SNC·LAVALIN
Building what matters

CONSTRUCTION SUMMARY REPORT

Agnico Eagle Mines Ltd

Report

653281-0004-40ER-0002_0

January 29, 2019

Prepared by:

2019-01-31

Israël Gagnon, P Eng., MBA
Mechanical Engineer

Approved by:

Alain Parent

Signature numérique de Alain Parent
DN : cn=Alain Parent
Date : 2019.02.01 07:08:11 -05'00'

Alain Parent
Project Construction Manager - Amaruq

EXECUTIVE SUMMARY

SNC-Lavalin Stavibel Inc. was retained by Agnico Eagle Mines Limited to prepare a construction summary (as built) report for the fresh water intake for the Whale Tail Project, Nunavut. SNC Lavalin Stavibel Inc. previously prepared the construction drawings and specifications for the fresh water intake.

SNC Lavalin Stavibel Inc. was not involved in the construction of the fresh water intake. The information presented in this report was provided by Agnico Eagle.

The construction of the fresh water intake was completed in October 2018. The construction monitoring and quality assurance was managed by AEM.

This report summarizes the construction as-built information for the fresh water intake.

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Figures

Appendices

1. Introduction

This document presents the construction summary report of the fresh water intake pumping station required by the Water License 2AM-WTP1826 Part D Item 15. As required by Water License Schedule D, this report contains the final design and construction drawings, a summary of construction activities including photographic recorded during and after construction. The as-built drawings, detailed explanation of field decision to reflect any deviations from the original construction drawings/plans and how such deviations may affect performance of engineered structures, a discussion of the mitigation measures implemented during construction and its effectiveness are also presented. There was no blast or water use for the dust emission during the construction of the freshwater water intake.

2. Construction summary

2.1 Site location plan

Agnico Eagle is developing the Whale Tail Project in the Kivalliq Region of Nunavut (65°24’25”N, 96°41’50”W). The 99,878-hectare Amaruq property is located on Inuit-owned and Federal Crown Land, approximately 55 km north of the Meadowbank mine. The Meadowbank mine is accessible from Baker Lake, located 70 kilometers to the south.

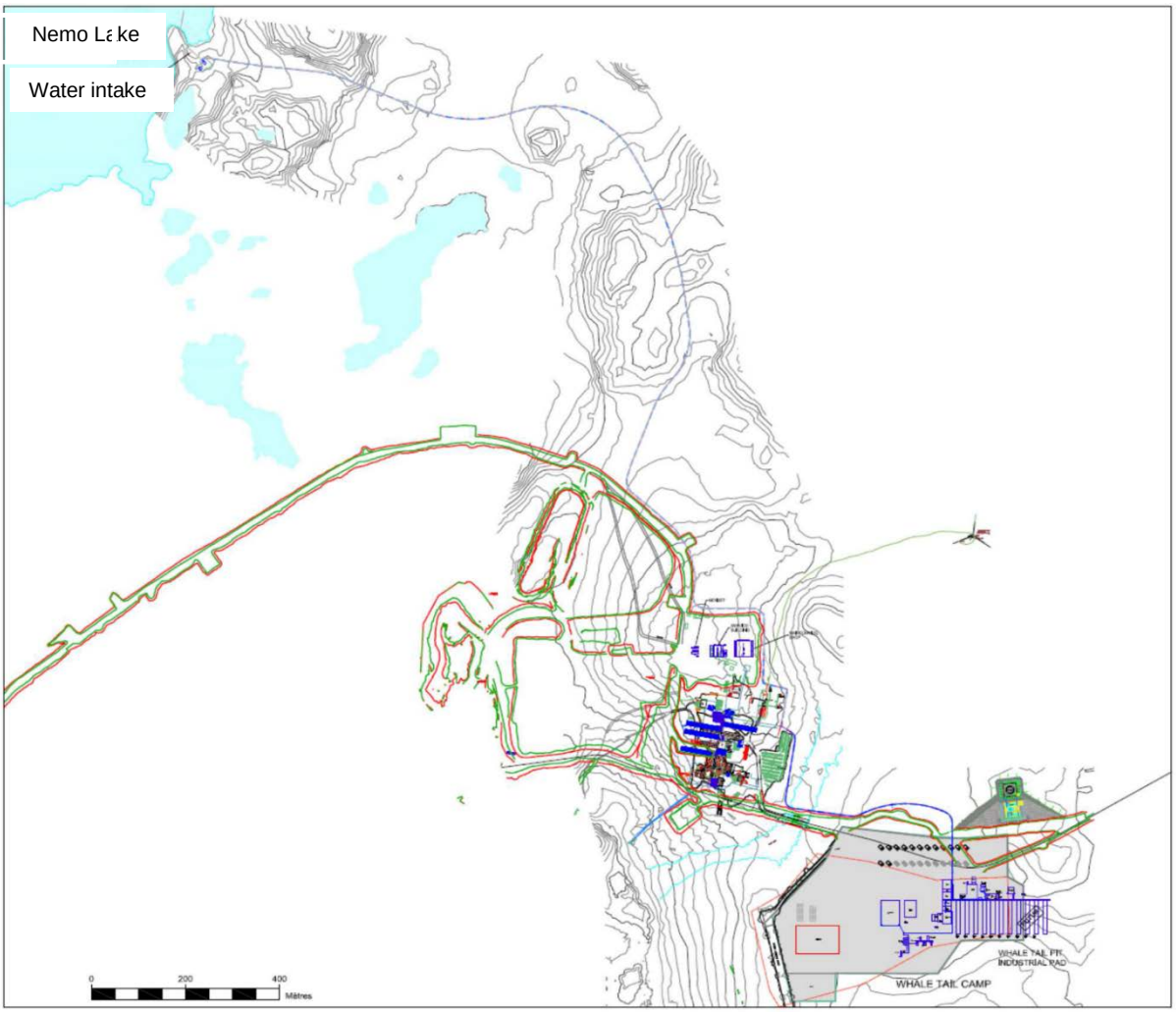


Figure 1 Fresh water intake localization

2.2 Pumping station

All mechanical and electrical pumping station equipment are housed in a heated and insulated enclosure. Electrical equipment (e.g. control panel, junction boxes, VFD/soft starters, etc.) are separated from the mechanical equipment (e.g. pumps, isolation valves, piping, piping accessories, etc.) by a wall and each room have its own access door. The enclosure has been constructed following the site information and design coefficients (temperature, wind load, snow load, etc.) from the Agnico Eagle general guidelines to resist to the Nunavut climatic conditions. The enclosure is installed on a leveled coarse compacted gravel surface. All surfaces are painted in accordance with Agnico Eagle requirements to ensure corrosion resistance over the years of operation.

2.3 Suction Pipeline

The suction line sections were assembled on the shore, with the fish strainer and ballasts. The fish strainer was redesigned to respect DFO's Freshwater Intake End-of-Pipe Fish Screen Guideline. Screen opening was changed from 13 mm to a screen with a mesh size opening of 2,54 mm. It was deployed on the lake ice. Once the suction line was located correctly, the suction was flooded by cutting ice underneath, to sink into its place.

2.4 Ground Pipeline

The above-ground pipeline lie directly on the tundra along the access road to the Pumping Station. The sharp stones were removed before the pipeline installation to reduce the risks of tears and premature wear. Since the pipeline is water tight, no hazards or disturbances are expected after installation. After the complete installation, a hydrostatic test was performed to confirm the water tightness of the pipeline.

2.5 Drawings and photographs

All final design and construction drawings are available in the appendix A, as-built drawings are in appendix B, construction pictures are available in appendix C.

3. Field decisions

3.1 Pumping station

The construction work led to no variations from the original design in the pumping station.

3.2 Suction pipeline

The water suction location has been moved 100 meters north-west to have it in appropriate water depth. To do so, the construction team reviewed the pipe line layout from the pumping station to the lake bed. The new layout can be reviewed in appendix B.

3.3 Ground Pipeline

The pipeline position regarding the access road to the fresh water intake was changed. The line is installed on the west side of the road instead of the east side as it was specified in the original construction drawing. This modification was made because all the vehicles pull out bays along the access road are built on the east side. By placing the pipe line on the west side, access to the line is eased. Again, the final layout can be reviewed in appendix B. Those two decision will not affect the fresh water pump station nor cause any other risk to the environment than the original design.

4. Mitigation Measures

To protect the lake and limit machinery circulation within 31 meters from the shore, Agnico Eagle Mine elected to install the intake pipe line on ice with a telehandler, instead of with a boat and a helicopter. Using that telehandler on the pump station gravel pad, the telescoping boom was used to push the pipeline on it pipe supports and on the ice. Once the fish screen was over the prescribe water depth, ice was cut from underneath the pipe line so that the line could sink, helped with ballast. Picture of this operation can be found in appendix C.

5. Construction Monitoring and Inspection Test Plan

During the commissioning phase, the pipeline from the pumping station to the construction camp has been tested for leaks. The line was filed with water then capped and put under pressure for 5 hours. Results are shown in Table 1: Pipeline leak test pressure record.

