October 17th 2016

Karen Kharatyan
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

Re: Water License 2AM-MEL1631 Part D, Items 1&2 - Submission of Final Design and Construction Drawings for Wesmeg culverts

Mr. Kharatyan,

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Project (the Project), a gold mine located approximately 25 km north from Rankin Inlet, and 80 km southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut.

The overall objective of the water management strategy of this project is to develop a practical and feasible site wide water management plan to minimize the potential negative impacts of mining development on the surrounding environment including habitats for fish and wildlife, and to facilitate mine operation and long-term closure and reclamation of the mine site. To attain this objective, culverts are used to control and divert runoff underneath the road.

In accordance with Water License 2AM-MEL1631, Part D, Items 1 and 2, please find enclosed with this letter, a copy of the final design and construction drawings for Wesmeg culverts. Agnico Eagle is planning to start building the above mentioned culverts upon Board's approval.

Should you have any questions regarding this submission, please contact me or Jamie Quesnel.

Regards,

Agnico Eagle Mines Limited – Meliadine Division

Manon Turmel
manon.turmel@agnicoeagle.com
819-759-3555 x8025
Environmental Compliance Counselor

Jamie Quesnel
jamie.quesnel@agnicoeagle.com
819-759-3700 x 6838
Environmental Superintendent - Nunavut

cc: *David Abernethy, Indigenous and Northern Affairs Canada*
Luis Manzo, Kivalliq Inuit Association

DESIGN REPORT FOR WESMEG ROAD CULVERTS MELIADINE PROJECT, NUNAVUT

PRESENTED TO

Agnico Eagle Mines Ltd.

OCTOBER 2016
ISSUED FOR USE
TETRA TECH PROJECT NUMBER: 28920
AGNICO EAGLE DOCUMENT NUMBER: 6515-E-132-005-132-REP-003

Tetra Tech
5100, Sherbrooke street east, suite 400
Montreal, QC H1V 3R9, CANADA
Tel 514.257.1112 Fax 514.257.0717

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Site Location and Access

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Project (the Project), a gold mine located approximately 25 km north from Rankin Inlet, and 80 km southwest from Chesterfield Inlet in the Kivalliq Region of Nunavut.

The studied area consists of the Meliadine industrial site. More specifically, this study focuses on the 2016 civil construction work zone. The area is accessible from the all-weather gravel road linking the existing exploration camp with Rankin Inlet. The site location is shown in figure 1 in appendix A.

1.2 Existing Site Facilities

Current facilities at the Meliadine Project site include the exploration camp located on the shores of Meliadine Lake, approximately 2.3 km east of the Tiriganiaq deposit. The self-contained camp consists of four wings of new trailers that can accommodate up to 200 people and includes new kitchen facilities, complete with diesel generators. Power for the exploration camp is currently provided by diesel generators. Potable water for the exploration camp is pumped from Meliadine Lake.

An underground portal allowing access to an exploration decline was built at the Tiriganiaq deposit in 2007 and 2008 in order to extract a bulk sample for study purposes. A waste rock and ore storage pad was built during excavation of the decline and a sampling tower was installed for processing the bulk sample. There is a 2 km long road between the Project exploration camp and the portal site. Another underground (UG) bulk sample of 4,600 t of ore was taken from the Tiriganiaq deposit via this portal in 2011. The results confirmed the resource estimation model that has been developed for the two principal zones at Tiriganiaq.

1.3 Scope of Work

Agnico Eagle retained the services of Tetra Tech to carry out the planning and design works associated with the Water and Environment and the Civil Works components of the Project. As part of the scope of work, Agnico Eagle asked Tetra Tech to:

- Conduct a detailed design for the service roads and temporary roads, as part of the 2016 civil work construction schedule including the crossing culverts;
- Produce construction drawings and specifications for the roads and culverts;
- Prepare a design report of the culverts.

This report summarizes the site conditions, design basis and considerations of the Wesmeg road culverts.

2.0 DESIGN

2.1 Culvert Design Basis and Water Management Strategy

The overall objective of the water management strategy of this project is to develop a practical and feasible site-wide water management plan to minimize the potential negative impacts of mining development on the surrounding environment including habitats for fish and wildlife, and to facilitate mine operation and long-term closure and reclamation of the mine site. To attain this objective, culverts are used to control and divert runoff underneath the road.

2.1.1 Erosion Control

To control erosion, rip rap will be installed around the culvert inlet and outlet areas. For an example of a rip rap section, see the typical culvert cross-section presented in appendix B. During the installation of the culverts, if required, silt curtains will be used in the work area to prevent total suspended solids from reaching downstream water bodies.

