



September 30th, 2021

Emily Koide
Technical Advisor I
Nunavut Impact Review Board
P.O. Box 1360 Cambridge Bay
Nunavut NU X0B 0C0

Technical Memorandum - Operations Landfill (Stage 3) Berm Raise Summary, Meliadine Mine, Nunavut

Dear Mrs. Koide,

In accordance with Agnico Eagle's response to the Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)'s recommendation in their review of Agnico Eagle's 2020 Annual Report to the NIRB (CIRNAC-6.3: Landfills), please find enclosed the following report:

Technical Memorandum - Operations Landfill (Stage 3) Berm Raise Summary, Meliadine Mine, Nunavut.

Should you have any questions or require further information, please do not hesitate to contact us.

With my best regards,

A handwritten signature in blue ink, appearing to read "Sara Savoie". The signature is fluid and cursive, with a large, stylized "S" and "J" at the end.

Sara Savoie
sara.savoie@agnicoeagle.com
819-759-3555 x 4608143
RMMS & Compliance Coordinator



AGNICO EAGLE

Technical Memorandum

To: Sara Savoie, Agnico Eagle Mines Ltd

Date: September 28, 2021

From: Alexandre Boissonneault, P.Eng., Agnico Eagle Mines Ltd.

Memo No.: 001

CC: Justin Bieber, P.Eng., Agnico Eagle Mines Ltd.

Subject: Operation Landfill (Stage 3) Berm Raise Summary, Meliadine Mine, Nunavut

1.0 Introduction

Agnico Eagle Mines Limited (Agnico Eagle) operates the Meliadine Gold Mine (the Mine) located approximately 25 kilometers (km) north of Rankin Inlet, Nunavut, and 80 km southwest of Chesterfield Inlet in the Kivalliq region of Nunavut.

The Mine Plan focuses on the development of the Tiriganiaq gold deposit which is being mined using conventional open-pit and underground mining operation. The Mine is subject to the terms and conditions of both the amended Project Certificate 006 issued by the Nunavut Impact Review Board (NIRB) in accordance with the Nunavut Land Claims Agreement Article 12.5.12 on February 26, 2019 (NIRB, 2019) and Amended Water Licence No. 2AM-MEL1631 (the Licence), issued by the Nunavut Water Board (NWB) on May 13, 2021 and approved by the Minister on June 23, 2021 (NWB, 2021).

The Meliadine Operation Landfill is used for permanent storage of waste generated from the mine. The landfill is located south of the industrial site, at the northeast corner of the Waste Rock Storage Facility 1 (WRSF1). The original design of the Operation Landfill (Stage 1) was completed by Tetra Tech Canada Inc. (Tetra Tech) in July 2017 (Tetra Tech 2017A) and approved by the NWB on August 17, 2017.

Construction of the Meliadine Operation Landfill (Stage 1) was carried out by Agnico Eagle Construction and was completed on September 6, 2017. Construction monitoring and quality assurance was also carried out by Agnico Eagle. A record report summarizing the construction information was prepared by Tetra Tech in December 2017 (Tetra Tech 2017B) and submitted to the NWB at the end of 2017.

Expansion of the landfill (Stage 2) was constructed in September 2018. A record drawing summarizing the Stage 2 expansion is included within The Meliadine Landfill and Waste Management Plan (Agnico Eagle 2019), and the original record drawing is provided in Appendix A. The Stage 2 expansion consisted of expanding the footprint of the landfill to increase the storage capacity to contain an extra 11,000 m³

(landfill stage 2). An additional expansion of the Operation Landfill (Stage 3) was designed by Agnico Eagle Meliadine Engineering. Construction of the landfill (Stage 3) expansion was carried out by Agnico Eagle Meliadine Energy & Infrastructure (E&I) in September and October 2020. The Stage 3 expansion consisted of raising the perimeter berm by a nominal (0.6 m) amount to increase the storage capacity of the landfill.

As required by the Licence (Schedule B, Item 1), this technical memorandum summarizes the Meliadine Operation Landfill (Stage 3) expansion works and presents the as-built drawings.