Table 1: Pipeline leak test pressure record

Time	Water pressure (kPa)
19:08	390
21:00	700
22:00	700
23 :00	690
23:58	680

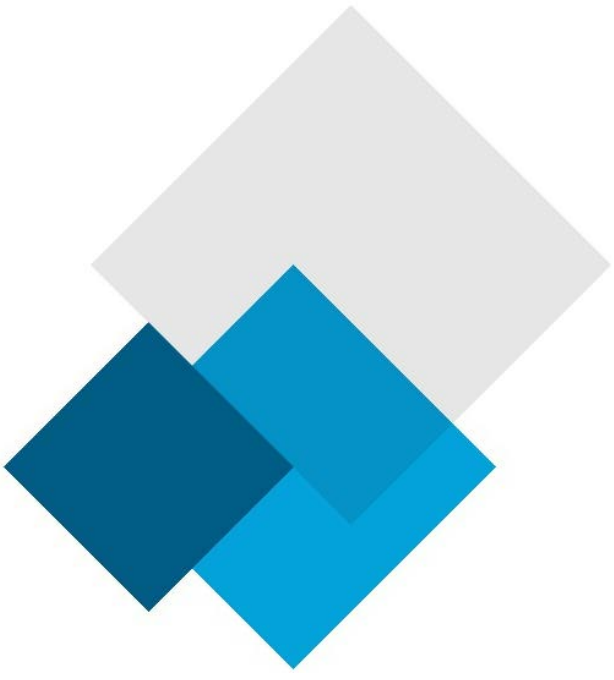
The results shown in table1 are within the acceptance limits for the pipeline. The pressure drop recorded on the 5 hours is less than 3% and confirms that no leaks are present on the line. This variation can be attributed in part to HDPE pipe expansion, in part to ambient temperature change during the test period and in part to the fact that closing the pipe line at the camp end was a butterfly valve, which are known to leak in such use.

6. Closure

The construction summary report of the fresh water intake pumping station presented in this document was done in regard to Water License 2AM-WTP1826 Part D Item 15. Trough review of site location, final plan, and the review of field decision took during construction, mitigation results and the pipeline test, requirements are fulfilled. The following appendices are there to support the summary.

Appendix A

Final design construction drawings of the fresh water intake



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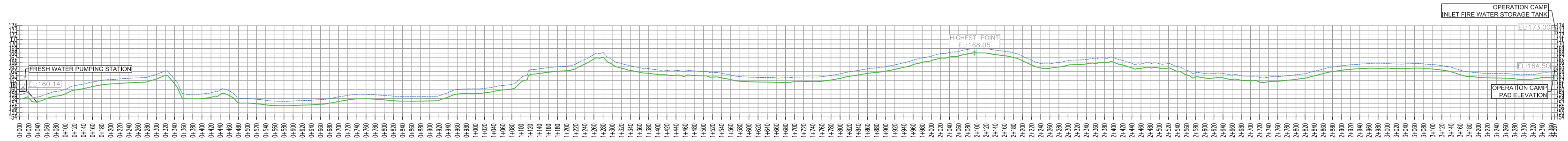
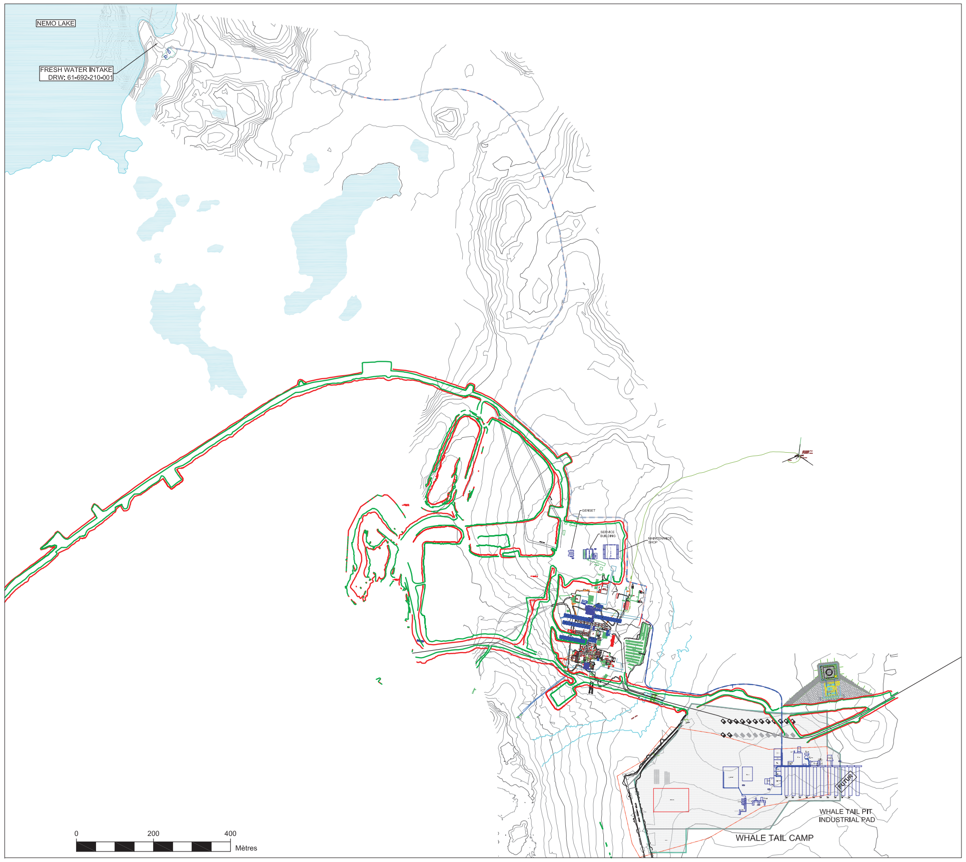


692 Pipe route



PLAN CLÉ
KEY PLAN

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2018-07-16
AGNICO EAGLE

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
–	–

PERMIT TO PRACTICE
SNC - LAVALIN STAVIBEL INC.
Signature
Date 2018/07/16
PERMIT NUMBER: P 718
NT/NU Association of Professional Engineers and Geoscientists

REGISTERED PROFESSIONAL ENGINEER
E.F. GUNTHER
LICENSEE
NT/NU
2018/07/16

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2018-07-16	ISSUED FOR CONSTRUCTION	L.R.F.	D.L.	

REVISIONS

AMARUQ PROJECT

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK DIVISION
692 – FRESH WATER
210 – GENERAL
PLAN & PROFILE
FRESH WATER
PIPELINE ROUTING – NEMO to EXPLORATION CAMP

DESSINÉ PAR / DRAWN BY	J.CRETE	DATE 2017-05-11
VERIFIÉ PAR / CHECKED BY	D.LAFLAMME	2017-05-11
APPROUVÉ PAR / APPROVED BY		
ÉCHELLE / SCALE	N/A	DATE 2017-05-11
NO. DESSIN / DRAWING NO.	61-692-210-003	
NO. PROJET / PROJECT NO. 6115	REVISION 0	FEUILLE / SHT 1 / 1

FORMAT ARCHD

AE-CART-ARCH D

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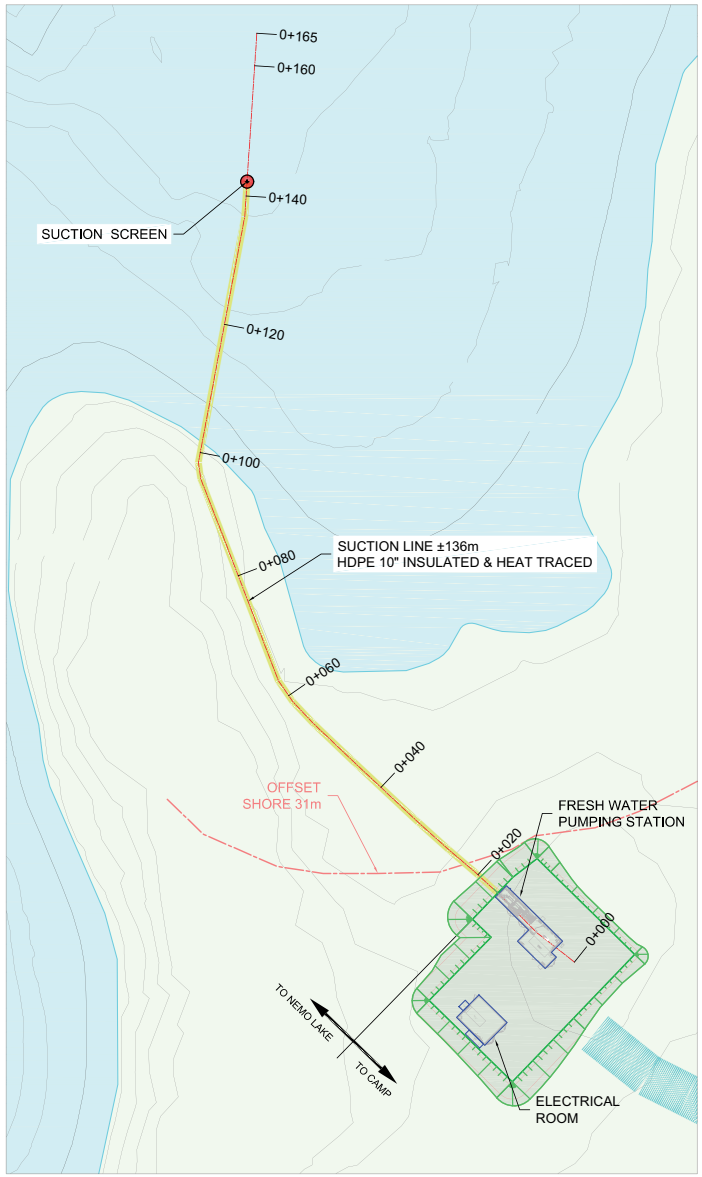
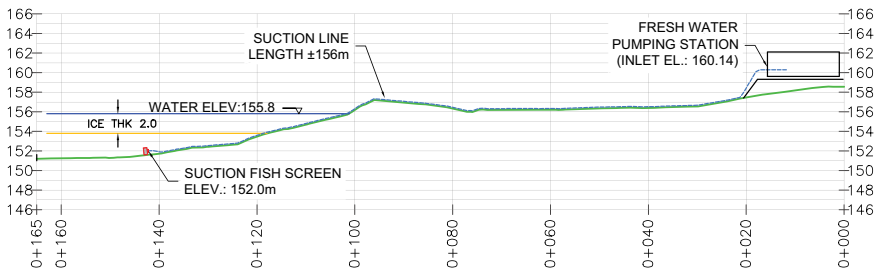
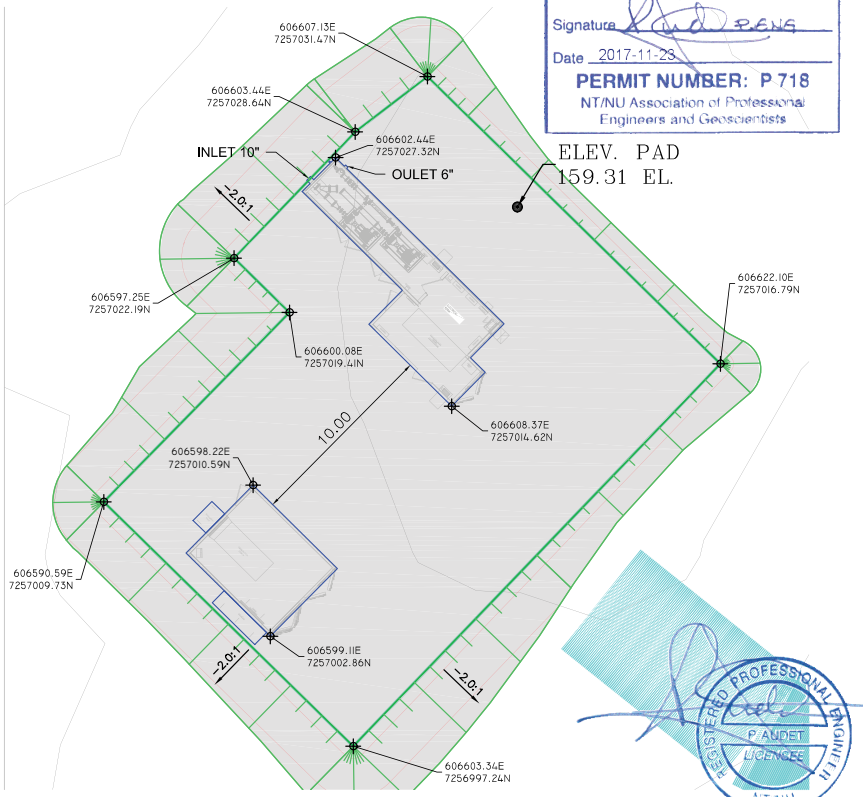
DRAWING NO. 61-692-210-001_R4

