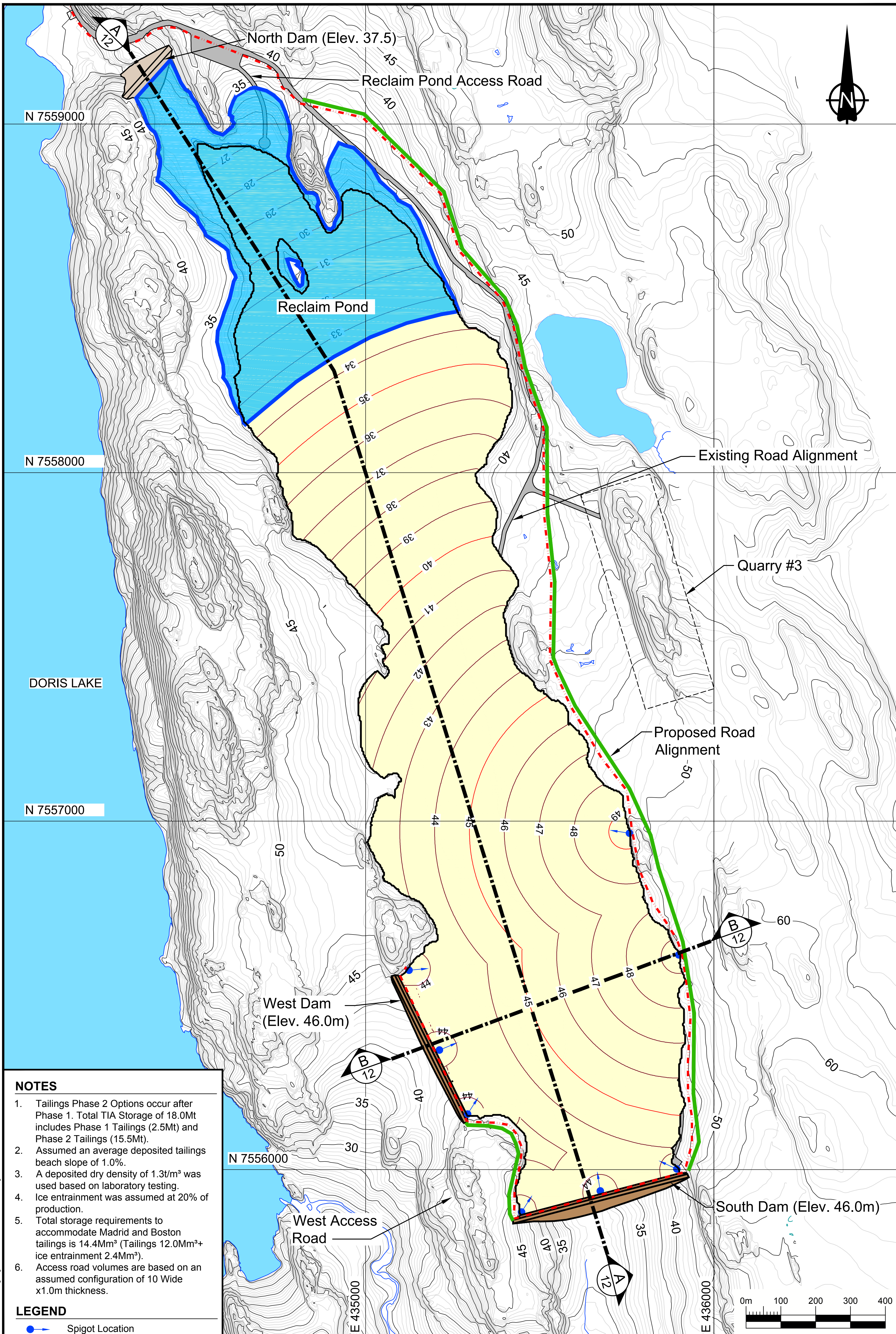


NOTES

1. Tailings Phase 2 Options occur after Phase 1. Total TIA Storage of 18.0Mt includes Phase 1 Tailings (2.5Mt) and Phase 2 Tailings (15.5Mt).
2. Assumed an average deposited tailings beach slope of 1.0%.
3. A deposited dry density of 1.3t/m³ was used based on laboratory testing.
4. Ice entrainment was assumed at 20% of production.
5. Total storage requirements to accommodate Madrid and Boston tailings is 14.4Mm³ (Tailings 12.0Mm³+ ice entrainment 2.4Mm³).
6. Access road volumes are based on an assumed configuration of 10 Wide x1.0m thickness.