2.0 Summary of the Design

The Operation Landfill (Stage 3) expansion works raised the perimeter berm by a nominal amount to increase the storage capacity of the landfill. Fill was placed on the crest and interior slope of the existing landfill berm, maintaining the original design slopes of the interior of the berm (2H:1V) and exterior slope of 2.5H:1V. The landfill storage capacity increased by 2,696 m³ to a total storage volume of 22,2021 m³.

The average height increase of the perimeter berm was approximately 0.6 m. The material used to construct the raise was 150mm-minus screened run-of mine rockfill, identified as “C” on the design drawings. Approximately 3,493 m³ of fill was used for the expansion.

The Stage 3 expansion was submitted to Tetra Tech for review and approval. Tetra Tech approved the Stage 3 expansion verbally on a telephone call aired September 15, 2020. The design drawings for the Operation Landfill (Stage 3) expansion are provided in Appendix B.

3.0 Construction Overview

The following sections provides an overview of the construction for the Stage 3 Landfill Berm Raise.

3.1 Site Location

The landfill is located at the northeast corner of WRSF1 and to the southeast of the Tailings Storage Facility as shown in Figure 1.

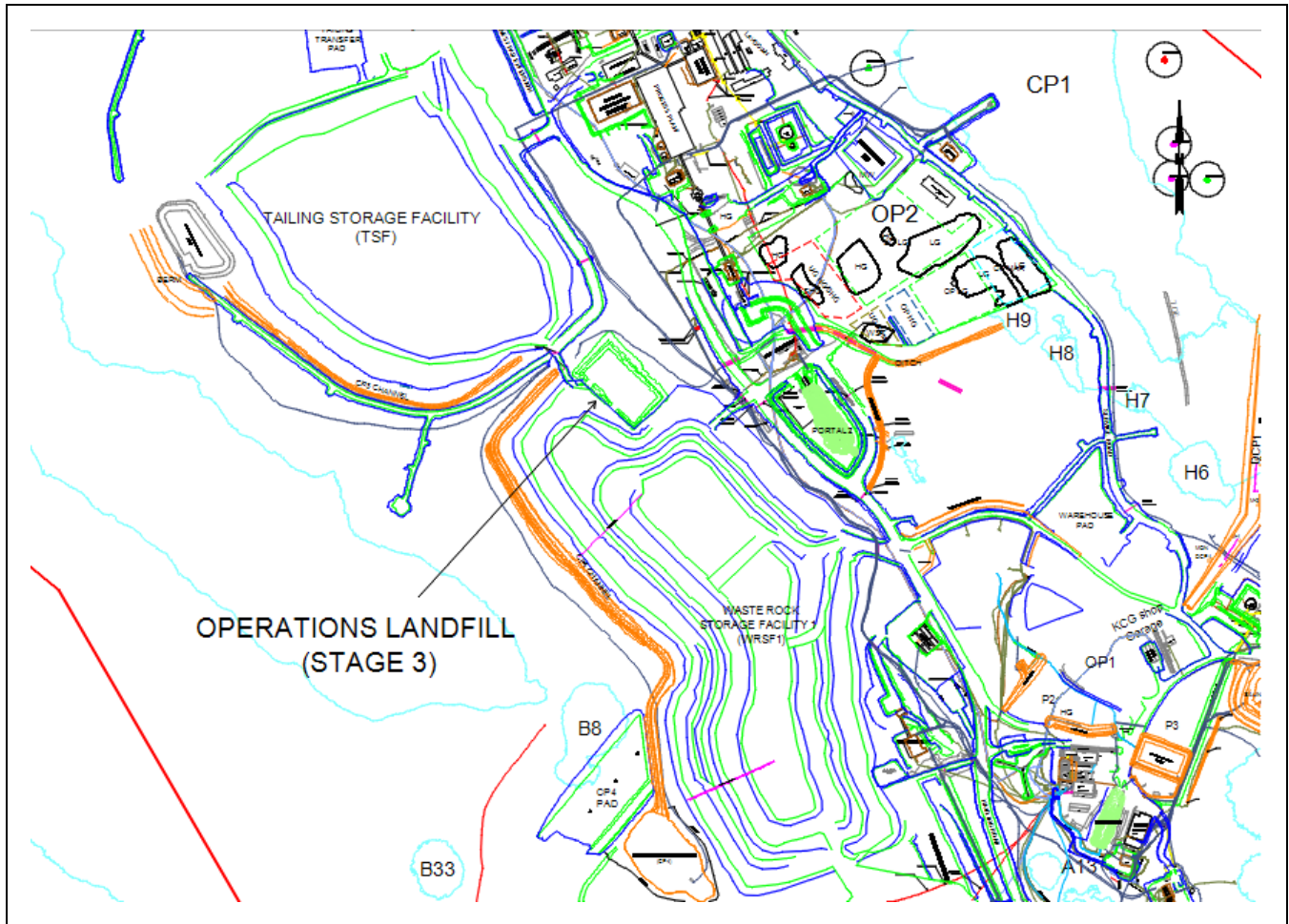


Figure 1: Plan view showing the Operation Landfill (Stage 3)

3.2 Construction Schedule The construction for the Operation Landfill (Stage 3) was completed according to the following milestones.

Table 1: Construction Milestones for Operation Landfill Stage 3 construction

Item	Date
Site Preparation	September 15 – September 18, 2020
Perimeter Berm Construction	September 18 – October 6, 2020
Completion of Construction	October 7, 2020

3.2 Roles and Responsibilities

The roles and responsibilities for the construction work were as follows:

-
- Agnico Eagle Meliadine E&I; foundation preparation, fill placement, compaction
 - Agnico Eagle Meliadine Survey; layout, survey control, and final survey
 - Agnico Eagle Meliadine Engineering; monitoring of fill placement, overall quality and approval of the completed works

3.3 Site Preparation

Site preparation began on September 15, 2020. An excavator was used to remove the waste from the interior slopes to expose the berm fill and to expose the floor of the landfill (200mm-minus granular material) in areas where fill placement was to occur. The foundation was prepared to provide a stable and competent foundation for the fill to be placed upon.

