These tanks will be provided with protection to guard against possible vehicular collisions, and all liquid fuel transfer areas where there is a reasonable potential for spills will be constructed as lined aprons and fitted with catchments to contain any fuel that might inadvertently be spilled. Automatic shut-off valves and other such equipment, as dictated by best practice, will be installed to further reduce the risk of spills during fuel transfer operations.

A limited quantity of aviation fuel may be retained to support helicopter use. Jet B fuel for occasional helicopter use will be stored in appropriately secured drums in a lined area at the airstrip (Figure 5.1-2).

Table 5.13-1: Fuel and Related Tankage Summary

Fuel or Related	Location	Estimated Tanks / Volume
Diesel (ultra-low sulphur)	Fuel depot, generators (Tankage at diesel generator(s) may be relocated during operation)	3 × 50,000 L
Diesel Exhaust Fluid	Fuel depot	18 × 1,200 L totes
Gasoline	Plant area	1 × 10,000 L
Coolant	Truck shop	1 × 5,000 L
Engine Oil	Truck shop	1 × 30,000 L
Hydraulic Oil	Truck shop	1 × 10,000 L
Transmission Fluid	Truck shop	1 × 10,000 L
Axle Fluid	Truck shop	1 × 30,000 L
Waste Oil	Truck shop	2 × 30,000 L
Waste Coolant	Truck shop	1 x 5,000 L
Gear Oil, Transmission Fluid, Windshield Fluid and Grease	Truck shop	1,200 L replacement bins
Propane	Plant area	330,000 L

5.14 Solid Waste

It is expected that the Project will produce approximately 45,000 to 65,000 m^3 of non-hazardous waste between construction and closure. Non-hazardous solid waste, such as food scraps, refuse, fabric, metal tins, scrap metal, glass, plastic, wood, paper and similar materials, will be sorted and prepared for recycling off site where possible. Non-recyclable waste material will be transported to an approved waste management facilities located off site, such as in Ear Falls and/or Sioux Lookout. The Municipality of Ear Falls has confirmed capacity and approval to accept non-hazardous wastes from the mine (Appendix D). An open burn area may be requested on the Project site for burning of paper and clean wood wastes in accordance with provincial approval requirements.

Special management solid wastes will be stored in sealed containers in lined, bermed areas (or in other means of secondary containment as appropriate). Used lubricants and associated materials will be stored in tanks with secondary containment and shipped off site by a licensed disposal company. Small quantities of other used fluids, such as cleaning solvents and degreasing agents, will be classified by type and transported off site to licensed processing facilities in accordance with applicable regulations and best management practices.

A spill prevention and contingency response plan will be developed prior to construction to reduce the potential for spills and guide response measures. Hydrocarbon-impacted soil will be transported off site to a licensed facility, as appropriate.

5.15 Domestic Sewage

Domestic sewage and grey water from the accommodations complex will be treated by an appropriately sized packaged sewage treatment plant. The plant will produce an estimated 3.4 m^3/h of treated effluent. Treated effluent from the domestic sewage treatment plant will be discharged to the environment with the treated site effluent. Sewage sludge from the plant is proposed to be vacuum-trucked off site to a licensed facility. Outlying site facilities are expected to be provided with holding tanks which will be periodically emptied and transferred for treatment in the onsite sewage treatment plant.

5.16 Aggregate Sources

The primary source of material for site construction, including for the construction of the dikes, CDF dams, haul roads, onsite access roads, the process plant site and other and building foundations, is expected to be NAG mine rock from the open pit development. Rock may also be available from the excavation of the fish habitat development area, east of the open pit (Section 5.11), the CDF quarry (Section 5.16) and other site excavations in bedrock.

Two primary quarry locations are proposed to provide NAG construction material for the Project:

- Fish habitat development area; and
- CDF quarry.

The fish habitat development area (Figure 5.1-1) is proposed to provide fish habitat offsetting and compensation at closure. To facilitate a small overall Project footprint, NAG material will be quarried from this area during construction and operation rather than developing a dedicated quarry at another location. Overburden will be stripped and removed to the surficial soil stockpile (Section 5.8.1) as needed. Subsequently, a quarry will be developed consistent with the bulk excavation plan for the final fish habitat design (Section 5.10 and Appendix F). At closure, fine grading, substrate placement and fish habitat features will be completed to the specifications of the final design.

The final elevations of the fish habitat development area will be determined in detailed design, but it is currently assumed that the area will have an average depth of approximately 10 m a maximum depth of 30 m and a surface expression of 45 ha. An estimated 3.8 Mm^3 of NAG rock will be available from the fish habitat development area. Static testing results of the drill core indicate that the rock proposed for quarrying from the fish habitat development area is NAG, and metal content analyses indicated a generally low potential for ML (Appendix K-1.4).

A quarry will be established during construction in the north cell of the CDF. The benefits of locating a quarry within the CDF footprint include the following:

- Maintaining a compact Project footprint;
- Reducing haulage distance during initial construction of the CDF, thereby reducing GHGs and air emissions; and
- Reducing the overall height of the CDF facility.