LEGEND

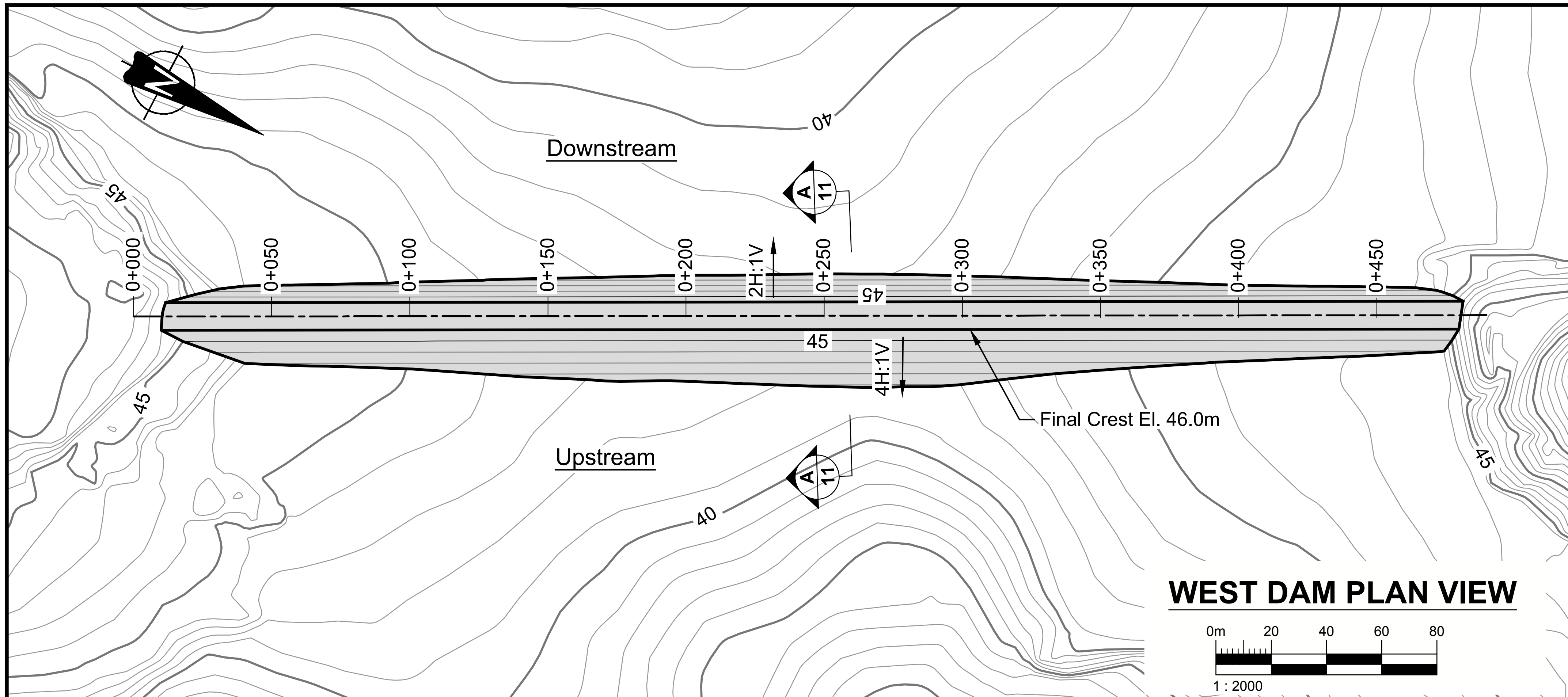
- Spigot Location
- Deposited Tailings
- Dam/Dike
- Proposed Road Realignment
- Proposed Tailings Line
- Final Tailings Topography

srk consulting

MAC RESOURCES

SRK JOB NO.: 1CT022.004.600.010	HOPE BAY PROJECT	Doris TMS Phase 2 Design
FILE NAME: 1CT022.004.600.10 - FIGURE 9.dwg		Final Tailings Surface
		DATE: May 2016
		APPROVED: IM
		FIGURE: 09

C:\MDDISNC\CLIENTS\SRK\2016\1CT022.004.600.10 - Doris TMS Design Figures\1CT022.004.600.10 - FIGURE 9.dwg



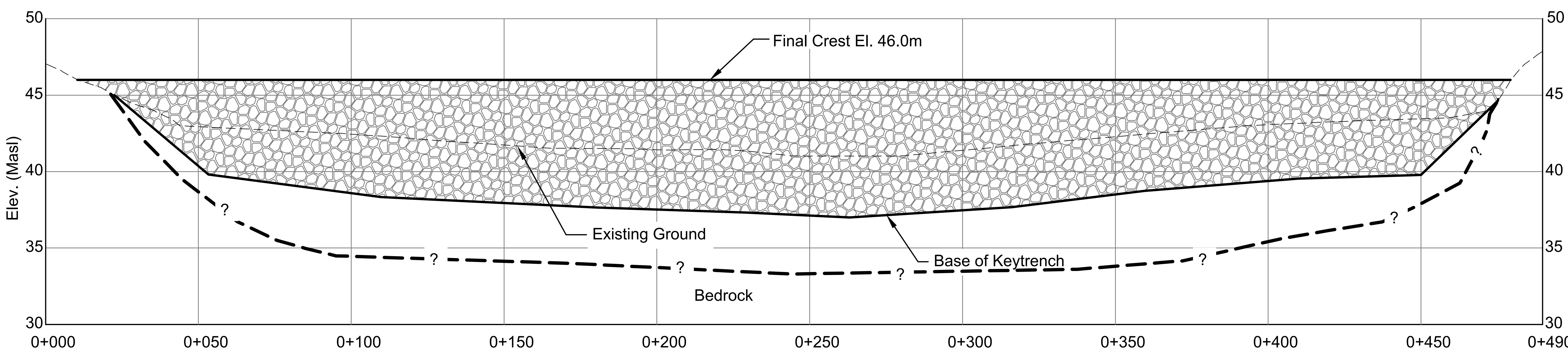
WEST DAM PLAN VIEW

LEGEND

- Natural Ground
- Approximate Stratigraphic Boundary
- Run of Quarry (ROQ)

NOTES

1. All dimensions and elevations are in meters unless stated otherwise.
2. The subsurface geology has been extrapolated from a series of geotechnical investigations. Bedrock contact and geological unit contacts are therefore likely to vary somewhat during final excavation.