FORMAT ANSI B–11x17





Pumping station



PAD & BUILDING ARRANGMENT
1:250

PERMIT TO PRACTICE
SNC - LAVALIN STAVIBEL INC.
Signature P.ENG
Date 2017-11-23
PERMIT NUMBER: P 718
NT/NU Association of Professional Engineers and Geoscientists

NOTES:

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2017-11-22

AGNICO EAGLE

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TITRE / TITLE	# DWG

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY
4	ISSUED FOR CONSTRUCTION	2017–11–22	J.C.
3	BUILDING INFORMATION	2017–10–10	J.C.
2	ELECTRICAL ROOM LOCALISATION	2017–08–10	J.C.
1	UPDATED PATH & PUMP HOUSE	2017–07–12	J.C.

REVISIONS

DESSINÉ PAR DRAWN BY	LYSANNE R.FRENETTE	DATE 2017–05–09
VÉRIFIÉ PAR CHECKED BY	DANY LAFLAMME	2017–05–09
APPROUVÉ PAR APPROVED BY	PATRICE AUDET	2017–11–22
No. PROJET PROJECT NO.	6115	
DATE	2017–05–09	

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK DIVISION
AMARUQ
692 – FRESH WATER PUMPING STATION
210 – GENERAL ARRANGEMENT
PUMP HOUSE & SUCTION PIPE PATH

ÉCHELLE/ SCALE	N/A	FICHIER FILE	61–692–210–001_R4.dwg
No. DESSIN/ DRAWING NO.	61–692–210–001	REVISION 4	FEUILLE/SHT 1 / 1

REGISTERED PROFESSIONAL ENGINEER
P AUDET
LICENCEE
NT/NU
2017-11-23

AE–CART–ANSI B

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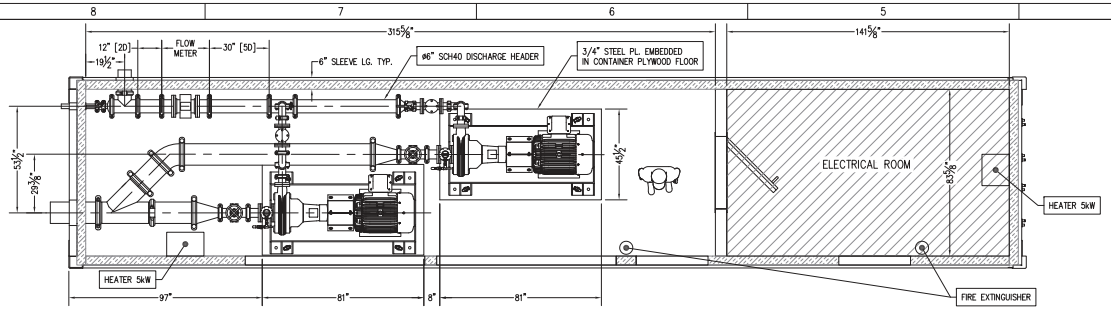

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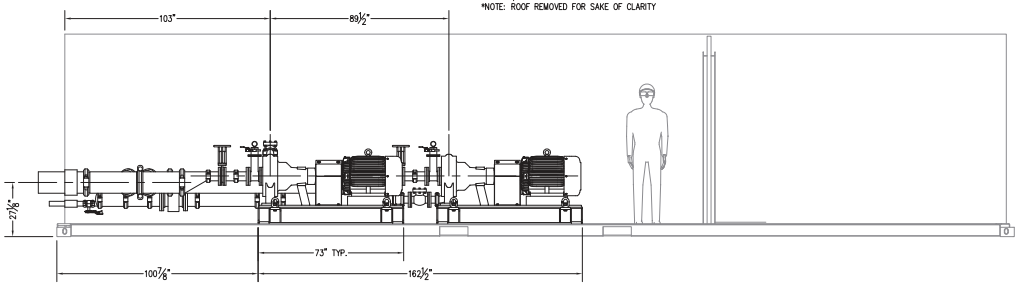

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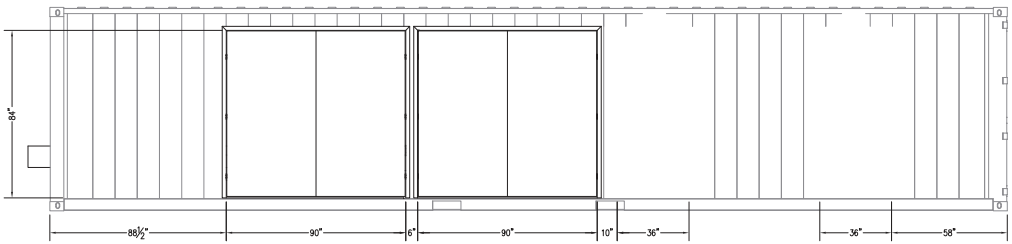

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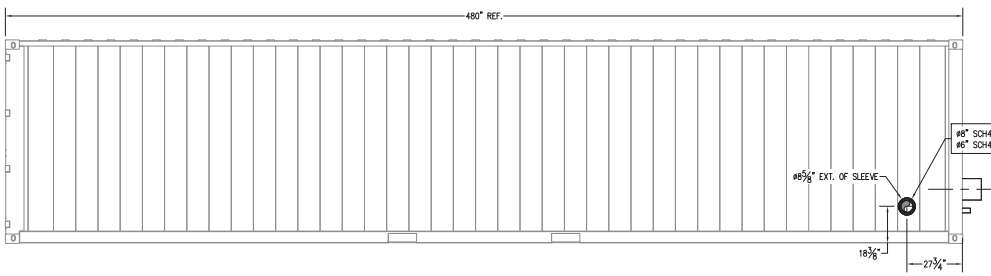

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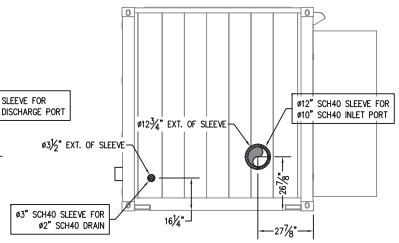

SIDE ELEVATION VIEW
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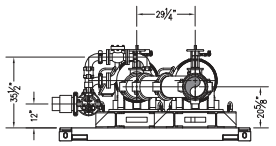

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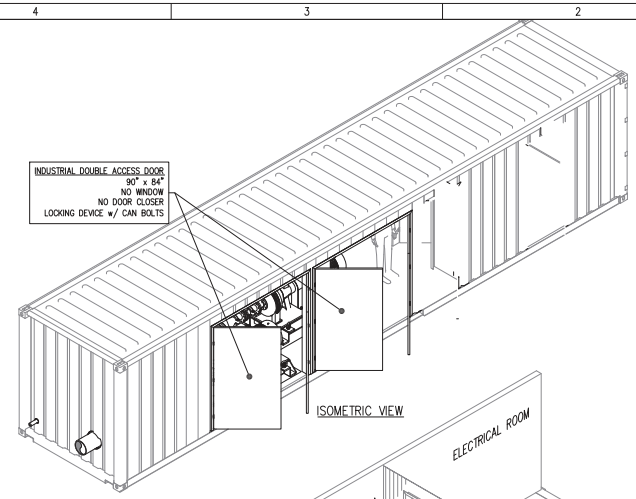

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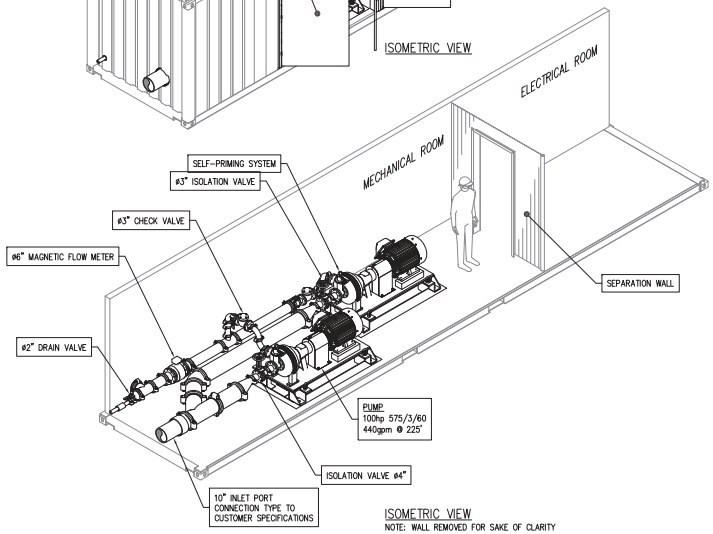


ISOMETRIC VIEW
NOTE: WALL REMOVED FOR SAKE OF CLARITY

NOTES & SPECIFICATIONS

FOR COMMENTS
POUR COMMENTAIRES
2017-06-09

WORK IN PROGRESS
EN PROGRES
2017-06-09

DO NOT USE FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

REVISIONS			
R	DESCRIPTION	DATE	APP
A	ISSUED FOR COMMENTS	2017-05-26	M.B.
B	ISSUED FOR PROPOSAL	2017-06-12	D.L.