Stripping overburden and development of the quarry will also enable a comprehensive visual assessment of the bedrock condition and potential fractures within the established footprint. The basic design parameters for the quarry in the CDF footprint are as follows:

- The quarry footprint will be located within the north CDF cell only.
- Overburden will be stripped and transported to the surficial soil stockpile for re-use during reclamation.
- A minimum distance of 210 m will be maintained between the quarry perimeter and Birch Lake to comply with DFO guidelines for the use of explosives near water (Cott and Hanna 2005) assuming an explosive load of 192 kg/delay is used as a minimum charge. Smaller or larger charges may be used providing the DFO thresholds to protect fish are met, which may revise this setback.
- A minimum 50 m offset will be maintained between the quarry and the upstream toe of the north cell dike, and a minimum of 100 m setback will be maintained from the upstream toe of the south cell.
- The CDF quarry is conservatively estimated to provide approximately 16 Mm^3 of NAG rock for construction use.

Development and operation of the CDF quarry will be completed during construction of the CDF starter dikes. The quarry excavation will be filled with mine rock and NAG tailings during operation.

Rock samples were collected from the CDF north cell to determine preliminary acid generating and ML characteristics. All the samples were classified as NAG based on their neutralization potential ratio (NPR>2, CarbNPR>2), and leachable metal concentrations were low and generally below qualitative screening values (PWQO, interim PWQO) for all samples (Appendix K-1.6).

Experience with other mining projects in Ontario has shown that it can be difficult to generate aggregate for concrete and certain other applications from mine rock. Sand and gravel will be required primarily for backfill, drainage bedding and roads (sub-base, base and surface). Sand and gravel sources are expected to be required potentially for site construction, as well to build the mine access road to the Project site. Two locations have been identified to provide a dedicated aggregate supply for the Project (Figure 5.1-1).

:

- **Aggregate source 1:** near the mine access road; and
- **Aggregate source 2:** off Wenasaga Road.

Another potential location has been identified farther south on Wenasaga Road, which would likely only be developed if specialty aggregate were found to be present that could not be sourced from the listed locations (Section 4.29).

5.17 Site Access

The Project site is remote and only accessible by floatplane during the open water season and by ice road for a short period of time in the winter. An all-season gravel road will be constructed as the main access to the Project. Per Section 5.6, a helipad will be maintained to support medical evacuations and field investigations, and an airstrip will also be constructed to facilitate worker transport.

5.17.1 Access Road

A two-lane, all-season gravel access road is proposed that will extend approximately 18 km from the end of the existing Wenasaga Road to the mine site (Figure 5.17-1). The Wenasaga Road is a public road that is currently used over most of its length primarily for regional forestry activities. There are no communities located along the route. The Wenasaga Road is currently approved as a primary Class 1 public road, under the care and control of Dryden Fibre. FMG is continuing to work with Dryden Fibre to align the forest management road upgrades within the approved corridor to support the Project as needed. A controlled access gate is proposed to control unauthorized use of the mine access road, at a location to be determined in consultation with CLFN, SFN, MNR and the forestry road owner. A Project security gate will be installed at the mine site entrance.

