	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001	Rev.	Date:
<i>AtkinsRéalisis</i> : <u>704148-5000-41EB-0002</u>	1	05/29/2026	

Title of document: **DESIGN REPORT - CIVIL**

Client: **AGNICO EAGLE MINES LIMITED (AGNICO EAGLE)**

Project: **HOPE BAY BLOCK 5 PROJECT - CIVIL WORKS**


Prepared by: Richard Marcoux, P. Eng.
(Civil) AtkinsRéalisis
 NAPEG Member No. L2376
 Permit to Practice No. P260

Prepared by: Jean Bergeron, P. Eng.
(Mechanical) WSP Canada
 NAPEG Member No. L2512
 Permit to Practice No. P407

Reviewed by: René Laviolette, P. Eng.
(Civil) AtkinsRéalisis
 NAPEG Member No. L3861
 Permit to Practice No. P260

Approved by: Mathieu Gallant, Civil Lead Eng.
(Authorized Owner) OIQ Member: 137133
 Agnico Eagle Mines Limited



	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2026


Notice to Reader

This report has been prepared and the work referred to in this report has been undertaken by AtkinsRéalisis Canada Inc. (AtkinsRéalisis), for the exclusive use of [Agnico Eagle Mines Limited](#), who has been party to the development of the scope of work and understands its limitations. The methodology, findings, conclusions and recommendations in this report are based solely upon the scope of work and subject to the time and budgetary considerations described in the proposal and/or contract pursuant to which this report was issued. Any use, reliance on, or decision made by a third party based on this report is the sole responsibility of such third party. AtkinsRéalisis accepts no liability or responsibility for any damages that may be suffered or incurred by any third party as a result of the use of, reliance on, or any decision made based on this report.

The findings, conclusions and recommendations in this report (i) have been developed in a manner consistent with the level of skill normally exercised by professionals currently practicing under similar conditions in the area, and (ii) reflect AtkinsRéalisis' best judgment based on information available at the time of preparation of this report. No other warranties, either expressed or implied, are made with respect to the professional services provided to [Agnico Eagle Mines Limited](#). or the findings, conclusions and recommendations contained in this report. The findings and conclusions contained in this report are valid only as of the date of this report and may be based, in part, upon information provided by others. If any of the information is inaccurate, new information is discovered or project parameters change, modifications to this report may be necessary.

This report must be read as a whole, as sections taken out of context may be misleading. If discrepancies occur between the preliminary (draft) and final version of this report, it is the final version that takes precedence. Nothing in this report is intended to constitute or provide a legal opinion.

The contents of this report are confidential and proprietary. Other than by [Agnico Eagle Mines Limited](#)., copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of [Agnico Eagle Mines Limited](#) and AtkinsRéalisis.

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2026	

List of Revisions

#	Prep.	Rev.	App.	Date	Pages	Remarks
A	RM	RL	RL	2025-11-23	All	Issued for internal review
B	RM	RL		2025-12-01	All	Submitted for client approval
0	RM	AL	RL	2025-12-18	*	Issued for permit
1	RM	AL	RL	2026-05-29	*	Issued for permit

* Integration of the part of the report prepared by WSP



	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2026	

Table of contents

1.	Introduction	6
1.1	Project Overview.....	7
1.2	Language and Measuring Units.....	9
1.3	Applicable codes and standards.....	9
2.	Purpose of the Report.....	10
3.	Design Criteria Review.....	11
3.1	Secondary Containment – Capacity	11
3.2	Secondary Containment – Materials	11
3.3	Secondary Containment – Drainage	12
3.4	Minimum Clearance versus Tanks	13
3.5	Tank Foundation Requirements	14
3.6	Survey Data	14
4.	Fuel Tank Farm Design	15
4.1	Tanks, Piping, and Instrumentation/Control Systems	15
4.1.1	Tank Design – Planned Construction for 2026.....	15
4.1.2	Tank Design – Planned Construction for 2027.....	16
4.1.3	Tank Design - Planned Construction for 2028	17
4.1.4	Tank Spacing.....	18
4.1.5	Fire Fighting Access	19
4.1.6	Piping Design.....	19
4.1.7	Instrumentation and Control	20
4.1.8	Commissioning	20
4.1.9	Maintenance/Inspection.....	20
4.2	Secondary Containment	21
4.2.1	Design Criteria Adopted	21
4.2.2	Design Approach Applied to the Project.....	22
4.2.3	Pond Excavation.....	22
4.2.4	Liner System.....	22
4.2.5	Calculation of Secondary Containment Capacity	22
4.2.6	Verification of Membrane Resistance to Live Loads	23
5.	Schematic of Containment Basin	23