In certain areas, a small quantity of waste material located in the south-east corner of the landfill could not be removed from the floor as it was frozen in place. The waste material left behind was approximately 10-20 cm thick, over an approximate length of 25 m and is not expected to negatively impact the performance of the Landfill.

The prepared foundation was inspected and approved by Agnico Eagle Meliadine Engineering prior to placement of fill to verify that the foundation was competent and ready for placement of fill. Upon approval by Agnico Eagle Meliadine Engineering, fill placement began.

3.4 Fill Placement and Compaction

Following approval of the foundation preparation, fill placement was carried out and began on September 28, 2020. An excavator was used to place, shape, and compact the fill (bucket packing). Fill was placed and compacted on the crest and interior slopes of the existing landfill berm in one single lift, while maintaining the original design slope of the interior of the berm (2H:1V). Then fill that was placed on the crest was trimmed to maintain the design exterior slope (2.5H:1V).

Agnico Eagle Meliadine Engineering monitored construction activities and performed visual inspections to observe the construction activities for compliance with the design drawings.

Following approval of the expansion works, a final survey was conducted by the Agnico Eagle Meliadine Survey to document the expansion works of the Operation Landfill (Stage 3). The record drawings are provided in Appendix C.

3.5 Operation Landfill (Stage 3) Characteristics

The Operation Landfill (Stage 3) characteristics and estimated in-place quantities are presented in the table below.

Table 2: Summary of Operation Landfill Stage 3 Characteristics

Item	Operation Landfill (Stage 3)
Perimeter of Berm crest	412 m
Berm Crest Width (avg.)	3.46 m
Berm Crest Elevation (avg.)	77.14 m
Interior Berm Side Slope (avg.)	2H:1V
Exterior Berm Side Slope (avg.)	2.5H:1V
Increase in Landfill storage volume from Stage 3 expansion	2,696 m ³
Total Landfill storage volume after Stage 3 expansion	22,201 m ³
Quantity of material used	3,493 m ³
Material type	150mm-minus screened run-of-mine rockfill "C"

