



AGNICO EAGLE

DESIGN REPORT FOR A NEW 3.3ML FUEL TANK AND ITS CONTAINMENT FACILITIES

MEADOWBANK SITE, NUNAVUT



May 24, 2022

Revision: R0

Doc. N°: 61-680-132-REP-001

Tt Project N°: 711-47731



TETRA TECH



SNC • LAVALIN

Agnico Eagle Mines Ltd / Meadowbank division	DESIGN REPORT NEW 3.3 ML FUEL TANK AND ITS CONTAINEMENT FACILITIES	Tt Doc. N°: 6134-680-132-REP-001	
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REVISION FOLLOW-UP

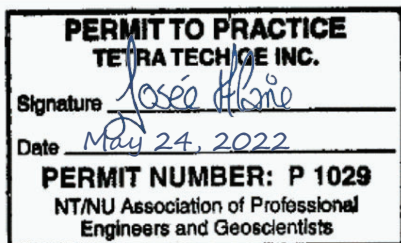
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APPENDICES

Appendix A – MECHANICAL/ELECTRICAL DRAWINGS (SNC-LAVALIN)

Appendix B – EARTHWORKS CONSTRUCTION DRAWINGS (TETRA TECH)

ACRONYMS AND ABBREVIATIONS

The definition of acronyms and abbreviations used in this report are listed below.

Acronyms/Abbreviations	Definition
API	American Petroleum Institute
ARD-ML	Acid Rock Drainage – Metal Leaching
AWSL	Above Sea Water Level
CCME	Canadian Council of Ministers of the Environment
CEC	Canadian Electrical Code
CL	Centerline
CSA	Canadian Standards Association
DRFS	Design Rationale for Fuel Storage and Distribution Facility
HDPE	High Density Polyethylene
NAPG	Non-Potential Acid Generating
NBCC	National Building Code of Canada
NFCC	National Fire Code of Canada
NFPA	National Fire Protection Association
NWB	Nunavut Water Board
R-125-95 NWT	Consolidated Mine Health and Safety Act

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Agnico Eagle Mines Ltd (Agnico Eagle) is proposing to erect a new 3.3ML fuel tank at their Meadowbank site in Nunavut. At the site, there is currently a tank farm enclosing a 5.6ML fuel tank, which has been in service since 2009. The new tank will be erected adjacent to the existing tank and the tank farm will be modified to enclose both tanks. The existing pumping station and ancillaries will be shared by the two tanks. New pipelines will be installed to connect the new tank to the existing pumping station.

The project is multi-disciplinary and involves earthworks, mechanical and electrical works.

Figure 1 and Figure 2 below indicate the geographical location of Meadowbank and the fuel farm location.



Fig.1: Meadowbank – Site location



Fig. 2: Meadowbank – Fuel Farm location

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1.2 PURPOSE OF THE REPORT

AGNICO EAGLE retained Tetra Tech and SNC-LAVALIN Inc. to design the 3.3ML field erected fuel storage tank, the secondary containment required for the new tank, the new piping, and the required modification to the existing installations to have a functional system.

This report is intended to present the design basis, codes and regulation overview, specific considerations, engineering design and construction details related to the project.

This report includes the final design and construction drawings for fuel storage facilities as specified under Nunavut Water Board (NWB) Water License 2AM-MEA1530.

1.3 SCHEDULE

Earthworks is planned to begin in July 2022 and the erection of the tank in Mid-August 2022. The commissioning of the new fuel storage tank is planned to be completed in 2022.

1.4 RESPONSIBILITY MATRIX

The table 1 below identifies the area of responsibility in this design report for both engineering consulting firms.

Table 1 – Responsibility Matrix

RESPONSIBILITY MATRIX		
SECTIONS	Tetra Tech	SNC-LAVALIN
SECTION 1 INTRODUCTION	X	X
SECTION 2 CODES AND STANDARDS	X	X
SECTION 3 DESIGN OF TANK, PIPING, INSTRUMENTATION AND CONTROL		X
SECTION 4 DESIGN OF TANK FARM	X	
SECTION 5 EARTHWORKS	X	

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1.5 INCLUSIONS AND EXCLUSIONS

1.5.1 Inclusions

The following items are included in the design report:

- Field erection of one (1) new vertical fuel storage tank of 3.3 M liter;
- Accessories such as couplings, nozzles, stairs, steps, railings, fixed suction, and piping;
- Piping network;
- Testing, calibration and inspection requirements;
- Instrumentation and control;
- Tank foundation;
- Fuel farm secondary containment with liner system.

1.5.2 Exclusions

Any elements not mentioned in the Inclusions are considered excluded from the design report.

1.6 ENGINEERING DOCUMENTS

Table 2 - Engineering documents list

Engineering documents	
Mechanical	General Arrangement (GA) drawings Process and Instrumentation Diagram (PID) drawings Platework drawings Piping drawings
Structure	Structural steel drawings
Electrical	Power distribution drawings Grounding drawings Light and services drawings
Civil	Earth Works drawings

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2 CODE AND STANDARDS

2.1 COMPLIANCE FOR FIELD ERECTED FUEL TANK

The system complies with the latest editions of the Codes and Standards relating to this project (Federal, Territorial, Municipal, NBCC, NFCC, CEC, CSA, NFPA, and API) as well as the directives of the authorities having jurisdiction over this project. Specific codes and standards as: R-125-95 NWT and Nunavut Mine Health and Safety Regulations (Mine Health and Safety Act) and RRNWT 1990, c F-12 Fire Prevention Regulations shall apply.

Additionally, the design and field erected vertical fuel storage tanks shall conform to API Std. 650 Twelfth Edition - Welded Tanks for Oil Storage, including Errata 1 (2013), Errata 2 (2014), and Addendum 1 (2014) and applicable Appendices.

2.2 CODE ANALYSIS FOR FIELD ERECTED FUEL TANKS

The Field Erected Storage Tank System and pumping stations design are first based on the compliance with the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (SOR/2008-197). Article 14 (1) of this regulation mentions that for the installation of a fuel storage system, the system has to comply with the applicable requirements set out in the CCME Code of Practice (CCME PN1326).

Looking into the CCME, the main design criteria is defined in Part 3 that applies to the design and installation of a new aboveground storage tank system and Part 5 that applies to the design and installation of new piping systems.

The Field Erected Storage Tank System design shall comply with requirements of CCME 3.6.1(1) for aboveground storage tanks, more specifically API Std 650 for vertical single wall tanks.

In accordance with section 3.3 and 3.4 of the CCME, storage tanks shall be equipped with an overfill protection to prevent from spill.

In accordance with CCME section 5.4, all underground piping has to be double walled and installed such that leaks will be collected into an accessible sump.

Reviewing the NFCC latest edition, the main design criteria are defined in Part 4 regarding the flammable and combustible liquids. More specifically, Section 4.1 which provides general information and requirements for fire protection and spill control of flammable and combustible liquid storage systems, Section 4.3 which provides the tank design and construction minimum requirements, Section 4.5 for piping and transfer systems and Section 4.6 for fuel dispensing stations.

Basically, most of the NFCC requirements for tank and piping systems are covered by CCME requirements but give some additional ones. For example, Table 4.3.2.1 defining the minimum requirements for the location of aboveground storage tanks; Point 4.3.2.2 defining the minimum requirements for spacing between tanks; or point 4.3.6.4.2) requesting that connections for filling or emptying storage tanks shall be kept closed to prevent leakage when not in use.

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2.3 COMPLIANCE FOR SECONDARY CONTAINMENT

The secondary containment for the aboveground storage tanks shall conform to NFCC. The base and walls of a secondary containment shall be designed, constructed and maintained to withstand full hydrostatic head and provide a permeability of not more than 10-6 cm/s to the flammable liquids or combustible liquids contained in the storage tanks (Art. 4.3.7.2). The tank will be placed entirely within a dike area, with an impermeable barrier in the floor of the containment area and in the dike walls. The membrane is expected to provide the level of impermeability required and will be covered with a non-combustible material to prevent it from failing if the secondary containment is exposed to fire. More details are provided in Section 4.6. The secondary containment shall have a minimum volumetric capacity as stated in Art.4.3.7.3. The designed fuel farm will have a secondary containment that is greater than the volumetric capacity required per Art.4.3.7.3. (See Section 4.5 for details).

3 DESIGN OF TANK, PIPING, INSTRUMENTATION AND CONTROL

3.1 DESCRIPTION OF SITE GENERAL ARRANGEMENT AND TANK

This section describes the criteria used to design the field erected fuel storage tanks, to prepare general arrangements and to select equipment and/or materials.

The plan view of the fuel farm is shown on Figure 3 below.

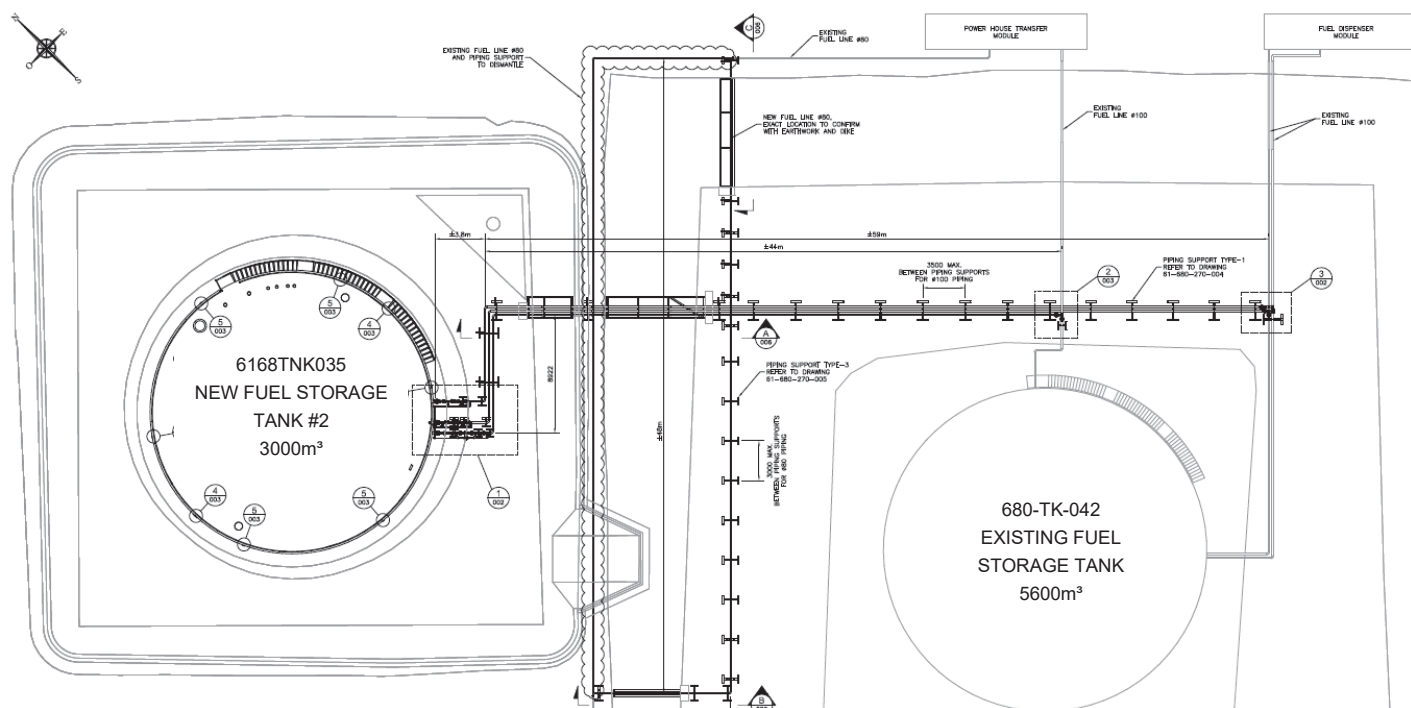


Fig. 3 – Fuel Farm plan view

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The existing pumping station will be used to fill both the actual and the new 3.3 ML tanks. Both tanks will be connected to the existing pumping stations. Those pumping stations will be used to fill both tanks from tanker trucks travelling between the Baker Lake fuel farm and the Meadowbank site. Existing distributing pumping stations will also be used for equipment refuelling as well as supply the power generator transfer tanks located near the power plant.

Construction drawings for the Meadowbank site fuel farm can be reviewed in Appendix A.

3.2 COMMISSIONING

The fabrication, erection, inspection, testing, welding and labelling of vertical tanks will be to the latest edition of API Standard 650. Prior to putting a fuel storage tank in service, the tank will pass quality control checks as per API 650 requirements; finally, the tank will be cleaned, dried, strapped and closed to be ready for service.

3.3 SYSTEM OPERATION

For loading operation, the existing pumping station will transfer fuel from the tanker trucks to the selected storage tank. The storage tanks will be equipped with overfill alarm system for operator notification and to automatically stop the pumping operation. Mill operator will be able to select from which storage tank the distribution pumping stations on site will pump from.

3.4 MAINTENANCE/INSPECTION

A qualified maintenance team will inspect the system (mechanical equipment and piping) on a regular basis as per regulations and codes. The new distribution piping will be installed above ground which means any leaks can be detected during the periodic visual inspection.

Field erected storage tanks shall be inspected externally and internally as per CCME section 8.4 and API 653 standard.

4 DESIGN OF FUEL STORAGE TANK FARM

4.1 DESCRIPTION AND CONSTRUCTION DRAWINGS

There is currently an existing fuel farm with one 5.6 ML fuel tank in service since 2009. An as-built report was issued in April 2009 by Agnico Eagle (*Reference: "Meadowbank Fuel Storage Installations - Final report following the construction", #VD2259-1A, April 2009*).

The proposed 2022 work consists of adding a 3.3 ML fuel tank next to the existing tank and modifying the secondary containment area so that the two tanks will share the new containment space.

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The proposed modifications to the secondary containment area consist of:

- Building a new tank foundation for the 3.3ML fuel tank.
- Building containment dikes around the new tank.
- Building a lower channel connection in the berm that separates the two tanks so that the liquid can flow over through the channel in case of a spill and be contained in the proposed tank farm.
- Installing a liner system in the new containment area to ensure imperviousness of the tank farm.
- Grading the tank farm floor to ensure run-off drainage to a sump pit.

The detailed design of the proposed modifications to the tank farm is presented in the construction drawings attached in Appendix B.

The table 3 below presents the characteristics of the existing tank and the proposed new tank that will be enclosed in the modified fuel storage tank farm.

Table 3 – Description of the tanks

Characteristics	NEW 3.3 ML TANK 6168TNK035	EXISTING 5.6 ML TANK 680-TK-240
Product	DIESEL	DIESEL
Volume (liter)	3 362 000	5 675 500
Diameter (m)	21.039	24.384
Height (m)	9.667	12.192

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The figure 4 below represents a 3D model of the tank farm.

