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Detailed Engineering of Water Management and Geotechnical Infrastructures at Whale Tail Mine

Design report of WRSF Dike

Agnico Eagle Mine Limited

Mining & Metallurgy

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Subject: Detailed Engineering of Water Management and Geotechnical Infrastructures at Whale Tail Mine
Design report of WRSF Dike
AEM File #6118-E-132-002-TCR-014
SNC-Lavalin File: 651298-6000-40ER-0001

Dear Sirs,

We are pleased to submit the final version of the report on the detailed design of the Waste Rock Storage Facility Dike, which forms one of the key components of the water management infrastructures required during open pit mining of the Whale Tail deposit.

Do not hesitate to communicate with the undersigned should you have further questions regarding the content of this report.

Truly yours,

SNC LAVALIN INC.

Yohan Jalbert, P.Eng.
Project Manager
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YJ/lh

List of Revisions

Revision				Revised pages	Remarks
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1.0 INTRODUCTION

1.1 Context

Agnico Eagle Mines Limited, Meadowbank Division (“Agnico Eagle”) will develop the Whale Tail Pit, a satellite gold deposit, as a continuation of current mine operations and milling at the Meadowbank Mine. The Whale Tail property is a 408 km² site located on Inuit Owned Land, approximately 150 km north of the Hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Mine in the Kivalliq region of Nunavut. The property, whose location is shown on **Figure 1-1** was acquired by Agnico Eagle in April 2013.

Figure 1-1: Meadowbank and Whale Tail site locations

The Meadowbank Mine is an approved mining operation and Agnico Eagle will extend the life of the mine by constructing and operating the Whale Tail Pit. The WRSF Dike is shown on **Figure 1-2** and as discussed in the sections to follow is a temporary structure which is designed to last until the end of mining at the Whale Tail Pit. The dike is designed to prevent contact water from snow melt and runoff from direct precipitation on the waste rock stockpile from reporting into Mammoth Lake. The dike will be dismantled once Agnico Eagle demonstrates that the water quality inside the WRSF Pond meets the criteria established in the Whale Tail Project final closure plan.

The objective of the current report is to present the detailed design of the WRSF Dike.

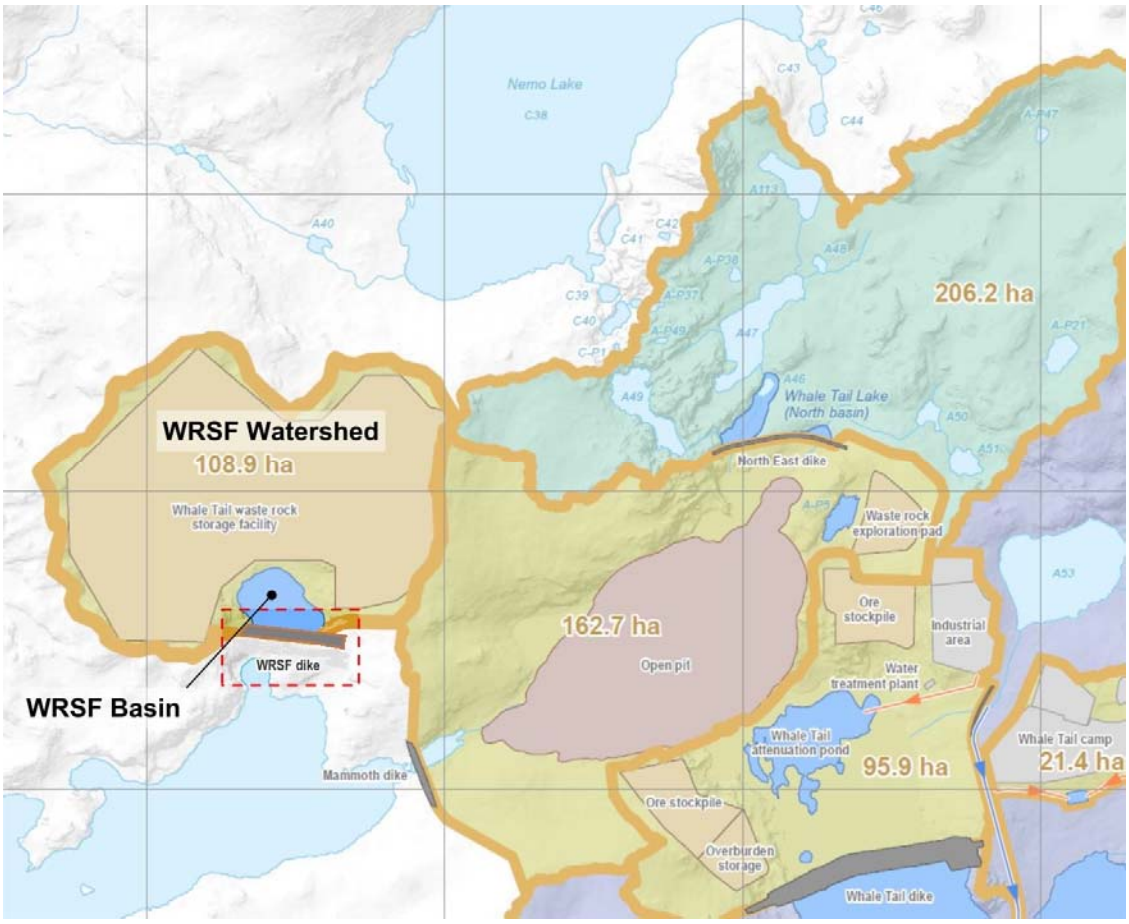

Figure 1-2: WRSF Dike Location

1.2 Organization of the Report

This report presents all of the available site specific geotechnical and terrain feature information together with reasonable inferences and conclusions based on SNC-Lavalin's experience and detailed geotechnical investigation and analyses including seepage, stability, thaw settlement, thermal and stress carried out for the Whale Tail Dike (WTD) and thermal for the WRSF Dike.

For completeness in presentation, the report includes the technical specifications for the WRSF Dike (SNC-Lavalin, 2018f) in Appendix A together with the design drawings. Therefore, when a drawing is mentioned in the report, the reader shall consult Appendix A.

2.0 GUIDELINES AND STANDARDS

The design of the WRSF Dike has used the latest Dam Safety Guidelines produced by the Canadian Dam Association (CDA) with respect to dam classification and the American Society for Testing and Materials for the geotechnical components of the work. The Technical Specifications included in Appendix A (SNC-Lavalin, 2018f), provide a list of the ASTM and other construction material standards relevant to the WRSF Dike, and hence are not repeated herein.

3.0 AVAILABLE GEOTECHNICAL INFORMATION

Figure 3-1 shows the locations of geotechnical investigation boreholes carried out during winter 2018 at the WRSF (SNC-Lavalin, 2018b). Mine boreholes drilled in 2015 (series AMQ 15-385 etc.) and Tamrock holes drilled (series L1701) are shown on **Figure 3-2**. The overburden consists of cobles and boulders underlain by glacial till followed by bedrock or cobbles and boulders directly on bedrock. The thickness of the overburden varies between 0.5 to 3.2 m with an average of 1.9 m, with the thickest overburden occurring at the west sector.