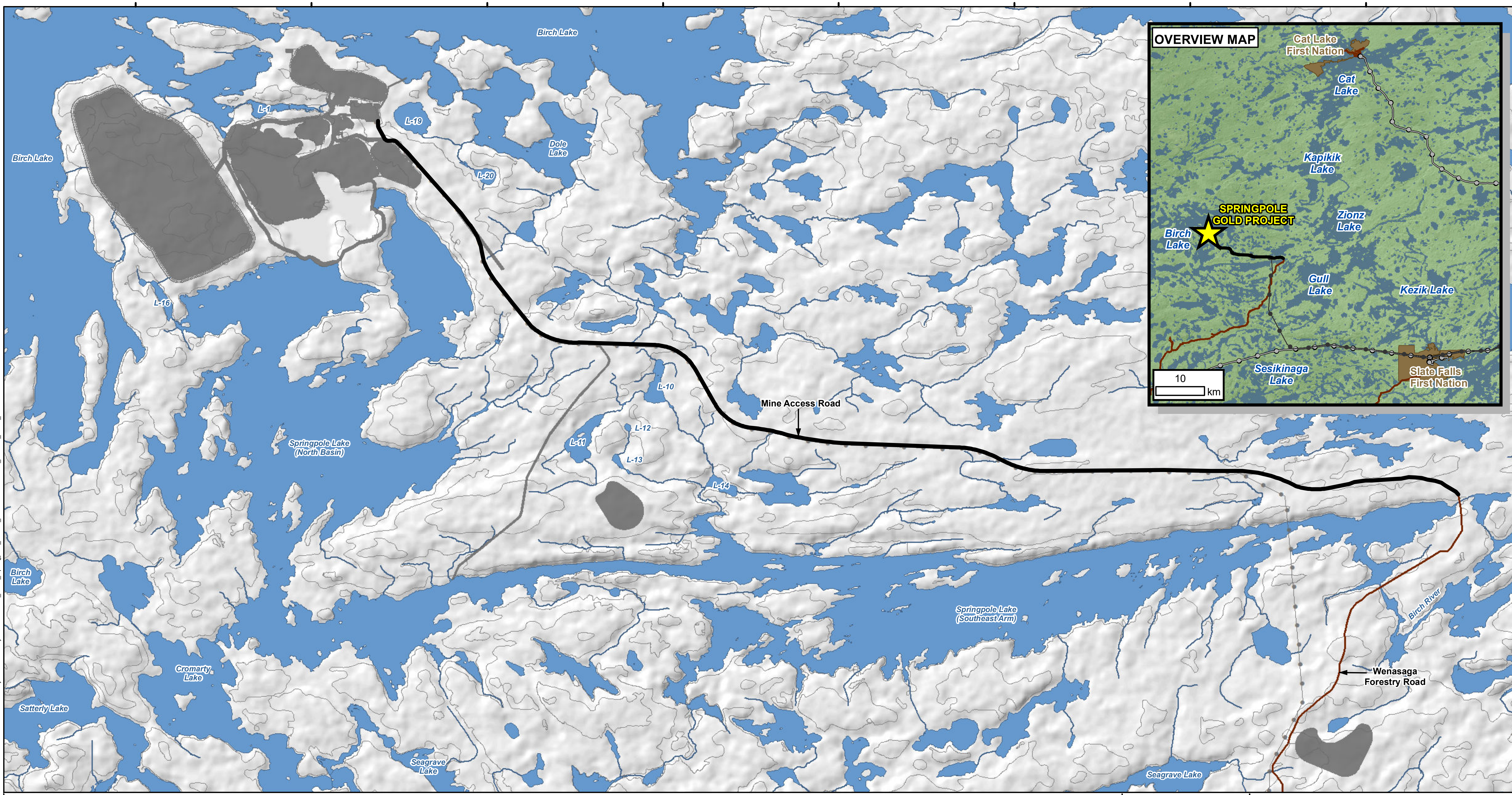
The proposed access route is the most direct and feasible route from the existing road network, avoiding major waterbodies and minimizing new disturbance. An updated alignment has reduced the number of potential water crossings from four to one. It is expected that the single minor watercourse crossings will be established using corrugated steel culvert(s) and designed and installed to meet all regulatory requirements. Ditching and drainage management culverts (cross drainage) may also be installed at low-lying areas, if needed. Culverts will be inspected regularly to remove any blockage. Beaver control, as and when required, will be conducted in consultation with the local commercial trapline holder and MNR.

Internal haul roads and service roads will link the principal site facilities to the mine access road, either directly or indirectly. Attention will be given to separating large haul truck traffic from other site vehicular traffic during ongoing design. Lighter vehicle roads will typically be 5 to 10 m wide. For more remote locations, single lane roads may be established with pullout area(s). Parking for buses, personal / contractor vehicles and other service vehicles will be available at the site.

5.17.2 Airstrip

The airstrip is co-located with the mine access road approximately 2 km southeast of the process plant site, oriented northwest–southeast as shown in Figure 5.1-2. Co-locating the airstrip with the mine access road and the mine site will minimize additional footprint expansion and potential environmental impacts. The airstrip has a proposed runway length of approximately 1,000 m and a width of approximately 30 m. The airstrip will cross a single minor tributary creek that drains unnamed waterbodies to Dole Lake (Figure 5.1-2).

The airstrip does not meet the definition of an aerodrome as a designated physical activity as per the federal Regulations Designating Physical Activities (SOR/2012-147); however, the effects of the construction, operation and closure of the airstrip including up to two flights per week on noise and wildlife have been assessed. Development of the airstrip along with the proposed helicopter pad would support faster emergency response, which is important for a more remote operation. The runway will be designed to meet applicable Transport Canada and other regulatory requirements.



LEGEND

- Project Location
- Proposed Mine Feature
- Proposed Mine Access Road
- Proposed 230 kV Transmission Line
- Existing Road
- Existing Transmission Line
- First Nation Reserve
- Watercourse
- Waterbody
- Contour (10 m intervals)

0 1 2 4 6 8 10 Kilometres

NOTES:
- Topographic information extracted from LIO, MNRF.
- Proposed site plan provided by Ausenco, drawing number 104496-GX-03000-31344-003, Rev 1. 26 June 2023 and modified by WSP July 2023.
- 230 kV transmission line provided by First Mining Gold, April 2024.

Datum: NAD83
Projection: UTM Zone 15N

FIRST MINING GOLD

WSP

SPRINGPOLE GOLD PROJECT

Mine Access Road

PROJECT N°: ONS2104	FIGURE: 5.17-1
SCALE: 1:52,000	DATE: October 2024

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5.18 Power Supply and Infrastructure

The Project site is remotely located without permanent power infrastructure. During the initial construction phase, diesel-fired generators are expected to be the primary power supply until a transmission line connecting to the regional electrical grid can be constructed. It is expected that less than 5 megawatts (MW) of diesel-fired generation will be needed. The units will be enclosed to minimize noise emissions and located close to the need during the construction phase. Once the permanent power system is in place, the diesel generators will provide standby / backup power capacity in the event of temporary grid power outages.