2.1.2 Culvert Specifications

The culverts that are proposed in this study will be in service for up to 15 years. The standard galvanized, corrugated steel pipe culvert is proposed. It is understood that the haul trucks to be used at the Project site will be CAT AD60 for underground trucks and Komatsu HD465 model or equivalent for open pit trucks. The culvert pipe originally proposed to handle the calculated runoff, were of 600 mm in diameter with a corrugation profile of 68X13 mm and a minimum specified thickness of 1.3 mm. As a safety measure against possible blockage from frost or ice, these culverts are oversized to a diameter of 900 mm. A minimum of 1 m fill cover will be placed over the culverts.

The location of the proposed culverts are shown in appendix A. A typical culvert cross-section is presented in appendix B.

The table below shows the characteristics of each culvert proposed.

Table 1 Culvert specifications

	Culverts	
	West – Service Road to Wesmeg	East – Service Road to Wesmeg
Number of culverts in group	1	1
Length of each culvert (m)	17.5	19.2
Diameter of each culvert (mm)	900	900

2.1.3 Figures and Drawings

Figure 1 in appendix A presents a general site layout plan. Drawing 65-695-230-222 in appendix B presents the construction details for the Wesmeg road culverts.

3.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Agnico Eagle Mines Ltd. and their agents. Tetra Tech Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than Agnico Eagle Mines Ltd., or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this report is subject to the terms and conditions stated in Tetra Tech's Services Agreement.

4.0 CLOSURE

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

Respectfully submitted,
Tetra Tech

PERMIT TO PRACTICE
TETRA TECH INDUSTRIES, INC.
O/A TETRA TECH
Signature
Date 2016.10.14
PERMIT NUMBER: P 1029
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
J.M.I.F. ALARIE
LICENSEE
NT/NU
2016.10.14

Prepared by:
Christopher Morin, Jr. Eng.
Direct Line: 514.257.2427 x3240
Christopher.Morin@tetratech.com

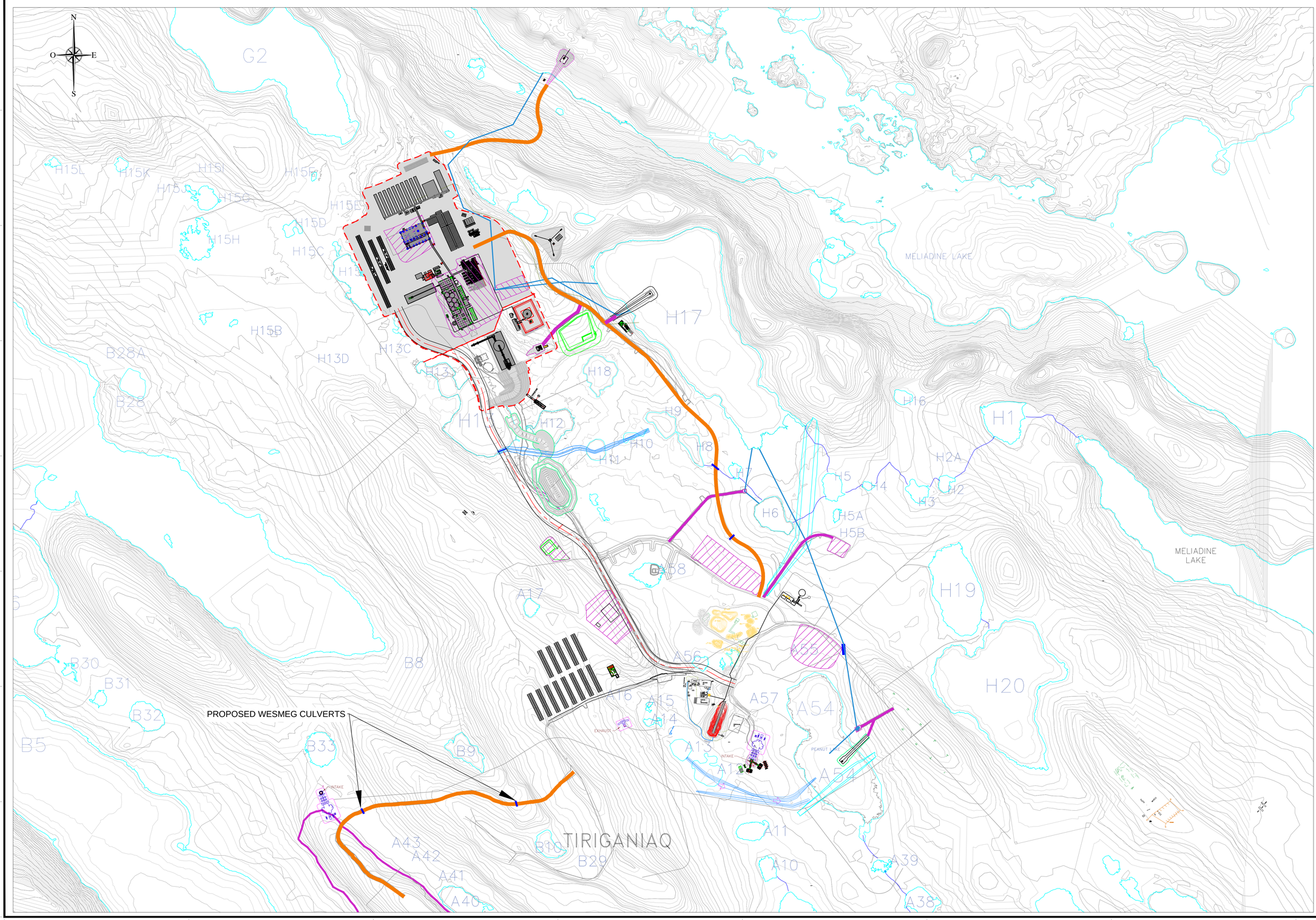
Reviewed by:
Josée Alarie, Eng.
Direct Line: 514.257.2427 x3323
Josee.Alarie@tetratech.com