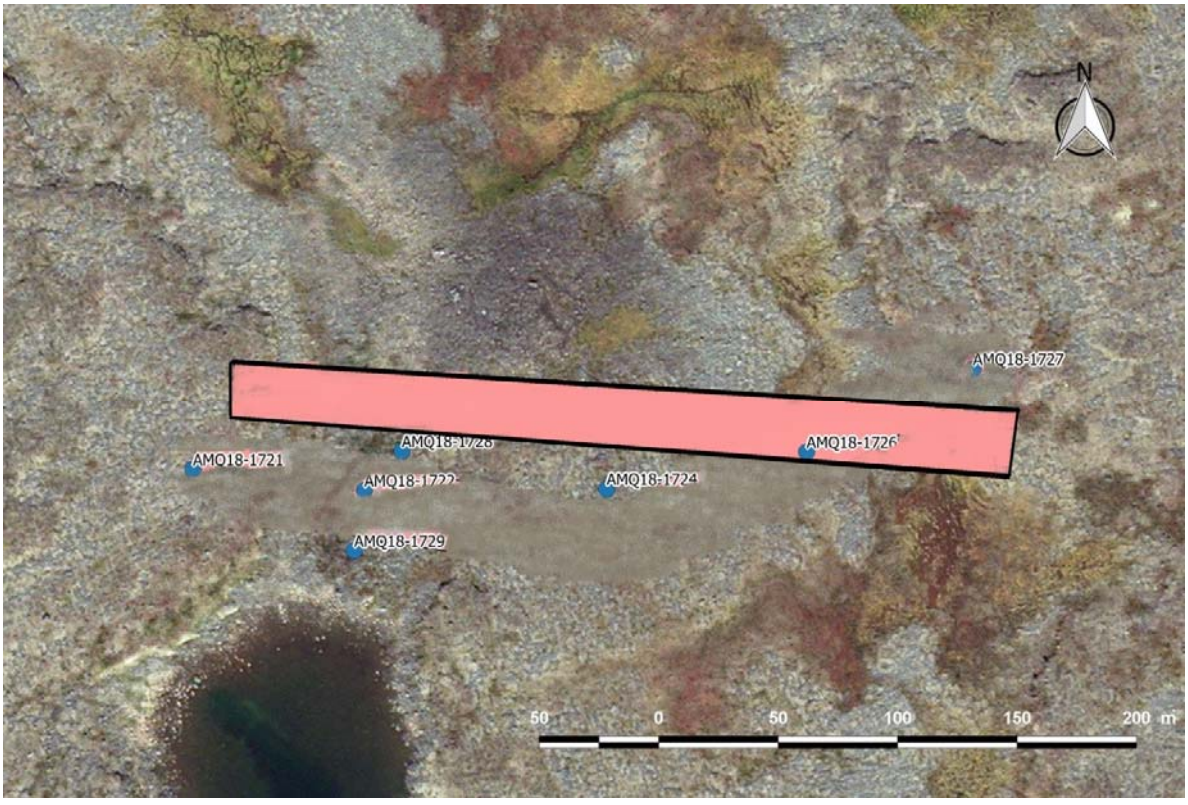

Figure 3-1: Location of boreholes drilled during the March 2018 Geotechnical Investigation Campaign

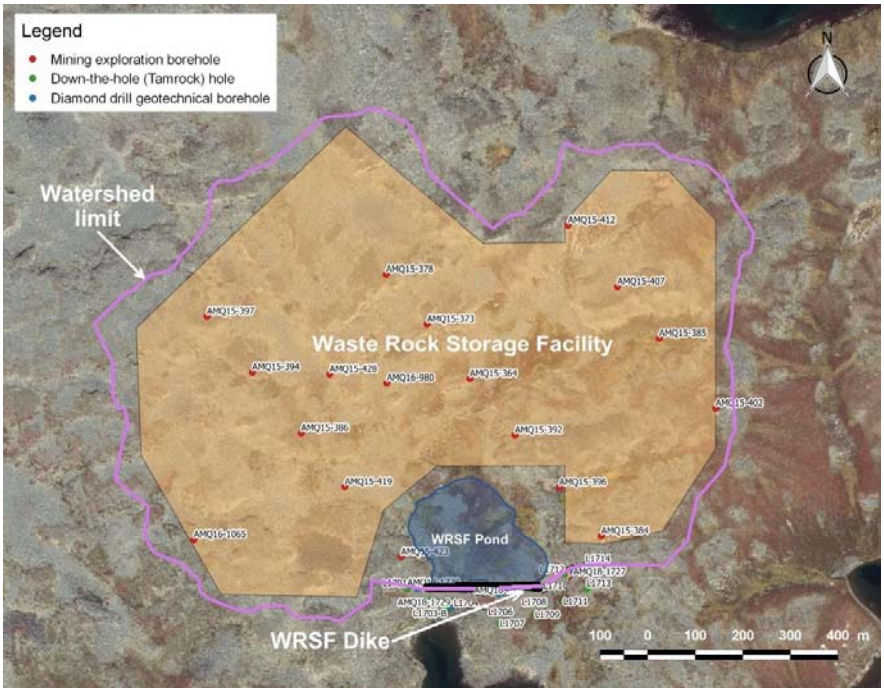

Figure 3-2: Location of Boreholes at the WRSF Dike and Pond

4.0 DESIGN BASIS AND CRITERIA

4.1 Design basis

The following elements were considered during the design of the WRSF Dike:

- The construction of the WRSF Dike will start in 2018 and completed in 2019;
- The WRSF Dike will be constructed in winter and is designed to promote freezing of the FFAB in the key trench to increase the performance of the infrastructure;
- The WRSF Dike will be dismantled when Agnico Eagle has demonstrated that the water quality inside the WRSF Pond meets the criteria established in the Whale Tail Project final closure plan. Until these conditions are met, Agnico Eagle will continue pumping the contact water from the WRSF Pond;
- The dike will be constructed with non-acid generating and non-metal leaching and durable rockfill incorporating a seepage barrier on its upstream slope;
- Site specific geotechnical investigation was carried out in 2018 along the dike axis, on the basis of which, the dike will be founded partly on bedrock and partly on relatively thin (< 2 m) overburden;

- For the installation of the Fine Filter Amended with Bentonite (FFAB) component of the seepage barrier along the upstream toe of the dike, a key trench will be excavated in the overburden;
- In areas where the bedrock is encountered at the bottom of the key trench, the fine filter amended with bentonite cut-off (FFAB) will be installed directly on the bedrock surface after the latter has been cleaned and treated with appropriate sealing product to improve (reduce) its hydraulic conductivity. The best product will be selected during construction;
- The normal (operational) water level in the WRSF pond will be elevation 155.0 m, which will be maintained by pumping excess water to the Attenuation Pond for subsequent treatment;
- The frozen condition of the FFAB will be reinforced by optimum water and snow management strategies, the most important of which are pumping the pond dry before winter and the removal of the snow above the thermal cover of the FFAB;
- The hydrologic/hydraulic design criteria provided in Section 4.2 are in accordance with the acceptable guideline (CDA, 2014); as shown on Table 4-2, the dike has a 0.6 m free board with respect to the 100 – year flood.
- The WRSF Dike has sufficient width to be used for a one way traffic by a 150-Ton[1] trucks, however if required the width can be increased in the downstream direction to accommodate a two-way traffic by such vehicles.

4.2 Hydrologic/Hydraulic Design Criteria

The Design Basis and criteria related to the hydrology and hydraulic components of the entire project have been presented in a separate document (SNC-Lavalin, 2018d). Table 4-1 and **Table 4-2** summarize respectively the dam classification in accordance with the classification system proposed by the Canadian Dam Association (CDA, 2014) and the resulting hydrologic criteria respectively for the WRSF Dike.

Table 4-1: Dam Classification Criteria for the WRSF Dike

Risk Type	Dam Class	Commentaries	Reference
Population	**Low**	No population at risk downstream of the dike; i.e no loss of life anticipated	Dam Safety Guidelines (CDA, 2007, rev 2013)
Economy	**Low**	No infrastructure downstream of the dike	Dam Safety Guidelines (CDA, 2007, rev 2013)
Environment	**Low**	Minimal short term loss: the area was already flooded before construction of the infrastructure and the volume of water contained by the dike is low.	Dam Safety Guidelines (CDA, 2007, rev 2013)
Summary: **LOW**			

[1] Nominal payload in imperial (US) units

Table 4-2: Design Criteria for the WRSF Dike

Use	Water Type	Classification (CDA, 2014)	Inflow Design Flood	Water Level (m)		Crest Elevation (m)
				Normal	Design Flood	
Runoff storage	Contact	Low	100	155.0	157.8	158.4

4.3 Seismic

Based on the 2015 seismic hazard map of Canada, the region where the Whale Tail mine is located has low seismicity.

5.0 HYDROLOGY

5.1 Available Data

Available hydrometeorological and hydrometric data are:

- Hydrometeorological data from Environment Canada Baker Lake A station, located approximately 124 km southeast of the Whale Tail mine site, and covering the period from 1946 to 2017. These data include total precipitation, rainfall, snowfall and snow on ground;
- Water level and streamflow measurements carried out at different locations on watersheds near the project site during June to September of years 2015 and 2016 (Golder Associates Ltd, 2017).

5.1.1 Hydrometeorological Data

Data from Baker Lake A meteorological station is available for the period 1946-October 2017. However, Years 1946-1949, 1973, 1993, and 2015 have several missing records and consequently were excluded from the data set used for the analyses. The missing data from other years (1950-1972, 1974-1992, and 1994-2014) were filled using the average values from available years for the same day and month. The resulting rainfall, snowfall, daily and total precipitation data series cover 66 full years over the period 1950-2017 (1973 and 1993 data not used). The average annual precipitation, over the period 1950-2017, is 250 mm including, 145 mm of rainfall and 105 mm (water equivalent) of snow. This data is assumed to be representative of the conditions at the Whale Tail mine site.

5.1.2 Hydrometric Data

The Whale Tail mine site is located on a watershed with an extensive network of lakes and interconnecting streams, with a lake to land ratio of approximately 20 %. During two summers, in 2015 and 2016, several discharge and water level measurements were made by (Golder Associates Ltd, 2017) both manually and with automated hydrometric stations (WRSF Watershed).

5.1.3 WRSF Watershed

The WRSF Dike collects a watershed of approximately 109 ha as shown on **Figure 5-1**. It will be used to store runoff contact water from this watershed, to stop it from flowing towards Mammoth Lake, before it can be pumped towards the Attenuation Pond.