The average electrical demand site wide during operations is estimated to be 55 MW. The Project site will be connected to the provincial electrical distribution grid to obtain this power. Preliminary discussions with the Independent Electricity System Operator have confirmed that there is sufficient capacity within the Ontario electrical grid in the region to supply the power demand.

An 93.4 km, 230-kilovolt (kV) overhead transmission line is proposed to tie the Project into the Wataynikaneyap 230 kV line between Dinorwic and Pickle Lake (Figure 5.18-1). The Wataynikaneyap transmission line, has recently been developed and energized by Wataynikaneyap Power LP, a licensed transmission company equally owned by 24 First Nations communities (51%), in partnership with Fortis Inc. and other private investors (49%). The proposed transmission line route has been established to minimize overall length, reduce environmental effects and respect traditional land use by adjacent Indigenous communities.

Since the draft EIS /EA was submitted for comment, engagement with the SFN resulted in optimizing the transmission line route to pass north of the community of Slate falls adjacent to the existing E1C line thereby reducing the length of new linear corridors created and avoiding important land use areas. This engagement aligned with comments received from the MECP SARB that emphasized the importance of minimizing new linear corridors. Traditional Land Use information shared by MON also noted several land use values located along the southern end of Alternative 3 transmission line route which further informed the optimisation of the transmission alignment. The transmission line is expected to be composed primarily of single, steel pole structures, established within a 40 m wide corridor, much of which follows the existing E1C line . Additional cleared corridor width may be required at turning points, or where pole anchors are needed (such as in poor ground conditions), as well as for temporary laydown area(s) and access roads. The switching station at the connection point with the Wataynikaneyap transmission line will have a footprint of about one acre. The transmission line is expected to be constructed primarily in the winter from temporary winter roads, avoiding sensitive periods for wildlife as much as possible. Establishment of a permanent road along the transmission line route is not proposed, unless winter roads prove to be untenable. Work including vegetation clearing may also occur during the late summer and fall on higher ground / in areas of good accessibility.

The incoming electrical power from the 230 kV transmission line will be stepped down in an onsite substation for site distribution. The lines will be located within the plant site in cable trays or via underground duct banks as needed, but overhead powerlines will be used to distribute power to more distant facilities such as the mine and accommodations complex areas.

As discussed in Section 4.24, further investigations are proposed for the potential application of wind and solar power as supplemental power sources for the Project. These or other supplemental energy sources could be added during the detailed design or potentially during the operations phase.

LEGEND

- Proposed Mine Feature
- Proposed Mine Access Road
- Proposed 230 kV Transmission Line
- Existing Road
- Existing Transmission Line
- First Nation Reserve
- Watercourse
- Waterbody

0 5 10 20 30 40 50 Kilometres

NOTES:
- Topographic information extracted from LIO, MNRF.
- Proposed site plan provided by Ausenco, drawing number 104496-GX-03000-31344-003, Rev 1. 26 June 2023 and modified by WSP July 2023.
- 230 kV transmission line provided by First Mining Gold, April 2024.

Datum: NAD83
Projection: UTM Zone 15N

FIRST MINING GOLD

WSP

SPRINGPOLE GOLD PROJECT

Transmission Line

PROJECT N°: ONS2104	FIGURE: 5.18-1
SCALE: 1:200,000	DATE: October 2024

5.19 Conceptual Closure Plan

5.19.1 Overall Approach

The conceptual closure plan describes the main reclamation objectives, summary of proposed progressive reclamation activities, final reclamation and decommissioning, and anticipated site conditions following closure. Mine decommissioning and closure will be completed to satisfy the Rehabilitation Standards under Ontario Regulation 35/24 of the *Mining Act*.

The primary goal of decommissioning and closure of the mine site is to establish a site that is physically, chemically and biologically stable. The Project footprint will be rehabilitated to a productive and natural state as practicable. The reclamation and decommissioning / closure objectives for the Project include:

- Re-establish natural drainage;
- Rehabilitate disturbed lands;
- Confirm site runoff meets regulatory criteria;
- Establish a self-sustaining vegetative cover; and
- Creation of functional wetland habitat.