APPENDIX A

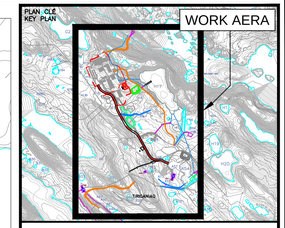
Figure 1

NO. DESSIN
DRAWING NO. 6115-E-132-005-132-REP-003 FIGURE 1

FORMAT ARCHD



PLAN CLÉ
KEY PLAN



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

LEGEND :

- TEMP. ROADS TO BE BUILT IN 2016
- SERVICE ROADS TO BE BUILT IN 2016
- PIPELINE ALIGNMENT BASE
- PAD TO BE BUILT IN 2016
- PROPOSED CULVERT

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

REVISIONS

TITRE / TITLE

AGNICO-EAGLE – MELIADINE DIVISION

PLAN VIEW
WESMEG ROAD CULVERTS

DESSINÉ PAR / DRAWN BY	CHRISTOPHER MORIN	DATE 2016-05-04
VERIFIÉ PAR / CHECKED BY	SOLÈNE MOREAU	2016-05-05
APPROUVÉ PAR / APPROVED BY	JOSÉE ALARIE	2016-05-05
ÉCHELLE / SCALE	1:5000	DATE 2016-05-04
NO. DESSIN / DRAWING NO.	FIGURE 1	
NO. PROJET / PROJECT NO.	6515/28920	REVISION / FEUILLE / SHT