AGNICO-EAGLE

Techn@sub

SEAL

PROJECT MANAGER
W. BOLDUC, P.Eng.

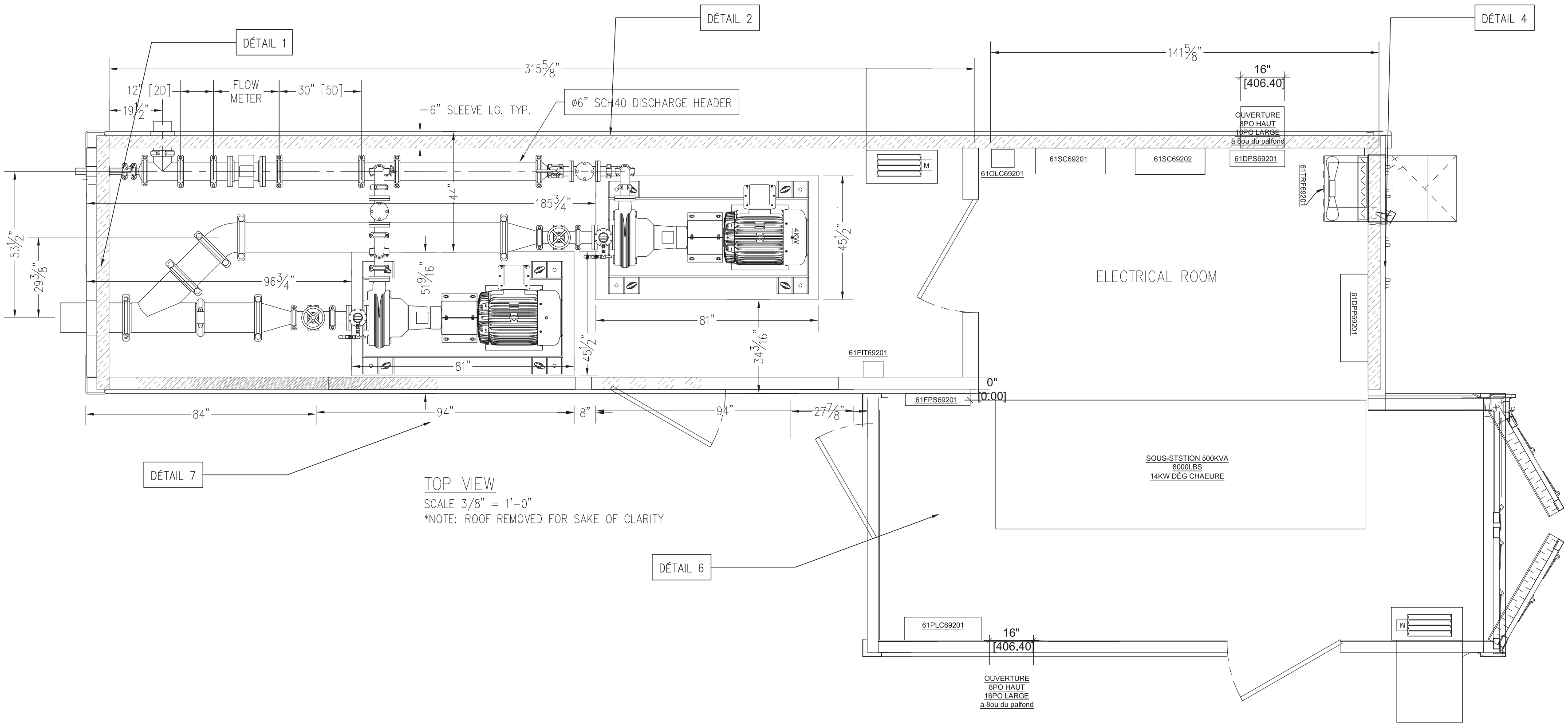
DESIGNER
D. LARIVIERE

QUALITY ASSURANCE
W. BOLDUC, P.Eng.

ENGINEER
W. BOLDUC, P.Eng.

AMARUK
FRESH WATER PUMPING STATION
GENERAL ARRANGEMENT

PROJECT	SEQ.#	SHEET#	REV.
P1704282-1000-1/1-B			



TOP VIEW

SCALE 3/8" = 1'-0"

*NOTE: ROOF REMOVED FOR SAKE OF CLARITY

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R	DESCRIPTION	DATE	APP
A	ISSUED FOR COMMENTS	2017-05-09	W.B.
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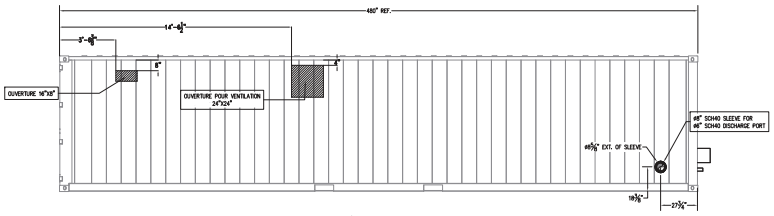
P1704282	1000	1/1	B



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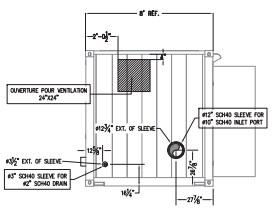

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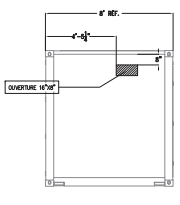

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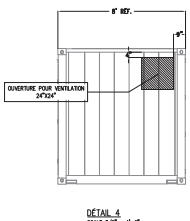

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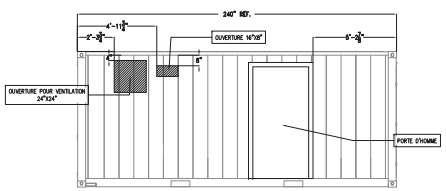

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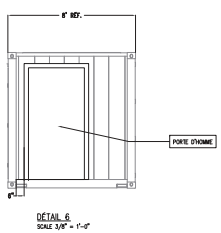

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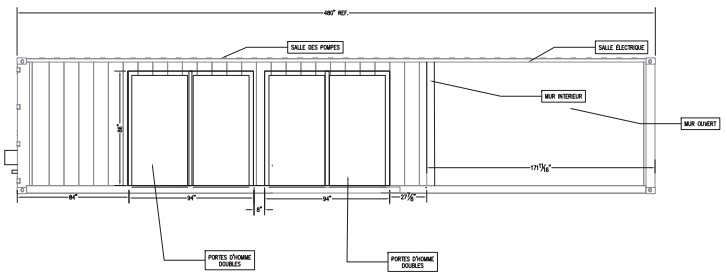

NOTES & SPECIFICATIONS

FOR COMMENTS
POUR COMMENTAIRES
2017-06-09

WORK IN PROGRESS
EN PROGRES
2017-06-09

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REVISIONS			
R	DESCRIPTION	DATE	APP
A	ISSUED FOR COMMENTS	2017-05-26	M.B.
B	ISSUED FOR PROPOSAL	2017-06-12	D.L.