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2026	


6.	Engineering Documents	24
7.	Overburden Stripping and Disposal	24
8.	Bedrock Characteristic	25
9.	Construction Methodology	25
9.1	Construction Materials	25
9.2	Quality Control	26
10.	References	27

List of Tables

Table 3- 1 - Criteria for containment basin capacity	11
Table 3- 2 - Criteria for construction materials of the containment basin	11
Table 3- 3 - Criteria for containment basin drainage	12
Table 3- 4 - Criteria for tank placement in the containment basin	13
Table 3- 5 - Criteria for the foundations of tanks	14
Table 4- 1- Characteristics of the Tanks	18
Table 4- 2 - Input data for required retention volume calculation	22
Table 4- 3 - Required retention volume calculation	23
Table 9- 1 - List of Earthworks Materials	25
Table 9- 2 - List of Tests for Earthworks	26

List of Figures

Figure 1-1- Location of the fuel tank farm	7
Figure 1-2 - Location of the fuel tank farm (Detailed view)	8
Figure 4-1 - Planned Construction 2026: 1.5 ML Jet-A tank + four 12.5 ML tank floors	15
Figure 4-2 - Planned Construction 2027: Diesel Fuel Tanks 12.5 ML tank Completed	16
Figure 4-3 - Planned Construction 2028: Piping, Electrical, Pump Station Completed	17
Figure 5-1 - Installation of the containment basin	24

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2026	


List of Appendices

Appendix A - Figure 2 and 3 - Excerpt from the HB Project Geotechnical DP and Overburden Summary Report (SRK, 2017).

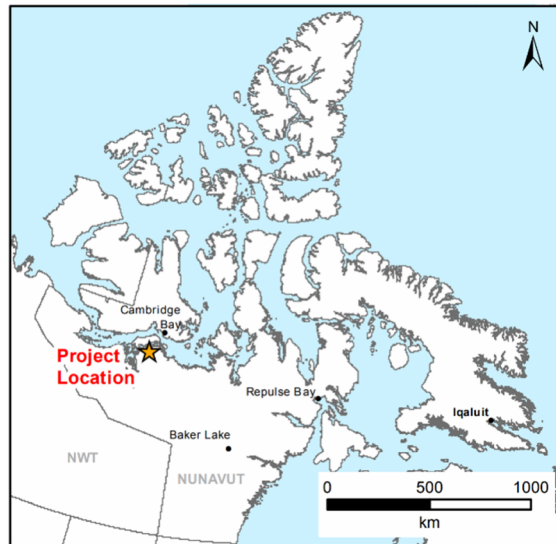
Appendix B - Design Report - Design Review of Liner Systems for Tank Farm

Appendix C - Drawings – 62-116-230-001 - 1/1 to 62-116-230-005 - 1/1 – 2025-08-29

Appendix D - Drawings – 62-116-205-001 to 62-116-205-008, 62-116-210-001 and 62-116-210-004

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

1. Introduction




Context The **Hope Bay property** is in the Kitikmeot region of Nunavut, Canada, approximately 685 km northeast of Yellowknife and 125 km southwest of Cambridge Bay. The property spans 191,342 hectares and includes portions of the Hope Bay and Elu greenstone belts. The 80-km-long Hope Bay greenstone belt hosts three main gold deposits: Doris, Madrid, and Boston.

Agnico Eagle Mines Limited (Agnico Eagle) acquired the Hope Bay property in February 2021. The project has significant infrastructure, including underground mine development at the Doris and Boston deposits, a processing plant with a capacity of 2,000 tonnes per day, airstrips, a port, and an all-weather road network.