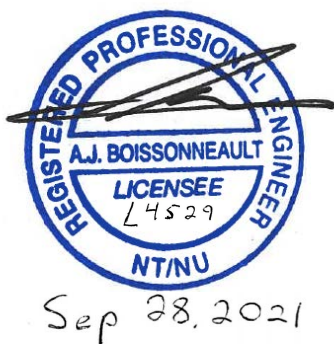
3.6 Drawings and Selected Photographs

The following documents are provided in the appendices:

- Record drawing for The Operation Landfill (Stage 2) is presented in Appendix A
- Design Drawings are presented in Appendix B
- Record drawings for The Operation Landfill (Stage 3) are presented in Appendix C
- Photographs of the operation Landfill (Stage 3) during construction are shown in Appendix D

4.0 Closure

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



Prepared by:
Alexandre Boissonneault, P.Eng.
Direct Line: 705-665-3735
Alexandre.boissonneault@agnicoeagle.com

5.0 References

Tetra Tech Canada Inc. (Tetra Tech), 2017A. Design Report for Operation Landfill (Stage 1), Meliadine Gold Project, Nunavut, Canada 6515-E-132-007-132-REP-010.

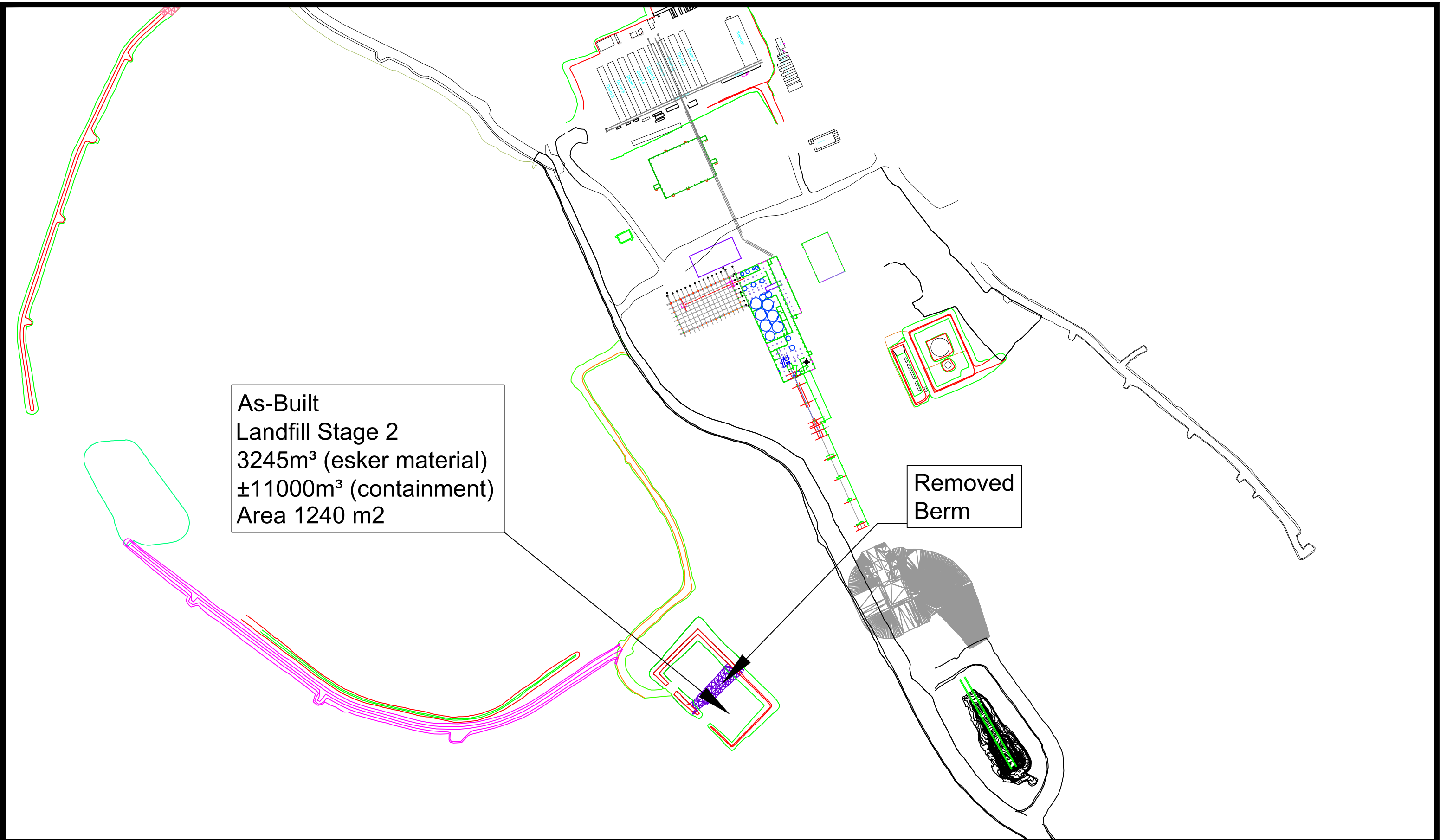
Tetra Tech, 2017B. Construction Summary (As-Built) Report for Operation Landfill (Stage 1), Meliadine Gold Project, Nunavut, Canada 6515-E-132-007-132-REP-014.