AGNICO-EAGLE

Technosub

SEAL

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QUALITY ASSURANCE
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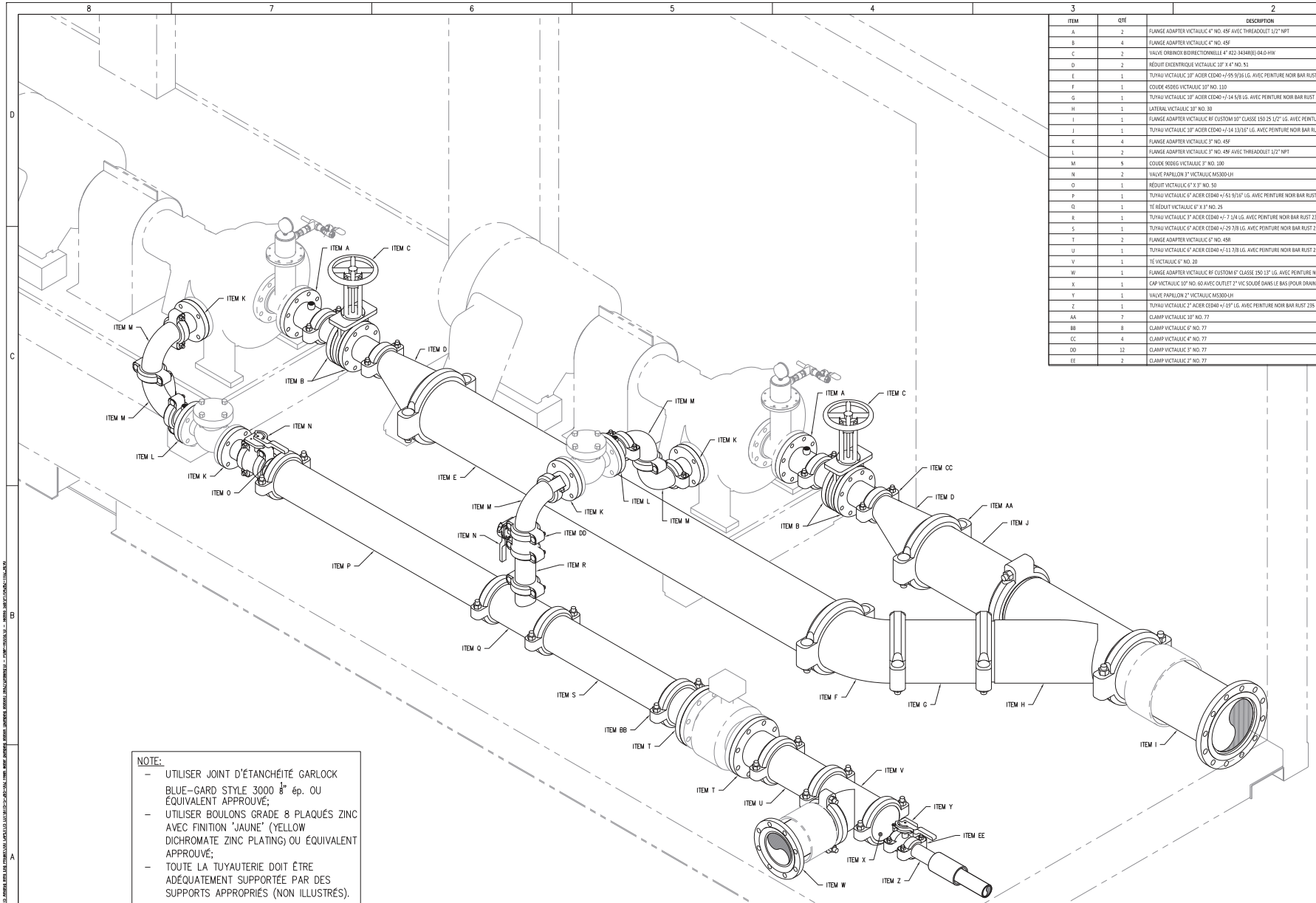
AMARUK
FRESH WATER PUMPING STATION
GENERAL ARRANGEMENT

PROJECT	SEQ.#	SHEET#	REV.
P1704282-1000-1/1-B			



ITEM	QTÉ	DESCRIPTION
A	2	FLANGE ADAPTER VICTAULIC 4" NO. 45F AVEC THREADOLET 1/2" NPT
B	4	FLANGE ADAPTER VICTAULIC 4" NO. 45F
C	2	VALVE ORBINOX BIDIRECTIONNELLE 4" #22-3434R(E)-04.0-HW
D	2	RÉDUIT EXCENTRIQUE VICTAULIC 10" X 4" NO. 51
E	1	TUYAU VICTAULIC 10" ACIER CED40 +/-95 9/16 LG. AVEC PEINTURE NOIR BAR RUST 235
F	1	COUDE 45DEG VICTAULIC 10" NO. 110
G	1	TUYAU VICTAULIC 10" ACIER CED40 +/-14 5/8 LG. AVEC PEINTURE NOIR BAR RUST 235
H	1	LATERAL VICTAULIC 10" NO. 30
I	1	FLANGE ADAPTER VICTAULIC RF CUSTOM 10" CLASSE 150 25 1/2" LG. AVEC PEINTURE NOIR BAR RUST 235
J	1	TUYAU VICTAULIC 10" ACIER CED40 +/-14 13/16" LG. AVEC PEINTURE NOIR BAR RUST 235
K	4	FLANGE ADAPTER VICTAULIC 3" NO. 45F
L	2	FLANGE ADAPTER VICTAULIC 3" NO. 45F AVEC THREADOLET 1/2" NPT
M	5	COUDE 90DEG VICTAULIC 3" NO. 100
N	2	VALVE PAPILLON 3" VICTAULIC MS300-LH
O	1	RÉDUIT VICTAULIC 6" X 3" NO. 50
P	1	TUYAU VICTAULIC 6" ACIER CED40 +/-51 9/16" LG. AVEC PEINTURE NOIR BAR RUST 235
Q	1	TÉ RÉDUIT VICTAULIC 6" X 3" NO. 25
R	1	TUYAU VICTAULIC 3" ACIER CED40 +/- 7 1/4 LG. AVEC PEINTURE NOIR BAR RUST 235
S	1	TUYAU VICTAULIC 6" ACIER CED40 +/-29 7/8 LG. AVEC PEINTURE NOIR BAR RUST 235
T	2	FLANGE ADAPTER VICTAULIC 6" NO. 45R
U	1	TUYAU VICTAULIC 6" ACIER CED40 +/-11 7/8 LG. AVEC PEINTURE NOIR BAR RUST 235
V	1	TÉ VICTAULIC 6" NO. 20
W	1	FLANGE ADAPTER VICTAULIC RF CUSTOM 6" CLASSE 150 13" LG. AVEC PEINTURE NOIR BAR RUST 235
X	1	CAP VICTAULIC 10" NO. 60 AVEC OUTLET 2" VIC SOUDÉ DANS LE BAS (POUR DRAINAGE)
Y	1	VALVE PAPILLON 2" VICTAULIC MS300-LH
Z	1	TUYAU VICTAULIC 2" ACIER CED40 +/-19" LG. AVEC PEINTURE NOIR BAR RUST 235
AA	7	CLAMP VICTAULIC 10" NO. 77
BB	8	CLAMP VICTAULIC 6" NO. 77
CC	4	CLAMP VICTAULIC 4" NO. 77
DD	12	CLAMP VICTAULIC 3" NO. 77
EE	2	CLAMP VICTAULIC 2" NO. 77

NOTES & SPECIFICATIONS

NOTE:
- UTILISER JOINT D'ÉTANCHÉITÉ GARLOCK BLUE-GARD STYLE 3000 8" ép. OU ÉQUIVALENT APPROUVÉ;
- UTILISER BOULONS GRADE 8 PLAQUÉS ZINC AVEC FINITION 'JAUNE' (YELLOW DICHROMATE ZINC PLATING) OU ÉQUIVALENT APPROUVÉ;
- TOUTE LA TUYAUTERIE DOIT ÊTRE ADÉQUATEMENT SUPPORTÉE PAR DES SUPPORTS APPROPRIÉS (NON ILLUSTRÉS).

FOR COMMENTS
POUR COMMENTAIRES
2017-01-05

DO NOT USE FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

REVISIONS			
R	DESCRIPTION	DATE	APP
A	ÉMIS POUR COMMENTAIRES	17-06-21	M.B.

AGNICO-EAGLE (AMARUQ)

Techn sub

SEAL

PROJECT MANAGER
W. BOLDUC, ing.

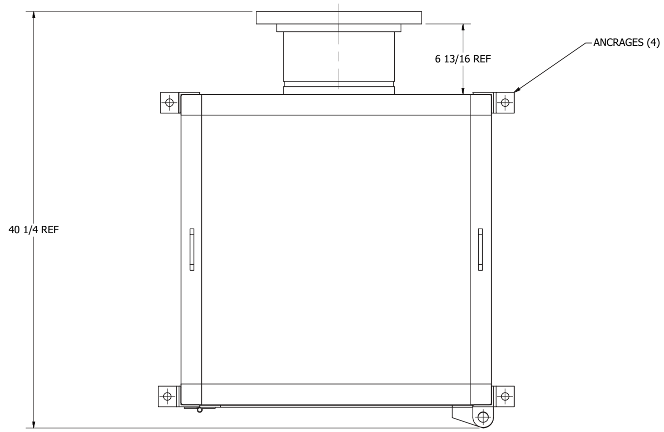
DESIGNER
D. LARIVIÈRE

QUALITY ASSURANCE
P. MARQUIS

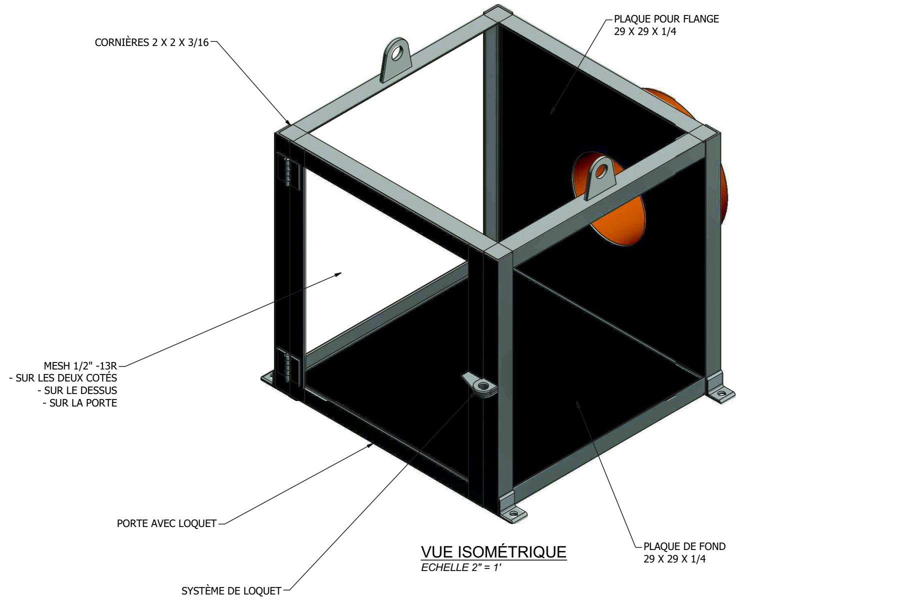
ENGINEER
W.BOLDUC, ing.

