



**AGNICO EAGLE**

**MEADOWBANK GOLD MINE**

**WHALE TAIL PROJECT**

**WHALE TAIL ATTENUATION POND RAMP**

60-Day Notice to Nunavut Water Board  
In Accordance with Water License 2AM-WTP1826

**FEBRUARY 2019**

**VERSION 01**

## WHALE TAIL ATTENUATION POND RAMP

### DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
1	2019-01-20	ALL	-	Final Version

**Prepared By:**

Engineering and Environmental Departments

**Approved by:**



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Miles Legault, P. Eng. – Engineering Assistant Superintendent

**Reviewed and signed by:**



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NAPEG member L3733

## WHALE TAIL ATTENUATION POND RAMP

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## WHALE TAIL ATTENUATION POND RAMP

### 1 INTRODUCTION

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Agnico Eagle Mines Limited is developing the Whale Tail Pit Project, a satellite deposit located on the Amaruq property, in the Kivalliq Region of Nunavut (65°24'25" N 96°41'50" W). The 99,878-hectare Amaruq property is located on Inuit-owned and federal crown land; roughly 55 kilometers north of the existing Meadowbank mine. The Meadowbank Complex is accessible from Baker Lake, located 70 kilometers to the south, via an all-season access road.

The Amaruq mineral deposit is considered to be an extension of the currently operating Meadowbank mine. The Whale Tail pit is projected to be a conventional open pit mining operation, mined by truck-and-shovel operation. The Whale Tail road, 64-kilometers long, connects the Meadowbank site to the Amaruq site. On-site facilities will include a power plant, maintenance facilities, tank farm for fuel storage, water treatment plant (WTP), sewage treatment plant, drinking water treatment plant, as well as accommodation and kitchen facilities for approximately 400 people.

#### 1.1 PURPOSE OF DOCUMENT

As part of the Construction Phase, the Whale Tail Lake North Basin (called hereafter the North Basin) needs to be dewatered in order to mine the Whale Tail Pit. Once the dewatering phase is completed, part of the North Basin located outside the Whale Tail Pit footprint will become the Whale Tail Attenuation Pond. The Attenuation Pond will receive contact water from different sumps and ponds around site. Water from the attenuation pond will be pumped, and discharged via the attenuation pond diffuser into Mammoth Lake. If water quality does not meet discharge criteria, water will be treated via the water treatment system.

The Attenuation Pond ramp is the infrastructure required in order to pump water from the attenuation pond to the water treatment plant (WTP).

This document presents the 60-day construction notice of the Whale Tail Attenuation Pond Ramp and is submitted to the Nunavut Water Board as per requirement of the Whale Tail Type A Water Licence 2AM-WTP1826, Part D, conditions 1 and 2. The purpose of this notice is to provide final design and construction drawings and includes the system design and drawings, project timetable and environmental monitoring program.

The pumping system installed on the ramp to pump the water from the Attenuation Pond to the Water Treatment Plant is detailed in the 60-day notice of the Arsenic water treatment plant Design Report approved on January 14, 2019, and is excluded from the scope of this document.

## WHALE TAIL ATTENUATION POND RAMP

### 2 ATTENUATION POND RAMP DESIGN

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Figure 1 (Appendix A) show the construction drawing of the Whale Tail Attenuation Pond ramp. The design consist of an access ramp and widened area to install the pumping infrastructures.

The ramp will be constructed in order to install the Attenuation Pond pumping infrastructure. The ramp will extend from the Eastern shore of the former Whale Tail North Basin to the deepest portion of the attenuation pond.

The ramp will be constructed of non-acid generating (NAG), non-metal leaching Run-of-Mine (ROM) waste rock obtained from the development of Whale Tail Pit.

The strategy for the ramp construction will be to extend the Whale Tail North temporary dewatering ramp by regrading it. The elevation of the top of the ramp is set to provide a suitable freeboard (0.5m) above the maximum operation water level in the ponds.

Safety berm conform to the Mine Act will be installed in areas where the height of the ramp is greater than 3 m.

### 3 CONSTRUCTION

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The estimated total required of rockfill material for the ramp design is 33 638 m<sup>3</sup>. The rockfill material will have a 0-1000 mm gradation. Any oversized boulders will be removed and placed on the outer edge of the slope of the ramp. The passes of heavy construction equipment will compact the rockfill.

The rolling surface of the Attenuation Pond ramp will consist of approximately 600 m<sup>3</sup> of 0-3/4" aggregate crushed from rockfill material.

During construction the stability of the ramp will be assessed on a regular basis by qualified geotechnical personnel. Work shall be suspended if any signs of instability are observed.

#### 3.1 SCHEDULE

The construction of the Attenuation Pond Ramp will begin once dewatering from the North Basin to the South Basin is completed which is planned for May 2019.