Infrastructure will generally be removed unless otherwise stipulated, such as based on agreements with the respective authorities and local communities. The Project site will be revegetated to support plant, wildlife and fish communities (or could be considered for other land uses as applicable). It is expected that revegetation will occur through active seeding and hand-planting of seedlings of commercially available, native plant species, as well as natural revegetation from local vegetation communities. CLFN and LSFN requested that additional details be provided on how the site would be closed and that FMG develop closure objectives that meet cultural and socioeconomic objectives of the CLFN and LSFN. The cultural and socioeconomic objectives as listed by the CLFN and LSFN include:

1) Ensuring the conservation and continued use of sites near the mine site;
2) Supporting CLFN and LSFN members' ability to practice their way of life and to transfer knowledge and teachings specific to the area;
3) Ensuring long-term benefits while minimizing post-closure socioeconomic impacts, including job loss and gender-, addiction-, and mental health-related issues;
4) Mitigating impacts to harvesting practices, as well as to water, fish and non-human relatives within the reclaimed open pit and the mine waste co-disposal facility (CDF) areas; and
5) Mitigating long-term risks of erosion, accidents, spills, or structural failures of the mine waste facility, including due to flooding or extreme meteorological events (e.g., 100-year floods).

FMG has developed a closure strategy based on the current Project and has aligned the strategy with the cultural and socioeconomic objectives of the CLFN and LSFN. The Project has prioritized the maintenance of a small footprint to minimize impacts to the land prior to and following closure. This included co-locating the required quarries and high to mid-grade ore stockpile with the CDF and fish habitat development footprints, and co-locating the tailings and mine rock storage into a single facility. Closure activities include the reclamation and restoration of the adjacent lands, such as the low grade ores stockpile, the plant site and water management system. The Project has been designed to protect the environment at closure, and rigorous monitoring plans will confirm that the site conditions and drainage are as expected to allow reuse of the lands for traditional land uses.

5.19.2 Progressive Reclamation

Reclamation activities that can be performed prior to final closure and that do not pose a barrier to daily operations will be considered for progressive reclamation. Progressively reclaiming facilities and site features where practical reduces the amount of work and time required at final closure. It also provides useful knowledge to improve final reclamation success, particularly with respect to revegetation methods.

Progressive rehabilitation of affected areas will be fully considered during operations. Some potential opportunities include:

- Regular backhaul of waste material off site;
- Decommissioning and salvage of infrastructure used only for exploration and construction;
- Initiation of revegetation studies during operations to evaluate soil amendments and seed mixes to maximize the success of the final revegetation program;
- Recontouring and revegetation of disturbed areas from exploration and construction phases that are not needed during operations;
- Progressive reclamation of the CDF perimeter dams; and
- Advancement of the designated fish habitat development area to final contours in preparation for completion during closure.

5.19.3 Final Reclamation

5.19.3.1 Open Pit

Once mining concludes in approximately Year 10, the open pit basin will start to fill with water by direct precipitation and through groundwater infiltration from the surrounding bedrock. Without enhancement, it would take decades (approximately 30 to 40 years) for the open pit basin to refill to the same level as Springpole Lake. To considerably reduce the filling time, supplemental water from Springpole Lake is planned to be transferred to the pit in a controlled manner over a period of approximately four years while maintaining lake water levels within natural variation (Appendix M-2). Other measures to be taken to reclaim the open pit will or are likely, to include:

- The ramp to the open pit will be barricaded until the pit is fully filled with water and reconnected to Springpole Lake (at that time the open pit ramp may be reopened so that it can be utilized to support recreational boating).
- Overburden slopes that will not be underwater will be graded to stable side slopes and revegetated with native species (rip rap or similar will be placed at the future potential wave interface).
- Enhancement to support fish habitat will be completed to provide fish habitat and increase the biodiversity within the lake.

The north end of the open pit is proposed to be backfilled to facilitate relocation of the haul road further from Birch Lake in approximately year 2. The recontouring of the north end of the pit will also allow an enhanced littoral area for future fish habitat measure (Figure 5.19-1). Further details regarding potential fish habitat enhancement measures within the basin are provided in Section 5.11 and Appendix F.

Controlled Filling of the Open Pit Basin

During the pit filling phase after mining is completed, an engineered spillway or siphon within one or both dikes is proposed to enable controlled transfer of water from Springpole Lake into the open pit basin to expedite filling of the pit. The open pit basin will be returned to the average pre-development water level of Springpole Lake (approximately 391.23 m). The water transfer rate would be adjustable to reflect between 10% and 15% of the inflows to the lake. Based on DFO (2013) guidance and Locke and Paul (2011), a 10% to 15% reduction in instantaneous flows is unlikely to have detectable ecological effects on the downstream habitats. This has been considered for filling the open pit basin at closure.

To assess the pit filling time under various climate conditions, wet and dry sequences were developed based on pro-rated historical flow records from the Sturgeon River at McDougall Mills Water Survey of Canada Station (05QA004). The dry year sequence was developed based on data from 1975 to 1981 and represents a 1st percentile flow sequence over the period. The wet year sequence was developed based on data from 2007 to 2010 and represents a 99th percentile flow sequence over the period. The results indicate that during a 99th percentile wet flow sequence, the pit filling time would be reduced to 3.3 years. During a 1st percentile dry flow sequence, the pit filling time would be increased to 6.3 years. Water taking from Springpole Lake accounts for 95% of the inflows to the open pit basin during the pit filling period (direct runoff and groundwater inflows are quite low in relation to the Springpole Lake water takings. At this proposed active filling rate (Table 5.19-1), the combined open pit basin and fish habitat development area would require three to five years to fill to the average natural elevation of Springpole Lake (elevation 391 m amsl), assuming average flow conditions during those years. Table 5.19-2 provides a range of years to fill for the open pit basin, allowing for average conditions as well as the very dry and very wet flow years.