FRESH WATER PUMPING STATION
ARRANGEMENT TUYAUTERIE
LISTE DE PIÈCES

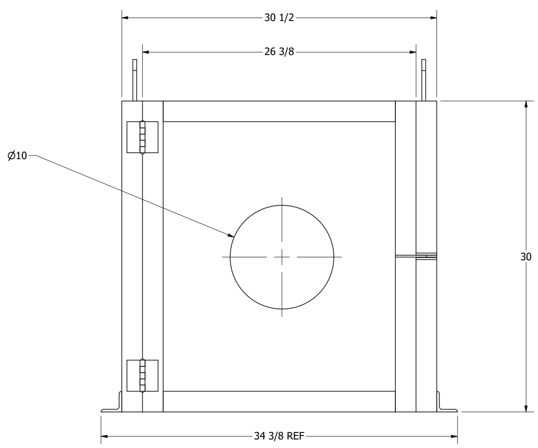
PROJECT	SEQ.#	SHEET#	REV.
P1704282	1001	1/1	A



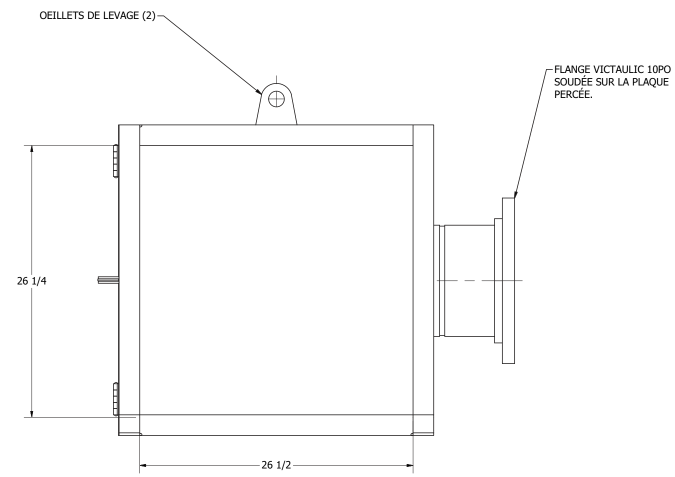
VUE EN PLAN
ECHELLE 2" = 1'



VUE ISOMÉTRIQUE
ECHELLE 2" = 1'



ELEVATION
ECHELLE : 2" = 1'



VUE PROFIL DROIT
ECHELLE 2" = 1'

MASSE TOTALE 330 LBS

NOTES & SPECIFICATIONS

SECTION I.

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

2. ALL REFERENCES TO COMPLEMENTARY DRAWING SEQUENTIAL NUMBERS IMPLY THE SAME PROJECT NUMBER UNLESS OTHERWISE NOTED.

3. ALL MATERIALS TO BE STANDARD STEEL 44W UNLESS OTHERWISE NOTED.

4. UNSPECIFIED FABRICATION TOLERANCES

6' - ± 1/32"
6' to 12' ± 1/16"
12' + ± 1/8"

5. UNSPECIFIED MACHINING TOLERANCES

6" - ± .010"
6" to 18" ± .015"
18" + ± .020"

6. GENERAL TOLERANCES

X.XXX" ± .002"
X.XX" ± .010"

7. MACHINE ALLOWANCE
UNLESS OTHERWISE SPECIFIED.

8. BREAK ALL CORNERS UNLESS OTHERWISE SPECIFIED.

FOR COMMENTS
POUR COMMENTAIRES
2017-05-30

DO NOT USE FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

REVISIONS

R	DESCRIPTION	DATE	APP
A	ÉMIS POUR COMMENTAIRES	2017-05-30	W.B.

Technosub

SEAL

PROJECT MANAGER
W.BOLDUC, ING.
DESIGNER
P. DESCOTEAUX
QUALITY ASSURANCE
W. BOLDUC, ING.
ENGINEER
W. BOLDUC, ING.

2017-05-30

BOITE PROTECTION POISSONS

PROJECT	*SEQ. #*	*SHEET #*	*REV.*
P1704282	0000	1 / 1	A

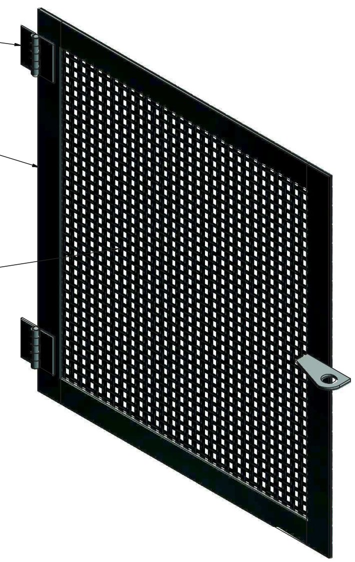
THIS SHOULD MEASURE EXACTLY 1 INCH

PENTURES STANDARD

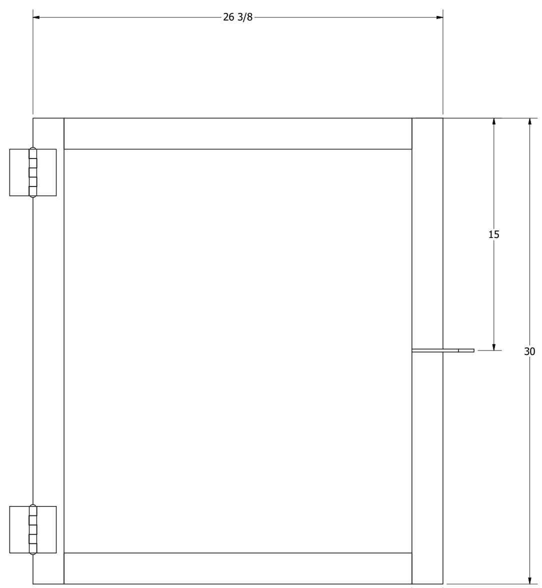
FLAT BAR 2 X 3/16

Mesh opening changed to 2,54 mm

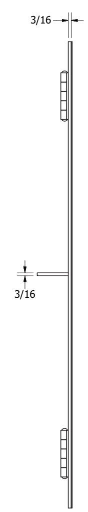
~~MESH 1/2" - 13R~~
ENVIRON 26 X 29
SOUDÉ PAR L'INTÉRIEUR



VUE ISOMÉTRIQUE
ECHELLE 3" = 1'



ELEVATION
SCALE : 3" = 1'



VUE PROFIL DROIT
ECHELLE 3" = 1'

NOTES & SPECIFICATIONS

SECTION I.

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

2. ALL REFERENCES TO COMPLEMENTARY DRAWING SEQUENTIAL NUMBERS IMPLY THE SAME PROJECT NUMBER UNLESS OTHERWISE NOTED.

3. ALL MATERIALS TO BE STANDARD STEEL 44W UNLESS OTHERWISE NOTED.

4. UNSPECIFIED FABRICATION TOLERANCES

6' - ± 1/32"
6' to 12' ± 1/16"
12' + ± 1/8"

5. UNSPECIFIED MACHINING TOLERANCES

6" - ± .010"
6" to 18" ± .015"
18" + ± .020"

6. GENERAL TOLERANCES

X.XXX" ± .002"
X.XX" ± .010"

7. MACHINE ALLOWANCE UNLESS OTHERWISE SPECIFIED.

8. BREAK ALL CORNERS UNLESS OTHERWISE SPECIFIED.

FOR COMMENTS
POUR COMMENTAIRES
2017-05-30

DO NOT USE FOR CONSTRUCTION
NE PAS UTILISER POUR CONSTRUCTION

REVISIONS

R	DESCRIPTION	DATE	APP
A	ÉMIS POUR COMMENTAIRES	2017-05-30	W.B.

Technosub

SEAL

PROJECT MANAGER W.BOLDUC, ING.
DESIGNER P. DESCOTEAUX
QUALITY ASSURANCE W. BOLDUC, ING.
ENGINEER W. BOLDUC, ING.
2017-05-30