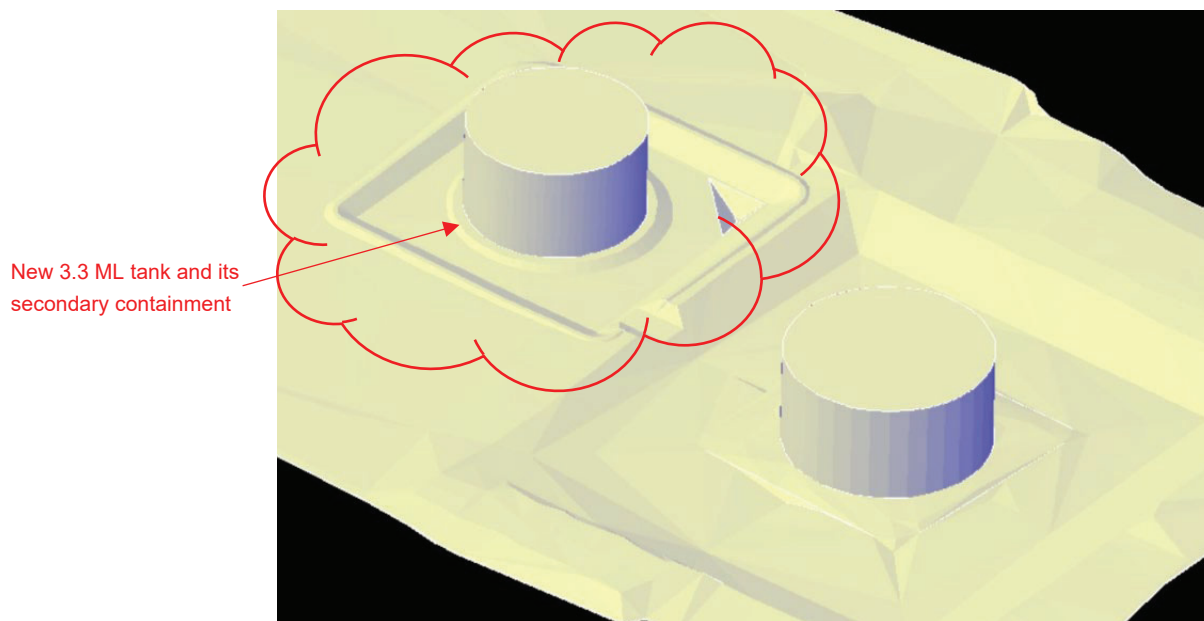


Fig.4: Proposed tank farm 3D model

4.2 GEOTECHNICAL DATA

Probing for bedrock depth was carried out within the footprint of the proposed new tank by Agnico Eagle in April 2022 and the information provided to Tetra Tech. Eleven holes were drilled using an air rotary drilling. The overburden material encountered was mainly described as till, typically composed of brown sand with some gravel and some silt. Bed rock depth varied from 1.3 m to 3.0 m from the ground surface with an average of 2.1 m. Drawing 61-680-230-002 in Appendix B provides drill hole locations.

4.3 TANK FOUNDATION DESIGN

The new tank foundation will be composed of granular fill material placed on exposed competent bedrock surface.

Civil works for the preparation of the tank foundation pad consist mainly in excavation of all existing material to competent bedrock and placing and compacting the granular fill material. The rock surface will be exposed, cleaned, inspected by a qualified geotechnical professional prior to backfilling. A liner system will be installed under the tank.

The tank pad will be 300 mm (minimum) higher than the surrounding ground. A 1.2 m shoulder will surround the tank with a slope of 1V:120H away from the tank. The embankments of the foundation pad will not be steeper than 1V:2H.

The tank pad elevation at the center of the tank is 150.48 m (AWSL).

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Table 4 presents the design parameters of the tank pad.

Table 4 – Design parameters of the tank pad

Design parameters of the tank pad	Values
Geometry of the tank top pad	Circular Diameter = 23.44 m
Shoulder width	1.2 m
Height of the tank pad above surrounding floor	Minimum 300 mm
Slope on shoulder	1V:120H
Slope on embankment	1V:2H
Tank pad elevation at the center of the tank	150.48 m (AWSL)

4.4 SECONDARY CONTAINMENT DIKE DESIGN

To contain a spill event of the new tank, a dike will be constructed around it. A channel connection will be built in the eastern berm located between the new and existing tanks to allow liquid to go to the existing dike (and vice-versa). That berm will be an intermediate berm in the final configuration of the tank farm.

The new berms of the dike will be made of granular fill material and the entire surface of the new dike will be rendered impervious by the incorporated liner system.

The design parameters for the new dike surrounding the new fuel tank are presented in Table 5.

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Table 5 - Design parameters for the new dike

Design parameters of the new dike	Values
Dike length (CL to CL)	154 m
Dike height	1.8 m max (Varies from 0.96 m to 1.72 m)
Dike flat top width	0.6 m
Dike embankment slope	1V:2H
Impervious area	1 602 m ²
Top elevation of the dike (AWSL)	151.05 m
Elevation of the dike floor (AWSL)	Varies from 149.33 m to 150.09 m
Elevation of the liner in the berms (highest point)	150.90 m
Granular cover above the liner system	150 mm in the berm 200 mm at the floor dike
Channel width	3.5 m
Elevation at the channel plateau (bottom)	150.05 m

4.5 SECONDARY CONTAINMENT CAPACITY

The required capacity of the fuel farms is calculated based on the following codes and regulations:

- National Fire Code of Canada (NFCC);
- National Fire Protection Association (NFPA); and
- Design Rationale for Fuel Storage and Distribution Facility (DRFS).

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As per the NFCC (2015), Art. 4.3.7.3, the required capacity for the secondary containment of a fuel farm with more than one storage tank shall have a volumetric capacity of not less than the sum of:

- a) The capacity of the largest storage tank located in the contained space, and;
- b) 10% of the greater of:
 - i. The capacity specified in Clause (a), or;
 - ii. The aggregate capacity of all other storage tanks located in the contained space.

The containment volume was calculated with the aid of AutoCAD CIVIL 3D software. The calculation does not include the volume inside the tanks themselves.

The lowest point of the liner that sits atop in the global containment area is at elevation 150.90 m (AWSL).

The simulation shows that the required capacity of the tank farm to be in accordance with Code is obtained with a simulation at elevation 150.70 m, which implies there is a safety margin (freeboard) of at least 200 mm.

Based on the above mentioned, the secondary containment capacity requirements and the available capacity for the fuel farm are summarised in the following table.

Table 6 – Fuel Farm containment capacity

Final Fuel Farm	MEADOWBANK	
Enclosed Tanks	EXISTING 5.6 ML TANK 680-TK-240	NEW 3.3 ML TANK 6168TNK035
Maximum Volume in the tank	5 675 700 L	3 662 000 L
Required Containment Capacity	6 243 m ³	
Available Containment Capacity at elevation 150.90 m	7 394 m ³	
Is Available containment capacity > Required containment capacity	YES	
Containment capacity at elevation 150.70 m (For free board evaluation)	6 259 m ³ (Free board = 200 mm min)	

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4.6 SECONDARY CONTAINMENT IMPERVIOUSNESS

As per NFCC (2015) Art. 4.3.7.2, the base and walls of the fuel farm secondary containment are designed and will be constructed and maintained to withstand full hydrostatic head and provide a permeability of not more than 10⁻⁶ cm/s to the flammable liquids or combustible liquids contained in the storage tanks. The diked area will be impervious in order to avoid any seepage into the environment. A 60 mil. HDPE geomembrane liner installed between two layers of non-woven geotextile, to protect its integrity, will provide adequate imperviousness. Since the membrane providing the level of impermeability is combustible, it will also be covered with a non-combustible material (a layer of granular material) for adequate protection if exposed to fire. Technical specifications for both geomembrane and geotextile are provided in Section 5 of this report.

4.7 SECONDARY CONTAINMENT DRAINAGE

The finished grade of the secondary containment is sloped away from the tank to drain the runoff water within the diked area and towards a drainage sump located inside the tank farm. The sump pit is made of the bottom part of 205L steel drum or equivalent with perforations. As per Agnico Eagle practices, due to the melting snow that accumulates over the winter and precipitations, contact water will be collected inside the secondary containment dike and then managed as per the Water License.

4.8 DISTANCE RESTRICTIONS

The minimum clearances that were considered in the design of the tank Farm are:

- The distance between multiple tanks must be the greatest of $\frac{1}{4}$ of the sum of the tanks diameters or 1 m (NFCC, Art. 4.3.2.2);
- The distance between the tank and the toe of the dike shall not be less than 1.5 m (NFCC, Art. 4.3.7.4);
- The distance between the tank and the centerline of the dike shall not be less than $\frac{1}{2}$ the height of the tank (DRFS Art. 4.5);
- The distance between the property limit and the tank shall not be less than twice the diameter of the tank (NFPA 30, Table 22.4.1.1);
- The distance between the property limit and the exterior toe of the dike shall not be less than 3 m (NFPA 30, Art. 2.3.4.3);
- The tanks must be located 60 ft (18.3 m) away from the public roads and buildings (NFPA 30, Table 22.4.1.1).

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		Area: 680	
		Work Package: NA	
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Distance clearances are resumed in Table 7 below:

Table 7 – Distance clearances

Item	Required	NEW TANK 6168TNK035	COMPLIANCE
Distance Between Tanks	$\frac{1}{4} (D1 + D2) = 11.35 \text{ m}$ D1=21.039 m, D2=24.38 m	35.20 m	Yes
Distance Between Tank and Toe of the Dike	1.50 m Min.	3.5 m min	Yes
Distance Between Tank and CL of the Dike	$\frac{1}{2} (\text{Height of Tank}) = 4.84 \text{ m}$ H=9.677 m	8.33 m min	Yes
Distance Between Property Limit (that can be built upon) and Tank	Tanks with less than 3 000 000 gallons: 165 ft. = 50.29 m	> 200m	Yes
Distance Between Property Limit and Exterior Toe of the Dike	3.0 m Min.	>200m	Yes
Distance Between Tank and Public Roads	55 ft. = 16.76 m	>1km	Yes

4.9 INSPECTION AND COMMISSIONING

The manufacture and supply of the liner system for the fuel farm will comply with ASTM standard. The manufacturer will provide a certification stating that the material proposed has physical properties that meet the required values. The rolls of liner will be labelled, packaged, shipped, off-loaded, stored, and handled by appropriate means to prevent damage to the material.

The subgrade surface will be inspected by the Engineer to verify suitability prior to installation of the liner system. A minimum thickness of fill covering the liner will be maintained for operating equipment over the liner to prevent any damage. The installation of the liner system will be performed by a qualified installer. All seaming, patching, welding operations, and testing will be performed by a qualified technician. Joints/seams between liners panels will be field welded using the manufacturer's recommended procedures and equipment. Seaming will be performed using double wedge automatic fusion welding equipment and techniques. Extrusion welding will be used where double wedge fusion welding is not possible such as for patches, repairs, and short runs of seams. Any welds that have been rejected will be remedied to satisfactory requirements. All the field seams will be non-destructively tested using vacuum box, air pressure, or spark testing equipment.

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The backfill material will be placed in accordance with the drawings and specifications for the maximum lift thickness, compaction requirements and final grade levels. Particular attention should be taken when welding the new liner to the existing one at the channel to ensure the continuity of imperviousness in the entire tank farm. The tank farm including its liner system installation and testing documentation will be accepted by the Engineer prior to the filling of the storage tank.

5 EARTH WORKS

A quality control/assurance program is required during construction. We are not expecting any erosion and sediment control measure during construction.

5.1 CONSTRUCTION MATERIAL QUANTITIES

The table below presents the estimated in-place material quantities for the construction of the fuel farm.

Table 8 – Material quantities estimation

Item	TOTAL
Sand (m ³)	25
Granular fill 0-30 (m ³)	1 654
Granular fill 0-200 (m ³)	746
Granular fill 0-600 (m ³)	1 371
540 g/m ² non-woven geotextile (m ²)	4 708
HDPE Geomembrane (m ²)	2 354
Total Excavation of Overburden Volume (m ³)	3 421

5.2 CONSTRUCTION MATERIAL SPECIFICATIONS

All the material to be used is NPAG (Non-Potential Acid Generating) and determination is done as per Agnico Eagle ARD-ML (Acid Rock Drainage – Metal Leaching) Testing and Sampling Plan. The general requirements for the materials are specified below.

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5.2.1 Sand

Granular sand shall consist of hard durable particles, be free of roots, topsoil and other deleterious materials and have a particle size distribution as presented in Table 9. Processing may be required to achieve the specified gradation if not naturally meeting the requirements.

Table 9 - Sand – Particle size distribution limits

Particle size (mm)	% Passing
10	100
5	95 – 100
0.08	0 - 10

5.2.2 Granular Fill (0-30mm)

Granular Fill (0-30 mm) shall consist of hard durable particles, be free of roots, topsoil and other organic material and have a particle size distribution as presented in Table 10. Processing will be required to achieve the specified gradation.

Table 10 - Granular fill (0-30 mm) – Particle size distribution limits

Particle size (mm)	% Passing
30	100
14	65 – 100
5	45 – 70
0.63	15 – 35
0.08	4 – 10

5.2.3 Granular fill – (0-200 mm)

Granular Fill (0-200 mm) shall consist of hard durable particles, be free of roots, topsoil and other deleterious material and have a particle size distribution as presented in Table 11. Processing will be required to achieve the specified gradation.

Table 11 - Granular fill (0-200 mm) – Particle size distribution limits

Particle size (mm)	% Passing
200	100
100	50 - 100
50	25 – 65
25	10 – 40
5	0 - 15

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5.2.4 Granular fill – 600 mm minus

Granular Fill (0-600 mm) can have a wide variation of gradation, with maximum particle size 600 mm. Rock fill particles shall be angular and shall be derived from hard, durable rock. Any oversized boulders should be removed before the rock fill is placed into the earth structures.

5.2.5 Geotextile

A non-woven geotextile will be placed between the granular material and the geomembrane. It will be comprised of needle punch polypropylene fabric made of 100% polypropylene staple fibers conforming to the properties in Table 12. The geotextile will be at minimum weight of 540 g/mm².

Table 12 - Geotextile specifications

Earth structure	Fuel farms	ASTM test method (or approved equal)
Grab Tensile (N / lbs)	1,690 / 380	D4632
Elongation (%)	50	D4632
Tear (N / lbs)	623 / 140	D4533
Puncture (N / lbs)	4,560 / 1,025	D4833
Weight (g/m ² / oz/yd ²)	542 / 16.0	D5261
UV Resistance	70	D4355

5.2.6 Geomembrane Liner

An impervious geomembrane liner material will be placed underneath the granular material at a depth of 0.15 m in order to contain the area in case of a spill. The liner will be a continuous membrane to ensure its imperviousness. The liner material will be a high-density polyethylene (HDPE) and will have the minimum property values indicated in Table 13.