WEST DAM PROFILE

5x EXAGGERATION

0m 10 20 30 40 50 60

Horizontal Scale

srk consulting

SRK JOB NO.: 1CT022.004.600.10

FILE NAME: 1CT022.004.600.10 - FIGURE 10_11.dwg

MAC RESOURCES

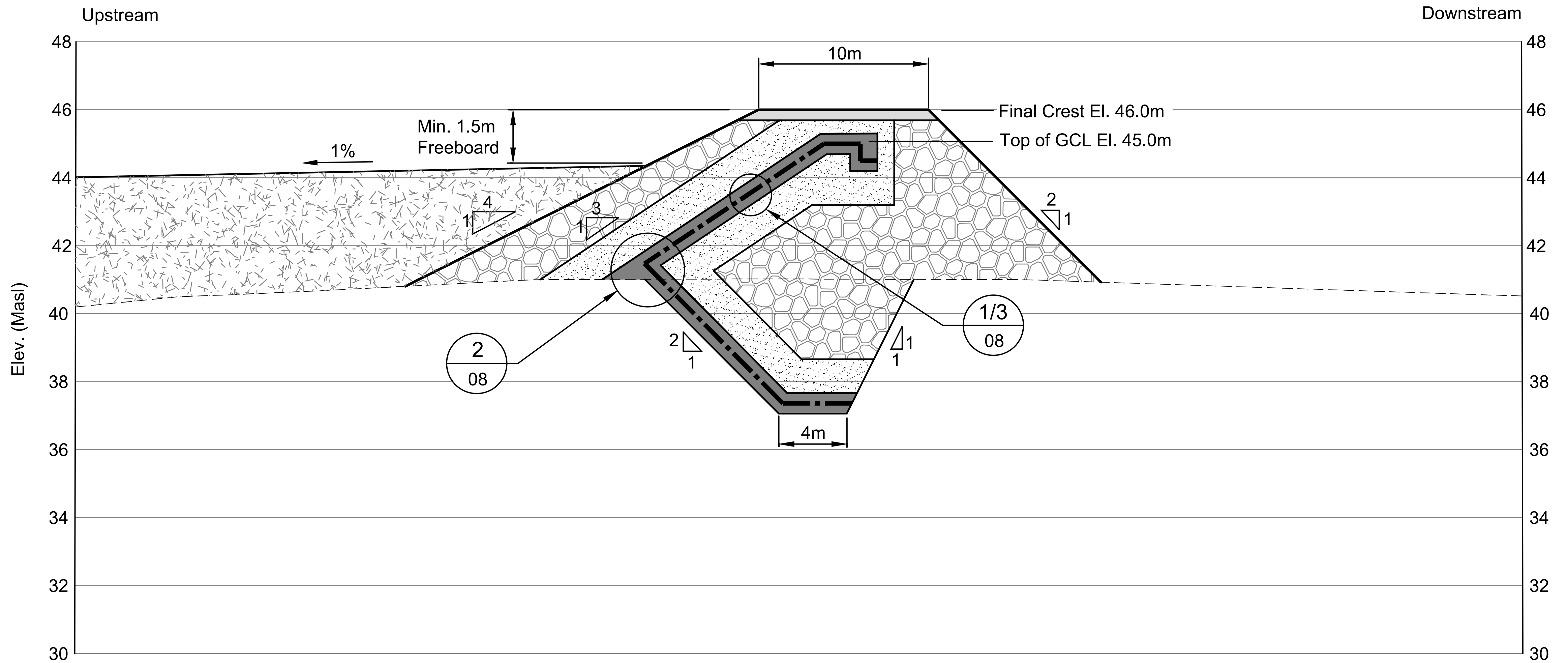
HOPE BAY PROJECT

Doris TMS Phase 2 Design

West Dam

Plan and Profile

DATE:	APPROVED:	FIGURE:
May 2016	IM	10



AA
10

WEST DAM SECTION

2x EXAGGERATION

0m 5 10 15 20 25 30

Horizontal Scale

NOTES

1. All dimensions and elevations are in meters unless stated otherwise.
2. The subsurface geology has been extrapolated from a series of geotechnical investigations. Bedrock contact and geological unit contacts are therefore likely to vary somewhat during final excavation.

LEGEND

- Surfacing Material
- Liner Bedding Material
- Transition Material
- Run of Quarry (ROQ)
- Tailings
- Geosynthetic Clay Liner (GCL)