Figure 5-1: WRSF Watershed

6.0 WRSF DIKE DESIGN OUTLINE

6.1 Design flood

The WRSF Dike is required to prevent runoff from the WRSF watershed (see Figure 5 1) reporting into Mammoth Lake. The dike has been designed to safely contain the flood with a return period of 100 years. The dike will be in service after closure until Agnico Eagle demonstrates that the water quality inside the WRSF Pond meets the criteria established in the Whale Tail project Final Closure Plan. After which it will be dismantled.

The water level and required storage volume of the flood with a return period of 100 years return period are shown on **Figure 6-1**.

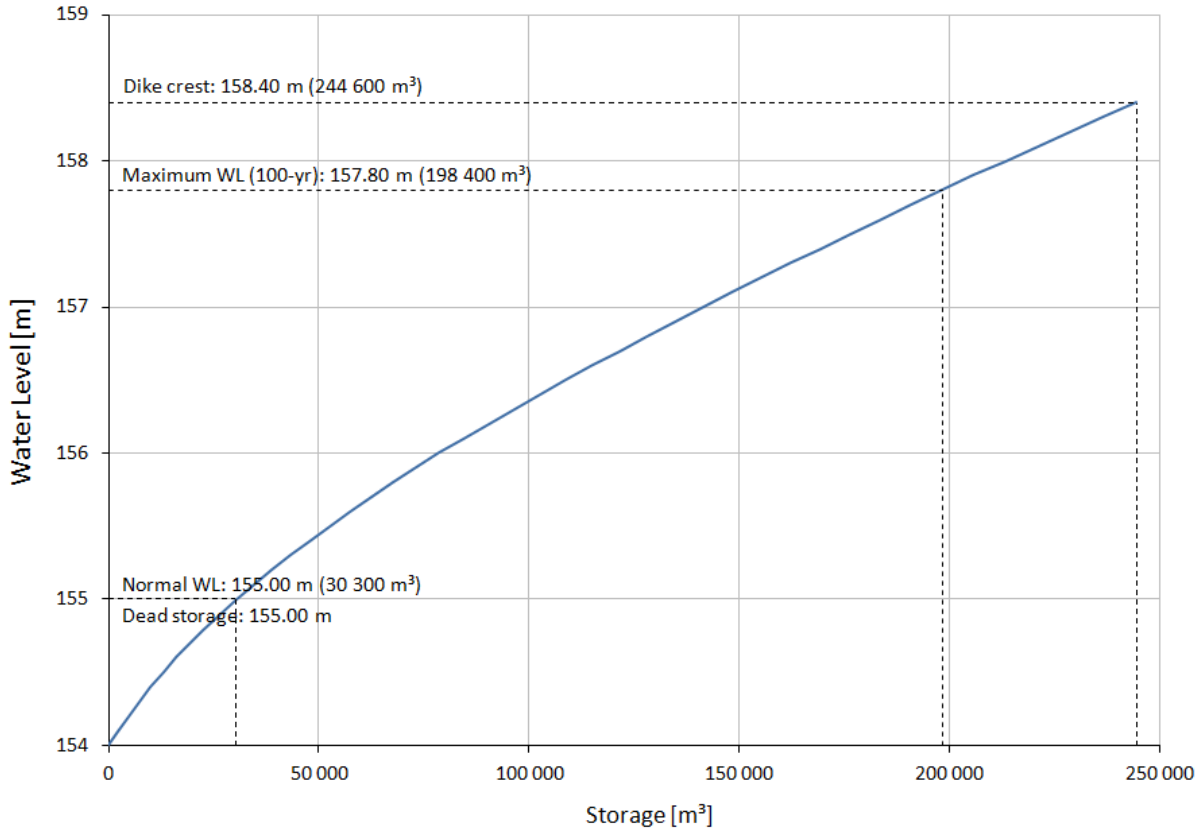

Figure 6-1: WRSF Pond Storage Elevation Curve

6.2 Dike Alignment

The dike alignment has been modified from the one presented in the Permitting Level Engineering report (SNC-Lavalin, 2016) mainly to avoid the construction of the key trench in the rough rock outcrop in the middle of the dike. The new alignment takes into consideration the limited capacity of the WRSF Pond and was selected to minimize loss of storage space as much as possible.

It is expected that this alignment may change to fit the condition encountered during foundation preparation.

6.3 Seepage Performance

Seepage analyses have not been carried out for the following reasons:

- The thermal analyses (see Appendix B) have shown that the FFAB component of the seepage barrier should stay in the frozen state. This implies that the overburden and the upper fractured

rock layer at the same elevation as the FFAB will also remain frozen, thus impeding seepage under all extreme flood events;

- The pond will be emptied at the end of every summer, to reinforce freezing of the FFAB;
- The seepage barrier will be instrumented with thermistor strings to monitor the thermal regime of the FFAB layer. The frozen state of the FFAB will be monitored closely by frequent thermistor string readings;
- If seepage is observed on the downstream side of the dike, the water will be collected by a ditch/sump system along the downstream side of the dike in order to prevent contact water from being released to the environment. The ditch/sump system shown on Drawing 651298-6000-4GDD-0004 will be adjusted depending on the ground condition at the time of construction.

6.4 Stability Performance

Stability analyses have not been carried out since it is considered that stability will not be an issue for the following reasons:

- The dike will be composed of hard durable rockfill and will have a local maximum height of about 4 m, with upstream and downstream slopes of 2H:1V and 1.5H:1V respectively and supported generally on a frozen overburden or bedrock;
- The seepage barrier on the upstream slope will ensure that the body of the dike will be dry;
- It is possible to have local toe slumps on ice-rich till that may include a thaw-softening layer locally. However, it has been assumed that such slumps will be quickly restored by Agnico Eagle crew during the operation.

6.5 Dike Composition

The WRSF Dike will be composed of hard waste rock, with the upstream slope to be lined with a Bituminous Geomembrane (BGM) embedded in the fine filter zone on the slope, and in a layer of FFAB at its toe. The fine filter is in turn separated from the rockfill by a transition zone referred to on the design drawings as coarse filter. The BGM and the FFAB layers are designed to retain all runoff up to a maximum flood level with a return period of 100 years. The gradation limits of the fine and coarse filters satisfy filter rules as noted in the Whale Tail Dike design report (SNC-Lavalin, 2018g).

The Technical Specifications of the WRSF Dike (SNC-Lavalin, 2018f) included in Appendix A provide the fill gradations as well as the requirements for the BGM and the sodium bentonite, which will be used to construct the FFAB.

Foundation preparation at the WRSF Dike will involve mainly the removal of snow, ice and boulders in the key trench area. All thawed material will be removed until frozen ground is encountered, then the entire footprint of the dike should be backfilled with rockfill. Where bedrock is exposed at the bottom of the key trench or is encountered on surface along the FFAB alignment, it must be carefully inspected for cracks and joints and soil or fractured rock infill, and must be cleaned and treated with appropriate sealing product to be selected during construction but before placing the FFAB.

7.0 CONSTRUCTION

The construction of WRSF Dike is planned between September 2018 and March 2019[2].

Timing of the WRSF Dike construction is crucial for the optimal operation and good performance of the dike. The key trench in overburden shall be excavated at the end of the thawing season. However, to allow the key trench excavation and subsequent fill and liner placement, the rockfill zone shall be constructed ahead of key trench excavation to the extent necessary be used as a working platform and access.

The WRSF Dike plan and selected sections are shown on Drawings 651298-6000-4GDD-0004 and 651298-6000-4GDD-0005 appended to the technical specifications (SNC-Lavalin, 2018f) included in Appendix A.

8.0 INSTRUMENTATION AND MONITORING PLAN

The WRSF Dike will be instrumented with thermistor strings in order to monitor the thermal regime within the core of the dike and its foundation. A total of three (3) thermistor strings will be installed within the embankment and the foundation. The specific location of thermistor strings will be selected following the conditions encountered during foundation approval.

If required, other thermistor strings could be installed vertically to monitor the thermal regime within the dike and its foundation after the commissioning of WRSF Dike.

The design incorporates a ditch/sump system along the downstream toe of the dike to manage potential seepage.

In addition, water levels in the pond will be monitored by means of a visible staff gauge installed at a strategic location within WRSF Pond. The staff gauge will show the operational and design flood levels for ease of routine inspection.

9.0 ESTIMATED QUANTITIES

The quantities of materials required for the construction of WRSF Dike is presented in **Table 9-1**. These quantities are extracted from the 3D model developed for the design based on assumptions SNC-Lavalin made for the foundation.

[2] Based on Whale Tail Earthwork - Construction - Schedule - 2018-07-29 - Update - Submitted July 29.pdf

Table 9-1: Quantity Estimation for the Construction of WRSF Dike

Item	Unit	Quantity
Site clearing - dike footprint	ha	16.9
Trench excavation	m^3	14040
Rockfill (including safety berm)	m^3	44220
Coarse filter	m^3	4764
Fine filter	m^3	4032
Bituminous Geomembrane (BGM)	m^2	5754
FFAB	m^3	1380

A contingency of 20% on fill materials and 40% on BGM, provided by Agnico Eagle was added to the calculated quantities to cover for loss of materials, repairs, overlaps for the bituminous geomembrane, bentonite loss due to wind, fill cross-contamination, etc.

