



**AGNICO EAGLE**

MEADOWBANK COMPLEX

WHALE TAIL MINE SANA CRUSHER PAD

CONSTRUCTION SUMMARY REPORT  
MEADOWBANK COMPLEX

Submitted by:  
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November 21<sup>st</sup>, 2022

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NAPEG Member # L4124

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## EXECUTIVE SUMMARY

The construction of the Whale Tail SANA Crusher Pad was carried out from August 5<sup>th</sup> to August 26<sup>th</sup>, 2022. The purpose of the Pad is to accommodate the crushing complex for production of aggregates and aggregates storage. The controls applied during the construction were used to confirm that the work was completed in compliance with the Construction Drawings; however, the design was altered compared to the original drawings submitted for the 60 days' notice. This includes earthworks such as excavation and fill placement.

Before construction started, the initial design was modified to ensure no run-off from construction would flow to the environment. Additionally, a portion of the Pad was modified to accommodate already existing dewatering pipes on the field.

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## DOCUMENT CONTROL

<b>Date</b>	<b>Revised Section</b>	<b>Revision</b>
11/21/2022	-	For Submission


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## Section 1 Introduction

The objective of the Pad is to crush and store aggregates as required for the proper maintenance of the mine haul roads. The construction of the Whale Tail Sana Crusher Pad was carried out from August 5<sup>th</sup> to August 26<sup>th</sup>, 2022. The location of the Whale Tail SANA Crusher Pad is shown on Drawing 1 in Appendix B. This construction report presents a summary of the construction activities, the QA/QC activities, as well as the overall information used to produce the as-built drawings as requested by the 2AM-WTP1830 Water License.

### 1.1 Roles and Responsibilities

The Engineering Design and Construction Drawings for the Pad were developed by the Engineering department of the Meadowbank Complex of Agnico Eagles Mines LTD. The Mine Operations department of the Meadowbank Complex was mandated to execute and supervise the work. The Open Pit Engineering Coordinator was the main point of contact between the stakeholders of the project. The Open Pit Engineering Coordinator was also responsible for the Quality Assurance (QA) to ensure the Pad was built as per construction drawings (different from the drawings originally submitted for the 60 days' notice). All fill material was taken from the Whale Tail Pit in sampled and delimited areas of NAG material; therefore, no QC was present or required for the Pad construction, visual assessment was done by QA during field visits.

Table 1 presents a summary of the general roles and responsibilities for each of the parties involved during the Pad construction. This table also includes the key personnel that contributed to construction activities.

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**Table 1: Roles, Responsibilities and Key Personnel for the Whale Tail SANA Crusher Pad at Whale Tail**

Department	Role	Responsibility	Key Personnel	Position
Engineering	Owner and Designer	Project Management	Antoine Laporte	Open Pit Engineering Coordinator
		QA during construction	Ryan Griswold and Vincent Jodoin	Production Engineers
		Provide Engineering Design & Construction Drawings for the Pad	Antoine Laporte	Open Pit Engineering Coordinator
Mine Operations	Earthworks	Carry out Pad construction activity. Supervise work.	Walter Standing and Ian Bourassa	Mine Operations General Supervisors

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## 1.2 Definitions of Terms Used in this Document

The following table presents the definitions of the terms used in this report.