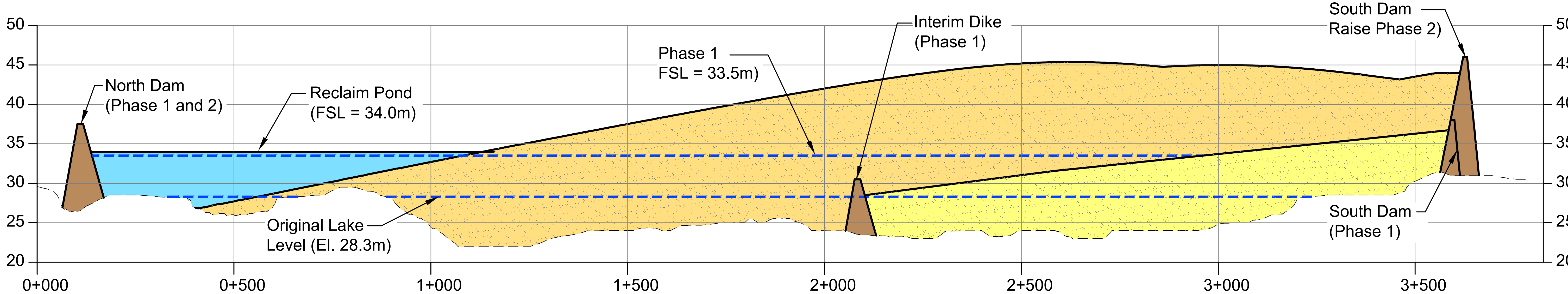
srk consulting

TMAC RESOURCES

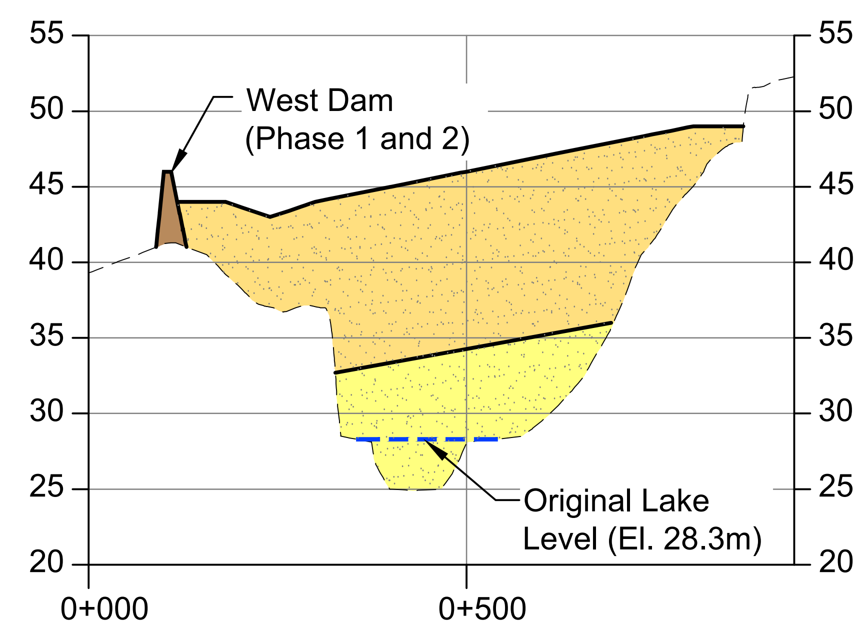
Doris TMS Phase 2 Design

West Dam Typical Section

SRK JOB NO.: 1CT022.004.600.10	HOPE BAY PROJECT	DATE: May 2016	APPROVED: IM
FILE NAME: 1CT022.004.600.10 - FIGURE 10_11.dwg		FIGURE: 11	



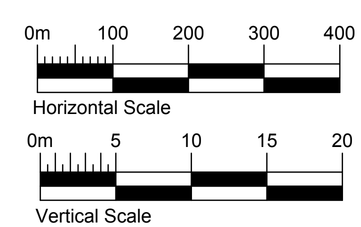
AA
09
SECTION
20x Exaggeration



BB
09
SECTION
20x Exaggeration

LEGEND

- - - - Existing Ground Surface
- Deposited Tailings (Phase 1)
- Deposited Tailings (Phase 2)
- Dam



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SRK JOB NO.: 1CT022.004.600.010

FILE NAME: 1CT022.004.600.10 - FIGURE 12.dwg

TMAC RESOURCES

HOPE BAY PROJECT

Doris TMS Phase 2 Design

Final Tailings Surface
Sections AA and BB

DATE:	APPROVED:	FIGURE:
May 2016	IM	12

C:\MDDSINC\CLIENTS\SRK\2016\1CT022.004.600.10 - Doris TMS Design Figures\1CT022.004.600.10 - FIGURE 12.dwg

Appendix A – Hope Bay Project: Phase 2 Doris Tailings Impoundment Area Tailings Deposition Plan

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Memo

To:	John Roberts, PEng., Vice President, Environmental Affairs	**Client:**	TMAC Resources Inc.
From:	Trevor Podaima, PEng	**Project No:**	1CT002.004
Reviewed By:	Maritz Rykaart, PhD, PEng	**Date:**	December 9, 2016
Subject:	Hope Bay Project: Phase 2 Doris Tailings Impoundment Area Tailings Deposition Plan		

1 Introduction

1.1 Context

The Hope Bay Project (the Project) is a gold mining and milling undertaking of TMAC Resources Inc. The Project is located 705 km northeast of Yellowknife and 153 km southwest of Cambridge Bay in Nunavut Territory, and is situated east of Bathurst Inlet. The Project comprises three distinct areas of known mineralization plus extensive exploration potential and targets. The three areas that host mineral resources are Doris, Madrid, and Boston.

The Project consists of two phases; Phase 1 (Doris project) with an estimated ore reserve of 2.5 million tonnes (Mt) and Phase 2, which includes an additional ore reserve of approximately 18.7 Mt. While the total Phase 2 ore reserve is approximately 18.7 Mt, only 15.1 Mt would be processed at Doris and Madrid, and be disposed of within the Doris tailings impoundment area (TIA). The ore reserve is approximately equal to the total amount of tailings that will be produced.

Phase 1 is currently being carried out under an existing Water Licence, and Phase 2 is in the environmental assessment stage.