10.0 CLOSURE

The WRSF Dike is a temporary structure which is designed to last until the end of mining at the Whale Tail Pit. The dike will be dismantled once Agnico Eagle demonstrates that the water quality inside the WRSF Pond meets the criteria established in the Whale Tail Project final closure plan.

11.0 CONCLUSIONS

- The design of the WRSF Dike has been completed to the detailed engineering level in accordance with codes and standards used by the profession;
- The WRSF Dike is classified as “low” consequence according to the CDA guidelines (2013, 2014). Hence, the corresponding design flood for this infrastructure is the 1:100-year flood event;
- The pond water level in the WRSF Pond will be controlled by pumping to keep it dry or as low as possible. Specifically, the pond will be kept dry before the next spring to maintain the FFAB in a frozen state.

12.0 PERSONNEL

This report has been prepared by Mr. Getahun Haile, M.A.Sc, P.Eng, with contributions by Mr. Mathieu Durand-Jézéquel, M. Sc., Jr. Eng. and revised by Mr. Yohan Jalbert, P.Eng.

We trust that this report is to your satisfaction. Should you have any question, please do not hesitate on contacting me.

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A | WRSF Dike Technical Specifications

Title of document: **TECHNICAL SPECIFICATION**
CONSTRUCTION OF THE WASTE ROCK STORAGE FACILITY DIKE

Client: **AGNICO-EAGLE MEADOWBANK DIVISION**

Project: **DETAILED ENGINEERING OF WATER MANAGEMENT AND GEOTECHNICAL INFRSTRUCTURE AT WHALE TAIL MINE**

TITLE: **TECHNICAL SPECIFICATIONS**
CONSTRUCTION OF THE WASTE ROCK STORAGE FACILITY DIKE

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[ ] Entire Specification revised. Reissue all pages

[ ] Reissue revised pages only

STAMP THE SPECIFICATIONS AS FOLLOWS:

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[ ] Released for bid

[X] Released for construction (installation specifications only)

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1.0 WORK DESCRIPTION

1.1 Description of the Project

Agnico Eagle Mines Limited, Meadowbank Division ("Agnico Eagle") will be developing the Whale Tail Pit, a satellite gold deposit on the Whale Tail property, as a continuation of current mine operations and milling at the Meadowbank Mine. The Whale Tail property is a 408 km² site located on Inuit Owned Land, approximately 150 km north of the Hamlet of Baker Lake and approximately 50 km northwest of the Meadowbank Mine in the Kivalliq region of Nunavut. The property was acquired by Agnico Eagle in April 2013 and is subject to a mineral exploration agreement with Nunavut Tunngavik Incorporated.

The Meadowbank Mine is an approved mining operation and Agnico Eagle is planning to extend the life of the mine by constructing and operating the Whale Tail Pit. The Waste Rock Storage Facility Dike (WRSF Dike) is located north west of the future Whale Tail Pit as shown on Figure 1-1. The WRSF Dike is an infrastructure that will be built to contain contact water generated by direct precipitation on the waste rock stockpile that has the potential to be acid generating. The water collected in the WRSF Basin located upstream of the dike will be pumped and treated prior to be discharged in the environment.

The WRSF Dike will be dismantled at closure while it will be demonstrate that the water quality will respect the criteria. The upstream slope of the dike, whose main body will be composed of rockfill, will be lined with bituminous geomembrane (BGM) anchored at its toe in a layer of fine filter amended with bentonite (FFAB); the latter placed in a key trench.

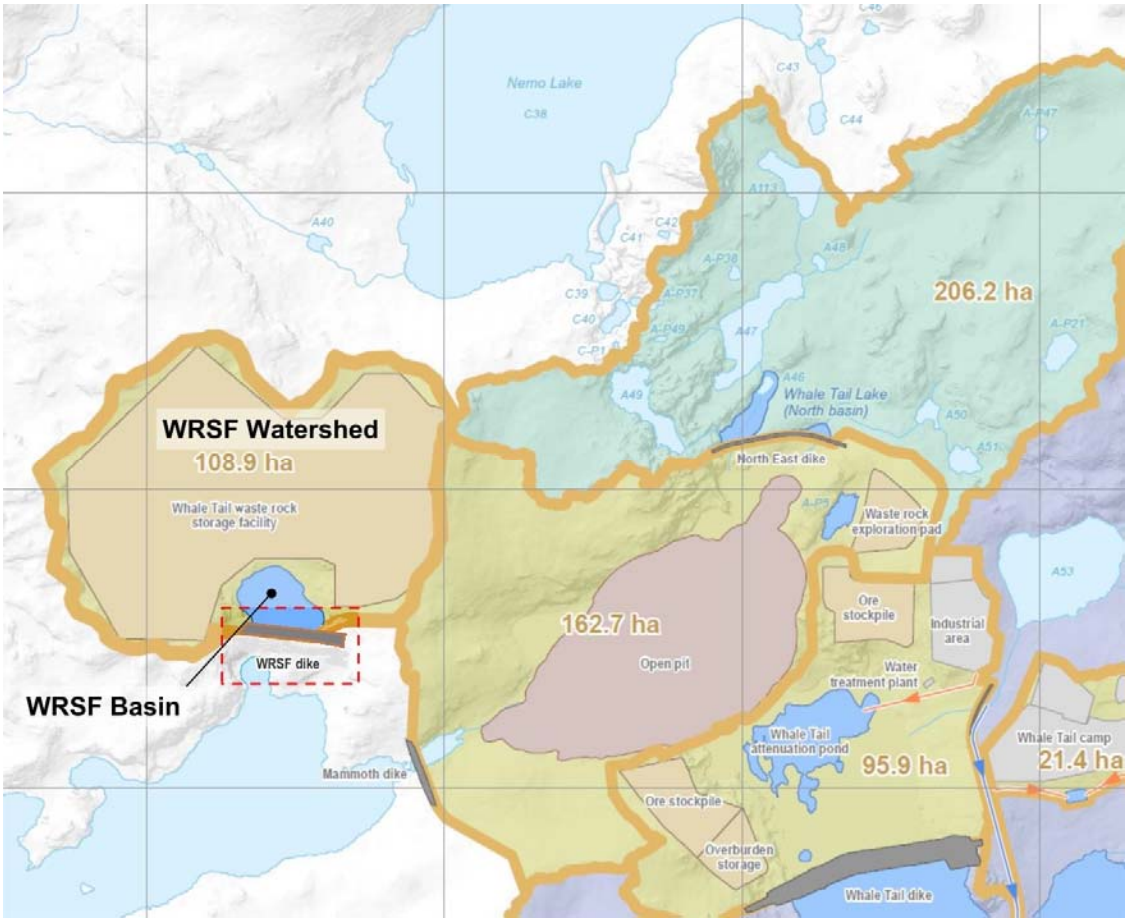


Figure 1-1: Watershed of the WRSF Dike

1.2 Work Included

The work shall include mobilization of all necessary equipment and materials as well as providing supervision, technical personnel (including surveyors) and skilled labour for its execution.

A detailed work procedure outlining how to execute the earthworks and the installation of the BGM liner keyed into the FFAB layer at bottom of the key trench shall be prepared by the Contractor for approval by the Owner and the Designer.

The Work includes but is not limited to the following items:

1. Site preparation including snow, ice and boulder removal and proper disposal;
2. Key trench excavation expected to include overburden and bedrock,
3. Key trench treatment with slush grout where applicable;
4. Fill placement before and after BGM installation on the upstream slope of the dike, including the FFAB on the bottom of the key trench;
5. Installation of BGM keyed into the FFAB;
6. Sampling and testing.

If judged necessary by the QA Inspector, the QC Representatives or the Owner, additional tests will be performed by an external laboratory.

1.3 Instrumentation requirements

This dike will be instrumented with a set of two thermistor strings to be supplied and installed by Agnico Eagle in holes that will be drilled by a third party. The locations where the thermistors will be installed shall be easily accessible and once installed they shall be protected against damage by construction equipment traffic.

1.4 List of drawings

The list of drawings is provided in the following Table 1-1 and the drawings are included in Appendix 1.

Table 1-1: List of Drawings

DRAWING NO	TITLE
651298-6000-4GDD-0000	GENERAL ARRANGEMENT PLAN
651298-6000-4GDD-0001	GENERAL ARRANGEMENT PLAN
651298-6000-4GDD-0002	GENERAL ARRANGEMENT PLAN WITH FIELD INVESTIGATION
651298-6000-4GDD-0003	WRSF DIKE WITH FIELD INVESTIGATION PLAN AND SECTION
651298-6000-4GDD-0004	WRSF DIKE DESIGN PLAN
651298-6000-4GDD-0005	WRSF DIKE DESIGN SECTIONS AND DETAILS

2.0 GENERAL

2.1 Unit system

Unless indicated otherwise, all Whale Tail's coordinate and elevations are tied to the UTM Zone 14, NAD83 (CSRS), and the metric unit system (SI) is used.