**Table 2: Definitions of Terms**

<b>Term</b>	<b>Definition</b>
AEM	Agnico Eagle Mines Limited, Owner.
As-built drawing	Document showing no new concept. It is the graphical representation of a built structure showing the real measurements. It is an inventory of what was built for reference.
Approval	A written engineering or geotechnical opinion, related to the progress and completion of the Work.
Builder	AEM Mine Operations
Designer	AEM Engineering
NAG	A material that has been geochemically classified as not being acid generating.
Owner	Agnico Eagle Mines Limited, Meadowbank Complex (AEM).
Quality Assurance (QA)	<p>A planned system of inspection and testing that document, to the satisfaction of the Owner, other stakeholders, and regulator that the Work complies with the design and Drawings.</p> <p>Quality Assurance forms a subset of the Quality Control program. Quality Assurance comprises inspections carried out during Quality Control and includes verifications, evaluations of materials and workmanship necessary to determine and document the quality of the constructed facility. Quality Assurance refers to the measures taken to assess whether the Builder follows the design intent and Drawings</p>
Quality Control (QC)	A planned system of inspection, testing and documentation carried out by the Builder during construction to ensure that the Work is being performed and completed in a manner that complies with the Drawings and Specifications. The Builder is responsible for the Quality Control of all Work performed by him and all Work performed by any Subcontractor under contract with him.
Earthworks	All activities associated with material placement of the Whale Tail SANA Crusher Pad

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### 1.3 Description of the Structure Built

The objective of the Pad is to accommodate the equipment for the crushing of aggregates and to store crushed aggregates. The Pad has an irregular shape and is 360m long and 160m wide at an average elevation of 4m. The top level of the Pad was built leveled on top of a shallow sloped natural ground.

### 1.4 Construction Documents

The Initial Drawings submitted for the 60 days' notice were completed by AEM Engineering in April 2022. The design was then altered to ensure that no run-off from construction would flow to the environment. Additionally, a portion of the Pad was modified to accommodate already existing dewatering pipes in the field. The final construction drawings were created in June 2022. Table 3 presents the available construction documents for the Whale Tail SANA Crusher Pad.

**Table 3: List of Construction Drawings for the SANA Crusher Pad**

Date	Rev	Title
2022/06/18	2	New Sana Crusher Pad - Overview R02.pdf
2022/06/18	2	New Sana Crusher Pad - Close-up View R02.pdf
2022/06/18	2	New Sana Crusher Pad - A-A' R02.pdf
2022/06/18	2	New Sana Crusher Pad - B-B' R02.pdf

### 1.5 As-Built Drawings

Table 4 presents the as-built drawings for the Whale Tail SANA Crusher Pad. The surveying was done by AEM Engineering surveyors, and the as-built drawings were done and verified by AEM Engineering. The as-built drawings are included in Appendix B.

**Table 4: List of As-Built Drawings for the SANA Crusher Pad**

Drawing Title	Date	Rev	Description
New Sana Crusher Pad - Overview - As-built.pdf	2021/10/21	00	Aerial view of Whale Tail site.
New Sana Crusher Pad - Close-up View - As-built.pdf	2022/10/21	00	Aerial view of the as-built structure
New Sana Crusher Pad - A-A' - As-built.pdf	2022/10/22		A-A' Cross-section
New Sana Crusher Pad - B-B' - As-built.pdf	2022/10/22		B-B' Cross-section



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## Section 2 Summary of Construction Activities and Schedule

This section presents the construction steps of the Whale Tail SANA Crusher Pad and the schedule of the work done. Sediment release was not observed during construction due to the location of the Pad. Blasting was not required for construction and no water was required to manage dust emissions from construction activities.

### 2.1 Schedule and Construction Steps

The construction of the Whale Tail SANA Crusher Pad was carried out from August 5<sup>th</sup> to August 26<sup>th</sup>, 2022. Work was performed on day shift and night shift:

- Site preparation (pipe crossing).
- Survey Stakes laid out on the field.
- Inspection of the Pad footprint on the field to assess if any pipes or electrical or other hazards.
- New Road 22 was constructed surrounding the Pad to limit water flow to the environment.
- Commissioning of new Road 22.
- Decommissioning of old Road 22.
- Construction of Whale Tail SANA Crusher Pad.

The work procedures followed during the construction of this Pad are discussed in the following subsections. Selected photographs of the work progress taken throughout the construction are shown in Appendix C.

#### 2.1.1 Site Preparation

The first step in the Pad construction was to create a pipe crossing from the Whale Tail South Ring Road to the New Road 22. This task was completed with the help from the Energy and Infrastructure department to ensure that the integrity of the pipes was not compromised. No additional preparation was required prior to construction.