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Table 13 - Geomembrane specifications

Test parameter	Required specifications	ASTM test method (or approved equal)
Minimum average thickness (mm/mil)	1.5/60	D5994
Density	0.94	D792
Tensile properties:		D638 Modified type UV Die 50 mm/minute
Stress @ Yield (kN/m/ppi)	16/90	
Stress @ Break (kN/m/ppi)	22/126	
Strain @ Yield (%)	12	
Strain @ Break (%)	100	
Tear resistance (N/lbs)	187/42	D1004
Low temperature (C/F)	-60/-76	D746 Procedure B
Dimensional stability (%)	+/-2.0	D1204
Puncture resistance (N/lbs)	400/90	FTMS N. 101B Method 2065
Carbon black (min.)	2	D1603
Carbon black dispersion	Category 1 or 2	D5596

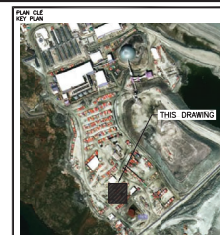
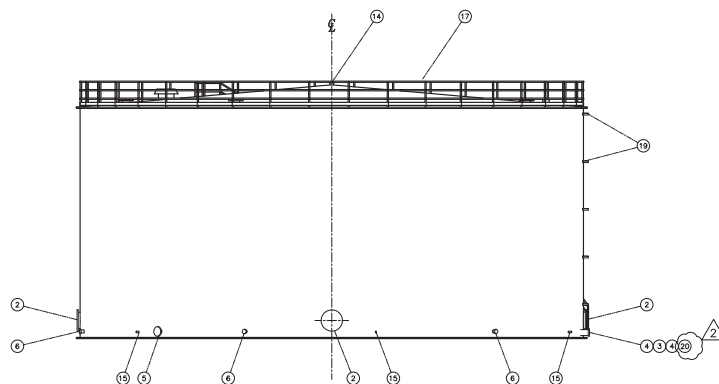
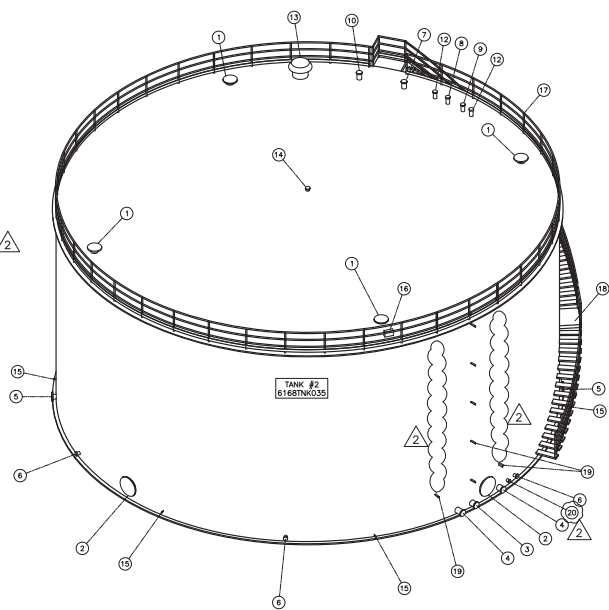
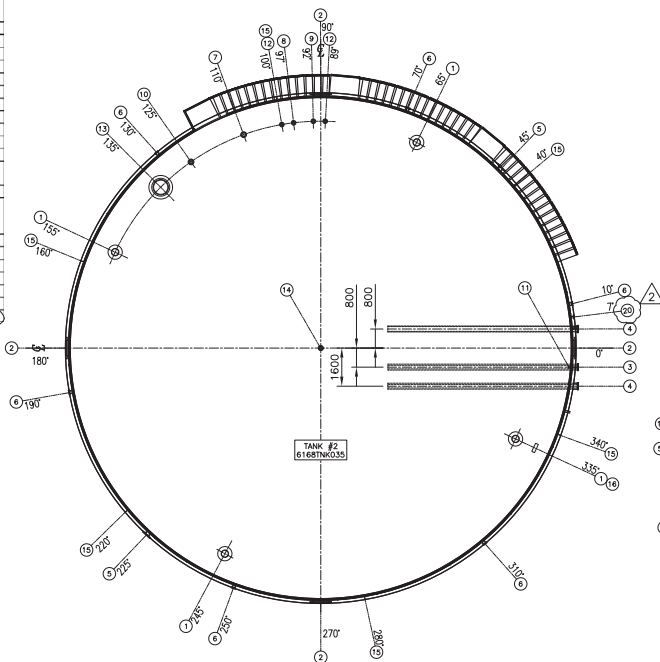
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		Tt Project N°: 711-47731	
		Area: 680	
		Work Package: NA	
Client Doc. N°: 6134-680-132-REP-001		Date: 2022-05-24	Revision: R0
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APPENDIX A – MECHANICAL/ELECTRICAL DRAWINGS (SNC-LAVALIN)

61-100-J-0210-1	205 - P&ID Sheet 1 Diesel Fuel Storage / Supply	61-680-260-002	Platework Details 3M Liters Diesel Tank Tank #2 – 6168TNK035
61-100-J-0210-2	205 - P&ID Sheet 2 Diesel Fuel Storage / Supply	61-680-275-001	FUEL STORAGE & DISTRIBUTION 6168TNK035 GROUNDING
61-680-210-002	210 - General Arrangement Plan View Fuel Tank Farm	61-680-285-001	FUEL STORAGE & DISTRIBUTION 6168TNK035 LIGHTING & SERVICES
61-680-270-001	270 - General Arrangement Piping Plan View Fuel Tank Farm	680-J-1002	PP FUEL XFER PUMP PACKAGE I/O PANEL 680-IOP-013 MODULE WIRING
61-680-270-002	270 - General Arrangement Piping Details Fuel Tank Farm	680-J-1003	PP FUEL XFER PUMP PACKAGE I/O PANEL 680-IOP-013 TB WIRING
61-680-270-003	270 - General Arrangement Piping Details Fuel Tank Farm	61-680-280-001	280 – INSTRUMENTATION & CONTROL 680-IOP-013 – FUEL TANK #2 LEVEL LOOP WIRING DIAGRAM
61-680-270-004	270 - General Arrangement Piping Piping Support Type 1 Fuel Tank Farm	61-680-280-002	280 – INSTRUMENTATION & CONTROL 680-IOP-013 – FUEL TANK #2 INLET FLOW LOOP WIRING DIAGRAM
61-680-270-005	270 - General Arrangement Piping Piping Support Type 2 & 3 Fuel Tank Farm	61-680-280-003	280 – INSTRUMENTATION & CONTROL 680-IOP-013 – FUEL TANK #2 OUTLET #1 FLOW LOOP WIRING DIAGRAM
61-680-270-006	270 - General Arrangement Piping Details Fuel Tank Farm	61-680-280-004	280 – INSTRUMENTATION & CONTROL 680-IOP-013 – FUEL TANK #2 OUTLET #2 FLOW LOOP WIRING DIAGRAM
61-680-260-001	Platework Plan & Elevation 3M Liters Diesel Tank Tank #2 – 6168TNK035		



TANK #2 - 6168TNK035 - DIESEL				
SPECIFICATIONS:				
		NOMINAL DIAMETER:	21.039 m (TO BE CONFIRMED BY MANUFACTURER)	
		ORIGINAL NOMINAL HEIGHT:	9.877 m (TO BE CONFIRMED BY MANUFACTURER)	
		NOMINAL CAPACITY:	(TO BE CONFIRMED BY MANUFACTURER)	
		WORKING CAPACITY:	3 028 000 LITERS	
TAG	QTY.	DIA.	DESCRIPTION	REMARKS
1	4	800	ROOF MANHOLE	TO API 650 STANDARDS
2	4	900	SHELL MANHOLE	TO API 650 STANDARDS
3	1	150	FIXED PIPE - TANK LOADING 8 m LG.	TO API 650 STANDARDS
4	2	150	FIXED PIPE - TANK UNLOADING 8 m LG.	TO API 650 STANDARDS
5	2	150	PUMPING LOW LEVEL	TO API 650 STANDARDS
6	6	80	WATER DRAVCOFF	TO API 650 STANDARDS
7	1	150	GAUGE HATCH	TO API 650 STANDARDS
8	1	100	OVERFILL PROTECTION	TO API 650 STANDARDS
9	1	100	TEMPERATURE & WATER DETECTION PROBE	TO API 650 STANDARDS
10	1	150	RADAR - LEVEL DETECTION	TO API 650 STANDARDS
11	1	50	ROOF PRESSURE RELIEF LINE CONNECTION, HALF COUPLING 50 mm DIA.	TO API 650 STANDARDS AND NBC
12	2	100	SPARE	TO API 650 STANDARDS
13	-	600	VENT OPENING	TO API 2000 & 610 STANDARDS, DIA. AND QTY. TO BE DETERMINED BY THE MANUFACTURER
14	1	100	PAINTER SCAFFOLD CABLE SUPPORT	TO API 650 STANDARDS
15	6	-	GROUNDING LUG	TO API 650 STANDARDS
16	1	-	ROOF INSPECTION FRAME	TO API 650 STANDARDS
17	1	-	ROOF GUARDRAIL	TO API 650 STANDARDS AND NBC
18	1	-	SPIRAL STAIRWAY, GUARDRAIL & HANDRAIL	TO API 650 STANDARDS AND NBC
19	7	-	BRACKET FOR PRESSURE	TO API 650 STANDARDS AND NBC
20	1	50	TEMPERATURE SENSOR CONNECTION	TO API 650 STANDARDS



NOTES GÉNÉRALES / GENERAL NOTES

GENERAL ARRANGEMENT ONLY. TANK SHALL BE DESIGNED AS PER API 650 AND FABRICATED DRAWING APPROVED BY PROFESSIONAL ENGINEER OF MANUT (NAPE). REFER TO DOCUMENTS 6134-C-260-001-SOW-001 AND 6134-C-260-001-SOW-001.

SEE 61-680-260-02, FOR DETAILS.

**POUR CONSTRUCTION
FOR CONSTRUCTION**

DATE : 2022-05-02

AMMO BAR

SYC Laval
SYC Laval Inc.
101, rue Duval
Laval, Québec H7V 1A7
Tel. 514 764-0101 Fax: 514 764-0102
www.syclaval.com

Project # : 688597-0000

DESIGNS EN REFERENCE / REFERENCE DRAWINGS

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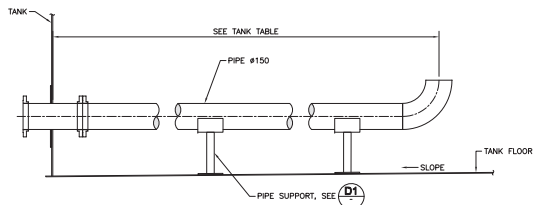
TANK #2 - DETAILS 61-680-260-002



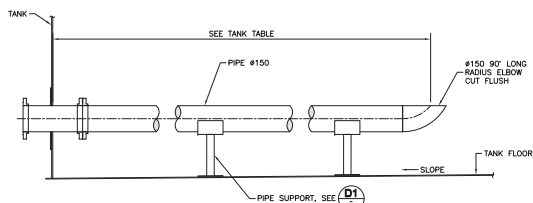
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66	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
67	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
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72	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
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76	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
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78	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
79	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
80	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
81	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
82	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
83	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
84	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
85	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
86	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
87	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
88	2022-05-04	ISSUED FOR CONSTRUCTION	R.LAVOIE	R.LAVOIE	2022-05-04
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REVISIONS

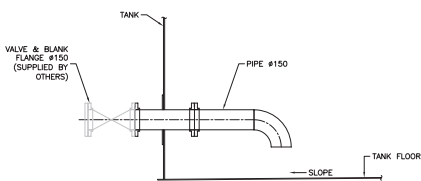
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2022-05-04					



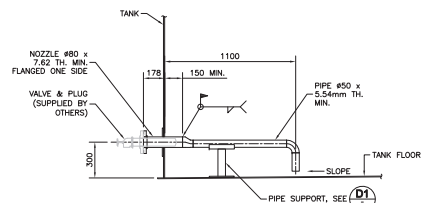
③ TANK LOADING DETAIL
SCALE: 1:20



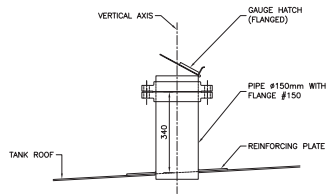
④ TANK UNLOADING DETAIL
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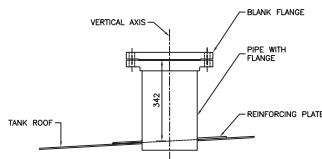
⑤ PUMPING LOW LEVEL DETAIL
SCALE: 1:20



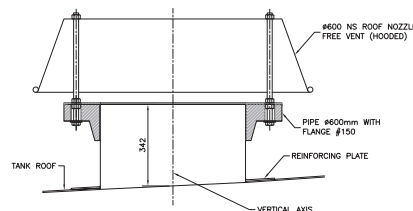
⑥ WATER DRAW-OFF DETAIL
SCALE: 1:20



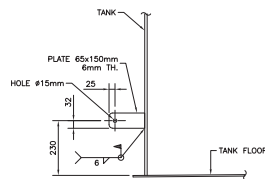
⑦ GAUGE HATCH DETAIL
SCALE: 1:10



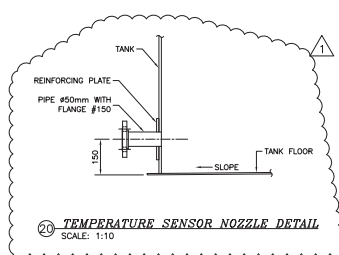
⑧ ⑨ ⑩ ⑪ NOZZLE DETAIL
SCALE: 1:10



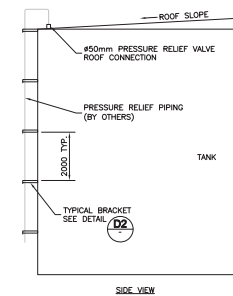
⑬ VENT DETAIL
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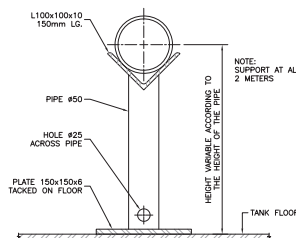
⑮ GROUNDING LUGS DETAIL
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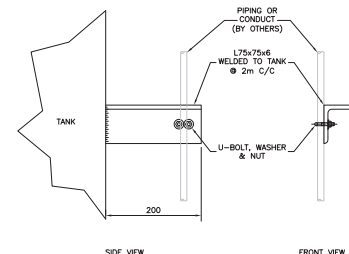
⑲ TEMPERATURE SENSOR NOZZLE DETAIL
SCALE: 1:10



⑪ ⑫ PRESSURE RELIEF BRACKET DETAIL
SCALE: N.T.S.



D1 PIPER SUPPORT
SCALE: 1:5



D2 BRACKET FOR PIPING OR ELECTRICAL CONDUCT TO THE SHELL TANK
SCALE: 1:5



NOTES GÉNÉRALES / GENERAL NOTES

DETAILS AS PER API 650. REFER TO DOCUMENTS:
6134-C-260-001-50W-001 AND
6134-C-260-001-50S-001.
TO BE READ WITH DRAWINGS 61-680-260-001,
PLAN & ELEVATION.

**POUR CONSTRUCTION
FOR CONSTRUCTION**
DATE: 2022-05-02

AGNICO EAGLE
SNC-Lavalin (Canada) Inc.
100, rue Beaudry Ouest
Montréal, Québec H3T 2B7
Tél. 514 764-4141 Fax: 514 764-4149
www.snc-lavalin.com

Project # : 686897-0000

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DESIGNS EN RÉFÉRENCE / REFERENCE DRAWINGS

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

TANK #2 - PLAN & ELEVATION 61-680-260-001

AGNICO EAGLE

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

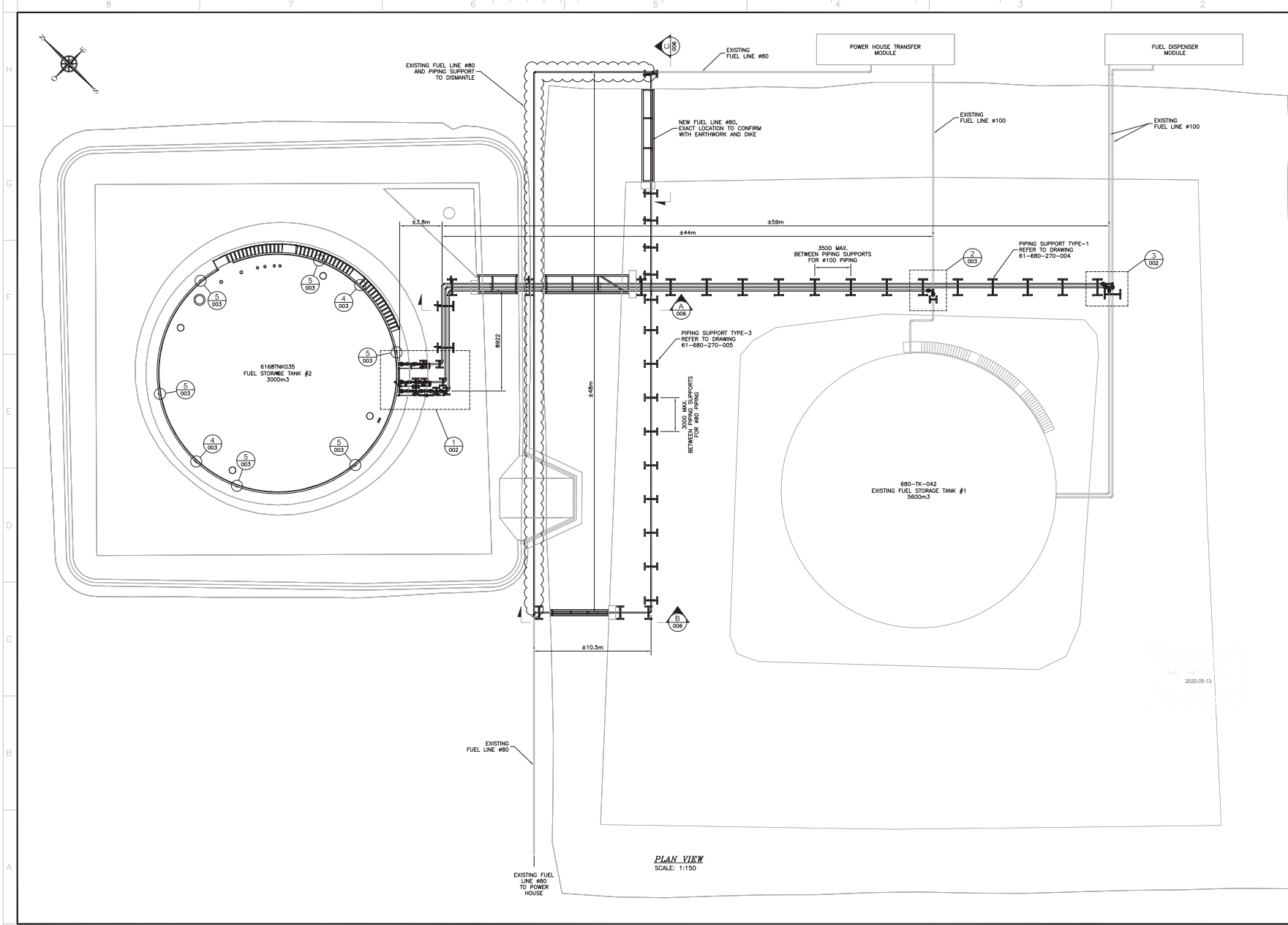
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2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001

DATE	TITLE	REVISION
2022-05-04	TANK #2 - PLAN & ELEVATION	61-680-260-001



NOTES GÉNÉRALES / GENERAL NOTES

NOTE 1:
AEM WILL SUPPLY VALVES, PIPING AND ACCESSORIES. CONTRACTOR ARE RESPONSIBLE OF INSTALLATION.