## WHALE TAIL ATTENUATION POND RAMP

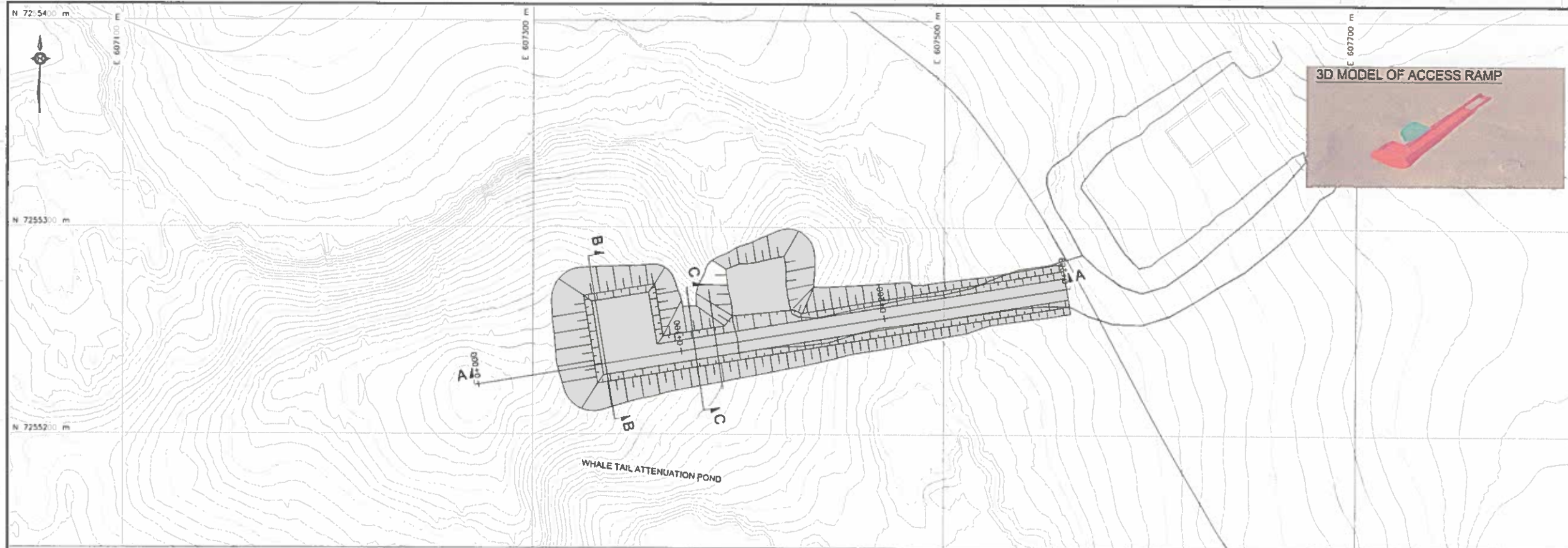
### **4 CLOSURE**

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We trust this report meets your present requirements. If you have any questions or comments, please contact the undersigned.

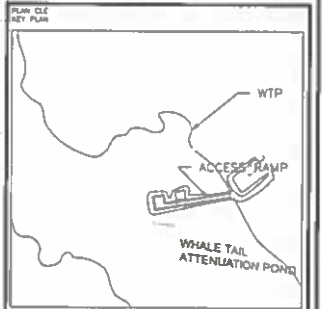
## ***APPENDIX A – CONSTRUCTION DRAWING***

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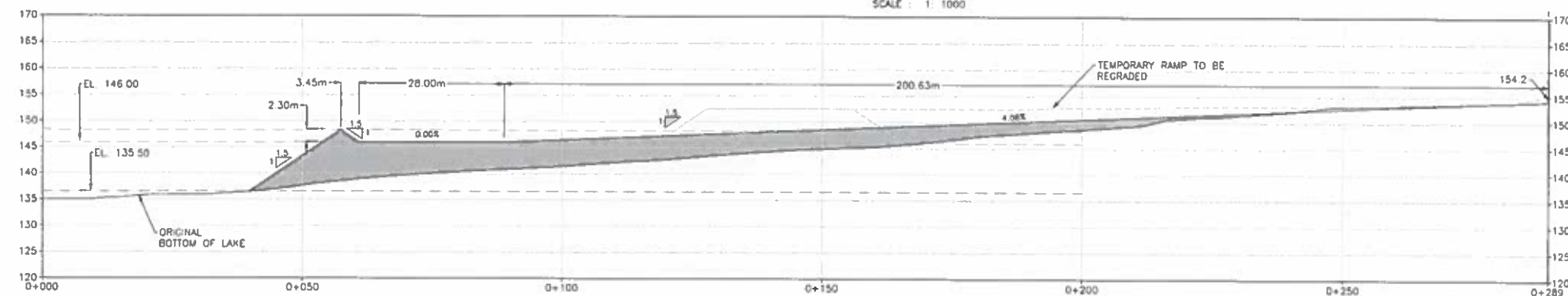
PLAN VIEW  
SCALE: 1: 1000