#### 2.1.2 New Road 22 Construction

The New Road 22 was designed to be at the same elevation as the Pad with NAG material. The road was started from the Whale Tail South Ring Road going towards the Old Road 22. The material was placed with a D10 Caterpillar dozer with NAG Pit run coming from Whale Tail Pit with 777s and 785s Caterpillar Haul Trucks. The level of the road was monitored by AEM Engineering surveyors to respect design parameters.

#### 2.1.3 Whale Tail SANA Crusher Pad Construction

The existing Pad was pushed from the New Road 22. The Pad was built using a temporary access in the middle of the Pad where there was already a pipe crossing. Doing so allowed to shorten the Haul Truck cycle times to minimize impact on open pit production. The material was placed with a D10 Caterpillar dozer with NAG Pit run coming from Whale tail Pit with 777s and 785s Caterpillar Haul Trucks. The level of the Pad was monitored by AEM Engineering surveyors to respect design.

The Pad and New Road 22 was built with 214,000m<sup>3</sup> of NAG Material.

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## Section 3 QA/QC Program and Results

### 3.1 Before material placement

Before the start of the material placement the Production Engineer did a visual assessment of the Pad footprint to ensure no dewatering infrastructures or electrical wires were present within the footprint the designed Pad. No such infrastructures were found to be interfering with the Pad. The go ahead to start construction was given.

### 3.2 Material placement

During the construction, the Quality Assurance (QA) and Quality Control (QC) of the Pad was carried out by the AEM Engineering. The program included periodic inspection of fill placement to ensure the footprint of the Pad was not exceeded. Photographs of the work progress and activities were taken frequently as presented in the photographic record in Appendix C.

## Section 4 Design Changes and Field Adjustments

The initial design submitted for the 60 days' notice was modified to proactively reduce the impact of the Pad construction on water quality. The Pad was redesigned to eliminate the space between the Old Road 22 and the Pad. The construction method was also modified to make sure the New Road 22 was created before placing material on the Pad to prevent flow of turbid water to the environment. The design was also modified to accommodate new dewatering pipes that were moved between the 60 days' notice design and the construction drawings.

Due to the reduced footprint of the available space, the Pad was extended in front of the Mammoth Dike on the other side of the old Road 22.

## Section 5 Operation, Maintenance and Surveillance

A monitoring program is essential to ensure the integrity of this structure, especially at freshet. The monitoring program for this structure will be included within the Whale Tail pits and roads inspection conducted monthly.