Since taking over, Agnico Eagle has focused on exploration activities, particularly at the Doris and Madrid deposits. The company aims to upgrade and expand the mineral resources, with ongoing drilling programs targeting high-potential areas. As of December 31, 2023, Hope Bay hosts proven and probable mineral reserves of 3.4 million ounces of gold.

The site development involves new civil constructions such as pad ore storage, diversion berms, roads and others. Water from freshet, rain and underground mining dewatering is managed by storing water in sumps and pits that need to be pumped.

AtkinsRéalisis is mandated by Agnico Eagle to provide professional services to conduct basic engineering and detailed engineering for the water management infrastructure and civil works required for the Hope Bay project.

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

1.1 Project Overview

As part of the surface construction work at the Robert’s Bay site, Agnico Eagle Mines Limited plans to develop a dedicated storage area for petroleum products, which will be contained in vertical tanks installed within a retention basin compliant with current environmental safety standards and designed to prevent accidental spills.

The site is located near Robert’s Bay, the barge offloading pad, and the overburden disposal area of Quarry AF.

The site will be connected to a heavy equipment maneuvering platform by two access ramps, enabling circulation within the retention basin to conduct mechanical maintenance activities and other operations, including the pumping of stormwater accumulated according to prevailing weather conditions.

See Figures 1.1 and 1.2 below for the location of the sites mentioned.

This report provides information regarding the proposed site and the planned arrangements for the expansion of the fuel tank farm.

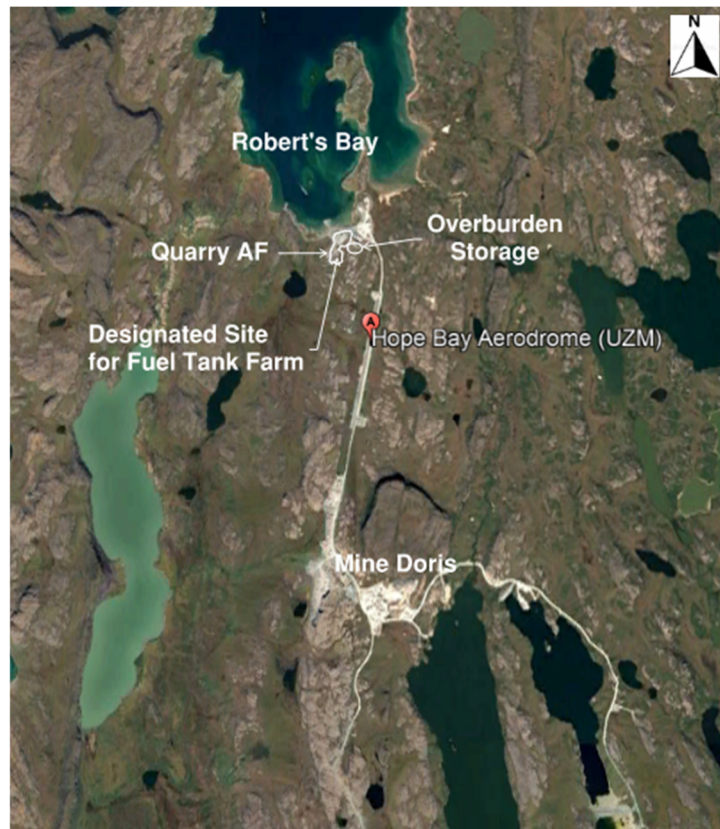



Figure 1-1- Location of the fuel tank farm

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalis: <u>704148-5000-41EB-0002</u></i>	Rev.	Date:
	1	05/29/2025	