1.2 Phase 1 Tailings Deposition

Phase 1 tailings are deposited sub-aerially in the Doris Tailings Impoundment Area (TIA) approximately 5 km from the Doris Mill (Figure 01). The Doris TIA was formally a natural lake, Tail Lake, but has been delisted in accordance with Schedule II of the Metal Mining Effluent Regulations (MMER).

Tailings containment is provided by three retention structures; a water retaining frozen core dam (North Dam), a frozen foundation tailings containment dam (South Dam); and an interim dike situated at approximately the midpoint of the facility. North Dam construction was completed in 2012 (SRK, 2012) and the South Dam and Interim Dike are scheduled for construction as early as 2017. The final configuration of Phase 1 is provided in Figure 02 and further details associated with this tailings deposition plan are provided in SRK (2015).

1.3 Phase 2 Tailings Deposition

This memo presents an evaluation of different tailings deposition options for Phase 2, assuming a continuation of the use of the Doris TIA and concludes with a presentation of the preferred option. Once the preferred option was chosen, a staged deposition plan at three year intervals (end of years 2023, 2026, 2029 and 2032) was developed.

2 Objectives, Operational Criteria and Assumptions

Tailings deposition planning is required to establish the optimal geometric layout of the Doris TIA such that the finished landform is consistent with the operational and final closure objectives of the facility. In addition, the deposition planning provides important operational optimization in terms of establishing where, and for how long, tailings spigots must be situated at specific locations.

The reclaim pond management is discussed in SRK (2016b). The objective considered in the deposition plan is to maximise water volume availability for supply to the operations without exceeding the fully supply level (FSL) of the North Dam.

Tailings deposition planning was completed using Muck3D - V4.0.3 (MineBridge Software Inc.).

Tailings properties were based on site specific laboratory test data (SRK, 2016a). Tables 1 and 2 summarize the key design criteria adopted for the Phase 2 tailings deposition planning.

Table 1: Tailings Storage Requirement Criteria

Component	Phase	Value	Source
Tailings storage requirement (without ice entrainment)	1	1.9 Mm^3 (2.5 Mt)	Quantity based on TMAC mine plan; volume conversion based on a dry density of 1.29 t/m^3.
	2	11.6 Mm^3 (15.1 Mt)	Quantity based on TMAC mine plan; volume conversion based on dry density listed below in this table. Quantity does not include Phase 1 tailings at 2.5 Mt.
	1 + 2	13.5 Mm^3 (17.6 Mt)	Sum of Phases 1 and 2. (Value used in assessment to determine preferred TIA Option and deposition staging plan Figures 03 to 09)
Tailings production	1 + 2	2017 (1,092 tpd) 2018 (1,852 tpd) 2019 (2,041 tpd) 2020 & 2021 (3,000 tpd) 2022 (3,200 tpd) 2023 to 2031 (3,600 tpd) 2032 (1,597 tpd)	Supplied by TMAC.
Tailings production period	1	3 years, 8 months (to end of August 2020)	Supplied by TMAC.
	2	12 years, 4 months (to end of 2032)	
	1 + 2	16 years	Based on total tailings volume processed at the stated production rates.
Ice entrainment allowance	1	0.4 Mm^3 (20% by volume)	Contingency allowance based on engineering judgement and case studies reported by BGC (2003).
	2	2.3 Mm^3 (20% by volume)	
	1 + 2	2.7 Mm^3	
Total storage requirement (with ice entrainment)	1	2.3 Mm^3	Sum of tailings storage requirement and ice entrainment allowance. (Value used in assessment to determine preferred TIA Option and deposition staging plan, Figures 03 to 09).
	2	13.9 Mm^3	
	1 + 2	16.2 Mm^3	

Table 2: Tailings Deposition Planning Design Criteria

Component	Phase	Value	Source
Deposited tailings dry density	2	1.3 t/m^3	From laboratory testing (SRK, 2016a).
Tailings beach slope	1 + 2	1.0%	This is an assumed average slope based on engineering judgement considering SRK's experience with tailings of similar properties. No allowance has been made for steepened slope as the beach transitions into the pond at this stage.
South Dam crest elevation	1	38.0 m	Value set as a function of the deposition planning and is based on the preferred TIA Option.
	2	46.0 m	
West Dam crest elevation	2	46.0 m	Value set as a function of the deposition planning and is based on the preferred TIA Option.
Dam freeboard allowances	1	varies	Refer to SRK (2007).
	2	varies	Refer to SRK (2016b).
Tailings discharge method	1 + 2	Single point spigot; Multiple positions	Goal was to simplify deposition plan as far as practical and still achieve the desired tailings deposition strategy.

3 Tailings Deposition

3.1 Phase 1

Phase 1 tailings deposition is described in the Doris Tailings Management System Design (SRK, 2015). It entails discharging tailings from six locations starting at the South Dam, progressively moving the tailings beach towards the Interim Dike. The deposition strategy will ensure creation of a landscape that allows for a free-draining surface towards the reclaim pond at closure. Use of a single spigot at any given time was done to simplify as much as practical the operational component of the strategy. This final Phase 1 tailings configuration (start of Phase 2 tailings configuration) is illustrated in Figure 02. This strategy prevents water from ponding against the geosynthetic lined frozen foundation South Dam, and as a result after tailings freeze-back has occurred, there is no risk of seepage from this Dam. The Interim Dike acts to retain tailings solids within a confined area so as to minimize the exposed tailings surface at closure should Phase 2 not proceed. At all times the frozen core North Dam will act as a water retaining structure holding back a reclaim pond which is a supply source for the operational water demands.