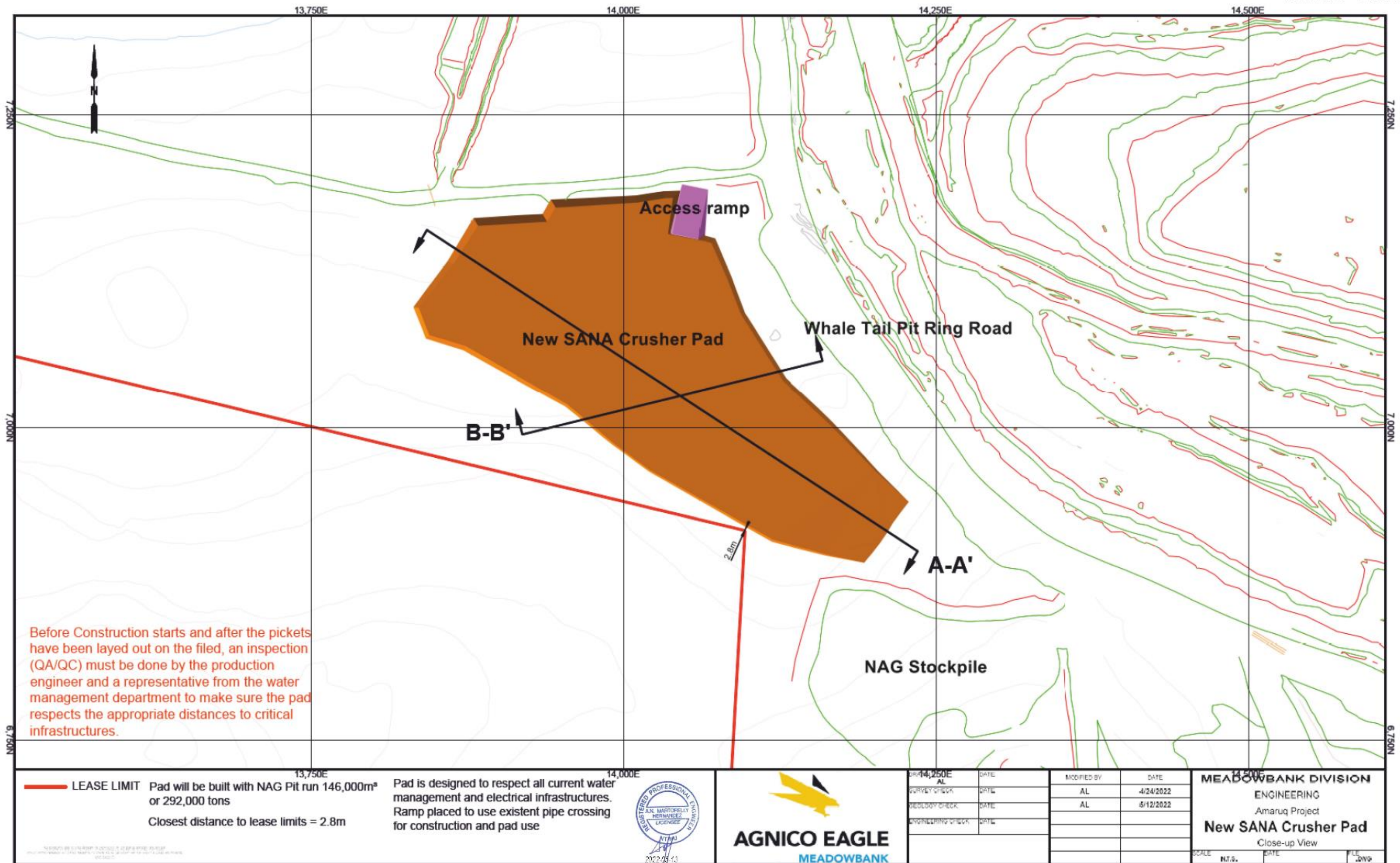
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## APPENDIX A – 60 Days’ Notice Drawings