Agnico Eagle Mines Ltd., 2019, Landfill and Waste Management Plan, Meliadine Gold Project, Nunavut, Canada 6513-MPS-06.

Tetra Tech, 2020. Telephone call aired September 15, 2020 regarding the proposed Operation Landfill Stage 3 Raise between William Horne (Tetra Tech) and Jennifer Pyliuk (AEM)

Nunavut Impact Review Board (NIRB). 2019. NIRB Meliadine Gold Mine Project Certificate [NO.: 006] Amendment. February 26, 2019.

Nunavut Water Board (NWB). 2021. Amended Water Licence: No: 2AM-MEL1631. June 23, 2021.



As-Built
Landfill Stage 2
3245m³ (esker material)
±11000m³ (containment)
Area 1240 m²

Removed
Berm



Système de Coord.:
NAD83 UTM15
Echelle:
n.t.s.

No plan:
697-200-142-R0_ABD-LANDFILL

*695 - LANDFILL
As-Built Stage 2*

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Date des travaux :
2018-09
Date d'envoi :
2018-09-26

Dessine par:
JF Landreville
Approuve par:
Hamel Arp.

H

G

F

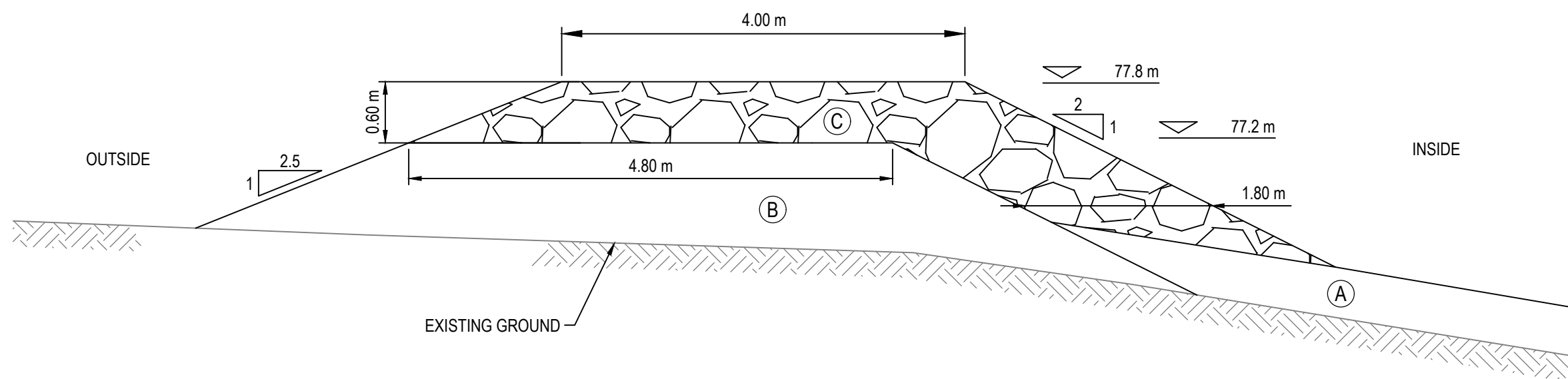
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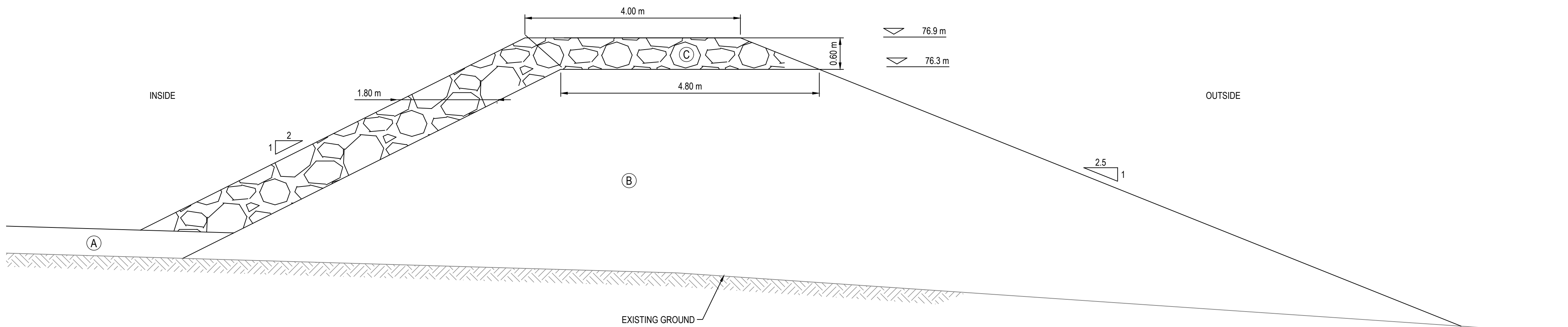
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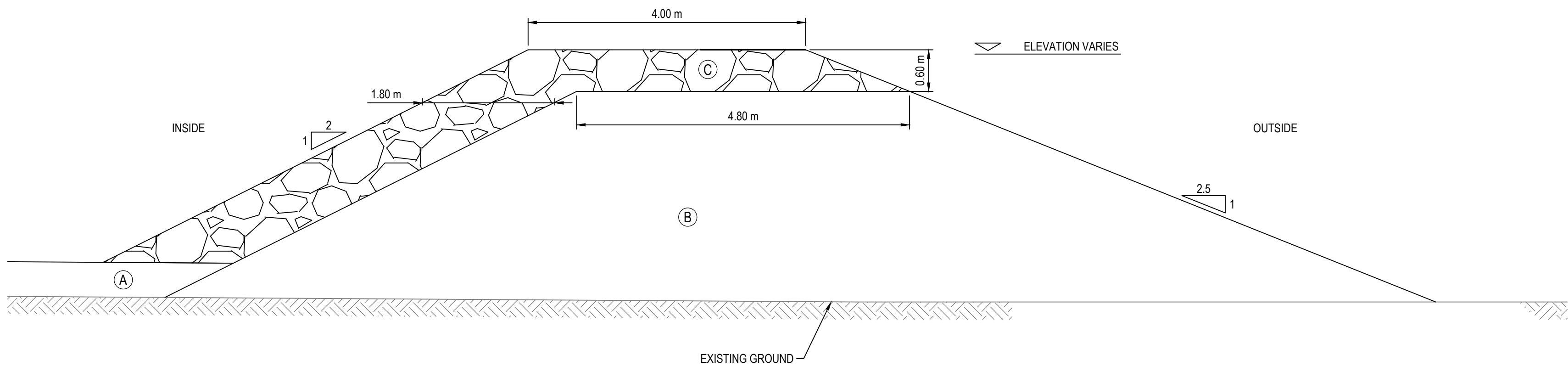
TYPICAL PERIMETER BERM AT ELEVATION 77.8 m
1:50

1
205



TYPICAL PERIMETER BERM AT ELEVATION 76.9 m
SCALE: 1:50

2
205



TYPICAL PERIMETER BERM
SCALE: 1:50

4
206

ESTIMATED IN-PLACE MATERIAL QUANTITIES FOR CONSTRUCTION OF OPERATION LANDFILL STAGE 3		
ITEM	UNIT	ESTIMATED IN-PLACE QUANTITY
 SCREENED RUN-OF-MINE ROCKFILL (150mm)	m³	3,493