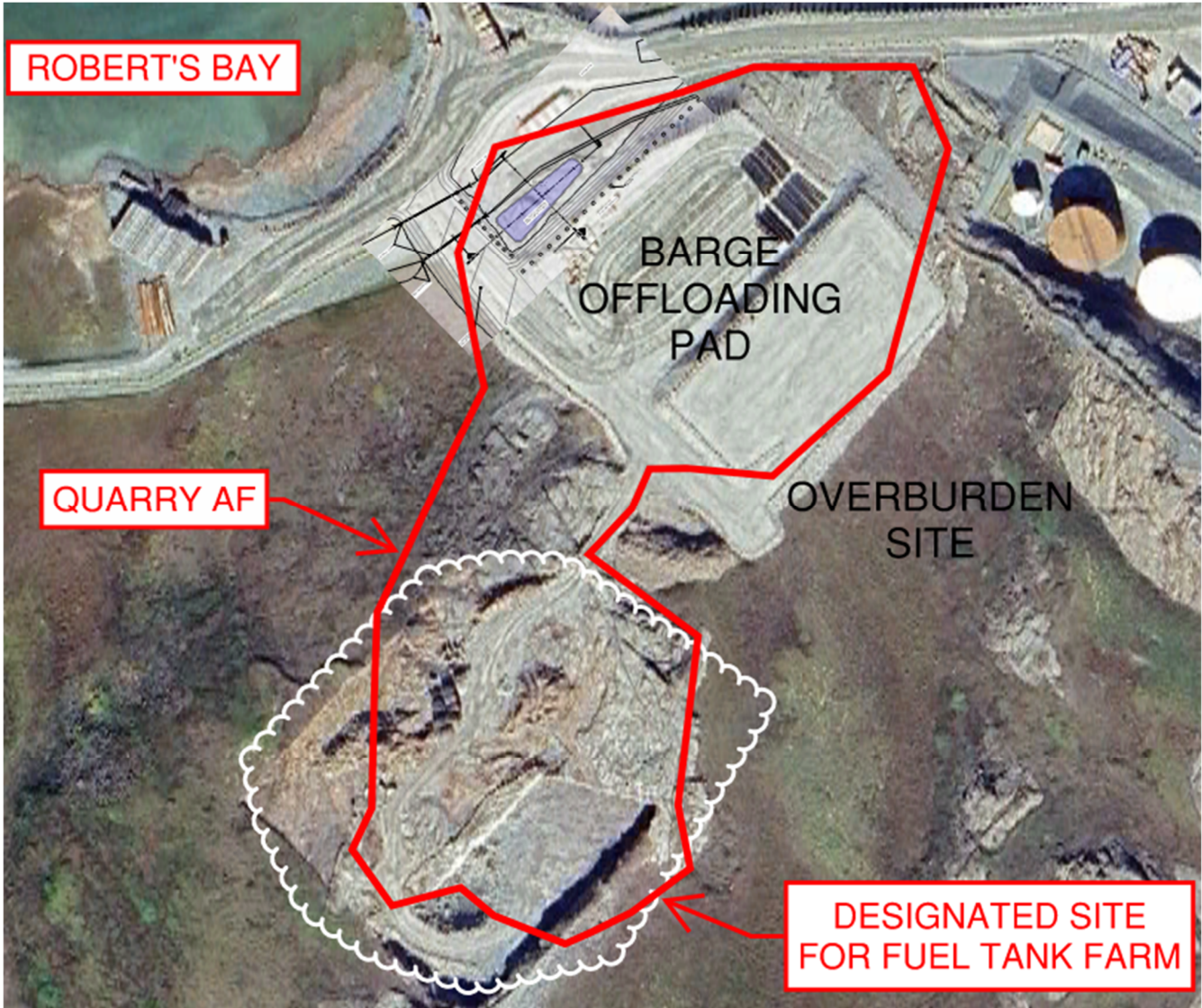



Figure 1-2 - Location of the fuel tank farm (Detailed view)

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

1.2 Language and Measuring Units

All documents will be produced in English.

The International System of Units (SI) will be used for design, calculations, drawings and any other document related to the project.

For manufactured items, as-built units shall be retained and conversion to SI units provided where appropriate.

The following units are to be used for this study:

- Distance – meter (m)
- Elevation – meters above mean sea level (masl)
- Volume – cubic meter (m³) and million liters (ML)
- Pressure – kilo pascal (kPa)
- Unit Weight – kilo pascal (kPa)
- Temperature – Celsius (°C)
- Time – seconds (sec), years (yr)

In petroleum and environmental engineering, the term *secondary containment* refers to the set of structures built around or beneath a petroleum product tank to contain a spill in the event of a leak from the primary tank. The following definitions are to be used:

- **Primary containment:** the storage tank itself (tank, vessel, drum) that contains the product.
- **Secondary containment:** a barrier or additional system designed to prevent the product from escaping into the environment if the primary tank fails.