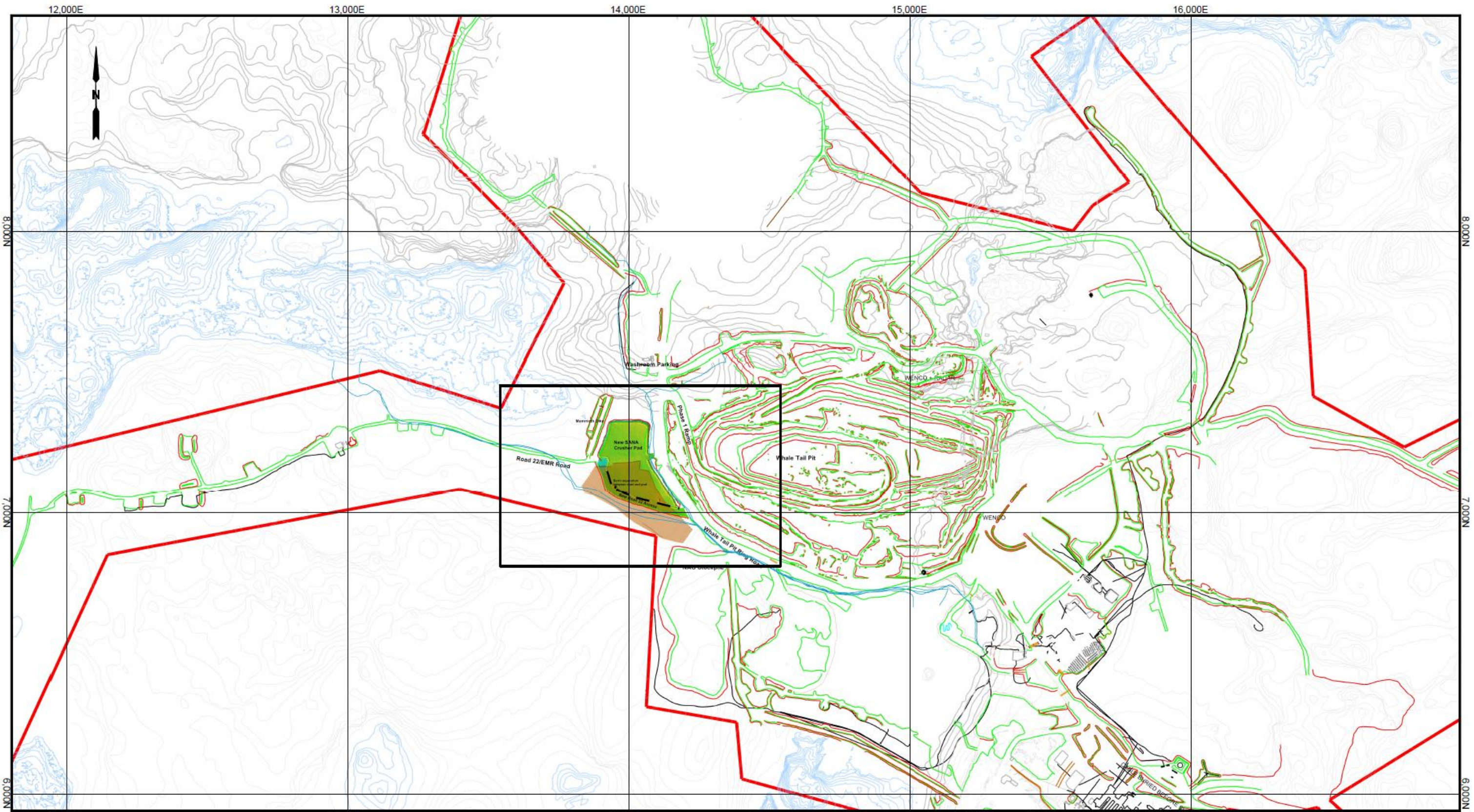




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## APPENDIX B – As-Built Drawings





 **LEASE LIMIT**



As-built Pad in Green  
Initial Design in translucent orange



DRAWN BY Ryan Griswold	DATE 08/11/2022	MODIFIED BY AL	DATE 10/21/2022
SURVEY CHECK	DATE		
GEOLOGY CHECK	DATE		
ENGINEERING CHECK	DATE		