3.2 Phase 2

Phase 2 tailings deposition will operate on the same basic principles. As far as possible, discharge should be limited to using a single spigot at any given time, and deposition points should be staged starting from the South Dam raise moving north creating a free-draining landscape. A tailings deposition options assessment was conducted and is presented in Section 4.

Due to the geometry of the TIA, construction of further interim dikes is not practical and therefore is not a requirement. Since the tailings volume is sufficiently large, it will occupy most of the TIA surface area between the North and South dams, and therefore, there are no real advantages to further constraining the tailings surface.

Consideration has been given in the deposition options assessment to discharging tailings from the North Dam, creating a beach such that the North Dam no longer has to perform as a water retaining structure.

Tailings deposition modeling has been done assuming constant tailings beach slopes of 1%. It is however recognized that where the beach transitions to the reclaim pond, the beach angle could steepen to between 4% and 8%. By assuming a shallow beach slope, the available reclaim pond is likely oversized (i.e. conservative) since there is less available pond depth. Additional deposition points may be required in future design stages to account for the steepened beach slope below the pond.

Best Management Practices will be adopted to schedule seasonal changes in discharge locations to minimize ice buildup and possibly permanent entrapment of ice within the tailings mass. The deposition planning presented in this memo does not present complete details of such seasonal operations; seasonal operations will be developed and presented in an Operations, Maintenance and Surveillance (OMS) Manual. This OMS Manual will be prepared by TMAC in accordance with the requirements under the mine's Water Licence.

4 Deposition Options

Five tailings deposition options were considered for Phase 2 tailings disposal into the Doris TIA. The details of these are described in the following sections and are illustrated in Figures 03 through 07. Table 3 also provides a concise summary of the key advantages and disadvantages of these options.

4.1 Option 1

This option aims to minimize the exposed tailings surface area at closure while maximizing the available reclaim pond without requiring any raise to the North Dam. The tailings deposition plan requires construction of three saddle dikes along the west flank of the facility, a new interim dike situated upstream of Tail Lake Bay, a 12.5 m raise to the South Dam to crest elevation 50.5 m, and 19 spigot locations. There will be no change to the North Dam; however, since it will retain water for the life of the Project and will exceed its original design life of 25 years (SRK, 2007), it may have to be retrofitted with vertical thermosyphons to extend its operational design life.

Tailings deposition will initially occur from the raised South Dam and subsequently progress along the east and west flanks, including the saddle dikes of the Doris TIA, forcing the reclaim pond against the new interim dike (Figure 03). The new interim dike will be designed to retain tailings, but not water, which will result in a final reclaim pond situated between the North Dam and the interim dike. To access the spigot locations, approximately 2.4 km of the existing access road along the east flank of the Doris TIA will need to be relocated, and an additional 1 km of an all-weather road will have to be constructed along the west flank of the Doris TIA.

The final tailings landform is a “U Shape” configuration with a slight depression along the center of the TIA. In this option the new interim dike has a crest elevation of 50.5 m, with a freeboard of 1.5 m. The final tailings elevation immediately upstream of the new interim dike will range between 44.0 and 49.0 m. At closure, the North Dam will be breached allowing the water in the reclaim pond to return to its original elevation of 28.3 m. The new interim dike will also be breached at its low spot of 44.0 m, which leaves a transition of 15.7 m for drainage water from the TIA surface to the former reclaim pond, requiring a substantial permanent engineered drop structure.

4.2 Option 2

This option aims to minimize the need to raise any retaining structures, as well as remove the need for the North Dam to continue to function as a water retaining dam, and therefore not be restricted by the frozen core height. To achieve that, initial tailings deposition would be from the raised North Dam creating a beach which will keep the pond at least 200 m from the dam (Figure 04). Tailings deposition will initially occur from three spigot locations along the raised North Dam, which will push the reclaim pond south and towards the center of the Doris TIA. Subsequently, tailings deposition would occur from the three spigots situated along the raised South Dam and then continue north along the east and west flanks of the facility.

To accommodate this deposition strategy the North Dam has to be raised 4.5 m to a crest elevation of 42.0 m, and the South Dam has to be raised 6.5 m to a crest elevation of 44.5 m. To access the 15 spigot locations, approximately 3.4 km of the existing east access road would require relocation and an additional 1.9 km of an all-weather road will have to be constructed along the west flank of the Doris TIA.

To accommodate closure without a permanent pond, a drainage channel must be constructed through tailings, from the lowest elevation in the reclaim pond of 35.0 m to the North Dam, cutting through a breach in the raised North Dam, for a distance of about 1 km. By restricting the channel to the original Doris TIA spill elevation of 28.3 m, the maximum grade of this channel would be less than 1%, which is not ideal.

Closure with a pond in place in perpetuity would require construction of a PMF spillway with an invert level at elevation 39 m through approximately 200 m of tailings and across the North Dam.

4.3 Option 3

This deposition plan is similar to Option 1; however, the new interim dike is situated downstream of Tail Lake Bay. The intent of this configuration was to lower the height of the new interim dike, reduce the footprint of the reclaim pond, and provide a closure configuration that will be favorable over Options 1 and 2.