2.2 Codes and Standards

1. The standards applicable to the WRSF Dike for soils are provided in the following Table 2.1.
2. The standards applicable for the BGM are provided in Appendix 2.
3. The main standard applicable for sodium bentonite is given in Section 3.3.4.

Table 2-1: Standards

TEST	LATEST STANDARD
Slush grout	CAN/CSA-23.1-14 – Concrete Materials and Methods of Concrete Constructability/Test Methods and Standard Practice for Concrete.
Water (Moisture) Content	ASTM[1] D2216 - Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock.
Wet Preparation of Soil Samples	ASTM D2217 Standard Practice for Wet Preparation of Soil Samples for Particle Size Analysis and Determination of Soil Constants.
Particle Size Analysis	ASTM D422 - 63(2007), Standard Test Method for Particle-Size Analysis of Soils.
Compacted Dry Density of Soil-Standard Proctor	ASTM D698-Standard Practice for Laboratory Compaction Characteristics of Soil Using Standard Effort (600 kN-m/m^3)
Compacted Dry Density of Soil-Modified Proctor	ASTM D1557-Standard Practice for Laboratory Compaction Characteristics of Soil Using Modified Effort (2700 kN-m/m^3)
In-Situ Dry Density of Soil	ASTM D1556-Standard Test Method for Density and Unit Weight of Soil in-Place by the Sand-Cone Method.

1 ASTM = American Society for Testing and Materials

2.3 Stakeholders

1. Agnico Eagle is the Owner and is responsible for overseeing the execution and coordination of the entire work. Agnico Eagle will also be responsible for the supply of rockfill as well as all instrumentation (where required).
2. SNC-Lavalin Inc. (SLI) will act as the Quality Assurance (QA) Inspector.
3. SNC-Lavalin Inc. (SLI) act also as the Designer for the WRSF Dike.
4. KCG is the Contractor for the entire work. KCG is also responsible for all subcontractors (if any).
5. GHB will be responsible for Quality Control (QC) for the entire work, except the QC for the installation of the BGM (by Agnico Eagle).
6. Agnico Eagle and its sub-contractor will be responsible for Quality Control (QC) during BGM installation.

2.4 Line of communication

The line of communication basically follows the organizational chart shown on Figure 2-1 below.

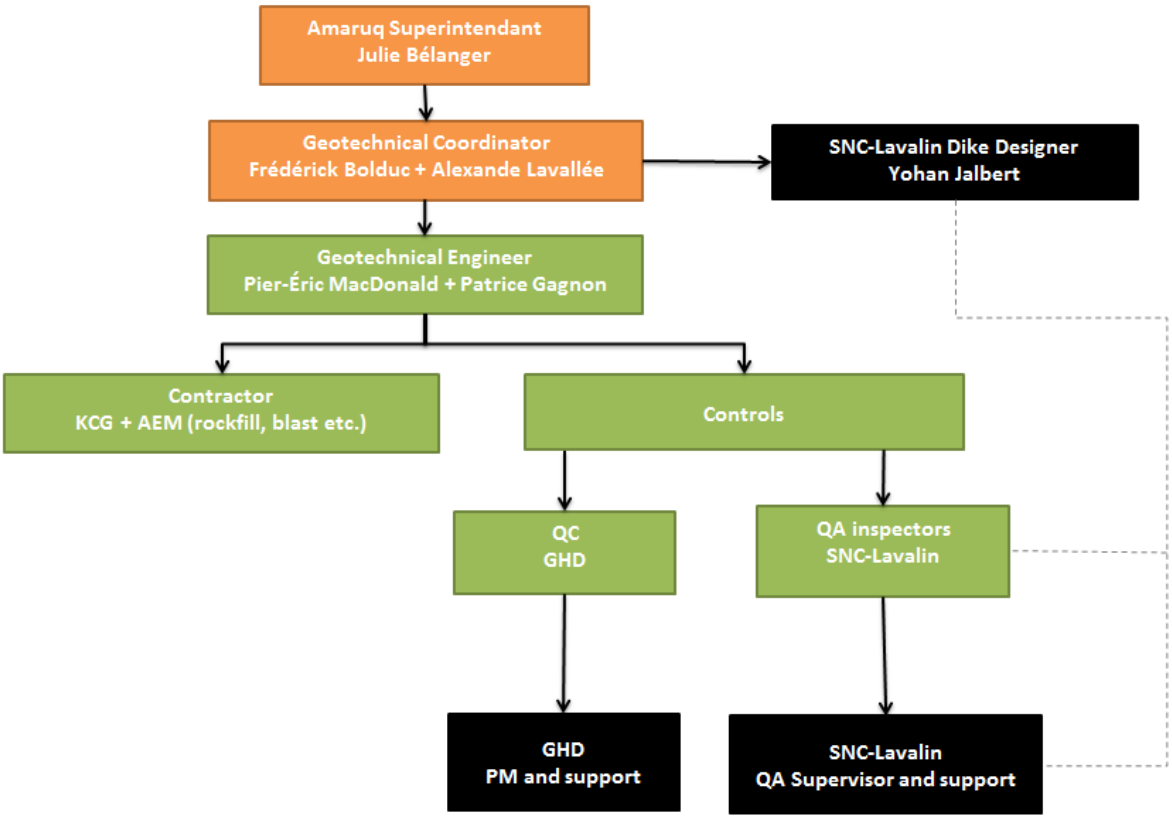


Figure 2.1: Organizational Chart

2.5 Scope of Responsibilities

The responsibilities of each stakeholder are defined as follows:

2.5.1 Geotechnical Engineer (Agnico Eagle)

- Primary point of contact for the QA Inspector, QC representatives and the Contractor (also named Owner's Representative).
- Review work and monitoring of construction.
- Share data with QA Inspectors and QC representatives including but not limited to layout, scope limit control and data collection for as-built drawings and report.
- Review quantities.
- Coordination, daily interaction with QA and QC personnel.
- Follow-up and update the construction schedule.
- Confirm the waste disposal area.
- Plan or approve platforms to stockpile materials.
- Responsible of the health and safety and Environmental issues and procedures on site.

2.5.2 Quality Control Representative (GHD, a subcontractor to Agnico Eagle)

- Inspection and documentation of work procedures to ensure the works meet the drawings (lines, grades) and the specifications.
- QC testing as required by the specifications (Appendices 2 and 3).
- Prepare daily report.
- Prepare approval forms.
- Work under the supervision of the Owner's Representative (Agnico Eagle Geotechnical Engineer) as applicable.
- Request additional testing when required.
- Review survey data.

2.5.3 Quality Assurance Inspectors (SLI)

- Inspection, documentation and review of QA work to ensure that the control meets the specifications and the Design.
- QA personnel may perform occasional independent checks. The Contractor shall co-operate during sampling and testing. Loading and disposal of sampled materials, when no longer required by the SLI, shall be carried out by others.
- Request additional testing when required and review of QC testing and procedures.

- Collect signed forms (approval and non-conformity forms) and give copy to the Owner's representative.
- Prepare QA report to be included in as-built report.
- Prepare as-built report, including testing results, drawings and reports.

2.5.4 Contractor (KCG):

- Construction of the WRSF Dike in compliance with the requirements of the drawings and the specifications.
- Carry out all survey and stake out and provide all material volumes to the Owner's representative, QA Inspectors and QC representatives.
- Supervise all its sub-contractors.
- Share all collected data with Owner's representatives, QA Inspectors and/or QC representatives.
- Identify changes to be made in the design or drawings, collect information and share it with the Agnico Eagle Geotechnical coordinator.

2.5.5 Agnico Eagle Geotechnical Coordinator

- Primary point of contact for the Designer.
- Identify changes to be made in the design or drawings, collect information and share it with the Designer.
- Communicate with the Designer for any technical questions or issues.
- Request a design change to the Designer and approve the estimation of hours.

2.5.6 Designer (SLI)

- Review documentation requested from the Contractor (refers to section 2.13) prior to the beginning of the Work.
- Be informed of the construction schedule and the advancement of the Work.
- The Designer will not be present on site. The Designer will make design change(s) when required based on the available information.
- Provide estimation of hours required to the Agnico Eagle Geotechnical Coordinator prior to initiate the design change.
- Send a sealed technical memorandum to the Owner's representative within appropriate timeframe to confirm the design change(s).

2.6 Work method and equipment

Contractor shall submit to the Owner its working methods with the specific equipment and procedures he plans to use at least one month prior to the start of the work. The list of documentation to be submitted prior to the start of the work is provided in Section 2.13.