Water level monitoring will occur throughout the refilling process so that lake levels are maintained within natural variation.

Water Quality of Refilled Basin

Model simulations were conducted to evaluate the future water quality of the refilled isolated basin using PitMod to predict the physical and chemical evolution of the water column during and after filling (Appendix N-3). Of key importance was predicting water quality conditions at the time the open pit basin will be reconnected to Springpole Lake. The current model predicts that the open pit basin will be filled and suitable for reconnection to the remainder of Springpole Lake in approximately 4 to 5 years after mining ceases.

PitMod is a numerical hydrodynamic model used for predicting the spatial and temporal distribution of temperature, density, dissolved oxygen and water quality parameters in lakes (Dunbar 2013; Martin et al. 2017). The model considered the entire refilled open pit basin retained in isolation from Springpole Lake, inclusive of the following:

- Open pit and re-contouring material;
- Fish Habitat Development Area;
- Exposed lake sediments as bounded by the east and west coffer dams;
- Water balance for the various inflows, including controlled conveyance of water from Springpole Lake which serves to accelerate basin re-filling; and
- Geochemical source terms for the various inflows.

Model results provide information on the chemistry of water layers with depth and time. Model outputs for temperature, dissolved oxygen and total dissolved solids suggest that the water column will form a permanently stratified density structure (meromixis), which will limit mixing between the surface mixed layer and water at depth. These model observations indicate that the effects of wind-driven and convective mixing are not sufficient to mix the water column below a surface mixed layer depth of approximately 40 m. Under conditions of meromixis, anoxic conditions are predicted to develop below the surface mixed layer over time.

Improvements in surface water quality within the isolated area are predicted to occur over time as filling occurs, and can be attributed to several time-dependent factors, including submerging of pit walls and cessation of sulphide mineral oxidation; reduced loadings from CDF seepage as the hydraulic gradient lessens; the input of direct precipitation to the lake surface increases relative to pit wall runoff; and the development of pit lake stratification serves to isolate more saline water quality.

Water quality results of the model were compared against the water quality guidelines for the protection of aquatic life. Results indicate no exceedances of PWQO at completion of pit filling. Further details regarding the modelling approach and the water quality predictions are provided in Appendix N-3. Monitoring during re-filling of the open pit basin will provide considerable time to validate the model predictions and to identify and implement additional mitigation measures if needed.

Monitoring and Reconnection

Water quality will be regularly monitored as the open pit basin fills. The basin will be maintained at a target level below the natural Springpole Lake elevation if needed, until such time as all regulatory requirements for reconnection are met.

Once the water quality in the refilled basin meets, and is predicted to continue to meet, all requirements, the water level will be increased to an eventual equilibrium water level controlled by the natural Springpole Lake elevation. Current modelling indicates that under average conditions reconnection could occur by Year 5 of active closure. The dikes will then be lowered, using appropriate methods and mitigation measures, to minimize environmental disturbance in order to establish a permanent reconnection between the filled basin and Springpole Lake. The dikes will be lowered and recontoured on the open pit basin side of the structure to provide additional spawning habitat opportunities for Lake Trout as per Appendix F.

5.19.3.2 Co-disposal Facility

The operational design and the decommissioning and closure concept for the CDF have been developed to promote long-term chemical and physical stability, minimize erosion, provide long-term environmental protection and minimize long-term maintenance requirements. During progressive reclamation or at closure, the NAG mine rock dams of the CDF will be covered as practicable with a growth medium and revegetated with commercially available native species or other approved species.

The CDF closure concept involves: 1) continuing to direct runoff from the north cell to the south cell; 2) maintaining minimum pond (or no pond with thick coarse rockfill cover) to maintain saturated PAG tailings in the south cell; and 3) implementing an overflow spillway at the south cell to safely convey excess water (including EDF and IDF) to the environment. Preparing the CDF for closure will involve the following:

- Construct an overflow spillway at the south cell perimeter dams to safely pass the IDF to environment. The overflow spillway could potentially be located at the southeast and direct the flows to the open pit or Springpole Lake;

- Following completion of life of mine PAG mine rock disposal within the north cell, deposit NAG tailings over the entire north cell surface to fully cover the PAG mine rock and limit oxygen ingress;
- Vegetate the tailings or, if necessary, place and grade an erosion protection cover over the entire north cell surface and direct all runoff to the south cell;
- Following completion of life of mine PAG tailings deposition within the south cell and upon final closure of the CDF, deposit NAG tailings or other suitable soil cover to remove excess pond capacity and provide cover over PAG tailings; and
- Breach perimeter collection ponds and allow runoff and seepage water to report to environment once water quality requirements are met.