NOTE 2:
REFER TO DOCUMENT NUMBER 6134-C-260-001-SPT-001 FOR INSTALLATION SPECIFICATIONS.

POUR CONSTRUCTION FOR CONSTRUCTION

DATE : 2022-05-12

SYN-LAVIN

155, rue Gauthier Ouest
Riverview, Québec, J8T 2B7
(416) 819-7540 / 1011 Fax (416) 819-7540-1010
www.syn-lavin.com

Project #: 688597-0000

DESIGNS EN RÉFÉRENCE / REFERENCE DRAWINGS	TYPE / TITLE	# DES.
FUEL STORAGE GENERAL ARRANGEMENT	61-680-210-000	
GENERAL ARRANGEMENT - DETAILS	61-680-210-000	
FUEL STORAGE / SUPPLY - P&ID	100-1-210 1/2 & 2/2	



REVISIONS	DATE	DESCRIPTION	PROJ. MGR.	APP. / SIGN.
1	2022-05-12	ISSUED FOR CONSTRUCTION	RL	MM
0	2022-05-04	ISSUED FOR TENDER	RL	MM



TIME / TITLE
AGNICO EAGLE - MEADOWBANK DIVISION
680 - FUEL STORAGE AND DISTRIBUTION
270 - GENERAL ARRANGEMENT PIPING
PLAN VIEW
3ML FUEL TANK #2 (6168TNK035)

DESIGNED BY: ROBIN LEMUEUX, tech. DATE: 2022/04/04
CHECKED BY: ROXANNE LAVOIE
APPROVED BY: ISRAËL GAGNON, P.Eng.

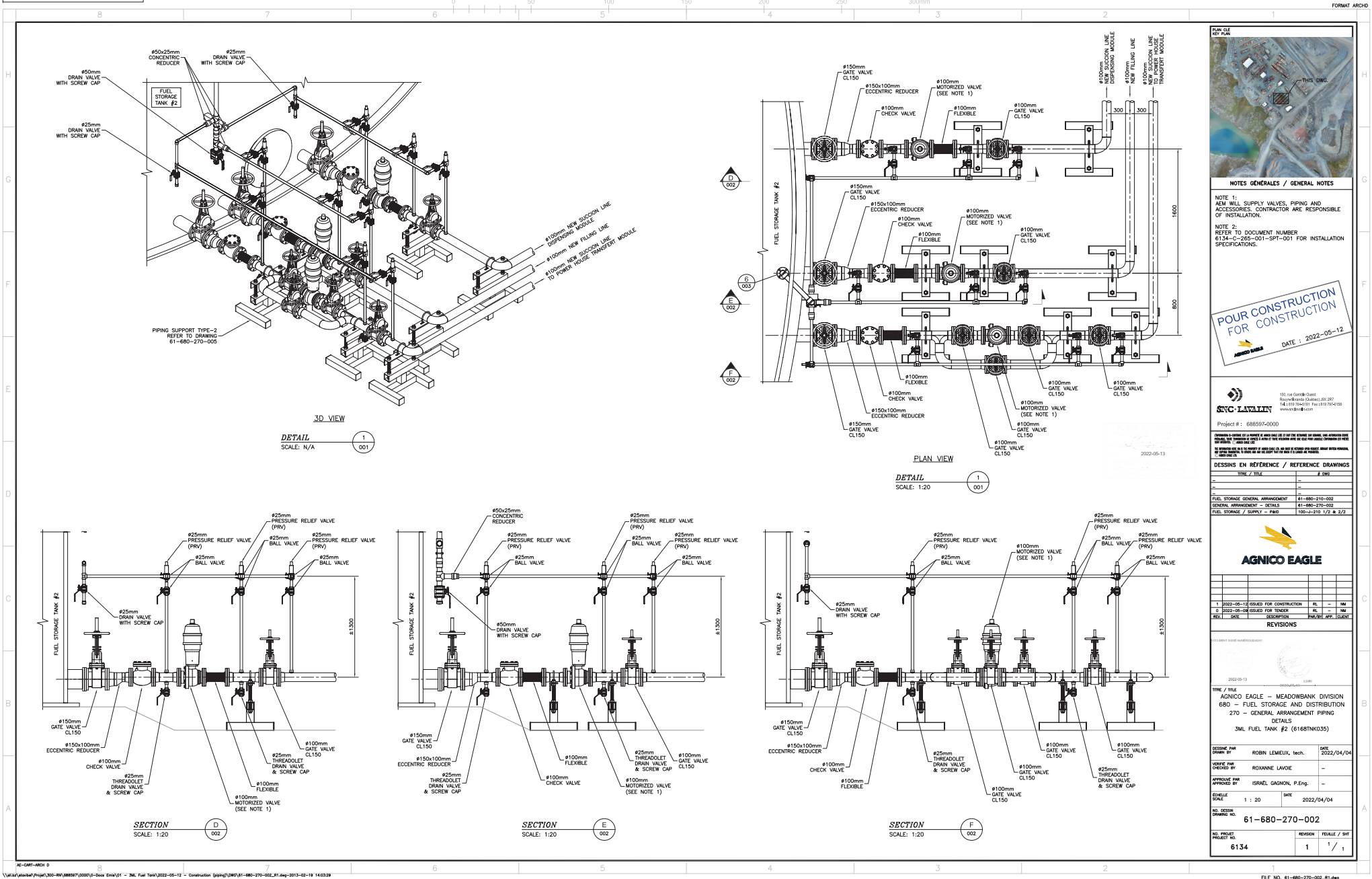
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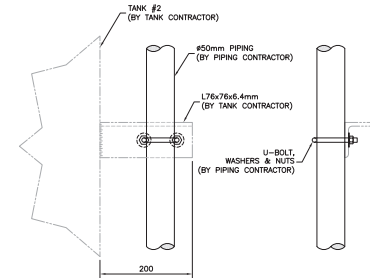
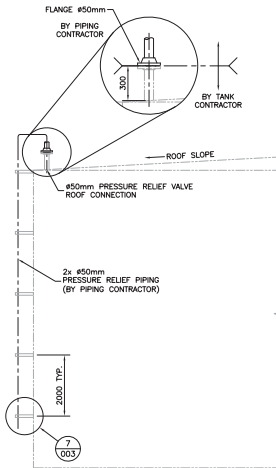
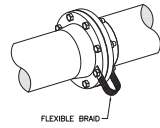
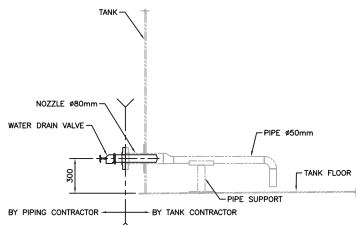
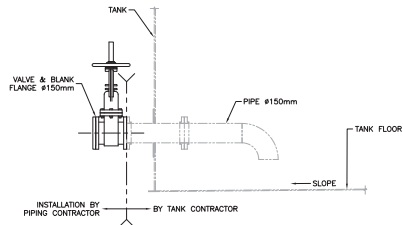
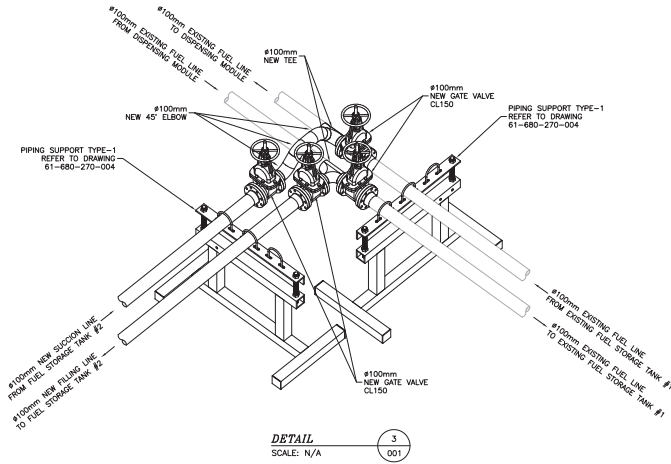
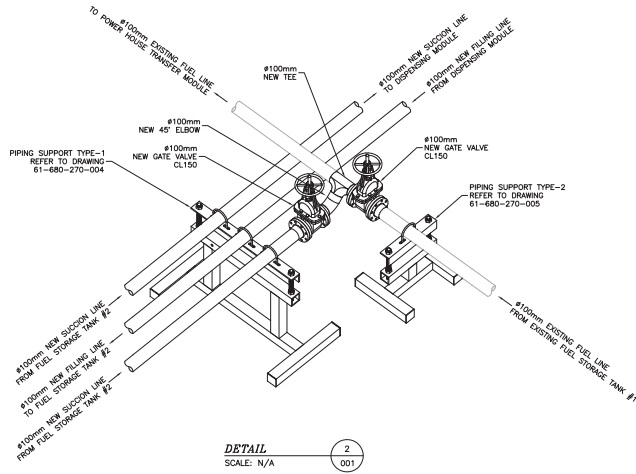
NO. DESIGN
DRAWING NO. 61-680-270-001

NO. PROJECT
PROJECT NO. 6134

REVISION
1

FEUILLE / SHEET
1 / 1





POUR CONSTRUCTION FOR CONSTRUCTION
DATE: 2022-05-12

SYC-LAVAL
100, rue Gauthier Ouest
Raymond-Breton/Chabot, J6R 2B7
T43 619-794-0101 Fax 2019 794-4100
www.syc-laval.com

Project #: 688597-0000

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

NO.	TITRE / TITLE	# DES.
1	FUEL STORAGE GENERAL ARRANGEMENT	61-680-210-000
2	GENERAL ARRANGEMENT - PLAN VIEW	61-680-210-001
3	FUEL STORAGE / SUPPLY - P&ID	100-1-210 1/2 & 2/2

AGNICO EAGLE

NO.	DATE	DESCRIPTION	PROJ. ENG.	DATE
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2	2022-05-04	ISSUED FOR TENDER	RL	NM

REVISIONS

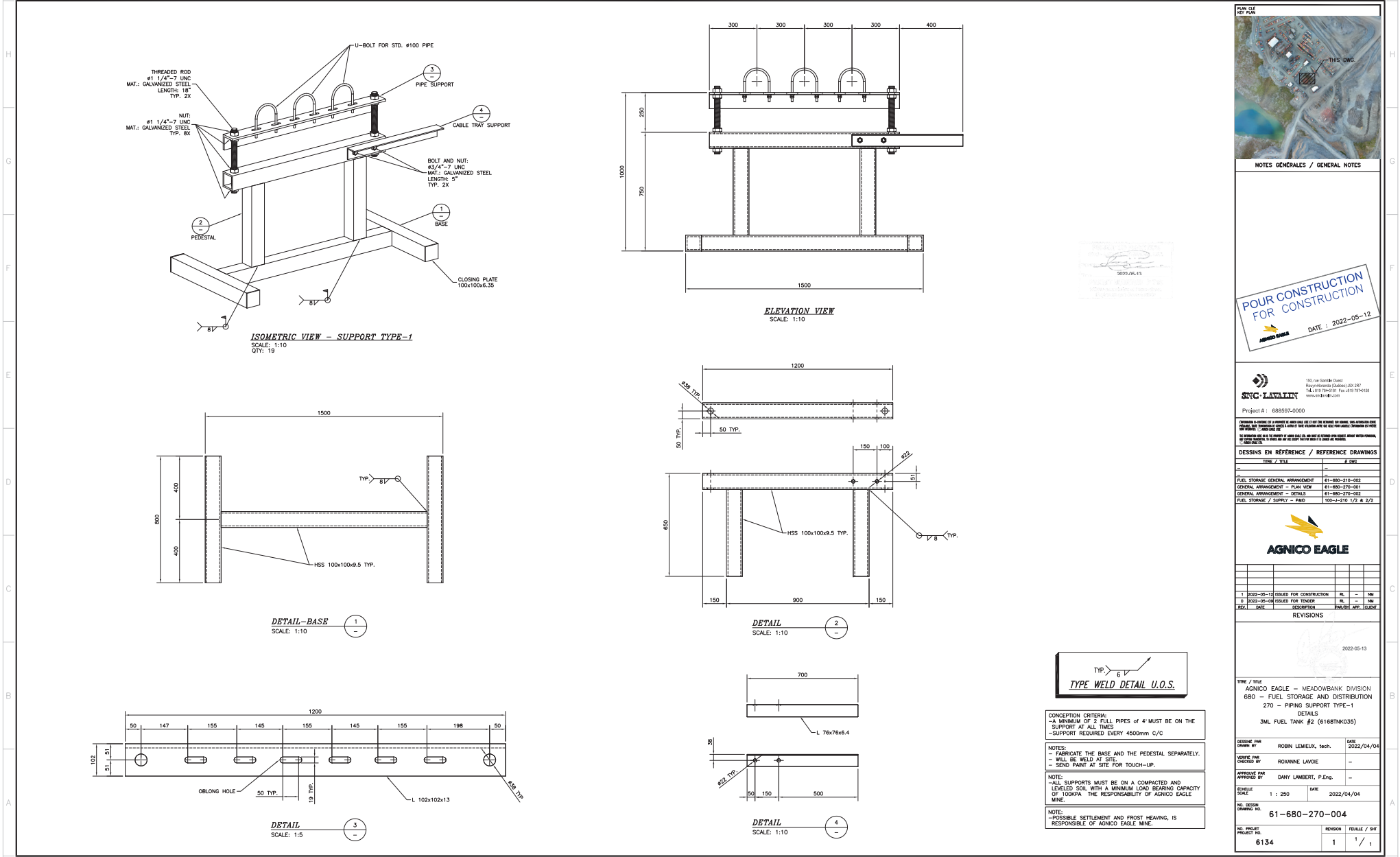
AGNICO EAGLE - MEADOWBANK DIVISION
680 - FUEL STORAGE AND DISTRIBUTION
270 - GENERAL ARRANGEMENT PIPING
DETAILS
3ML FUEL TANK #2 (6168TNK035)

DESIGNED BY	ROBIN LEMUEUX, tech.	DATE	2022/04/04
CHECKED BY	ROXANNE LAVOIE		
APPROVED BY	ISRAËL GAIGNON, P.Eng.		