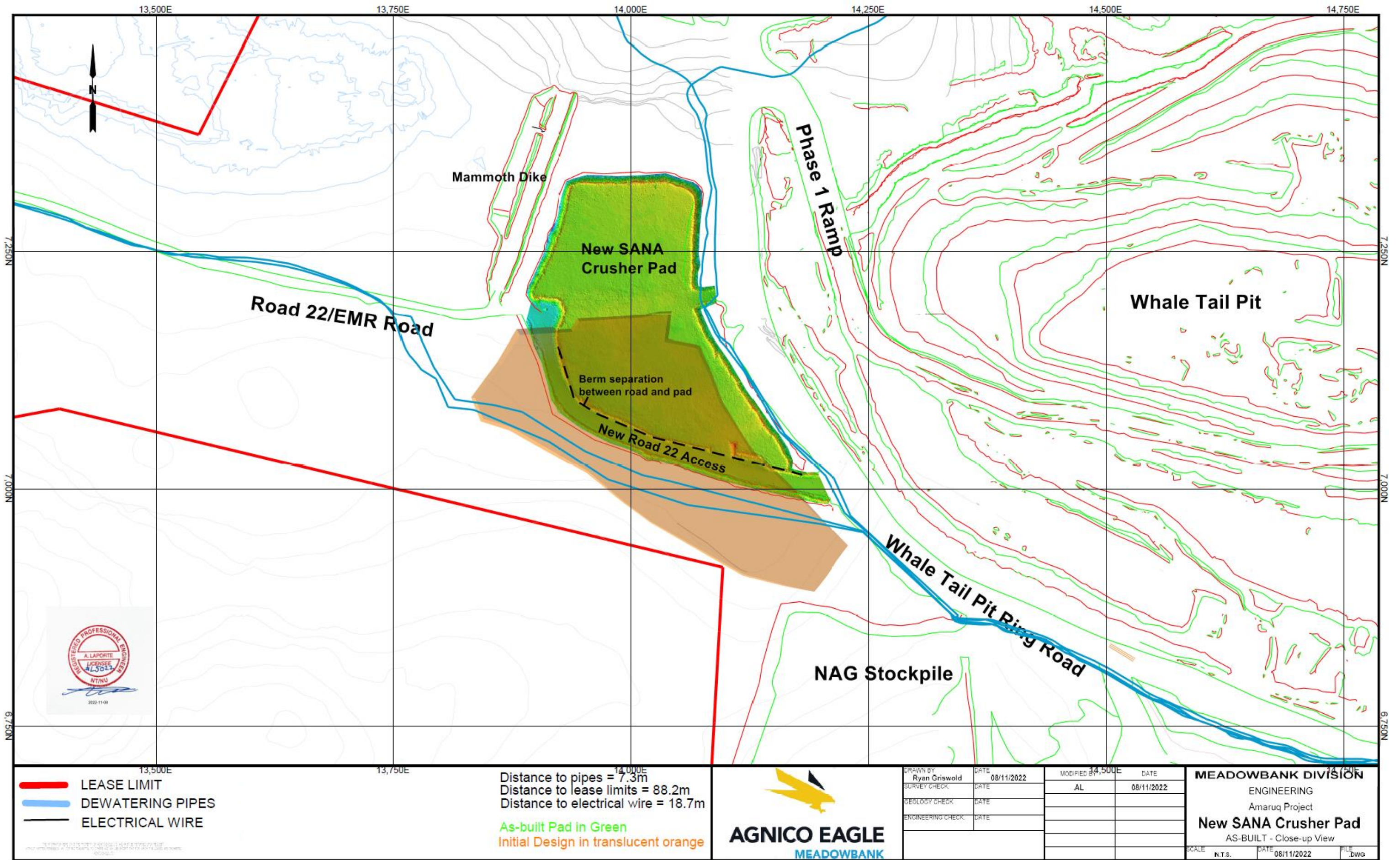
**MEADOWBANK DIVISION**  
ENGINEERING  
Amaruq Project  
**New SANA Crusher Pad**  
AS-BUILT - Overview

SCALE  
N.T.S.