This deposition plan requires construction of a new 14 m high interim dike with a crest elevation of 39.5 m, a 2 m raise to the North Dam for a final crest elevation of 39.5 m, a 5.5 m raise to the South Dam to an elevation 43.5 m and 21 spigot locations. Tailings deposition will initially occur from the South Dam and subsequently progress along the east and west flanks of the TIA, forcing the supernatant pond against the new interim dike and ultimately between the interim dike and the North Dam (Figure 05). Approximately 2.4 km of the existing access road along the east flank of the TIA will need to be relocated and an additional 2.45 km of an all-weather road will have to be constructed along the west flank of the TIA.

The final tailings landform will be a relatively flat surface that drains towards the new interim dike. The closure strategy will be similar to that for Option 1, in that the North Dam will be breached. The final tailings elevation immediately upstream of the new interim dike will be at approximately 37.0 m, which means that at closure the elevation difference between the tailings surface and the natural outflow elevation of the TIA will be 8.7 m once the North Dam is breached at elevation 28.3 m. This elevation difference will require construction of a permanent engineered drop structure.

4.4 Option 4

This option builds on the positive components of Option 3, but attempts to lower the height of the new interim dike and eliminate a raise to the North Dam. To achieve this, a dam (West Dam) is required along the west flank of the facility, the South Dam needs to be raised 8.5 m to crest elevation of 46.5 m and the exterior and interior tailings spigots raised to elevations 45 and 44.5 m, respectively (i.e. South Dam and spigot elevations are 3 m higher than Option 3). There are a total of 18 spigot locations, three less than Option 3, as the spigots needed to be shifted further south to free up enough storage capacity to accommodate the required pond storage volumes (Figure 06).

Approximately 3.5 km of the existing access road along the east flank of the TIA will need to be relocated and an additional 1.6 km of an all-weather road will have to be constructed along the west flank of the TIA. In total, Option 4 will require an additional 250 m of road construction compared to Option 3. The new interim dike will have a crest elevation at 35.0 m, which is 1.5 m higher than the

FSL at elevation 33.5 m and the final tailings elevation immediately upstream of the interim dike will range between 32 and 33 m. Therefore, at closure the elevation difference between the tailings surface and the natural outflow elevation of the TIA will be between 3.7 m and 4.7 m once the North Dam is breached at elevation 28.3 m.

4.5 Option 5

This deposition plan builds on the benefits of Option 4, but attempts to lower the height of the South Dam and West Dam, eliminate the new interim dike and reduce the amount of tailings spigots. To achieve this, two spigots with a discharge elevation at 49.5 m and 48.5 m will need to be situated along the east flank of the TIA in conjunction with six additional spigots at elevation 44.5 m situated along the raised South Dam and new West Dam (Figure 07).

Tailings deposition will commence from the raised South Dam, then from the West Dam and lastly from the east flank of the TIA. This deposition sequence will generate a small swale-like feature between the West Dam and the tailings deposited from the east flank, which will enable supernatant and runoff to drain towards the North Dam. Such configuration results in a South Dam and West Dam at crest elevation 46.0 m and a total of eight spigots (eight less than Option 4).

Approximately 3.5 km of the existing access road along the east flank of the TIA will need to be relocated and an additional 0.4 km of an all-weather road will have to be constructed along the west flank of the TIA. The toe of the final tailings surface will tie into the original Tail Lake bathymetry at elevation 26.5 m, approximately 300 m upstream of the North Dam. Therefore, at closure there will not be an elevation difference between the downstream toe of the tailings surface and the natural outflow elevation of the TIA once the North Dam is breached at elevation 28.3 m.

For the purpose of this assessment it has been assumed that the North Dam can be retrofitted with vertical thermosiphons to extend its design life and arrest creep deformation such that a raise of the North Dam is not required.