ÉCHELLE / SCALE: 1 : 20 DATE: 2022/04/04

NO. DESIGN: 61-680-270-003
DRAWING NO.: 61-680-270-003

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHEET
6134	1	1 / 1



NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION FOR CONSTRUCTION
DATE: 2022-05-12

SYN-LAB
155, rue Courbeil Ouest
Repentigny (Québec) J6B 2B7
Tél: (514) 734-1011 Fax: (514) 734-1010
www.syn-lab.com

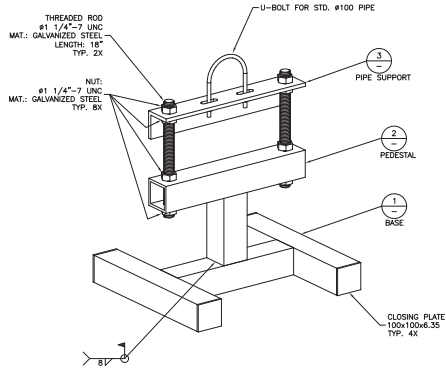
Project #: 688597-0000

DESIGNER	DATE	REVISION	BY	DATE
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2	2022-05-04	ISSUED FOR TENDER	RL	10/04

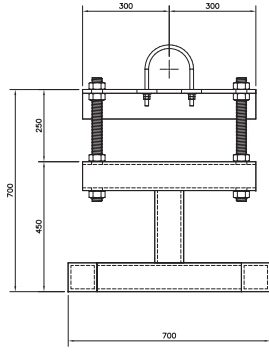
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2	2022-05-04	ISSUED FOR TENDER	RL	10/04

DESIGNER	DATE	REVISION	BY	DATE
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2	2022-05-04	ISSUED FOR TENDER	RL	10/04

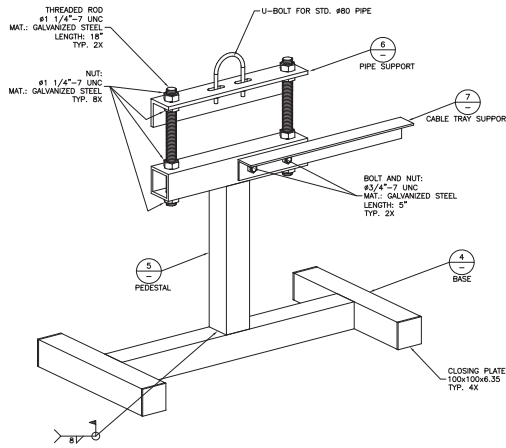
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2	2022-05-04	ISSUED FOR TENDER	RL	10/04



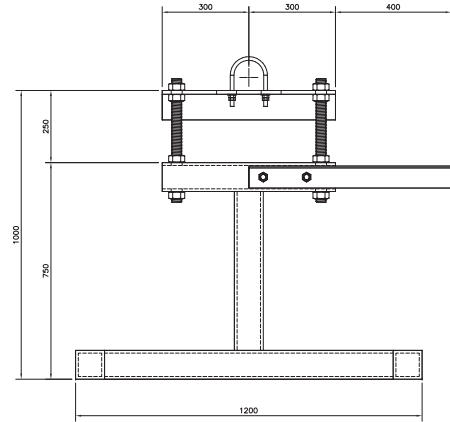
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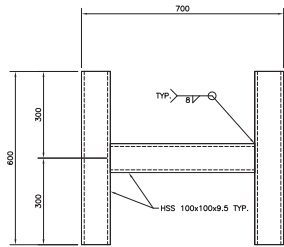
ELEVATION VIEW
SCALE: 1:8



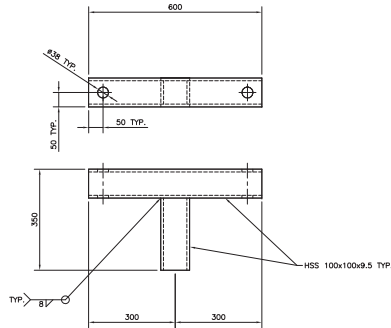
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SCALE: 1:8
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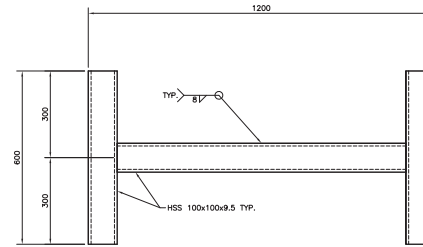
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SCALE: 1:8



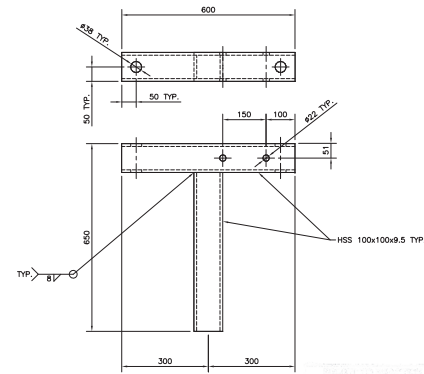
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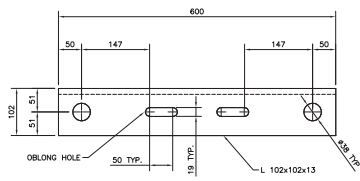
DETAIL 2
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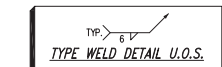
DETAIL 4
SCALE: 1:8



DETAIL 5
SCALE: 1:8



DETAIL 3
SCALE: 1:5

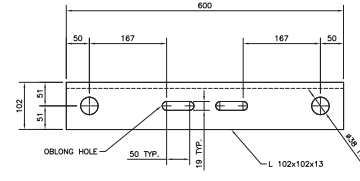


CONCEPTION CRITERIA:
- A MINIMUM OF 1 FULL PIPE OF 4 MUST BE ON THE SUPPORT AT ALL TIMES FOR SUPPORTS TYPE-2 AND FULL PIPE OF 3" FOR TYPE-3.
- SEE DWG 61-680-270-001 FOR LOCALISATION OF PIPE SUPPORTS.

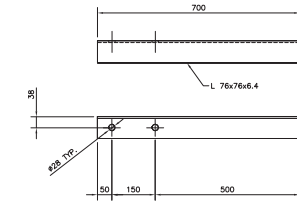
NOTES:
- FABRICATE THE BASE AND THE PEDESTAL SEPARATELY.
- WILL BE WELD AT SITE.
- SEND PAINT AT SITE FOR TOUCH-UP.

NOTE:
- ALL SUPPORTS MUST BE ON A COMPACTED AND LEVELED SOIL WITH A MINIMUM LOAD BEARING CAPACITY OF 100KPA. THE RESPONSIBILITY OF AGNICO EAGLE MINE.

NOTE:
- POSSIBLE SETTLEMENT AND FROST HEAVING, IS RESPONSIBLE OF AGNICO EAGLE MINE.



DETAIL 6
SCALE: 1:5



DETAIL 7
SCALE: 1:5



NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE: 2022-05-12

SYG-LAWRENCE
115, rue Gauthier Ouest
Riverview, Ontario, Canada, L8T 2B7
(416) 819-7044 (tél) Fax (416) 754-4155
www.syg-lawrence.com

Project #: 688597-0000

DESIGNS EN REFERENCE / REFERENCE DRAWINGS	TYPE / TYPE	# DESIGNS
FUEL STORAGE GENERAL ARRANGEMENT	61-680-210-002	
GENERAL ARRANGEMENT - PLAN VIEW	61-680-270-001	
GENERAL ARRANGEMENT - DETAILS	61-680-270-002	
FUEL STORAGE / SUPPLY - P&ID	100-1-210-1/2 & 2/2	

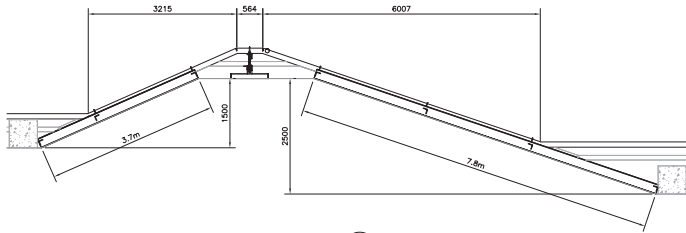
AGNICO EAGLE

REVISIONS	DATE	BY	CHK	APP	REASON
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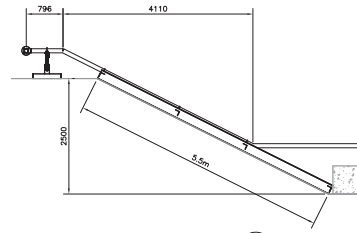
TITLE / TITRE
AGNICO EAGLE - MEADOWBANK DIVISION
680 - FUEL STORAGE AND DISTRIBUTION
270 - PIPING SUPPORT TYPE-2 & 3
DETAILS
3ML FUEL TANK #2 (6168TNK035)

DESIGNED BY	ROBIN LEMUEUX, tech.	DATE	2022/04/04
CHECKED BY	ROXANNE LAVOIE	DATE	2022/05/12
APPROVED BY	DANY LAMBERT, P.Eng.	DATE	2022/05/12

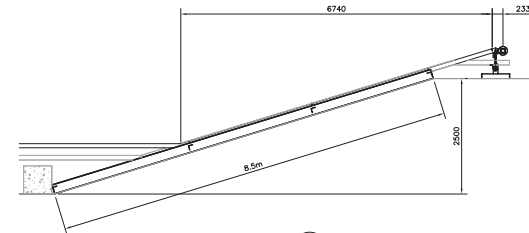
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DWG. NO.	61-680-270-005		
REV.	0	FEUILLE	1 / 1



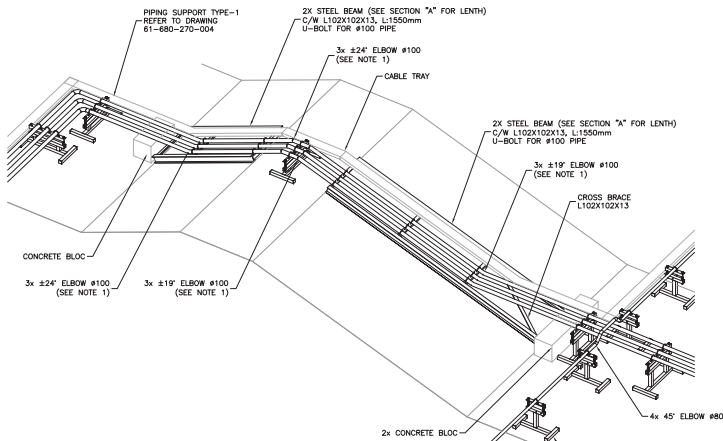
SECTION A
SCALE: 1:50



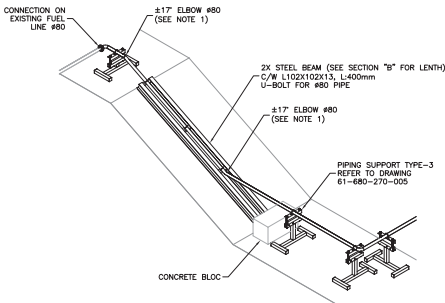
SECTION B
SCALE: 1:50



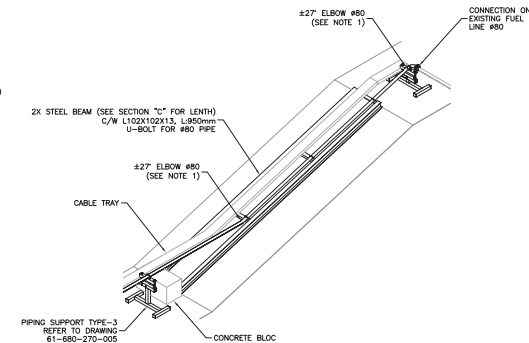
SECTION C
SCALE: 1:50



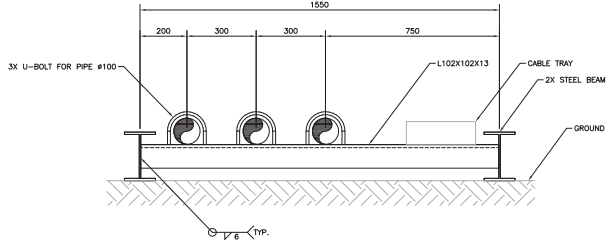
STEEL BASE ON SLOPE
SCALE: N/A



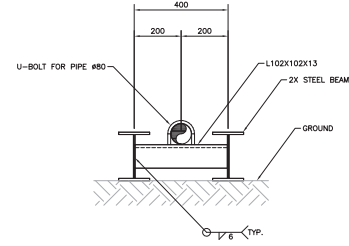
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SCALE: N/A



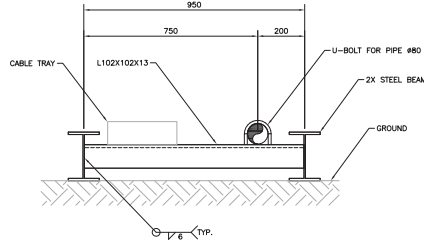
STEEL BASE ON SLOPE
SCALE: N/A



STEEL BASE SECTION
SCALE: 1:10



STEEL BASE SECTION
SCALE: 1:10



STEEL BASE SECTION
SCALE: 1:10



NOTES GÉNÉRALES / GENERAL NOTES

NOTE 1:
THE EXACT DEGREE OF ELBOWS IS TO BE
VALIDATED WITH THE FINAL GRADE OF THE DAM.
ELBOWS ARE TO BE MODIFIED ON FIELD, FROM A
STD. 45° ELBOW.