5.19.3.3 Ore Stockpiles

All material from the ore stockpiles (high / mid grade and low grade) will be processed during the final years of processing operations. Once depleted, the footprint of the former ore stockpiles will be tested and excavated if needed to confirm no PAG material is remaining. Excavated materials, if any, will be transported and stabilized in the CDF prior to closing out that facility. Thereafter, the ore stockpile areas will be reclaimed (either regraded to promote natural drainage and revegetation or re-developed as part of the fish habitat and compensation activities).

5.19.3.4 Organics and Surficial Soil Stockpiles

FMG proposes to utilize the overburden materials stored in the surficial soil stockpiles, the lake sediments and any small local topsoil or organics stockpiles to support revegetation efforts progressively during operation and during closure. Stockpiled organics will be fully utilized during reclamation activities. Reclamation of the surficial soil stockpile is not anticipated to be required; however, if any material remains after closure activities, the area will be reshaped if needed to a physically stable condition and revegetated.

5.19.3.5 Buildings, Machinery and Equipment

Salvageable machinery, equipment and other materials will be dismantled and taken off site for sale and re-use if economically feasible. Gearboxes or other equipment, containing hydrocarbons that cannot be cleaned out, will be removed from the equipment and machinery and disposed of at a licensed facility.

Above-grade concrete structures will be broken and reduced to near grade, as required. Concrete structures and below-grade facilities (if applicable) will be infilled as needed. Affected areas will be contoured, scarified and covered with overburden and vegetated.

While not part of the current Project proposal or closure concept, FMG is committed to studying long-term sustainable green energy opportunities that could be implemented in post-closure, building on the key energy infrastructure put in place for the mine. For example, initial thinking includes exploring, with local interests, the concept of establishing solar or wind power generation on the CDF north cell in post-closure to supply and sell power to the grid. This may present a unique and sustainable opportunity for generations to come and will be further explored during the life of mine.

5.19.3.6 Petroleum Products, Chemicals and Explosives

All petroleum products and chemicals will be used upon decommissioning and closure. Any remaining products will ultimately be removed from the Project site. Empty storage tanks will be sold as scrap or cleaned to remove any residual fuel or chemicals and disposed of in an appropriate offsite facility.

An environmental site assessment will be conducted at the end of operations or early decommissioning and closure phase to delineate areas of potential soil contamination, particularly around fuel handling areas. Soil found to exceed acceptable criteria will be remediated on site or transported off site to an approved facility.

Any remaining explosives will be either detonated on site or hauled off site by an authorized transportation company.

5.19.3.7 Waste Management

During the decommissioning and closure phase, solid wastes will continue to be collected in bins and transported to an appropriate facility. Any remaining solid and/or domestic waste at closure will be transferred off site to an approved facility. Non-hazardous demolition wastes that are not transported off site for re-use or sale will require permanent disposal. These materials will generally require disposal in an approved landfill off site, similar to solids wastes for the mine.

5.19.3.8 Water Management

During the initial decommissioning and closure phase, pumps, pipelines, sumps and associated equipment used to support open pit water management and surface water management will be decommissioned, drained and removed from the site when no longer needed. In addition, the ETP will continue to be used if needed, or will remain available for contingency use. Water management infrastructure will be decommissioned when no longer needed.

5.19.3.9 Infrastructure

Site roads and the mine access road will be decommissioned when no longer needed to support final reclamation, long-term management and environmental monitoring, assuming that the roads are no longer required to support any developments on site or local needs. If site roads and the mine access road are no longer needed, the roads will be scarified to alleviate surface compaction to aid in vegetative regeneration.

Any aggregate operations established to support mine construction are proposed to be progressively reclaimed during operations when the resource is no longer needed.

Pumps, pipelines, sumps and associated equipment used to support open pit water management and surface water management will be decommissioned, drained and removed from the site when no longer needed.

The 230 kV transmission line will continue to operate and provide power to the Project site as needed after operations cease. It is anticipated that the transmission line will remain in place to support regional needs and continue to benefit the region. Associated onsite power distribution line(s) and related infrastructure or equipment that is not needed and has no salvageable value will be dismantled and transferred to an approved waste management facility. Other power equipment and materials will be taken off site for sale or resale.

5.19.4 Post-closure Monitoring

A post-closure monitoring program will be developed as part of the regulatory closure plan so that the site remains physically, chemically, and biologically stable. Proposed monitoring may include the following:

- General site inspections will be conducted regularly to confirm that appropriate vegetation is established and when needed remediation is provided (e.g., removal of trees from embankments);

- Physical stability monitoring will include annual dam safety inspections conducted by a qualified Professional Engineer and dam safety reviews will be completed every 10 years following closure (or as otherwise required by regulations or best management practices);
- Surface water and ground water monitoring will continue to demonstrate efficacy of decommissioning and closure measures;
- Revegetation will be monitored until vegetation covers are proven to be self-sustaining; and
- Vegetation, aquatic and terrestrial monitoring will be completed to confirm decommissioning and closure plan objectives are met.