AE-CART-ARCH D

P:\28920\DESSIN\CIV-INFRA\DESSINS DE TRAVAIL\AUTOCAD\Sketch\6115-E-132-005-132-REP-003 FIGURE 1.dwg

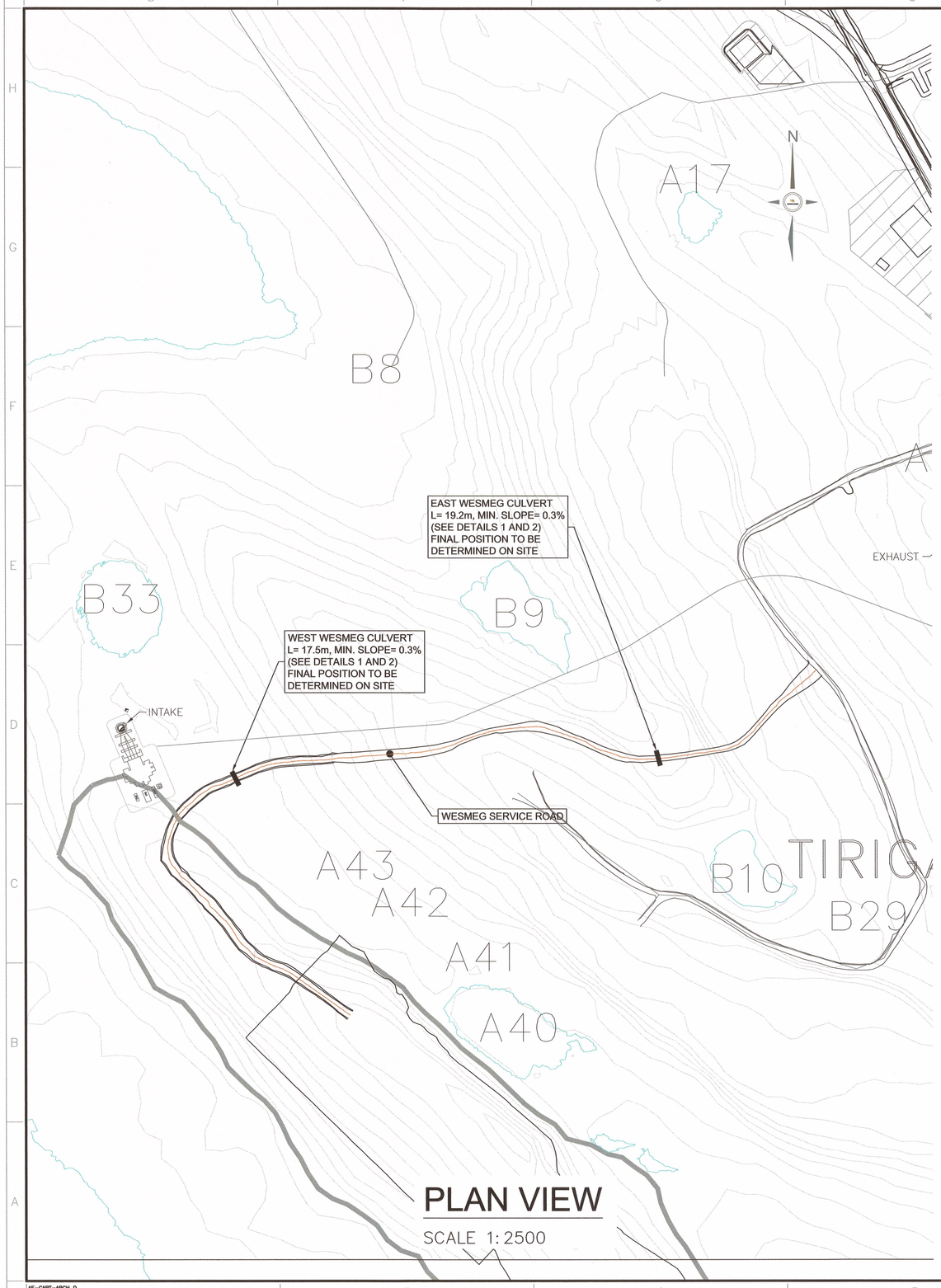
FILE NO. 6115-E-132-005-132-REP-003 FIGURE 1.dwg