- IT SHOULD BE NOTED THAT THE ACTUAL QUANTITIES COULD BE DIFFERENT FROM THE ESTIMATED DUE TO THE FOLLOWING REASONS:
- ORIGINAL GROUND CONDITIONS / ELEVATIONS MAY BE DIFFERENT FROM THE TOPOGRAPHIC DATA USED FOR THE DESIGN.
 - THE FIELD OBSERVATIONS DURING CONSTRUCTION MAY LEAD TO DESIGN AND CONSTRUCTION RELATED MODIFICATIONS, WHICH MAY IN TURN AFFECT THE QUANTITIES.
 - THE ORIGINAL GROUND MAY SETTLE DURING CONSTRUCTION.

PLAN, CLÉ
KEY PLAN

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- ① TRANSITION ROCKFILL (200 mm MINUS)
- ② CLASS A ESKER MATERIAL (600 mm MINUS)
- ③ SCREENED RUN-OF-MINE ROCKFILL (150 mm MINUS)



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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
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REV.	DATE	DESCRIPTION	PAR/EN	APP.	CLIENT
1	2020-07-08	ISSUED FOR CONSTRUCTION	AB	JP	
0	2017-02-08	ISSUED FOR CONSTRUCTION	GZ	KJ	
A	2017-01-23	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

OPERATION LANDFILL (STAGE 2 UPSTREAM RAISE)
TYPICAL DETAILS AND MATERIAL QUANTITIES

DESSINÉ PAR
DRAWN BY AB

DATE
2020-07-08

VERIFIÉ PAR
CHECKED BY JP

2020-07-08

APPROUVÉ PAR
APPROVED BY --

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ÉCHELLE
SCALE AS SHOWN

DATE
2020-07-08

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DRAWING NO. 65-697-230-207

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHIT
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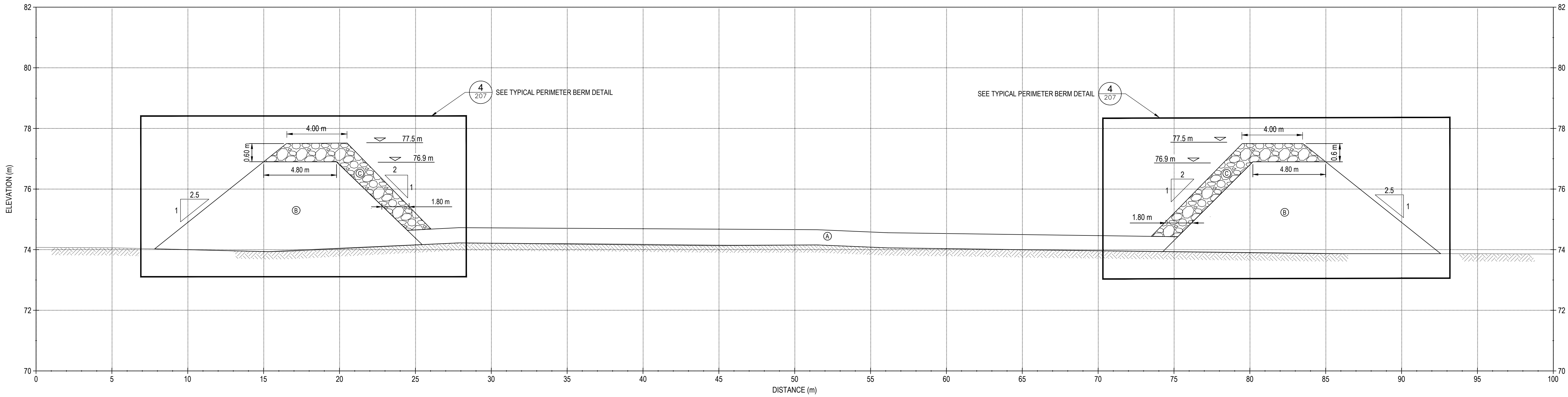
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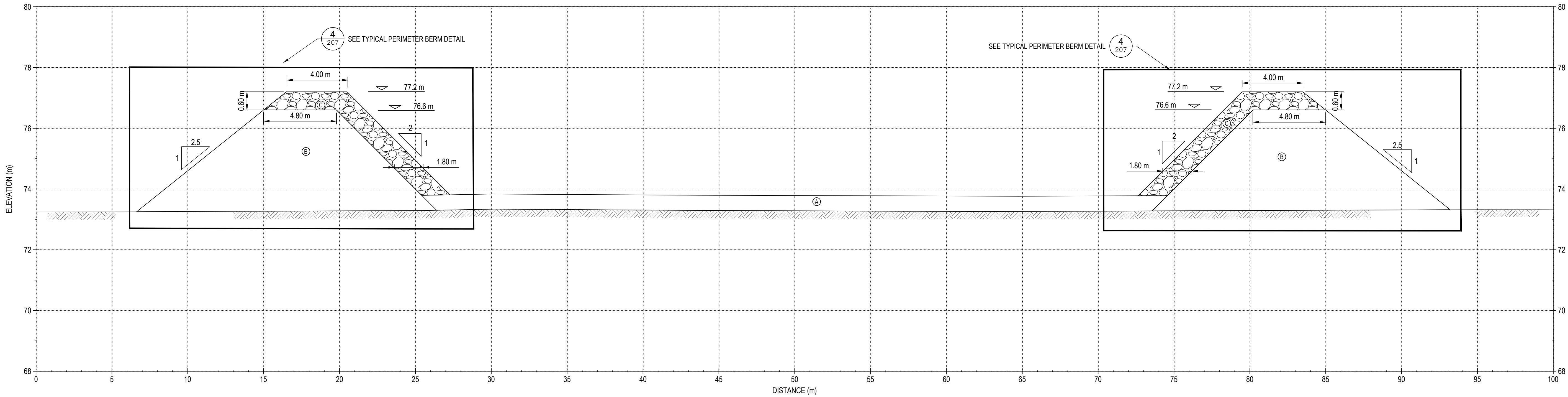
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A