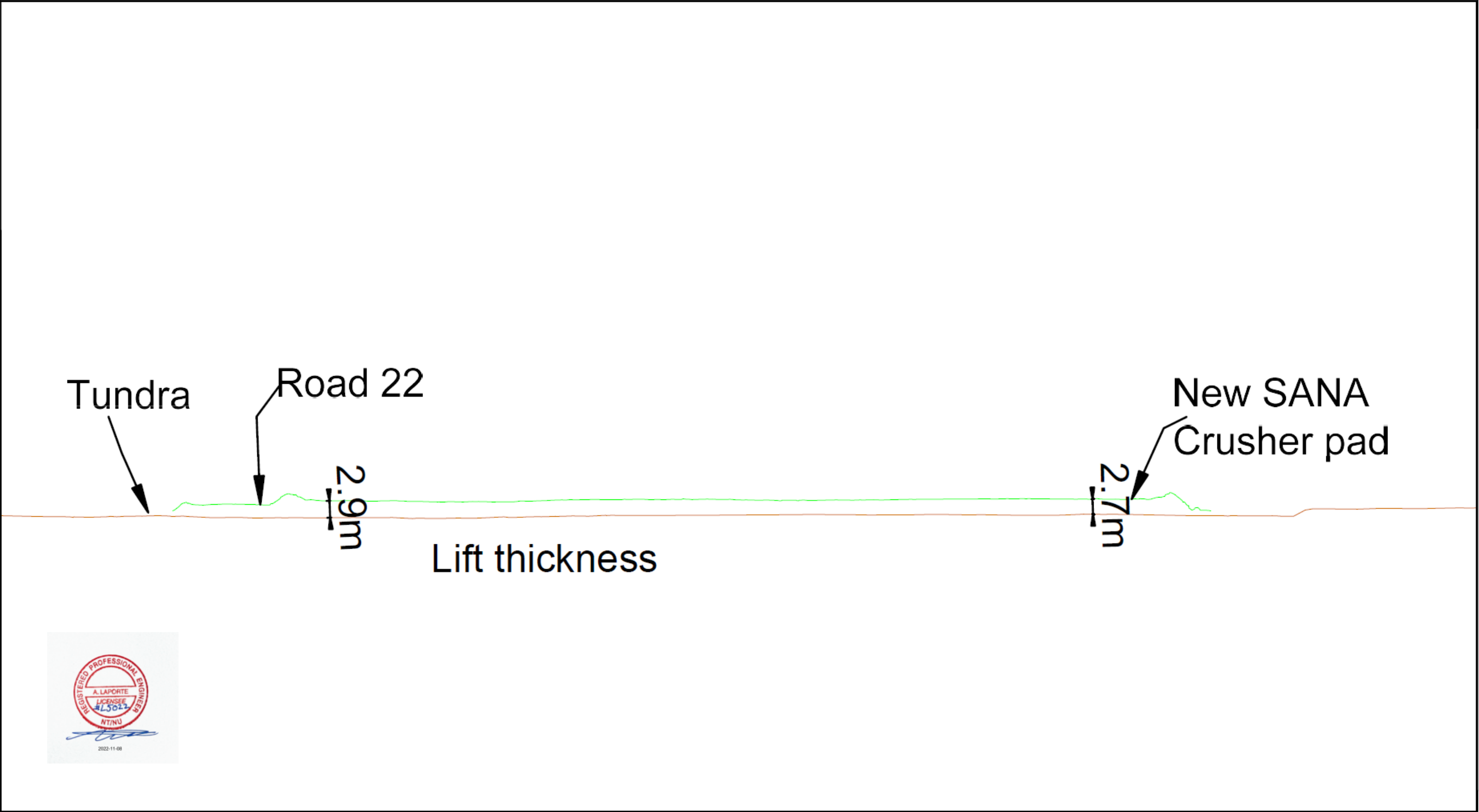
DATE  
08/11/2022

FILE  
DWG










Section view B-B



DRAWN BY	RG	DATE	9/29/2022	MODIFIED BY	DATE
SURVEY CHECK		DATE			
GEOLOGY CHECK		DATE		AL	22/10/2022
ENGINEERING CHECK		DATE			

MEADOWBANK DIVISION		
ENGINEERING		
Amaruq Project		
New SANA Crusher Pad		
B-B' DESIGN & AS-BUILT		
SCALE	N.T.S.	DATE
		FILE .DWG



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## APPENDIX C – Construction Photographs


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Photo 1. Initial site view



Photo 2: Construction of New Road 22.





Photo 3. Delimitation of Road 22 and Pad for construction of berm



Photo 4. Final limit of Pad looking towards the WT WRSF