Table 3: Advantages and Disadvantages of Phase 2 Tailings Deposition Options

Deposition Option	Advantages	Disadvantages
Option 1	• Smaller tailings footprint than all options. • Additional area downstream for expansion. • More deposition points may provide greater operational flexibility to manage ice entrainment. • Does not require a raise to the North Dam. • Closure consistent with Phase 1	• More spigot locations compared to all other options with the exception of Option 3, thus more complex to operate. • Will require a longer tailings line to reach the west side of the TIA compared to all options. • More containment structures than all options. • Requires a significant fill volume for containment structures and access roads. • High differential elevation between final tailings surface and the normal water level in the TIA at closure. • Largest new interim dike structure of all options. Significant structure with a height of approximately 25 m. May be perceived as an unnecessary risk when compared to other options.
Option 2	• Ranks second out of all options for the least amount of spigots. • Ranks second out of all options for tailings line length. • Is similar to Option 5 in regards to total embankment volume, which is less than all other options. • Does not require a new interim dike or West Dam(s). • No water retaining dams as all containment structures will have substantial frozen tailings beaches.	• Requires a 4.5 and 6.5 m raise to the North Dam and South Dam, respectively. • Largest tailings footprint of all options. • Requires the largest amount of road re-alignment and new road construction of all options. • May be more susceptible to dust generation due to larger tailings footprint. • Very difficult to construction closure cover compared to all options. • Requires a large pond surface and pond volume to achieve water management criteria (Table 1). • Small amount of spigot points offer limited flexibility to manage ice entrainment; however, additional spigots could be added if required.
Option 3	• Is similar to Options 4 and 5 in regards to tailings footprint. • Final tailings surface will be easier to reclaim when compared to Options 1 and 2. • Does not require a west dam(s).	• Requires a 2.0 and 5.5 m raise to the North Dam and South Dam, respectively. • Requires the largest number of tailings spigots. • High differential elevation between final tailings surface and the normal water level in the TIA at closure. • Large interim dike structure (approximately 14.0 m in height).
Option 4	• May be perceived to have a more natural final surface at closure than Option 5. • Final surface may be easier to reclaim when compared to Option 5. • Is similar to Options 3 and 5 in regards to tailings footprint.	• Requires a small west dam along west flank of TIA. • Requires more tailings line than Option 5. • Requires more tailings spigots than Options 2 and 5. • Requires additional embankment construction and fill volume compared to Option 5. • Requires additional road re-alignment and new road construction compared to Option 5. • Moderate differential elevation between final tailings surface and the normal water level in the TIA at closure. • Small amount of spigot points offer limited flexibility to manage ice entrainment.
Option 5	• Does not require a raise to the North Dam. • Does not require a new interim dike. • Requires an 8.0 m raise to the South Dam, which is less than Options 1 and 4. • Requires the least amount of spigots, significantly less than all options. • Requires the least amount of tailings line. • Requires the least amount of embankment fill with the exception of Option 2. The next closest option is Option 4, which requires approximately 100,000 m^3 more fill. • Requires the least amount of road re-alignment and new road construction. • No differential elevation between final tailings surface and the normal water level in the TIA at closure.	• Requires a small west dam along west flank of TIA. • The two spigots situated at the east flank of the TIA is above the crest elevation of the South Dam and saddle dike and stringent monitoring would be required, since spigot elevations are typically lower than the crest elevation of containment structures. • Potential to trap supernatant water between the South Dam and tailings deposition surface, risking the performance of the dam. • May be more susceptible to dust generation due to the higher tailings elevation. • Small amount of spigot points offer limited flexibility to manage ice entrainment. • Smallest supernatant pond at closure, which may limit operational flexibility during final stages of tailings deposition.

5 Preferred Deposition Plan

Based on the evaluation presented in the preceding section and the summary of advantages and disadvantages listed in Table 3, tailings deposition Option 5 was selected as the preferred solution. It allows for creation of the desired landform using a number of spigot points that enables operational flexibility, while avoiding the need to raise the North Dam and construct a new interim dike. Furthermore, less discharge pipeline and surface infrastructure is required for Option 5.

While the higher tailings surface area along the east flank is a negative, this is offset by the fact that no new interim dike will be required and at closure there will be no differential elevation between the tailings surface and the normal water level in the TIA. The Tailings OMS Manual will have detailed monitoring check lists, triggers and protocols that the mine operations staff can use as a guideline to safely discharge tailings from the higher spigot locations.

Maintaining the North Dam as a water retaining structure beyond its original design life may require some retrofitting of the structure using vertical thermosiphons, and ongoing performance monitoring for the life of the structure. If for any reason, the North Dam starts to show undue signs of distress as a result of the extended design life, the deposition strategy can be changed to Option 2, such that a tailings beach is created upstream of the North Dam. The closure strategy will subsequently have to be revised, as described, but that is not considered a fatal flaw and the post-closure environmental effects will be unchanged.

Two sections that illustrate the typical surface profile of the preferred tailings deposition plan is presented in Figure 08. Cross section A-A' which is a North-South section, shows that the overall tailings surface generally slopes from the South Dam towards the North Dam. Similarly, section B-B' which is an East-West section, shows that the final drainage swale will be along the western flank of the TIA.

6 Deposition Staging (Every 3 Years)

A staged tailings deposition plan has been prepared for the Phase 2 ore expected to be processed at Doris and Madrid (15.1 Mt). Figure 09 presents the staged tailings depositional surface for every three years of tailings deposition up to year 16 (i.e. 2017 to 2032). The details are summarized in Table 4. Discharge durations were based on the average production rates provided in Table 1 plus ice entrainment (20% of tailings volume) for all years of deposition. The total storage requirement inclusive of ice entrainment equals 13.9 Mm^3.

Table 4: Summary of Tailings Deposition Details per Three-Year Period

Period	Active Spigots (Elevation)	Cumulative Discharge Volume (1)	Active Deposited Tailings Surface Area (km^2)(2)	Previous Tailings Surface Area not Impacted by Active Deposition (km^2)(3)	Total Tailings Surface Area (Cumulative - km^2)
Year 2023	Spigot #1 (44.5 m) Spigot #2 (44.5 m) Spigot #3 (44.5 m) Spigot #4 (44.5 m)	3.1 Mm^3 / 4.0 Mt	0.9	0	0.9
Year 2026	Spigot #5 (44.5 m) Spigot #6 (44.5 m) Spigot #7 (46.5 m)	6.1 Mm^3 / 7.9 Mt	1.16	0.14	1.3
Year 2029	Spigot #7 (49.5 m) Spigot #8 (45.5 m)	9.1 Mm^3 / 11.9 Mt	1.4	0.1	1.5
End of Phase 2 (Year 2032)	Spigot #8 (48.5 m)	11.6 Mm^3 / 15.1 Mt	1.14	0.56	1.7

Notes:

1. Cumulative discharge volumes are tailings only and do not include ice entrainment volumes.
2. The deposited tailings surface area (shown in yellow in Figure 09) is the resultant surface area from active tailings deposition for the period indicated.
3. The previous tailings surface area (shown in grey in Figure 09) is the exposed tailings surface that is not covered by active deposition.

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Figures