2.7 Subsurface conditions

The subsurface condition of the WRSF Dike is defined by a series of geotechnical boreholes and air track holes performed within about 25 m wide strip on each side of the longitudinal axis of the dike. The locations of the soundings on plan as well as longitudinal stratigraphic section are provided on Drawing 651298-6000-4GDD-0003. Based on the information summarized on the above drawing, the dike foundation is composed of from top to bottom, a surficial layer of gravel, cobbles and boulders, followed by glacial till which is underlain by bedrock. The gravel, cobbles and boulders and the glacial till layers range in thicknesses.

2.8 Lines, grades and tolerances

1. Lines and grades shall be obtained from the drawings presented in Appendix 1
2. Bench marks for the layout of the dike will be provided by the Contractor's surveyor.
3. The Contractor's surveyor shall be responsible for all staking and/other survey requirements such as lines and grades specified or shown on the drawings.
4. Lines and grades are subject to modifications by the Designer and/or the Owner (when justified) and additional lines and grades may be required as the work progresses. Tolerance on grades and lines is 0.1 m.
5. The Contractor shall use the applicable control points to complete the layout of all the works. If the Contractor judges that additional control points are necessary to execute the work adequately, he shall request Agnico Eagle for them.
6. If the Contractor or any of its subcontractors or any of their Representatives or employees move or destroy or render inaccurate any survey control point, such control point shall be replaced at the Contractor's expense.

2.9 Additional drawings

The Designer may provide additional drawing(s) if considered necessary. These drawings shall form part of the contractual document.

2.10 Land, lake, environment and infrastructure protection

1. The Contractor shall limit traffic to the boundary established by the Owner.

2. Fires are not allowed on site.
3. The Contractor shall make sure that all personnel under his responsibility will do everything possible to protect the environment.
4. Unless approved by the Owner, once construction is completed it is not allowed to leave any fill material on the ice.
5. All frozen excavated materials must be disposed of as directed by the Agnico Eagle Geotechnical Engineer.
6. All excavated snow shall be disposed of in the Attenuation Pond.

2.11 Site Cleanup

The Contractor is responsible for the cleanup and removal of garbage and other foreign materials from the construction site to the satisfaction of the Agnico Eagle Geotechnical Engineer.

2.12 Health and Safety

1. All construction work shall be conducted in accordance with Agnico Eagle's sustainable development and Health and Safety standards and regulations.
2. All personal protection equipment appropriate for the work shall be used by all workers.
3. Detailed work procedures for every construction task shall be provided by the Contractor and approved by the Agnico Eagle Geotechnical Engineer.
4. A Detailed Job Safety Analysis (JSA) shall be completed for each construction task and submitted by the Contractor to the Owner for approval.
5. A daily coordination meeting shall be held between the Contractor, QA and QC personnel and the Agnico Eagle Geotechnical Engineer to discuss planning and safety.

2.13 Documentation to be provided by the Contractor

At least sixty (60) days prior to the beginning of the Work, the following documents:

1. The location of the stockpile area he plans to use as well as the locations of borrow sources and access roads.
2. The proposed method and a list of specific tools and equipment which will be used during the excavation of the key trench.
3. The proposed method of cleaning bedrock cracks and joints in the key trench bottom and their treatment (sealing) to cut-off all potential seepage beneath the FFAB. The Contractor shall demonstrate that the product he proposes to use to seal the crack and joints has been used in similar cold weather application;

4. The proposed method of fill placement for the various zones;
5. A detailed schedule of the Work;
6. A detailed written procedure of water management during construction.

3.0 CONSTRUCTION MATERIALS

3.1 General

1. Only sound and suitable materials meeting the requirements of this document and approved by the QC and/or QA personnel shall be used.
2. Fill materials shall be free from all organic matter or other deleterious, unapproved, unstable or unsuitable materials, as ice and/or snow, till, or peat.
3. The placement of materials shall be done on a dry or snow and ice free surface.
4. Unless approved by the Agnico Eagle Geotechnical Engineer as well as supported by random inspections by the QC and/or QA personnel, all fill materials shall only be obtained from stockpiles or sources identified at the beginning of the construction works.
5. All materials shall be manufactured from NPAG[2] and non-metal leaching rock.
6. Stockpiling, loading, and placement of fill materials shall be carried out in a way that minimizes segregation.

3.2 Definitions

7. "Sound" or "Suitable" fill materials are defined as being free from deleterious matter, having a gradation which permits compaction or placement to a stable state, and having the characteristics specified for the particular materials after handling, re-handling, processing, and reprocessing have taken place.
8. "Unstable" or "Unsuitable" fill materials are defined as being too wet, containing oversized or segregated particles, organic or other deleterious matter, such as ice or snow, or having poor characteristics which may result in undesirable settlement or other movement of the fill or within the fill, or otherwise not meeting the requirements of the specifications. However, this definition permits drying, dewatering, watering, screening, raking and any other processing or reprocessing to make the material stable and suitable prior to incorporating it into the fill.
9. BGM shall mean bituminous geomembrane which is also referred to as liner.
10. FFAB shall mean fine filter amended with bentonite.

[2] NPAG : Non potential acid generating.

3.3 Material

3.3.1 Rockfill

The material to be used for the main body (shell) of the WRSF Dike and its safety berms, shall be a well graded crushed rock < 1000 mm (Material Type 3) from a quarry, pre-production or production zone (runoff mine). Oversize rockfill up to 1500 mm is allowed in the exterior of the rockfill shell of the dike. As much as possible, the finer rockfill shall be placed in the fill zone closer to the key trench. After placement, it shall meet the gradation limits specified below in Table 3-1.

Table 3-1: Rockfill gradation

PARTICLE SIZE (MM)	FINER THAN (%)
1000	100
500	40-100
200	10-50
100	0-28
30	0-4

3.3.2 Coarse filter

The material to be used as a transition zone between the rockfill and the fine filter on the upstream slope of the WRSF Dike, also referred to as the coarse filter shall be a well graded clean granular fill (Material Type 2) produced by crushing rock (Material Type 3) and shall meet the gradation limits specified below in Table 3-2.

Table 3-2: Coarse filter gradation

PARTICLE SIZE (MM)	FINER THAN (%)
200	100
100	60-100
30	20-57
10	5-32
4.75	0-24
2	

PARTICLE SIZE (MM)	FINER THAN (%)
0.850	0-12
0.425	0.10
0.150	0-8
0.075	0-7

3.3.3 Fine Filter

The material to be used for the fine filter (Material 1) of the WRSF Dike shall be produced by crushing rock (Material Type 3) and shall meet the gradation limits specified below in Table 3-3.

Table 3-3 Fine filter gradation

PARTICLE SIZE (MM)	FINER THAN (%)
30	100
10	51-88
4.75	30-64
2	17-41
0.850	11-27
0.425	9-18
0.150	7-13
0.075	6-10

3.3.4 Sealing of cracks and joints

The product required to fill cracks and joints after exposure of the bedrock surface on the bottom of the key trench shall be pre-approved by Agnico Eagle Geotechnical Engineer.

3.3.5 Fine filter amended with bentonite (FFAB)

1. Mixed homogeneously with 6% (weight basis) of granular sodium bentonite, added mechanically or by other method(s) approved by the QC and/or QA personnel;
2. The bentonite shall be free flowing, high swelling, granular sodium bentonite, American Colloid Company, Volclay SG-40; Wyo-Ben, Evirogel-10; or equivalent. The bentonite shall have a free swell of at least 18 cc/2 gm measured by ASTM Standard Test Method D-5890 and shall meet the following gradation shown on Table 3-4.

Table 3-4 Sodium bentonite gradation

PARTICLE SIZE (MM)	FINER THAN
2.0	100
0.85	60-100
0.075	0-20

3. This material shall be mixed in an area protected from wind and rain;
4. Only small stockpiles of this material are permitted to be produced in order to minimize the loss of fines by the wind and/or excessive particle segregation.

3.3.6 Bituminous geomembrane (BGM) Liner

1. "Bituminous geomembrane (BGM)" liner shall be Colentanche Product ES2 with a nominal thickness of 4.0 mm;
2. Rolls shall be stored in accordance with the supplier's specifications;
3. For each roll, the Contractor shall provide the Owner's Representative the following information:
   i. Identification label and shipping weights; it is important that the labels be durable to withstand shipping, unloading and temporary storage;
   ii. Thickness, length and width;
   iii. Manufacturer's approved QC stamp,

iv. ASQUAL[3] label;

4. The technical specifications from the manufacturer shall meet the minimum requirements presented in Appendix 2;
5. The Contractor shall demonstrate his ability to adequately weld seams and make patches on site under arctic winter conditions.

3.4 Site Quality Control/Quality Assurance QC/QA during BGM Installation

The Contractor shall follow the QC/QA Plan during BGM installation provided in Appendix 4. The QC/QA personnel or the Agnico Eagle Geotechnical Engineer may request additional tests to make sure that the installed BGM satisfies the specifications.