**POUR CONSTRUCTION
FOR CONSTRUCTION**
DATE : 2022-05-12

STC-LAMBERT
155, rue Grande-Grande
Repentigny (Québec) J5P 2P7
Tél: (514) 774-4101 Fax: (514) 774-4102
www.stc-lambert.com

Project #: 688597-0000

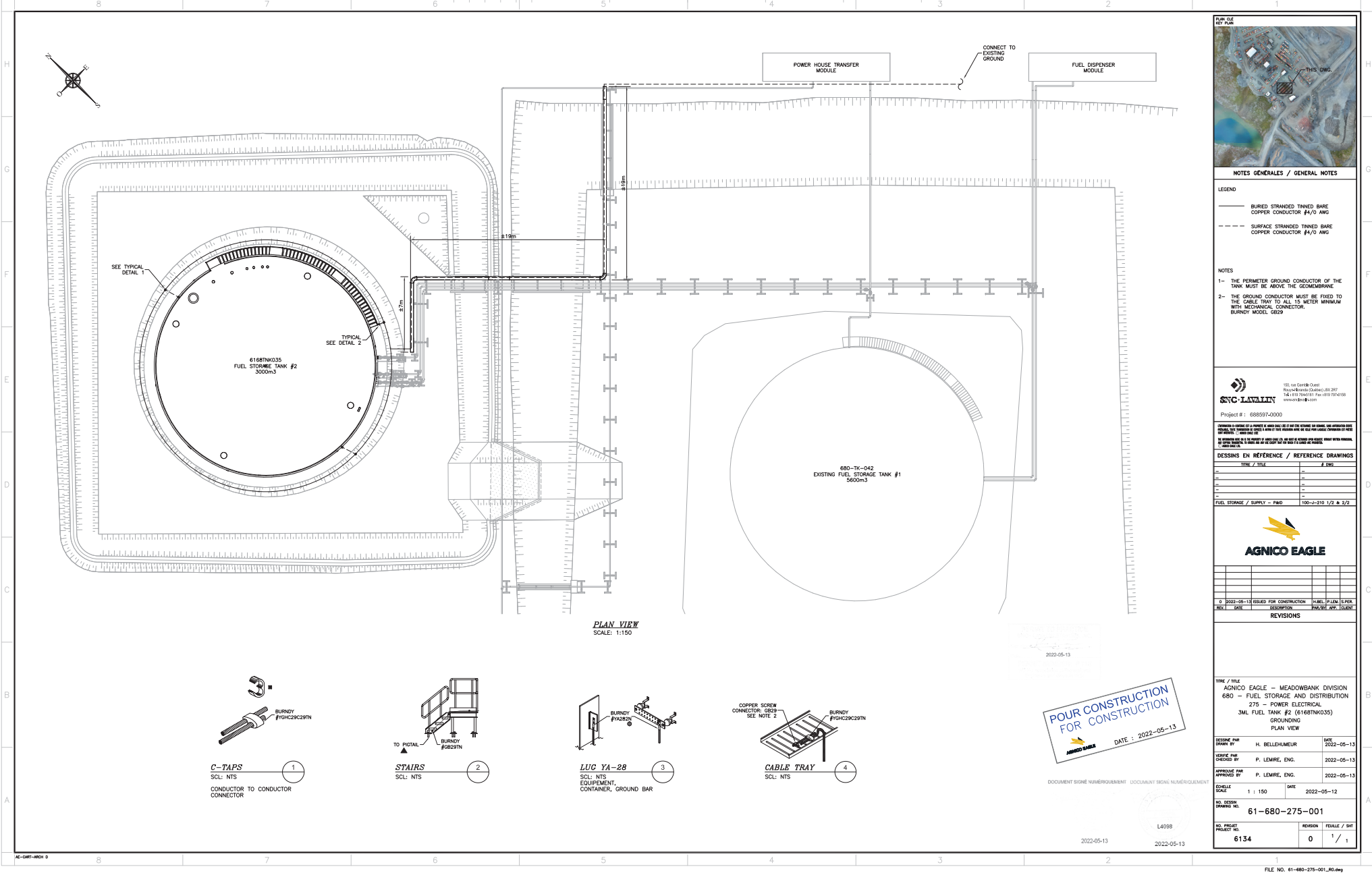
DESIGNS EN RÉFÉRENCE / REFERENCE DRAWINGS	
TYPE / TITLE	# DES.
FUEL STORAGE GENERAL ARRANGEMENT	61-680-210-002
GENERAL ARRANGEMENT - DETAILS	61-680-210-003
FUEL STORAGE / SUPPLY - P&ID	100-1-210 1/2 & 2/2

AGNICO EAGLE	
DATE	DESCRIPTION
2022-05-17	ISSUED FOR CONSTRUCTION
2022-05-12	ISSUED FOR CONSTRUCTION
2022-05-12	ISSUED FOR CONSTRUCTION

REVISIONS	
NO.	DESCRIPTION
0	ISSUED FOR CONSTRUCTION

AGNICO EAGLE - MEADOWBANK DIVISION	
680 - FUEL STORAGE AND DISTRIBUTION	
270 - GENERAL ARRANGEMENT PIPING	
DETAILS	
JML FUEL TANK #2 (6168TANK035)	
DESIGNED BY	DATE
ROBIN LEMUEUX, tech.	2022/04/04
CHECKED BY	DATE
ROXANNE LAVOIE	2022/05/12
APPROVED BY	DATE
DANY LAMBERT, P.Eng.	2022/05/12
SCALE	DATE
AS INDICATED	2022/04/04
PROJECT NO.	
61-680-270-006	
NO. REVISION	REVISION
0	1 / 1

NOTE:
-POSSIBLE SETTLEMENT AND FROST HEAVING,
IS RESPONSIBLE OF AGNICO EAGLE MINE.



NOTES GÉNÉRALES / GENERAL NOTES

LEGEND

- BURIED STRANDED TINNED BARE COPPER CONDUCTOR #4/0 AWG
- SURFACE STRANDED TINNED BARE COPPER CONDUCTOR #4/0 AWG

NOTES

- THE PERIMETER GROUND CONDUCTOR OF THE TANK MUST BE ABOVE THE GEOMEMBRANE
- THE GROUND CONDUCTOR MUST BE FIXED TO THE CABLE TRAY TO ALL 15 METER MINIMUM WITH MECHANICAL CONNECTOR, BURNIDY MODEL 6829



Project # : 688597-0000

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITLE / TITRE	#	DATE
FUEL STORAGE / SUPPLY - PM0	100--210 1/2 & 3/2	



REVISIONS

NO.	DATE	DESCRIPTION	PROJ. MGR.	APP. TITulaire
0	2022-05-13	ISSUED FOR CONSTRUCTION		

TITLE / TITRE
AGNICO EAGLE - MEADOWBANK DIVISION
680 - FUEL STORAGE AND DISTRIBUTION
275 - POWER ELECTRICAL
3ML FUEL TANK #2 (6168TK035)
GROUNDING
PLAN VIEW

DESIGNED BY	H. BELLEHUMEUR	DATE	2022-05-13
CHECKED BY	P. LEMIRE, ENG.		2022-05-13
APPROVED BY	P. LEMIRE, ENG.		2022-05-13

SCALE	1 : 150	DATE	2022-05-12
NO. DESIGN	61-680-275-001		
DRAWING NO.	6134	REVISION	0 1 / 1

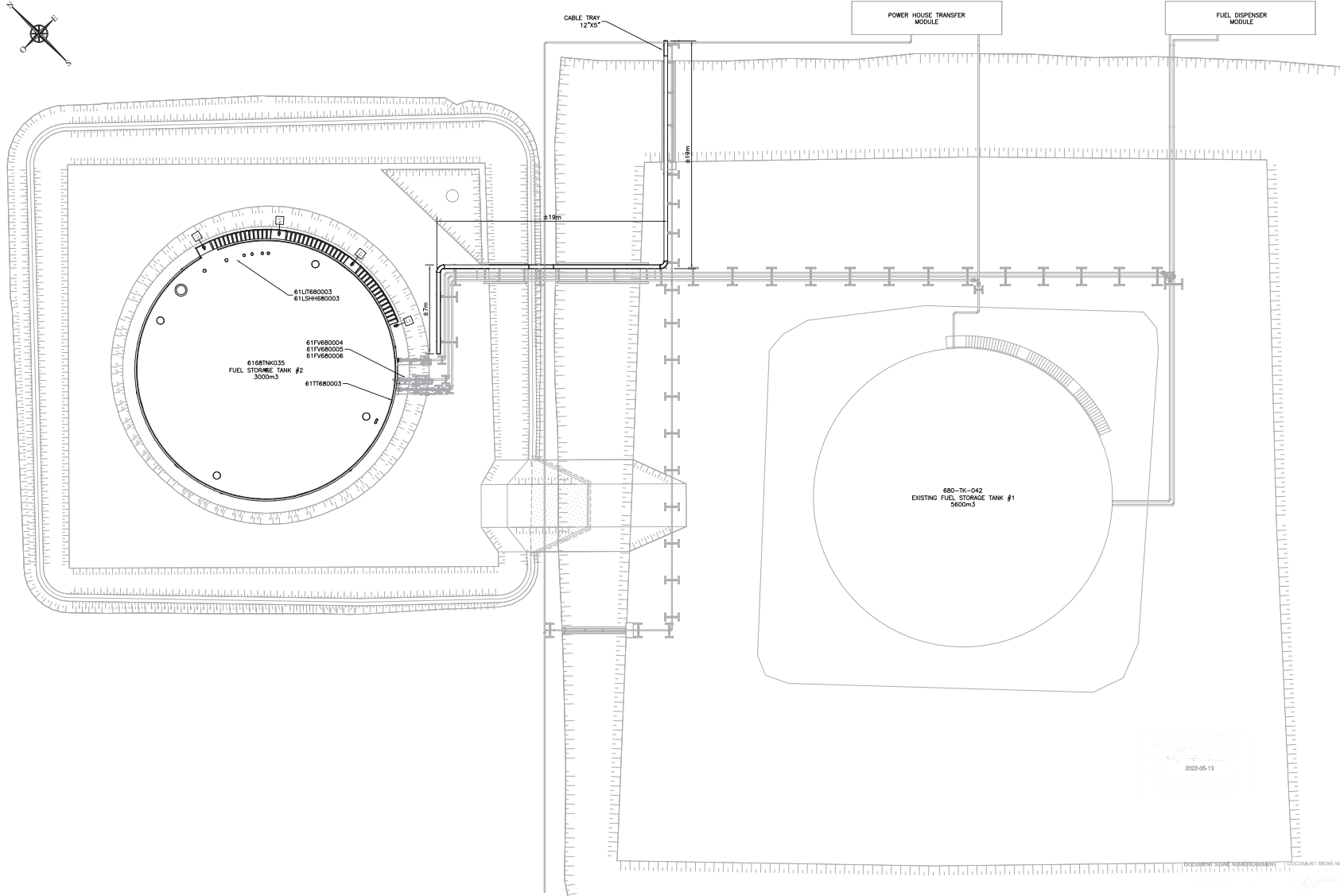
FILE NO. 61-680-275-001_R0.dwg











PLAN VIEW
SCALE: 1:150



NOTES GÉNÉRALES / GENERAL NOTES

LEGEND
OUTDOOR AREA LIGHT
DIALIGHT STW020445
100-227V, 7000 LUMENS, LED
COOL WHITE, TEMPERED GLASS LENS
WITH STANCHION MOUNT BRACKET
NEMA 4X

**POUR CONSTRUCTION
FOR CONSTRUCTION**
DATE : 2022-05-13

SYN-LAVAL
100, rue Gauthier Ouest
Raymond-Breault (Chaudière), J8T 2B7
T45 619-734-0101 Fax 2019 734-0100
www.syn-laval.com

Project # : 688597-0000

SYN-LAVAL is not responsible for the accuracy of the information provided in this drawing. The user of this drawing is responsible for verifying the accuracy of the information provided in this drawing. SYN-LAVAL is not responsible for the accuracy of the information provided in this drawing. The user of this drawing is responsible for verifying the accuracy of the information provided in this drawing.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITLE / TITRE	#	DATE
FUEL STORAGE / SUPPLY - P&ID	100-1-210 1/2 & 3/2	



DATE	DESCRIPTION	PROJ. MGR.	APP. TIT.
0 2022-05-13	ISSUED FOR CONSTRUCTION		

REVISIONS

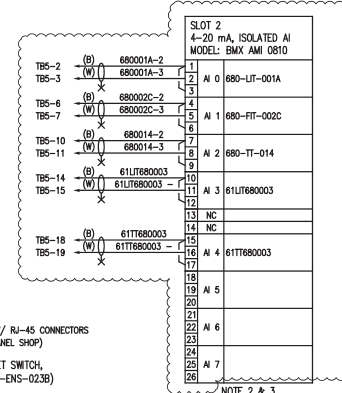
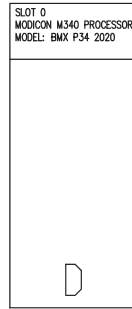
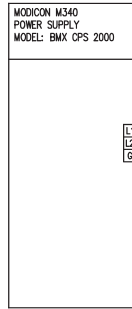
TITLE / TITRE	#	DATE
AGNICO EAGLE - MEADOWBANK DIVISION 680 - FUEL STORAGE AND DISTRIBUTION 285 - SERVICE ELECTRICAL - LIGHT & DISTRIBUTION 3ML FUEL TANK #2 (6168TNK035) LIGHTING & SERVICES PLAN VIEW		

DESIGNED BY H. BELLEHUMEUR DATE 2022-05-13
CHECKED BY P. LEMIRE, ENG. 2022-05-13
APPROVED BY P. LEMIRE, ENG. 2022-05-13

SCALE 1 : 150 DATE 2022-05-12
NO. DESIGN 61-680-285-001
NO. PROJECT 6134

REVISION	FEUILLE / SHEET
0	1 / 1

I/O PANEL 680-IOP-013 - CP #6, RACK #1



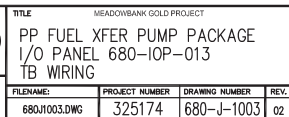
SLOT 4
120 VAC, (1X16) DI
MODEL: BMX DAI 1604

TBS-4	680002A-2	1 DI 0 680-PSH-002A
TBS-5	680002A-3	2 DI 1 680-PSL-002A
TBS-6	680002A-5	3 DI 2 680-FSL-002A
TBS-7	680002B-2	4 DI 3 680-PSH-002B
TBS-8	680002B-3	5 DI 4 680-PSL-002B
TBS-9	680002B-5	6 DI 5 680-FSL-002B
TBS-10	680002C-2	7 DI 6 680-LSH-002
TBS-11	680002C-3	8 DI 7 680-TSL-002A
TBS-12	680002C-5	9 DI 8 680-TSL-002B
TBS-13	680002E-2	10 DI 9 680FP01-ALM
TBS-14	680002E-3	11 DI 10 680-ZSC-002C
TBS-15	680002E-5	12 DI 11 680-ZSC-002C
TBS-16	680003-19	13 DI 12 680XW01-ZSC
TBS-17	680003-23	14 DI 13 680XW01-ZSC
TBS-18	680003-24	15 DI 14 680XW02-ZSC
TBS-19	680003-24	16 DI 15 680XW02-ZSC
TBS-2	N3	17 N
TBS-1	N3	18 L
		19 N
		20 L

NOTE 1 & 3

SLOT 5
DRY CONTACT, DO
MODEL: BMX DRA 0805

TBS-38	680002D-4	1 DO 0 680-LAH-002
TBS-37	680002D-3	2 DO 1 SPARE
TBS-36/A1	680002D-1	3 DO 2 680-LV-002G
TBS-35	680002G-4	4 DO 3 680-XV-015
TBS-34	680002G-7	5 DO 4 680-XV-016
TBS-33	CP6-1-5-CPM3	6 DO 5 61FY680004
TBS-32	CP6-1-5-CPM4	7 DO 6 61FY680005
TBS-31	CP6-1-5-CPM4	8 DO 7 61FY680006
TBS-30	61FY680004-L	9 DO 8 61FY680005
TBS-29	61FY680005-L	10 DO 9 61FY680006
TBS-28	61FY680006-L	11 DO 10 61FY680007
TBS-27	61FY680007-L	12 DO 11 61FY680008
TBS-26	61FY680008-L	13 DO 12 61FY680009
TBS-25	61FY680009-L	14 DO 13 61FY680010
TBS-24	61FY680010-L	15 DO 14 61FY680011
TBS-23	61FY680011-L	16 DO 15 61FY680012
TBS-22	61FY680012-L	17 DO 16 61FY680013
TBS-21	61FY680013-L	18 DO 17 61FY680014
TBS-20	61FY680014-L	19 DO 18 61FY680015
TBS-19	61FY680015-L	20 DO 19 61FY680016
TBS-18	61FY680016-L	21 DO 20 61FY680017
TBS-17	61FY680017-L	22 DO 21 61FY680018
TBS-16	61FY680018-L	23 DO 22 61FY680019
TBS-15	61FY680019-L	24 DO 23 61FY680020
TBS-14	61FY680020-L	25 DO 24 61FY680021
TBS-13	61FY680021-L	26 DO 25 61FY680022
TBS-12	61FY680022-L	27 DO 26 61FY680023
TBS-11	61FY680023-L	28 DO 27 61FY680024
TBS-10	61FY680024-L	29 DO 28 61FY680025
TBS-9	61FY680025-L	30 DO 29 61FY680026
TBS-8	61FY680026-L	31 DO 30 61FY680027
TBS-7	61FY680027-L	32 DO 31 61FY680028
TBS-6	61FY680028-L	33 DO 32 61FY680029
TBS-5	61FY680029-L	34 DO 33 61FY680030
TBS-4	61FY680030-L	35 DO 34 61FY680031
TBS-3	61FY680031-L	36 DO 35 61FY680032
TBS-2	61FY680032-L	37 DO 36 61FY680033
TBS-1	61FY680033-L	38 DO 37 61FY680034
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	61FY680226-L	231 DO 230 61FY6802