Additional information regarding the proposed follow-up and monitoring program for the Project is provided in Section 12.

5.19.5 Expected Site Conditions Post-closure

The Project site is located in a remote area in which traditional pursuits (i.e., hunting, fishing, trapping and recreational use) and forestry are the dominant land use, with some mineral exploration. The overall intent is to restore the site to a self-sustaining ecosystem. In such a condition, the site can provide wildlife and aquatic habitat and the potential for traditional pursuits. After completion of decommissioning and closure, no hazards will remain on the property that would be inconsistent with a natural environment. Long-term physical and chemical stability will be achieved and public safety maintained.

The post-closure site conditions are illustrated in Figure 5.19-1. Further detail will be provided in the regulatory closure plan required under the *Mining Act*.

Following final decommissioning and closure, the terrain will be similar to the pre-development conditions with the exception of the rehabilitated CDF. The CDF will resemble a hill raised above the pre-development terrain. The revegetation program for the Project will use a mix of commercially available native species combined with natural revegetation and vegetation succession. Wildlife will re-enter and use the site once vegetation is re-establishing.

Fish habitat area will be increased, including a newly developed habitat in the north portion of the open pit, Phase 1 pit and the fish habitat development area, along with other measures as provided for in the fisheries offset and compensation plan. There is also an opportunity to create wetland areas as part of the fish habitat development area.

Once the open pit basin is reclaimed and reconnected with Springpole Lake, the overall footprint of Springpole Lake will be increased by approximately 100 ha (3.5% overall increase in lake area) providing additional recreational water use for local communities. This also results in an increase in the available volume of deep pelagic thermal refuge habitat up to 30 m deep for Lake Trout, Lake Whitefish and other large body species of 16%. The ramp to the former open pit may remain with the purpose of providing a boat ramp, further supporting recreational use of Springpole Lake.

5.19.6 Opportunities and Continued Improvement

Although a closure strategy has been developed to support the Project, FMG is committed to maintaining a progressive mindset and exploring opportunities with emerging technologies and land uses. Such opportunities may include reusing the established facilities for community use or utilizing the restored site for a secondary purpose such as the generation of renewable energy. Among potential renewable energy potential being considered for the site is wind power and solar power with or without battery storage.

While not part of the current Project proposal or closure concept, FMG is committed to studying long-term sustainable green energy opportunities that could be implemented in post-closure, building on the key energy infrastructure put in place for the mine. For example, initial thinking includes exploring, with local interests, the concept of establishing solar or wind power generation on the CDF north cell in post-closure to supply and sell power to the grid. This may present a unique and sustainable opportunity for generations to come and will be further explored during the life of mine.

Wind Power – A wind analysis was based on wind measurements collected at the site from August 2022 through March 2023. The analysis found an average annual wind speed of 6.57 m/s at 120 m above ground and concludes that the wind resource in this area is moderate, with prevailing wind direction from the northeast. The data suggests that the wind resource is suitable to warrant continued study and investigation of a wind generation Project at the site. Wind power would likely be combined with battery storage to provide stable electrical capacity. A wind facility could be considered at site or along the transmission line route during operations, as well as at closure.

Solar Power - development of a solar project at the mine site after mine closure may present a favourable renewable energy opportunity. The CDF will have a surface area of approximately 300 ha at the end of the mine life, and this area will be relatively flat and elevated above the local terrain. Based on the assumption that the surface of the CDF is geotechnically stable and capable of supporting a solar PV array, this represents a potentially ideal location for a long-term solar project.

It is recognized that there may be a period post closure where the CDF material will continue to consolidate and cause undulations and changes in the overall surface of the facility. However, instrumentation and records made during the operations phase will provide estimates of the extent and rate of the expected surface deformation, allowing for a more detailed array plan to be developed. While other locations for a potential solar project may ultimately be suitable the CDF option is viewed at this stage as a promising potential post closure land use.

Table 5.19-1: Open Pit Filling Rate and Duration

Maximum Springpole Lake Water Taking Rate (10% of Available Flow) (m^3/s)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Year	0.67	0.57	0.50	0.72	2.08	2.13	1.57	1.14	1.09	1.12	1.08	0.85
Dry Flow Sequence (1975-1981)	0.51	0.46	0.42	0.68	1.71	1.54	1.12	0.74	0.71	0.63	0.65	0.53
Wet Flow Sequence (2007-2010)	0.79	0.64	0.55	0.69	2.07	2.84	2.72	2.20	1.47	1.73	1.70	1.20

Note:

Dry and wet flow sequence values are based on a 7 year and 4 year rolling average, respectfully. The dry and wet flow sequences are based on the 1st and 99th percentile flows over the respective duration.

Values presented in the table are the average monthly flows over the respective flow sequence duration.

Table 5.19-2: Open Pit Filling Duration

Scenario	Total duration (months)	Total duration (years)
Average Year	56	4.7
Dry Flow Sequence (1975-1981)	76	6.3
Wet Flow Sequence (2007-2010)	39	3.3