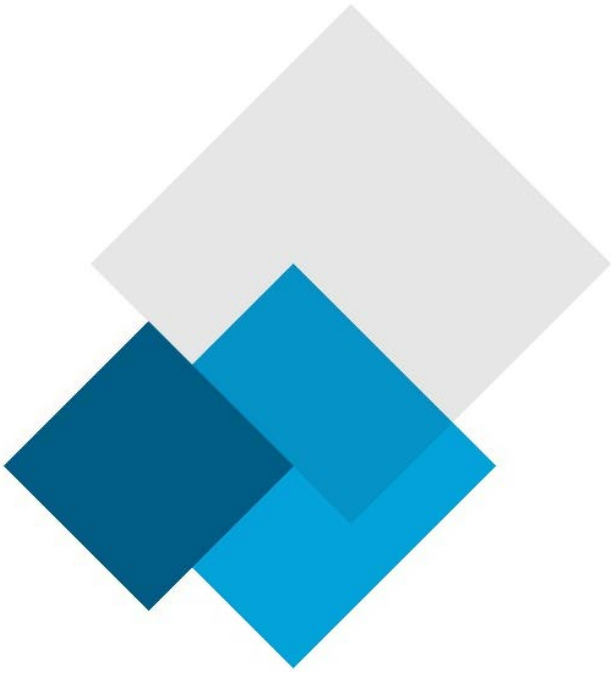
BOITE PROTECTION POISSONS

PROJECT	*SEQ. #*	*SHEET #*	*REV.*
P1704282	0001	1 / 1	A

THIS SHOULD MEASURE EXACTLY 1 INCH

Appendix B

Appendix B As-built drawings of the fresh water intake

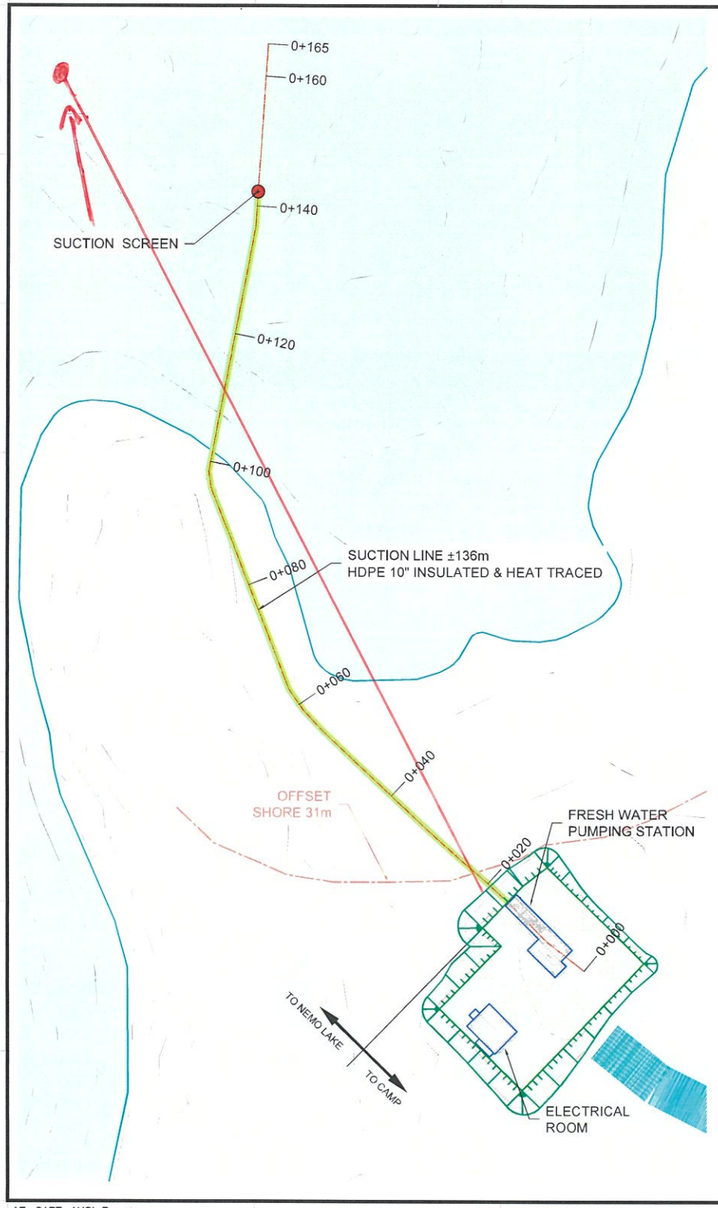


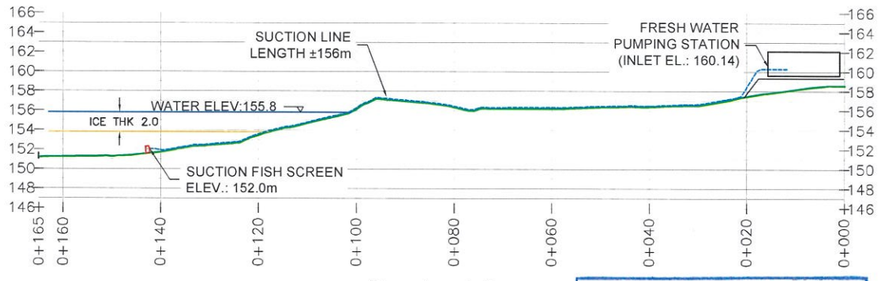
NOTE:

SUCTION LINE ±200M TO BE ABLE TO REACH NEEDED DEPTH

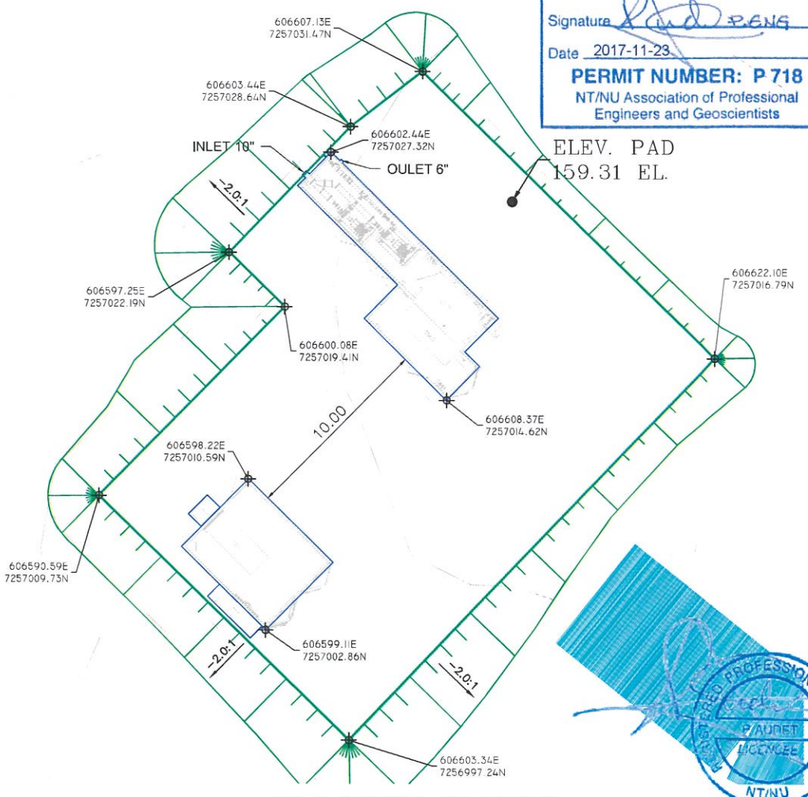
NO. DESSIN / DRAWING NO. 61-692-210-001_R4

FORMAT ANSI B–11x17





Pumping station



PAD & BUILDING ARRANGMENT
1:250

PERMIT TO PRACTICE
SNC - LAVALIN STAVIBEL INC.
Signature _____ P.ENG
Date 2017-11-23
PERMIT NUMBER: P 718
NT/NU Association of Professional Engineers and Geoscientists

2017-11-23

NOTES:

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2017-11-22

AGNICO EAGLE

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

DESSINS EN RÉFÉRENCE/REFERENCE DRAWINGS

REV	DESCRIPTION	DATE	PAR BY
4	ISSUED FOR CONSTRUCTION	2017–11–22	J.C.
3	BUILDING INFORMATION	2017–10–10	J.C.
2	ELECTRICAL ROOM LOCALISATION	2017–08–10	J.C.
1	UPDATED PATH & PUMP HOUSE	2017–07–12	J.C.

REVISIONS

DESSINÉ PAR / DRAWN BY	LYSANNE R.FRENETTE	DATE 2017–05–09
VÉRIFIÉ PAR / CHECKED BY	DANY LAFLAMME	2017–05–09
APPROUVÉ PAR / APPROVED BY	PATRICE AUDET	2017–11–22
No. PROJET / PROJECT NO.	6115	
DATE	2017–05–09	

TITRE / TITLE
AGNICO EAGLE – MEADOWBANK DIVISION
AMARUQ
692 – FRESH WATER PUMPING STATION
210 – GENERAL ARRANGEMENT
PUMP HOUSE & SUCTION PIPE PATH

ÉCHELLE / SCALE	FICHIER / FILE	REVISION	FEUILLE / SHT
N/A	61–692–210–001_R4.dwg	4	1 / 1

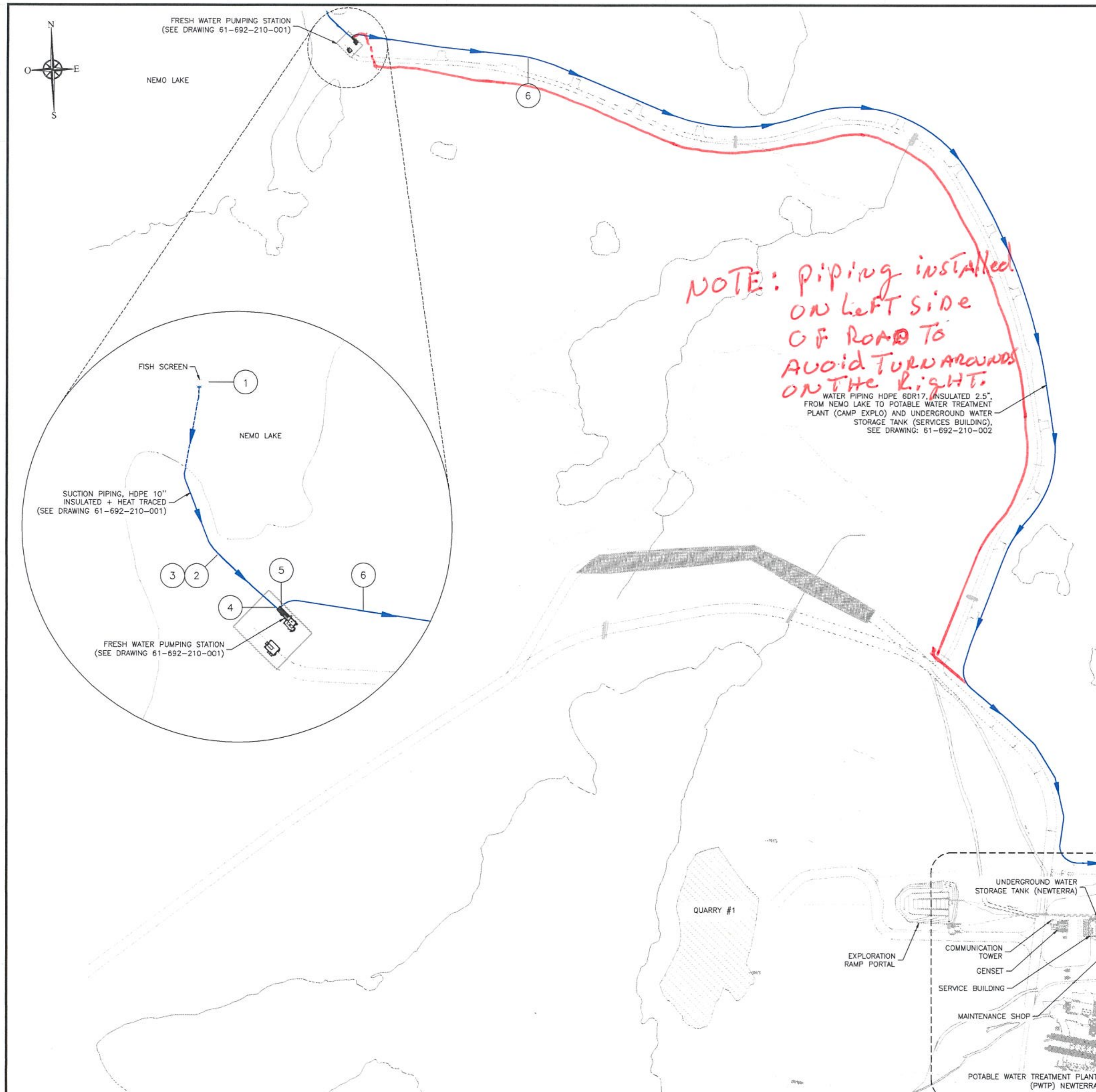
No. DESSIN / DRAWING NO. 61–692–210–001

AE–CART–ANSI B

N:\Projet\Amaruq\050 Studies\6115 Amaruq Infra Eng Project\010 Info by area\692 Fresh Water Pumping Station\Nemo\61–692–210–001_R4.dwg–2017–11–22 12:51:58