Agnico Eagle Mines Ltd / Meadowbank division	DESIGN REPORT NEW 3.3 ML FUEL TANK AND ITS CONTAINEMENT FACILITIES	Tt Doc. N°: 6134-680-132-REP-001	
		Tt Project N°: 711-47731	
		Area: 680	
		Work Package: NA	
Client Doc. N°: 6134-680-132-REP-001		Date: 2022-05-24	
Client Project N°: 6134		Revision: R0	

APPENDIX B – EARTHWORKS CONSTRUCTION DRAWINGS (TETRA TECH)

Number	Title	Rev
61-680-230-001	AGNICO EAGLE - MEADOWBANK DIVISION 680- FUEL FARM 230- GENERAL EARTH WORKS PLAN VIEW 3,3 ML FUEL TANK FARM PROPOSED LAYOUT	R0
61-680-230-002	AGNICO-EAGLE - MEADOWBANK DIVISION 680- FUEL FARM 230- GENERAL EARTH WORKS PLAN VIEW AND SECTIONS 3,3 ML FUEL TANK FARM EXCAVATION	R0
61-680-230-003	AGNICO-EAGLE - MEADOWBANK DIVISION 680- FUEL FARM 230- GENERAL EARTH WORKS SECTIONS AND DETAILS 3,3 ML FUEL TANK FARM FILL	R0
61-680-230-004	AGNICO-EAGLE - MEADOWBANK DIVISION 680- FUEL FARM 230- GENERAL EARTH WORKS PLAN VIEW 3,3 ML FUEL TANK FARM CROSS-SECTIONS KEY PLAN	R0
61-680-230-005	AGNICO-EAGLE - MEADOWBANK DIVISION 680- FUEL FARM 230- GENERAL EARTH WORKS SECTIONS 3,3 ML FUEL TANK FARM CROSS-SECTIONS	R0

REQUIRED MATERIAL CONSTRUCTION QUANTITIES ESTIMATION +10% CONTINGENCY	
Sand (m³)	25
Granular Fill 0-30 (m³)	1 654
Granular Fill 0-200 (m³)	746
Granular Fill 0-600 NPAD (m³)	1 371
540 g/m² Non-woven geotextile (m²)	4 708
HDPE Geomembrane (m²)	2 354
Total Excavation Volume (m³)	3421

TABLE 1 : MATERIAL QUANTITIES

REQUIRED CONTAINMENT CAPACITY	6 243 270 L
SECONDARY CONTAINMENT AVAILABLE CAPACITY	7 394 000 L
FREEBOARD EVALUATION	200mm

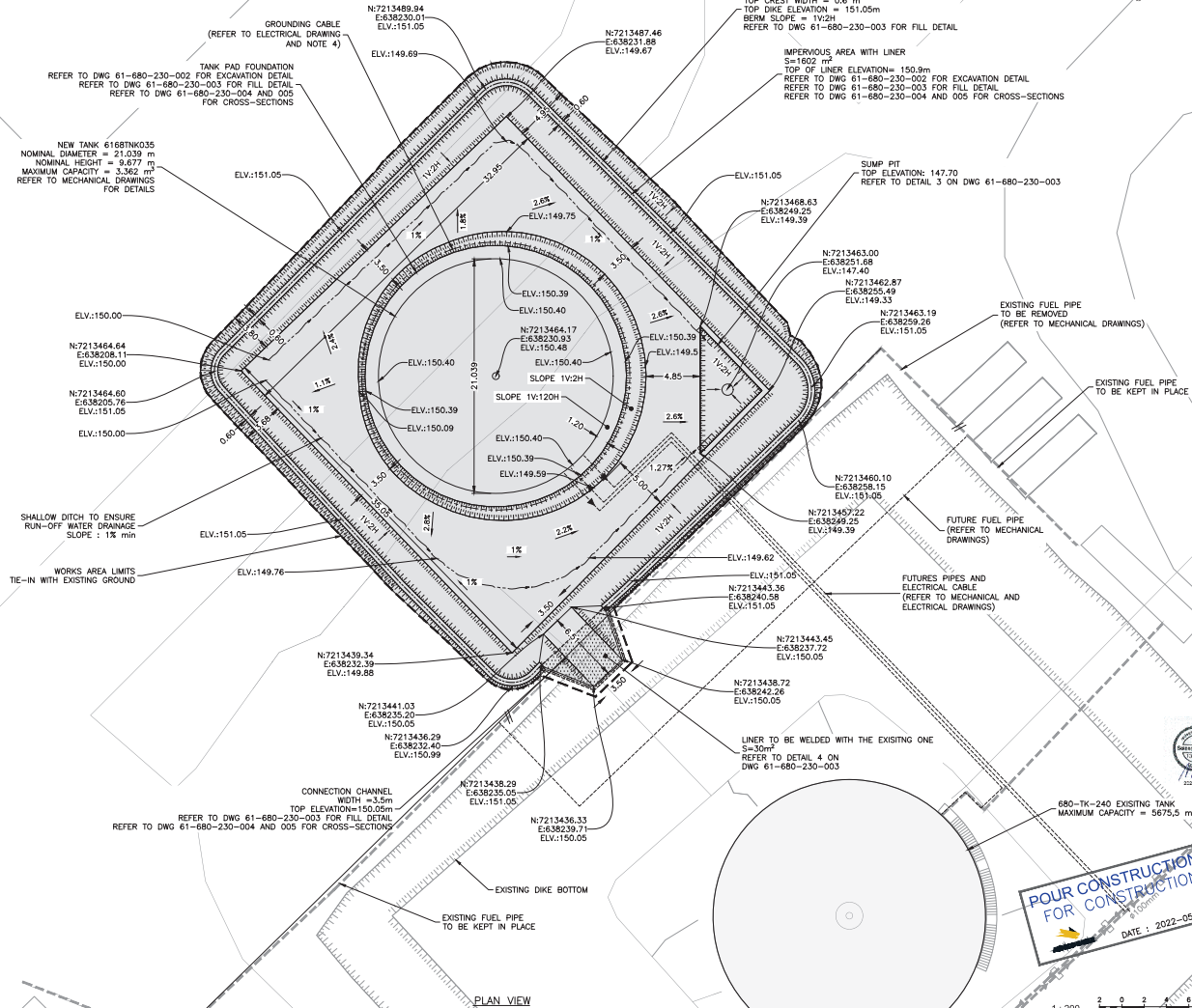
TABLE 2 : SECONDARY CONTAINMENT CAPACITY

TEST PARAMETER	REQUIRED SPECIFICATIONS	ASTM TEST METHOD (Or Approved Equal)
Grab Tensile (N / lbs)	1,690 / 380	D4632
Elongation (%)	50	D4632
Tear (N / lbs)	623 / 140	D4533
Puncture (N / lbs)	4,560 / 1,025	D4833
Weight (g/m² / oz/yd²)	542 / 16.0	D5261
UV Resistance (%)	70	D4355

TABLE 3 : REQUIRED MINIMUM NON-WOVEN
GEOTEXTILE PROPERTIES

TEST PARAMETER	REQUIRED SPECIFICATIONS	ASTM TEST METHOD (Or Approved Equal)
Minimum Average Thickness (mm / mil)	1.5 / 60	D5994
Density	.94	D792
Tensile Properties:		D638 Modified type IV Die 50 mm/minute
Stress @ Yield (kN/m / psi)	16 / 90	
Stress @ Break (kN/m / psi)	22 / 126	
Strain @ Yield (%)	12	
Strain @ Break (%)	100	
Tear Resistance (N / lbs)	187 / 42	D1004
Low Temperature (°C / °F)	0.789473684	D746 Procedure B
Dimensional Stability (%)	+/-2.0	D1204
Puncture Resistance (N / lbs)	400 / 90	FTMS No. 1018 Method 2065
Carbon Black (min)	2	D1603
Carbon Black Dispersion	Category 1 or 2	D5596

TABLE 4 : REQUIRED MINIMUM HDPE GEOMEMBRANE PROPERTIES



NOTES GÉNÉRALES / GENERAL NOTES

1. THE UNITS SYSTEM IS METRIC AND THE COORDINATES SYSTEM IS UTM14NAD83.
2. A GEOTECHNICAL SURVEY CONSISTING OF DRILLING 11 HOLES IN THE FUTURE TANK AREA WAS UNDERTAKEN BY TAMCO ON 2022-04-18. RESULTS ARE GIVEN ON DRAWING 61-680-230-002.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY 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.
4. THE CONTRACTOR MUST COORDINATE WITH THE OTHER CONTRACTORS ON SITE (MECHANICAL/ELECTRICAL/INSTRUMENTATION) RESPONSIBLE FOR THE FUEL TANK, PIPES, GROUNDING CABLE, ETC. BEFORE FINALIZING THE CIVIL WORKS.
5. THE CONTRACTOR SHALL COLLABORATE WITH THE PERSON IN CHARGE OF THE QUALITY CONTROL (QA/QC) DURING CONSTRUCTION. VISUAL INSPECTION AND TESTING DOCUMENTATION SHALL BE COMPLETED AND ACCEPTED PRIOR TO FILLING A NEW LAYER OR LINER.
6. AN AS-BUILT DRAWING SHALL BE PROVIDED AFTER CONSTRUCTION. THE AS-BUILT SURVEY SHALL ENCLOSE THE ENTIRE TANK FARM, INCLUDING THE DIKES AROUND THE EXISTING TANK.

DESIGNS EN RÉFÉRENCE / REFERENCE DRAWINGS	
TYPE / TYPE	NO. / NO.
AS-BUILT 2009-03-31	002209-468-001
EXISTING APPROVED FILLING PLAN NEW	61-680-230-001
FUEL STORAGE & DISTRIBUTION-GROUNDHOLE	61-680-230-001



REVISIONS	
NO	DATE
01	2022-05-18



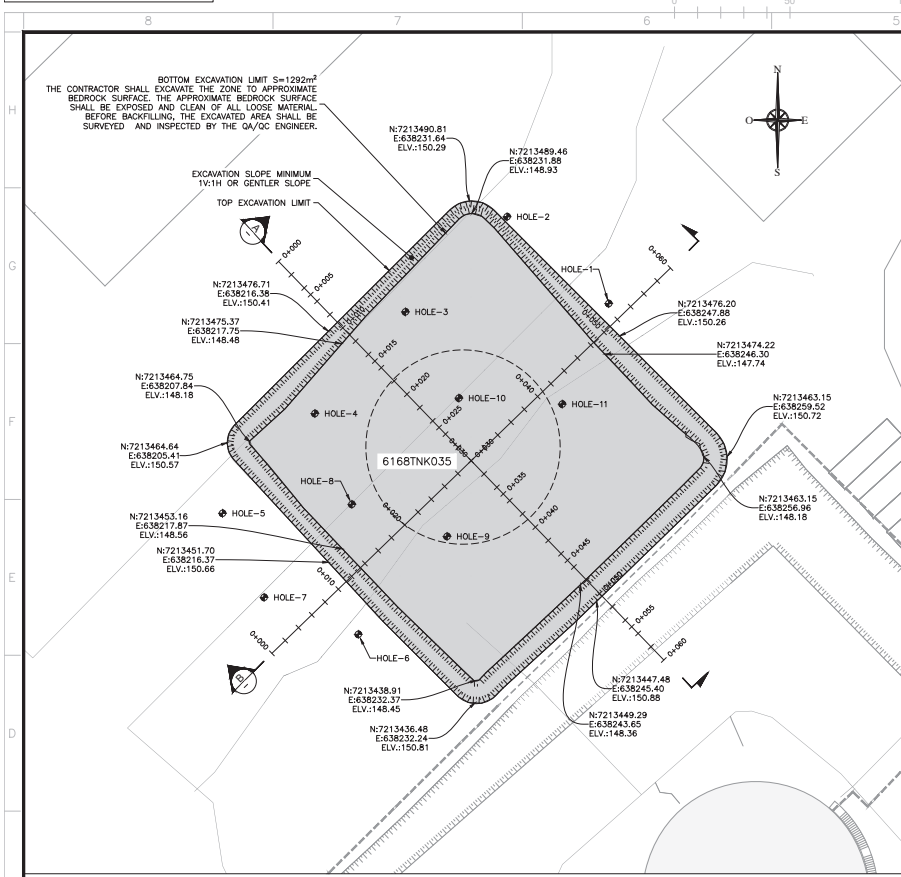
61-680-230-001
AGNICO EAGLE - MEADOWBANK DIVISION
680 - FUEL FARM
230 - GENERAL EARTH WORKS
PLAN VIEW
3.3 ML FUEL TANK FARM
PROPOSED LAYOUT

DESIGNED BY	EDUARDO RODRIGUEZ	DATE	2022-04-21
CHECKED BY	SOLENE MOREAU	DATE	2022-04-21
APPROVED BY	JOSEF ALARIE	DATE	2022-04-21

SCALE	1:200	DATE	2022-04-20
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PROJECT NO.	61-680-230-001
PROJECT NAME	61 (TF#47731)
REVISION	1
DATE / DATE	2022-05-18



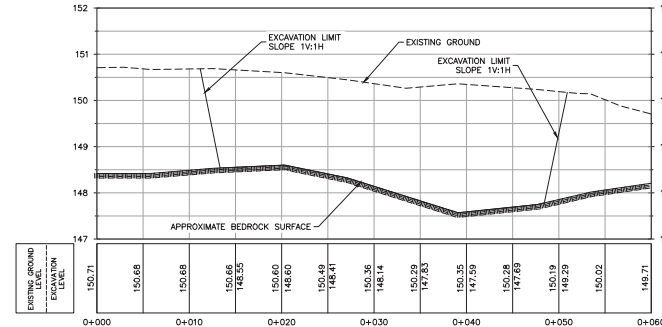
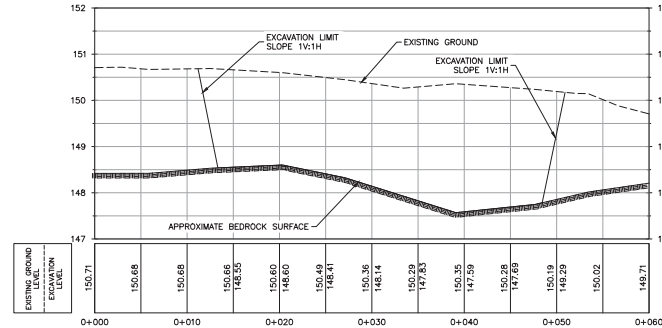


PLAN VIEW

1:250

Hole ID	Easting	Northing	Grade Elevation	Rock elevation
Hole ID	(m)	(m)	(mass)	(m)
1	638246.7	7213476.7	150.116	148.016
2	638235.7	7213489.1	150.334	149.034
3	638224.7	7213476.8	150.330	148.635
4	638214.9	7213467.8	150.597	147.807
5	638204.9	7213457.0	150.608	148.808
6	638219.6	7213443.9	150.722	148.422
7	638209.4	7213447.9	150.618	148.418
8	638218.9	7213456.0	150.652	148.652
9	638229.2	7213454.5	150.562	148.562
10	638230.5	7213460.5	150.384	147.984
11	638241.7	7213466.8	150.393	147.393

TABLE 1 - GEOTECHNICAL DATA (SEE NOTE 2)



NOTES GÉNÉRALES / GENERAL NOTES

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2. A GEOTECHNICAL SURVEY CONSISTING OF DRILLING 11 HOLES IN THE FUTURE TANK AREA WAS UNDERTAKEN BY TAMROC ON 2022-04-18. RESULTS ARE GIVEN ON DRAWING 61-680-230-002.
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DESIGNS EN RÉFÉRENCE / REFERENCE DRAWINGS