CROSS-SECTION
SCALE: H=1:150 V=1:75

C
204



CROSS-SECTION
SCALE: H=1:150 V=1:75

D
204

PLAN, CLE
KEY PLAN

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- ④ TRANSITION ROCKFILL (200 mm MINUS)
- ⑤ CLASS A ESKER MATERIAL (600 mm MINUS)
- ⑥ SCREENED RUN-OF-MINE ROCKFILL (150 mm MINUS)



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1	2017-02-08	ISSUED FOR REVIEW	GZ	KJ	

REVISIONS

TITRE / TITLE
AGNICO EAGLE MELIADINE GOLD PROJECT

OPERATION LANDFILL (STAGE 3 UPSTREAM RAISE)
CROSS-SECTIONS C-C AND D-D

DESSINÉ PAR
DRAWN BY AB

DATE
2020-08-07

VÉRIFIÉ PAR
CHECKED BY JP

2020-07-08

APPROUVÉ PAR
APPROVED BY --

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ÉCHELLE
SCALE AS SHOWN

DATE
2020-07-08

NO. DESSIN
DRAWING NO. 65-697-230-206

NO. PROJET
PROJECT NO. 6515

REVISION
0

FEUILLE / SHEET
4 / 5



NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- (A) TRANSITION ROCKFILL (200 mm MINUS)
- (B) CLASS A ESKER MATERIAL (600 mm MINUS)
- (C) SCREENED RUN-OF-MINE ROCKFILL (150 mm MINUS)

POUR CONSTRUCTION
FOR CONSTRUCTION

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DATE : 2020-07-08

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A	2017-02-08	ISSUED FOR REVIEW	GZ	KJ	
REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

REVISIONS

AGNICO EAGLE MELIADINE GOLD PROJECT

OPERATION LANDFILL (STAGE 3 UPSTREAM RAISE)
CROSS-SECTIONS A-A AND B-B

DRESSINÉ PAR DRAWN BY	AB	DATE 2020-07-0
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VERIFIÉ PAR CHECKED BY	JP	2020-07-0
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APPROUVE PAR		
APPROVED BY	—	—

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NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHEET
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CROSS-SECTION

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