APPENDIX B

Construction Drawing
65-695-230-222

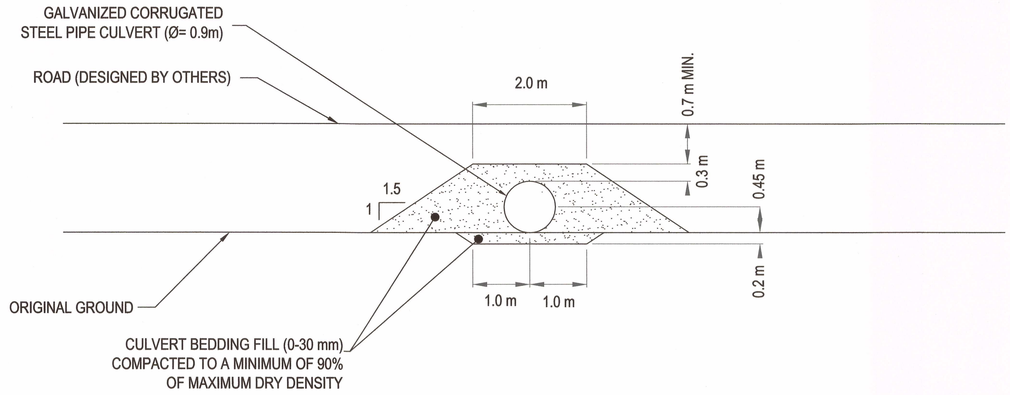
NO. DESSIN
DRAWING NO. 65–695–230–222

FORMAT ARCHD



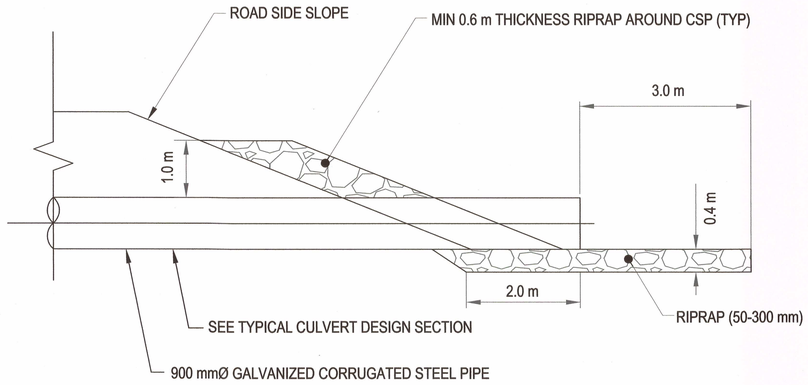
PLAN VIEW

SCALE 1: 2500



1 TYPICAL DESIGN SECTION - CULVERT

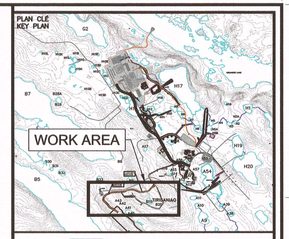
SCALE = 1:50



2 TYPICAL CULVERT RIP RAP DETAIL FOR BOTH INLET AND OUTLET

SCALE = 1:50

Quantity Construction Chart*	
Construction - Wesmeg Culverts	
*Theoretical measures (need to assume 20% loss in tundra)	
Galvanized Corrigated Steel Pipe (Ø=900mm)	L = 17.5m + 19.2m = 36.7m
Aggregate Material	Volume (m^3)
Granular Fill (0-30mm)	112.6
Rip-Rap (50-300mm)	32.3



TETRA TECH

NOTES GÉNÉRALES / GENERAL NOTES

GENERAL NOTES:

1. EXISTING GROUND DTM PROVIDED BY AEM.
2. ALL UNITS ARE IN METERS.
3. GRANULAR MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 300mm AND COMPACTED AS INDICATED. BORROW PIT OR RUN OF MINE MATERIAL SHALL BE PLACED WITH LIFTS NOT EXCEEDING 500mm AND COMPACTED TO A MIN. OF 90% OF MAXIMUM DRY DENSITY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY SECURITY AND SLOPES OF ALL EXCAVATIONS, BACKFILL AND SHALL ABIDE BY ALL RELEVANT STANDARDS AND REGULATIONS. THE STABILITY, DEWATERING AND MAINTENANCE OF ALL EXCAVATIONS OR BACKFILL SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
5. AN AS-BUILT DRAWING SHALL BE PROVIDED AFTER CONSTRUCTION.

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2016–10–14

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
–	–
–	–
–	–
–	–
–	–
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2016–10–14	ISSUED FOR CONSTRUCTION	JG.M	J.A	
A	2016–10–11	ISSUED FOR COMMENTS	JG.M	J.A	

REVISIONS

PERMIT TO PRACTICE
TETRA TECH INDUSTRIES, INC.
O/A TETRA TECH
Signature
Date 2016.10.14
PERMIT NUMBER: P 1029
NTINU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
J.M.I.F. ALARIE
LICENSEE
NT/NU
2016-10-14

TITRE / TITLE
AGNICO EAGLE – MEL IADINE DIVISION
695 – WATER MANAGEMENT
230 – GENERAL EARTH WORKS
WESMEG ROAD CULVERTS
PLAN VIEW ET DETAILS

DESSINÉ PAR / DRAWN BY	JEAN–GARDY MARCELLUS	DATE 2016–10–07
VÉRIFIÉ PAR / CHECKED BY	CHRISTOPHER MORIN	2016–10–07
APPROUVÉ PAR / APPROVED BY	JOSÉE ALARIE	2016–10–07
ÉCHELLE / SCALE	AS INDICATED	DATE 2016–10–07
NO. DESSIN / DRAWING NO.	65–695–230–222	
NO. PROJET / PROJECT NO.	6515/28920	REVISION 0 / FEUILLE / SHT /

AE–CART–ARCH D

P:\28920\DESSIN\CIV–INFRA\DESSINS DE TRAVAIL\AUTOCAD\65–695–230–222.dwg–2013–02–19 14:03:29

FILE NO. 65–695–230–222.dwg