TYPE / TYPE	N. DE
DESIGN-GENERAL, APPROXIMATE PILING-PLAN VIEW	61-680-230-001
DESIGN-GENERAL, EXCAVATION-GENERAL	61-680-230-001



NO	DATE	REVISIONS	E.A.	S.N.	DATE
61	2022-05-16	FOR CONSTRUCTION			



DATE / DATE	2022-05-16
AGNICO EAGLE - MEADOWBANK DIVISION	
680 - FUEL FARM	
230 - GENERAL EXCAVATION WORKS	
PLAN VIEW AND SECTIONS	
3,3 ML FUEL TANK FARM	
EXCAVATION	

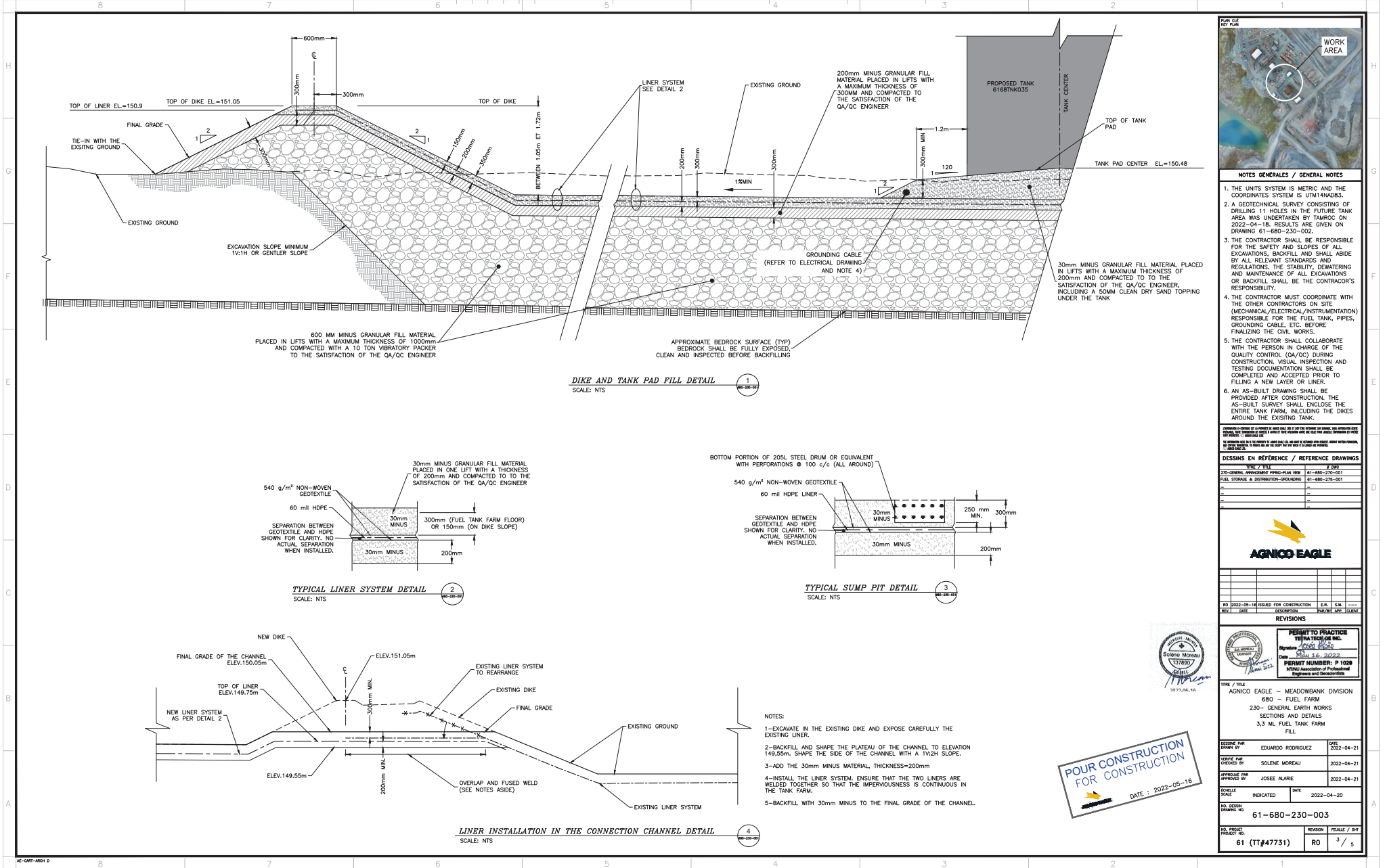
DESIGNED BY	EDUARDO RODRIGUEZ	DATE	2022-04-21
CHECKED BY	SOULNE MOREAU	DATE	2022-04-21
APPROVED BY	JOSÉE ALAIRE	DATE	2022-04-21

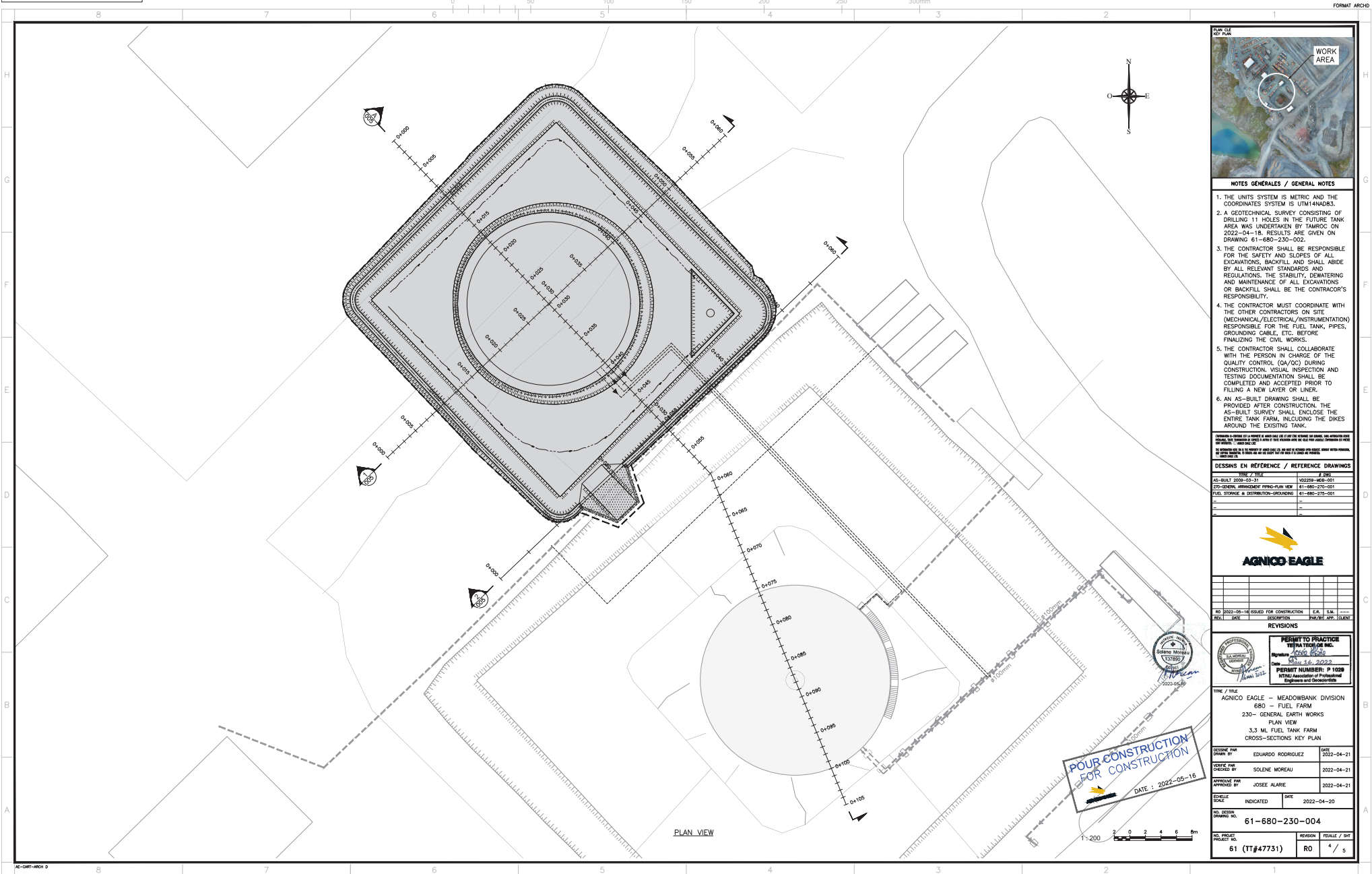
SCALE	1:250	DATE	2022-04-20
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61-680-230-002

NO. PROJECT	61 (TT#47731)	REVISION	RO	2 / 5
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WORK AREA

NOTES GÉNÉRALES / GENERAL NOTES

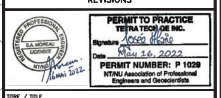
1. THE UNITS SYSTEM IS METRIC AND THE COORDINATES SYSTEM IS UTM14NAD83.
2. A GEOTECHNICAL SURVEY CONSISTING OF DRILLING 11 HOLES IN THE FUTURE TANK AREA WAS UNDERTAKEN BY TAMCO ON 2022-04-18. RESULTS ARE GIVEN ON DRAWING 61-680-230-002.
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CONTRACTOR'S OBLIGATION: TO VERIFY THE ACCURACY OF THE DATA AND TO BE RESPONSIBLE FOR THE QUALITY OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY 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.

DESIGNS EN REFERENCE / REFERENCE DRAWINGS

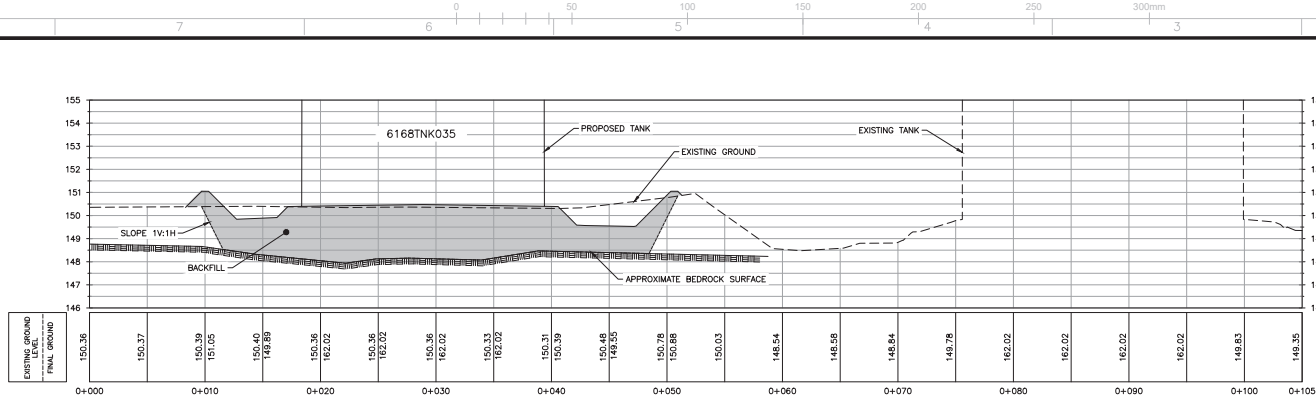
NO.	TITLE	DATE
AS-BUILT 2009-03-31	60220-1400-001	
230-GENERAL APPROXIMATE FILLING-PLAN VIEW	61-680-230-001	
FUEL STORAGE & DISTRIBUTION-GROUNDING	61-680-230-001	

NO.	DATE	REVISIONS
RD 2022-05-18	ISSUED FOR CONSTRUCTION	E.R. S.W. 1:200

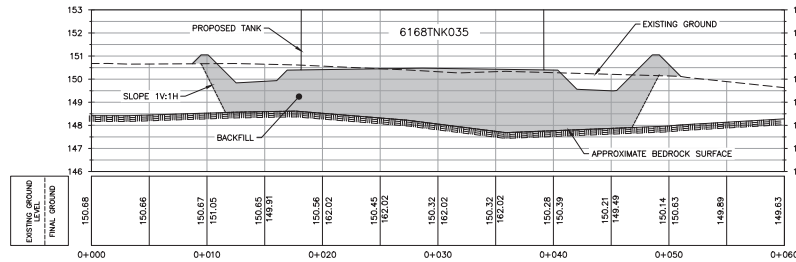


TIME / TITLE
AGNICO EAGLE - MEADOWBANK DIVISION
680 - FUEL FARM
230 - GENERAL EARTH WORKS
PLAN VIEW
3.3 ML FUEL TANK FARM
CROSS-SECTIONS KEY PLAN

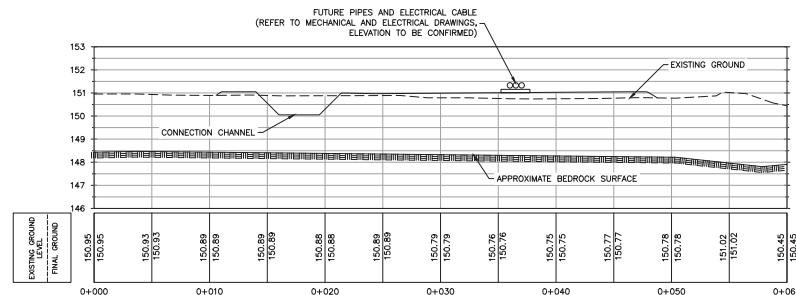
DESIGNED AND DRAWN BY:	EDUARDO RODRIGUEZ	DATE:	2022-04-21
CHECKED BY:	SOLENE MOREAU	DATE:	2022-04-21
APPROVED BY:	JOSEEE ALAIRE	DATE:	2022-04-21
SCALE:	INDICATED	DATE:	2022-04-20
PROJECT NO.:	61-680-230-004		
NO. PROJECT:	61 (TT#47731)	REVISION:	RO
		FEUILLE / SHEET:	4 / 5



SECTION A
SCALE: 1:200
VERTICAL EXAGGERATION FACTOR: 2



SECTION 1
SCALE: 1:200
VERTICAL EXAGGERATION FACTOR: 2



SECTION 2
SCALE: 1:200
VERTICAL EXAGGERATION FACTOR: 2



NOTES GÉNÉRALES / GENERAL NOTES

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DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TYPE / TYPE	N° / N°
PROJETS / PROJETS	61-680-230-001
PROJETS / PROJETS	61-680-230-001
PROJETS / PROJETS	61-680-230-001
PROJETS / PROJETS	61-680-230-001
PROJETS / PROJETS	61-680-230-001

NO. / NO.	DATE / DATE	REVISIONS
01	2022-05-18	ISSUED FOR CONSTRUCTION
02	2022-05-18	ISSUED FOR CONSTRUCTION
03	2022-05-18	ISSUED FOR CONSTRUCTION
04	2022-05-18	ISSUED FOR CONSTRUCTION
05	2022-05-18	ISSUED FOR CONSTRUCTION



PERMIT TO PRACTICE
EDUARDO RODRIGUEZ
P.Eng. No. 13780
2022-05-18

NO. / NO.	DATE / DATE	REVISIONS
01	2022-05-18	ISSUED FOR CONSTRUCTION
02	2022-05-18	ISSUED FOR CONSTRUCTION
03	2022-05-18	ISSUED FOR CONSTRUCTION
04	2022-05-18	ISSUED FOR CONSTRUCTION
05	2022-05-18	ISSUED FOR CONSTRUCTION

POUR CONSTRUCTION
FOR CONSTRUCTION
DATE: 2022-05-18

NO. / NO.	DATE / DATE	REVISIONS
01	2022-05-18	ISSUED FOR CONSTRUCTION
02	2022-05-18	ISSUED FOR CONSTRUCTION
03	2022-05-18	ISSUED FOR CONSTRUCTION
04	2022-05-18	ISSUED FOR CONSTRUCTION
05	2022-05-18	ISSUED FOR CONSTRUCTION