3.5 Non-Conforming Materials

Where and when directed by the QC Representative or the QA Inspector, the Contractor shall excavate and/or remove all unsuitable materials to the designated spoil or dump.

[3] ASQUAL : Assurance quality Label

4.0 EXECUTION OF WORKS

The Contractor's attention is drawn to the fact that the work will be executed (in part) during arctic winter and in a protected area (in an environmental context). Special care shall be taken to ensure the safety of all employees, to avoid damage to the land and breaking ice outside the designated working area.

The construction of the WRSF Dike shall start at the end of the thawing season of 2018 with the key trench excavation and shall be completed prior the freshet of 2019 to collect all contact water.

4.1 Work method and sequence

1. The method of construction and the sequence of execution shall be adapted to conditions that may change often in order to minimize fill cross contaminations and foundation disturbance.
2. Heavy equipment traffic shall be adapted to site conditions that may change often so as to minimize surface disturbance and the formation of ruts in the work area. The Contractor shall restore disturbed areas as close as possible to the original condition to the satisfaction of the Owner.

4.2 FFAB Construction

The FFAB layer in the key trench shall be placed in two (2) compacted lifts: 30 cm followed by 50 cm. The Contractor’s attention is drawn to the fact that prior to the placement of the second lift, it shall install the BGM to the extent necessary that the latter is encapsulated a minimum of 1.5 m as shown on Drawing 651298-6000-4GDD-0005.

4.3 Site preparation

4.3.1 General

1. The Contractor shall remove snow, ice and boulders within the WRSF Dike footprint area prior to any fill placement and shall keep the work area dry. Removal of boulders is required only along the key trench.
2. The QC Representative may occasionally request that additional soil stripping and removal of snow and ice be carried out from areas outside the dike footprint shown on the drawing.
3. The material removed shall be stockpiled separately in areas approved by the Agnico Eagle Geotechnical Engineer.
4. The prepared foundation shall be approved by QC/QA personnel prior to fill placement.

5. All survey shall be done by the Contractor.
6. The approval and visual inspection forms shall be prepared by QC/QA personnel.

4.3.2 Access Roads

1. The Contractor shall use in a proper manner the access road that leads to the construction site.
2. If required, the Contractor shall submit to the Agnico Eagle Geotechnical Engineer full details of all temporary construction roads, ramps and access planned for the construction. Details related to these temporary works shall include location, alignment, required safety berm or traffic signs, period of use; materials used and plan for their removal.
3. The Contractor shall maintain in good condition all existing or new access roads used for the execution of the work such as the access roads connecting the work area to stockpiles and waste dump areas, to the satisfaction of the Agnico Eagle Geotechnical Engineer.
4. All temporary access roads shall be constructed on top of the existing ground. No stripping or excavation shall be undertaken unless approved by the Agnico Eagle Geotechnical Engineer.
5. The Contractor shall supply and install all required traffic signs and safety equipment to ensure worker safety on the construction site for the complete duration of the work.
6. Access road maintenance shall be planned and executed in such a way that worker safety is not compromised. Access roads shall be kept clean of snow and if required, sprinkled with abrasive materials such as gravel to the satisfaction of the Agnico Eagle Geotechnical Engineer.
7. Once the construction work is complete, all temporary access roads shall be removed and the material disposed of as directed by the Agnico Eagle Geotechnical Engineer.

4.4 Water management during construction

The Contractor shall be responsible for the construction of temporary swales, ditches, and sumps and be equipped with all the necessary pumps, hoses, and other equipment needed to maintain excavations dry, for the complete duration of the work and to the satisfaction of the QC and the QA personnel. The pumped water shall be discharged into the attenuation pond[4] prior to be treated. However, a detailed written procedure of water management during construction shall be submitted to Agnico Eagle's Geotechnical Coordinator for approval prior the beginning of the Work.

4 See Drawing 651298-6000-4GDD-0001

4.5 Snow management during construction

The Contractor shall remove all snow accumulated above the thermal cover of the FFAB to promote its freezing and to maintain it in a frozen state.

4.6 Foundation preparation

4.6.1 General

Foundation preparation involves making sure that the footprint of the WRSF Dike is free of snow, ice, water, boulders and any other deleterious materials or soft pocket at all times during the first layer fill placement regardless of the type or fill zone.

4.6.2 Key trench excavation and bedrock treatment

1. The key trench excavation is expected to be partly in overburden and partly in the bedrock.
2. The key trench excavation shall be carried out at the end of the thawing season around the end of September so as to avoid the need for drilling and blasting of potentially frozen overburden.
3. Final key trench depth as well as longitudinal and lateral dimensions shall meet those shown on the drawings and shall be approved by the Agnico Eagle Geotechnical Engineer and the QC/QA personnel.
4. Excavated materials shall be set aside separately or stockpiled in areas approved by the Agnico Eagle Geotechnical Engineer.
5. The QC/QA personnel may, from time to time, request additional excavation or cleaning of the bedrock.
6. The key trench shall be dewatered (if applicable) and all thawed soil removed prior to any backfilling. Snow and/or ice have to be completely removed from the bottom of the key trench before any fill placement to the satisfaction of the QC/QA personnel.
7. Snow and/or ice, soil and rock must be stockpiled in areas allowed by the Agnico Eagle Geotechnical Engineer.
8. Bedrock surface shall be carefully cleaned. In addition, all pockets, cracks and depressions filled with soil and rock fragments shall be cleaned using compressed air or water to the satisfaction of the QC/QA personnel.
9. Bedrock surface irregularities such as cracks and joints exposed after the key trench excavation and cleaning shall be sealed with a product approved by Agnico Eagle Geotechnical Engineer, who may request additional bedrock surface treatment outside of the key tench.

10. QC/QA personnel may request grout without the sand to ensure full penetration into fine cracks.

4.7 Stockpile and disposal areas

1. A temporary stockpile area may be developed near the WRSF Dike if the Contractor has the Agnico Eagle Geotechnical Engineer approval.
2. However, unless authorized otherwise, all stripped material including snow, ice and soil shall be disposed in the waste disposal area(s) designated by the Agnico Eagle Geotechnical Engineer. During the construction, any other waste disposal area requires written authorization by the Agnico Eagle Geotechnical Engineer.
3. The Contractor shall develop its stockpiles to facilitate drainage and minimize fill segregation

4.8 Fill placement and compaction

4.8.1 General

The Contractor shall prepare the surface to be filled, load, unload and handle the fill in such way that segregation and loss of fines are limited and shall meet the requirements of Section 3.0 after placement.

4.8.2 Rockfill (0-1,000 mm)

1. The Contractor shall sort out boulders bigger that 1,000 mm prior to fill placement; boulders up to 1500 mm may be pushed to the downstream shoulder of the dike;
2. The Contractor may use a dozer or any other suitable equipment to place this material;
3. As much as possible, the finer rockfill shall be placed on the upstream slope side of the dike which will support the BGM;
4. The maximum allowable lift thickness is 2.0 m prior compaction;
5. Haul trucks shall dump their load on horizontal surface and not in the slope to limit fill segregation and the formation of voids;
6. Great care shall be taken to limit particle segregation during placement. Occasionally the QC and/or QA personnel may request the Contractor to modify his construction procedures to meet this requirement;
7. The Contractor shall compact each lift with at least 4 passes of a heavy dozer or equivalent as well as manage construction equipment traffic to promote additional compaction with tires and tracks on all surfaces.

8. Placement and compaction of fill must be performed to the satisfaction of the QC and QA personnel.

4.8.3 Coarse Filter

1. The Contractor shall avoid excessive handling of the coarse filter to prevent particle segregation;
2. The coarse filter may have to be placed in freezing temperatures. Any snow and ice accumulated on the previous lift shall be removed before placement of the new lift.
3. Each lift shall be placed with an excavator bucket and great care must be taken to limit particle segregation during placement. Occasionally the QC and QA personnel may ask the Contractor to modify his construction procedure to meet this requirement;
4. This material shall be compacted with an excavator bucket and approved by the QC and QA personnel;
5. The coarse filter shall not be sprayed with water during compaction.
6. Placement and compaction of the fill must be performed to the satisfaction of the QC and QA personnel.

4.8.4 Fine filter

1. The fine filter is used as bedding for and cover on the BGM except where the latter is keyed in the FFAB layer at the bottom of the trench;.
2. The Contractor shall avoid excessive handling of this material to prevent particle segregation and loss of fines.
3. The layers below and above the liner in the slope shall have a minimum loose thickness of 0.50 m;
4. The fine filter above the FFAB layer in the key trench bottom, shall have a minimum compacted thickness of 0.50 m;
5. Each lift must be placed with an excavator bucket and great care must be taken to limit particle segregation during placement. Occasionally, the QC and/or QA personnel may ask the Contractor to modify its construction procedure to meet this requirement.
6. This material must be compacted with the excavator bucket and approved by the QC and QA personnel;
7. The material shall not be sprayed with water during compaction.
8. Placement and compaction of this material shall be carried out to the satisfaction of the QC and QA personnel.