3D MODEL OF ACCESS RAMP



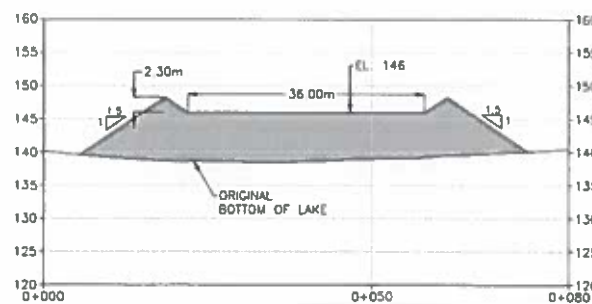
NOTES GÉNÉRALES / GENERAL NOTES

- NOTES
1. GROUND TOPOGRAPHY WAS PROVIDED BY AEM
  2. ALL UNITS ARE IN METERS
  3. SAFETY BERM CONFORM TO MINE ACT TO BE INSTALLED WHILE HEIGHT OF THE RAMP IS HIGHER THAN 3 M
  4. THE ATTENUATION POND RAMP WILL BE BUILT PROGRESSIVELY AS THE WATER LEVEL GOES DOWN AND WILL BE LEVELED GRADUALLY
  5. STABILITY OF THE RAMP TO BE ASSESSED ON A DAILY BASIS BY QUALIFIED GEOTECHNICAL PERSONNEL DURING CONSTRUCTION WORK SHALL BE SUSPENDED IF SIGNS OF INSTABILITY ARE OBSERVED

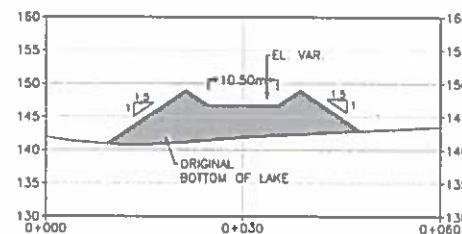


CROSS-SECTION A-A  
SCALE: 1: 500

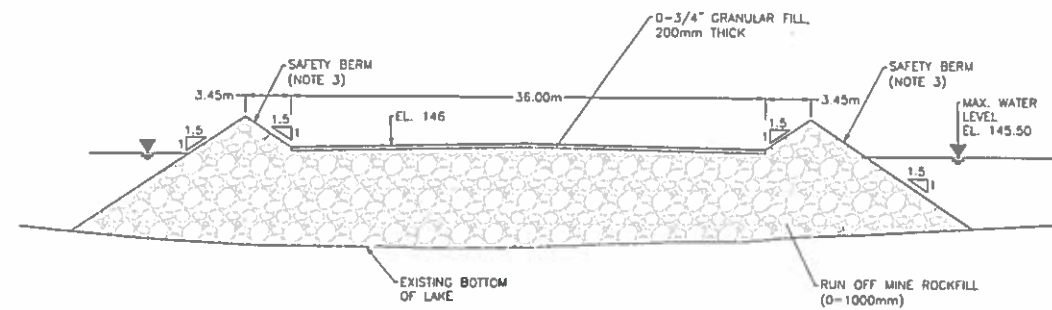
ESTIMATED IN-PLACE QUANTITIES CONSTRUCTION - ACCESS RAMP		
AGGREGATE MATERIAL	Thickness (mm)	Required (m³)
Granular fill, 0 - 3/4" (final grade)	200	623
ROM, 0-1000mm.	±1010	35576



CROSS-SECTION B-B  
SCALE: 1: 500



CROSS-SECTION C-C  
SCALE: 1: 500



DETAILS OF CROSS-SECTION B-B  
SCALE: 1: 1000

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

PROJ. / SUITE	REVISIONS



TYPE / PRO  
AGNICO EAGLE  
695 - WATER MANAGEMENT  
230 - GENERAL EARTH WORKS  
WHALE TAIL ATTENUATION POND ACCESS RAMP  
PLAN / CROSS-SECTIONS

DESIGNED BY	MARUS MOYLA	DATE	2019-02-08
CHECKED BY	ASH-LONG NGUYEN	DATE	2019-02-08
APPROVED BY	FREDERICK L. BOLDUC	DATE	2019-02-08
SCALE	AS SHOWN	DATE	2019-02-08
NO. DESIGN	61-695-230-200	REVISION	FOUR / ONE
NO. PROJECT	6118	REVISION	FOUR / ONE