NO. DESSIN / DRAWING NO. 61-692-270-201-1_R0

FORMAT ARCHD



PART	QUANTITY	LENGTH	UNIT	DESCRIPTION	ORDER
1	1	-	EA	FISH SCREEN	-
2	1	± 450	FT	50FT HDPE 10" DR11 PE4710 PIPE	OC - 620437
3	9	-	EA	STUB END 10" HDPE DR11 FLANGED CLASS 150 FLANGE RING	OC - 620437
-	9	-	EA	STUB END 10" HDPE DR11 COMPLETE INSULATION KIT	OC - 620437
4	1	-	EA	EXISTING 10" FLANGE (PUMPING STATION)	-
5	1	-	EA	EXISTING 6" FLANGE (PUMPING STATION)	-
6	1	± 7600	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
7	1	-	EA	T, 6" x 6" x 6" HDPE DR17 FLANGED END	OC - 627466
-	1	-	EA	T. 6" HDPE DR17 COMPLETE INSULATION KIT	OC - 624533
8	1	± 85	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
9	1	± 400	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
10	3	-	EA	ELBOW 45° - 6" HDPE DR17 FLANGED ENDS	OC - 627466
-	3	-	EA	ELBOW 45° - 6" HDPE DR17 COMPLETE INSULATION KIT	OC - 624533
11	1	± 315	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
12	1	± 250	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
13	1	± 65	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
14	1	± 25	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
15	1	± 8	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
16	2	-	EA	ELBOW 90° - 6" HDPE DR17 FLANGED ENDS	OC - 627466
-	2	-	EA	ELBOW 90° - 6" HDPE DR17 COMPLETE INSULATION KIT	OC - 624533
17	1	± 100	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
18	1	± 6	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
19	1	± 7	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
20	1	± 8	FT	PIPING HDPE 6" DR17 INSULATE	OC - 624533
-	0	-	EA	STUB END 6" HDPE DR11(FLANGE 6"CLASS150-DUCTILE IRON)	OC - 627466
-	0	-	EA	STUB END 6" HDPE DR11 COMPLETE INSULATION KIT	OC - 620437
-	11	-	EA	10" RED RUBBER FULL FACED GASKET 1/8"	OC - 620437
-	0	-	EA	6" RED RUBBER FULL FACED GASKET 1/8"	OC - 627466
-	0	-	EA	3/4" UNC GRADE 5 BOLT - 5" LENGTH (6" FLANGE)	OC - 627465
-	0	-	EA	3/4" UNC GRADE 5 NUT	OC - 627465
-	0	-	EA	3/4" WASHER 1/8" THICK	OC - 627465
-	0	-	EA	10 FEET 3/4" UNC ROD	OC - 627465
-	0	-	EA	7/8" UNC GRADE 5 BOLT (10" FLANGE)	OC - 620437
-	0	-	EA	7/8" UNC GRADE 5 NUT	OC - 620437
-	0	-	EA	7/8" WASHER 1/8" THICK	OC - 620437
-	0	-	EA	10 FEET 7/8" UNC ROD	OC - 620437

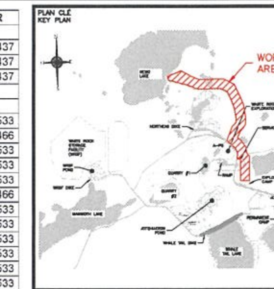
NOTE: ALL LENGTH AND QUANTITY NEED TO BE VALIDATED ON CONSTRUCTION SITE.

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE : 2018-07-13

PERMIT TO PRACTICE
SNC - LAVALIN STAVIBEL INC.
Signature
Date 2018/07/13
PERMIT NUMBER: P 718
NT/NU Association of Professional Engineers and Geoscientists

2018/07/13

PLAN CLÉ / KEY PLAN



NOTES GÉNÉRALES / GENERAL NOTES

1. ALL LENGTH AND QUANTITY NEED TO BE VALIDATED ON CONSTRUCTION SITE.
2. THE HDPE 6DR17 (PE 4710 IPS) PIPE FROM NEMO LAKE WILL BE OPERATED NEAR ITS PRESSURE LIMIT. ADEQUATE MEASURES TO ATTENUATE THE WATER HAMMER EFFECT DURING PUMP STARTUP AND SHUTOFF OR DUE TO A SUDDEN VALVE CLOSURE OR PUMP TRIP MUST BE ADDED. MEASURES MUST INCLUDE VARIABLE FREQUENCY DRIVES (VFD) ON THE PUMPS, SLOW CLOSING VALVES (5 SECONDS PER INCH OF PIPE DIAMETER), SURGE TANKS AT THE PUMP END AND PRESSURE RELIEF VALVES AT THE VALVE ENDS.

——— PIPING ON GROUND

- - - - - PIPING IN TRENCH

THE DESIGN AND MATERIALS ON THIS DRAWING ARE ASSUMED BY AGNICO EAGLE.

SNC·LAVALIN

SNC-Lavalin Stavibel inc.
150, rue Gamble Ouest
Rouyn-Noranda (Québec) J9X 2R7
Tel.: 819 764-5181 Fax: 819 797-0158
www.snclavalin.com

Project # : 644819-0000

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
GENERAL ARRANGEMENT / SERVICES PIPING	61-000-270-200
FRESH WATER PIPINGS (MAINTENANCE SHOP)	61-401-270-201
FRESH WATER PIPINGS (SERVICES BUILDING)	61-401-270-202
FRESH WATER PIPINGS (GA & PROFIL)	61-692-210-002
TRUCK FRESH WATER PUMPING STATION	61-692-270-003
–	–

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT
0	2018-07-13	ISSUED FOR CONSTRUCTION	N.B.G.	C.I.G.	K.P.M.

REVISIONS

TITRE / TITLE
AGNICO EAGLE – WHALE TAIL (AMARUQ)
692 – FRESH WATER PUMPING STATION
270 – PIPING
PLAN VIEW
FRESH WATER PIPING (ROUTING)
FROM NEMO LAKE TO EXPLORATION CAMP

DESSINÉ PAR / DRAWN BY	NICOLAS BORDELEAU G., TECH.	DATE	2018-07-13
VÉRIFIÉ PAR / CHECKED BY	KEVEN PLANTE-MARQUIS, ING.		2018-07-13
APPROUVÉ PAR / APPROVED BY	CHRISTIAAN IAN GUNTHER, ING.		2018-07-13
ÉCHELLE / SCALE	N.T.S.	DATE	2017-12-01
NO. DESSIN / DRAWING NO.	61-692-270-201		
NO. PROJET / PROJECT NO.	6115	REVISION 0	FEUILLE / SHT 1/2

AE-CART-ARCH D

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FILE NO. 61-692-270-201-1_R0.dwg

Appendix C

Appendix C Pictures fresh water intake

Picture 1 Pumping station installation

Picture 2 Pump section of pumping station

Picture 3 Electrical substation after construction

Picture 4 Pumping station after construction

Picture 5 Telehandler pushing pipe with boom

Picture 6 suction line with ballast on lake ice

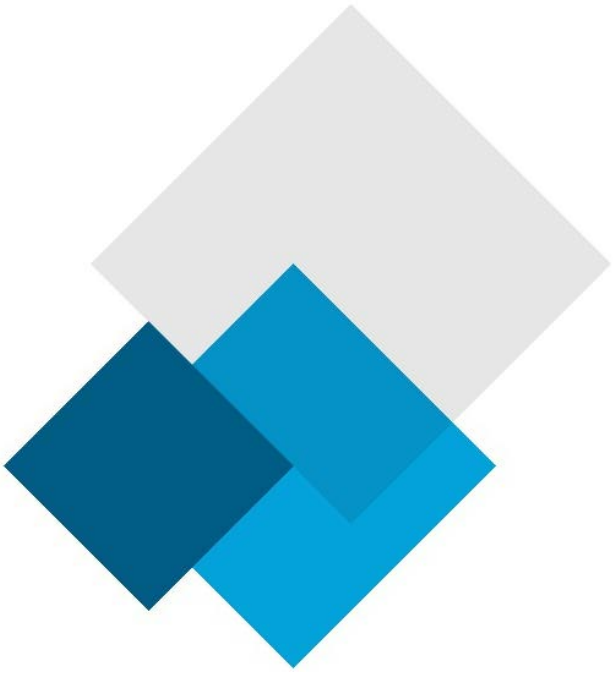
Picture 7 Suction line localization

Picture 8 Suction line sinking

Picture 9 Final suction line installation

Appendix D

Inspection Test Plan



Picture 10 Pipeline pressurization

Picture 11 Pressure readout at 21:00

Picture 12 Pressure readout at 22:00

Picture 13 Pressure readout at 23:00

Picture 14 Pressure readout at 23:58