4.8.5 Fine filter amended with bentonite (FFAB)

1. The Contractor shall mix the materials near the construction site and following a pre-approved procedure by the QC and QA personnel. The mixing procedure shall be adjusted depending on wind direction and/or intensity so as to minimize bentonite loss.
2. The Contractor is not allowed to pre-mix and stockpile the FFAB.
3. The Contractor shall proceed with the mixing process in such way that the material can be placed immediately without requiring double handling.
4. The Contractor is responsible for planning the mixing process to respect the construction schedule.
5. The FFAB shall have a minimum compacted thickness of 0.8 m built in two layers: 0.3 m for the first (bottom) layer and 0.5 m for the second (top) one. The actual thickness is expected to vary locally depending on the topography of the exposed bed rock surface and the need to provide a near horizontal surface that will allow anchoring of the BGM with full contact to the FFAB and without folds. The Contractor's attention is drawn to the fact that were the FFAB is thicker than 0.5 m, it shall be placed and compacted in maximum lift thicknesses of 0.5 m.
6. Each lift must be placed with an excavator bucket and great care must be taken to limit fine losses of bentonite powder due to wind and/or particles segregation during placement. Occasionally the QA and QC personnel may ask the Contractor to modify his construction procedure to meet this requirement.
7. Each lift must be compacted with the minimum number of passes determined following the test pad work at the NE Dike as well as improvements.
8. FFAB shall not be sprayed with water.
9. Placement and compaction of the fill must be performed to the satisfaction of the QC and/or QA personnel.

4.8.6 Bituminous geomembrane (BGM)

1. The Contractor shall store, handle, roll-out, place, and weld the BGM in accordance with the manufacturer's specifications included in Appendix 2.
2. The Contractor shall roll-out the BGM panels vertically along the slope.
3. The BGM shall be free of folds before it is covered with fill. Cutting and patching may be performed to meet this requirement;
4. All welding and reparation work shall be carried out under the supervision of an experienced and certified technician and in the presence of the QC and/or QA personnel.

5. The Contractor shall take all necessary precautions to ensure that the BGM is not accessed by construction equipment tracks. A minimum soil cover of 0.5 m must be provided over the liner before it could be accessed by construction equipment tracks after QA/QC approval.
6. No fill material shall be placed over the BGM prior to approval by the QC and/or QA personnel.
7. Patch dimensions shall overlap all defects by at least 20 cm.

4.9 Thermistor strings (under Agnico Eagle's responsibility)

1. The Contractor shall store, handle and install the thermistor strings with care to minimize damage.
2. The Contractor shall install only the thermistor strings that have been both tested and verified. A test data sheet must be available for each thermistor string installed.
3. For each thermistor string installed, the Contractor shall note the identification number, location, and the spacing between each thermistor beads.
4. All thermistor strings installation must be performed under both the supervision of the Owner and/or the QC/QA personnel.
5. Thermistor strings beneath the liner must be placed prior the liner installation.
6. Vertical thermistor strings must be installed once the dike construction has been completed.
7. The Contractor shall survey and record all bead coordinates as well as the elevation of the thermistor string beneath.
8. The Contractor shall survey and record the top (upper) thermistor bead coordinates and elevation of each thermistor string.
9. Thermistor strings must be connected to a data logger or equipped with a connector for reading.
10. Thermistor connection to a data logger must be performed by an experienced and certified technician.

The Contractor shall take all the necessary precautions to ensure that the thermistor strings are not damaged during installation.

5.0 QUALITY CONTROL AND QUALITY ASSURANCE PROGRAM

1. QC / QA approval form is presented in the appendix 5 and tasks for QC / QA are presented in Appendix 4.
2. The Contractor shall be entitled to be represented during all field tests carried out by the QC Representative in order to determine whether fill materials meet the requirements of the Specifications.
3. The QC Representative will notify the Contractor of any such tests but the QC Representative shall not be required to wait for the arrival of the Contractor prior to the start of the test.
4. The Contractor shall provide assistance when required for collecting and handling the samples.
5. Sampling or testing required by the QC Representative shall be executed by the Contractor without delay. All samples and tests shall be taken or performed in accordance with the appropriate standard, approved by the QC Representative, and shall meet the requirements of the present document.
6. Visual inspections of excavation and sources of imported fills will be carried out by the QC Representative on a regular basis to ensure that the excavation work and fill materials meet the requirements of the document.
7. Full time visual inspection during BGM welding will be carried out by the QC Representative to ensure that the welding meets the design requirements.
8. Samples of the BGM shall be taken and kept for a minimum of 6 months;
9. Maximum tensile strength tested on the BGM (ASTM D 7275) shall meet the requirement of manufacturer's specification included in Appendix 4. Vacuum tests shall be done by maintaining a minimum pressure of -200 to -400 mbar for 15 seconds;
10. The QC report on the BGM installation shall include a plan view with defect and patch locations, panel number associated with each roll, seam locations, and other relevant information.

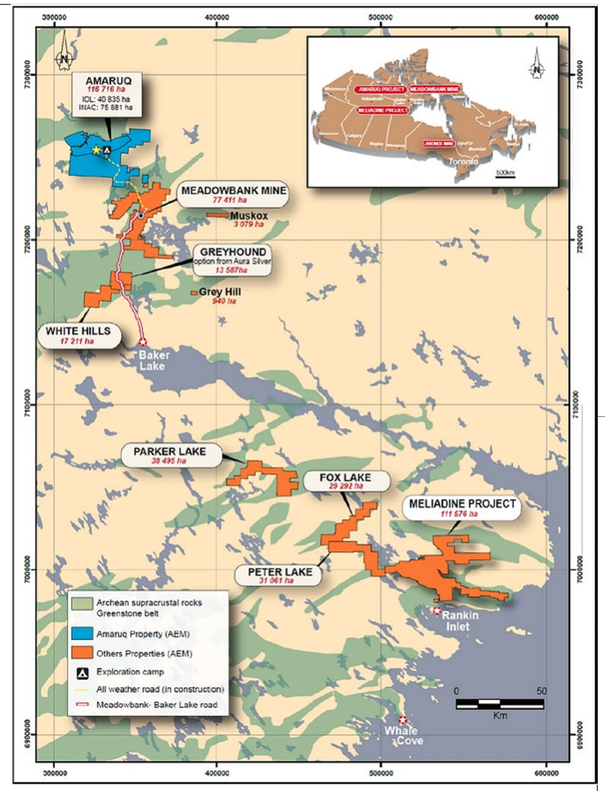
APPENDIX 1

Drawings of WRSF Dike

AGNICO EAGLE – MEADOWBANK DIVISION

WHALE TAIL PROJECT

DRAWING No.	TITLE	REVISION	DATE
651298-6000-4GDD-0000	LOCATION MAP AND DRAWING INDEX	00	2018-08-03
651298-6000-4GDD-0001	GENERAL ARRANGEMENT PLAN	00	2018-08-03
651298-6000-4GDD-0002	GENERAL PLAN OF FIELD INVESTIGATION LOCATIONS	00	2018-08-03
651298-6000-4GDD-0003	WRSF- PLAN VIEW WITH FIELD INVESTIGATION LOCATIONS AND STRATIGRAPHIC SECTION	00	2018-08-03
651298-6000-4GDD-0004	WRSF - PLAN VIEW AND LONGITUDINAL SECTION	00	2018-08-03
651298-6000-4GDD-0005	WRSF DIKE - SECTIONS	00	2018-08-03



KEY PLAN

ISSUE No	REV.	DATE (Y/M/D)	PURPOSE OF ISSUE
03	00	2018-08-03	ISSUED FOR CONSTRUCTION
02	PB	2018-07-23	ISSUED FOR CLIENT COMMENTS
01	PA	2018-07-20	ISSUED FOR INTERNAL COMMENTS

ISSUE REGISTER

ISSUE REGISTER

No	REVISION DESCRIPTION	DATE (Y/M/D)	*	**

INITIALS: * DESIGNED ** APPROVED

REVISION REGISTER

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SCALE N.T.S.	

CLIENT
AGNICO EAGLE

PROJECT
AGNICO EAGLE – MEADOWBANK DIVISION
WHALE TAIL PROJECT

TITLE
LOCATION MAP AND DRAWING INDEX

PROJECT No	SUBDIVISION	SUBJECT	SERIAL	REV.
651298	6000	4G DD	0000	00

A1-HOR-FRAME-EN (SI)

LAST SAVE: 2018/08/16 – 11:57am
PATH: T:\proj\651298 Detailed Eng WM-Geotech Amaruq\40_DD_DESSINS\WRSF\Final\651298-6000-4GDD-0000-00.dwg