1.3 Applicable codes and standards

The proposed tanks connected piping systems a secondary containment shall comply with the latest editions of the Codes and Standards relating to this project as well as the directives of the authorities having jurisdiction over this project. Specific codes, standards, and other references containing good design practice are listed in table 1-1 hereafter.


	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

Table 1- 1 – Codes and standards

Code/Standard	Description
NFPA-30	National Fire Protection Association
NFC	National Fire Code of Canada
Design Rationale Nunavut	Design Rationale for Fuel Storage and Distribution Facilities
NBC	National Building Code of Canada
-	Canadian Electrical Code
CSA Z462	Workplace Electrical Safety
CSA M421	Use of Electricity in Mines
NWT Reg 125-95	Mine Health and Safety Regulations
API 650	Welded Tanks for Oil Storage
API 2000	Venting Atmospheric and Low-Pressure Oil Storage Tanks
CCME PN 1326	Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products
EI 1540	Design, Construction, Commissioning, Maintenance and Testing of Aviation Fuelling Facilities
CSA B836	Storage, Handling and Dispensing of Aviation Fuels at Aerodromes


2. Purpose of the Report

Agnico Eagle has commissioned AtkinsRéalisis to design the secondary containment and all associated civil works for the expansion of the petroleum product storage facility located at Robert’s Bay, near the barge offloading area.

Additionally, Agnico Eagle has retained WSP to design the storage tanks, piping systems, and the instrumentation and control systems required for the facility.

The fuel tank farm will be developed in four phases (see Appendix ___ for illustration):

- **Phase 1 (2026):** Installation of one 1.5-million-litre tank for Jet-A fuel, along with the construction of four tank foundations for 12.5-million-litre diesel fuel tanks. Installation of part of the piping and electrical systems.
- **Phase 2 (2027):** Completion of the installation of four 12.5-million-litre diesel fuel tanks, along with additional piping and electrical systems.
- **Phase 3 (2028):** Installation of the remaining piping and electrical systems, construction of fuel pumping stations, commissioning, and initial tank filling.

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

- **Phase 4:** Potential addition of one extra 12.5-million-litre diesel fuel tank and one extra 1.5-million-litre Jet-A fuel tank, depending on future demand.

This report outlines the design basis, provides an overview of applicable codes and regulations, addresses specific considerations, and details the engineering and construction aspects of the project. It includes the final design and construction drawings for the containment basin, tank foundations, storage tanks, piping, and instrumentation and control systems.

3. Design Criteria Review


3.1 Secondary Containment – Capacity

Table 3- 1 - Criteria for containment basin capacity

Code	Article	Capacity
NFC (2020)	4.3.7.3	<ul style="list-style-type: none"> - For one tank not less than 110% of the capacity of the tank. - For more than one tank – not less than 100% of the capacity of the largest storage tank + 10% of the greater capacity between the capacity of the largest storage tank or the capacity of the sum of all the other storage tanks located in the contained space, whichever is greater. - To prevent the entry of precipitation and water used for firefighting purposes into the contained space- secondary containment shall have volumetric capacity of not less than the capacity of the largest storage tank located in the contained space.
NFPA (2015)	22.11.2.2 22.11.2.2.1 22.11.2.5	<ul style="list-style-type: none"> - For one tank – no less than the full capacity of the tank. - For more than one tank – capacity of the dike should be calculated after deducting the volume of the tanks, other than the largest tank, below the height of the dike. - Average height shall not exceed 1.8 m (could be more if the distance from the toe of the interior dike wall to the shell of any tank < 1.5 m).
Design Rationale Nunavut (2006)	4.6	<ul style="list-style-type: none"> - As per NFC requirement. - Average height shall not exceed 1.8 m above the ground level within the enclosing dike.

3.2 Secondary Containment – Materials

Table 3- 2 - Criteria for construction materials of the containment basin


	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

Code	Article	Materials
NFC (2020)	4.3.7.2	<ul style="list-style-type: none"> - The dike and tank base shall be built with non-combustible materials. - The dike shall withstand full hydrostatic head. - The liner (membrane) shall provide a permeability of more than 10^{-6} cm/s to the combustible liquid contained in the storage tanks. - If the liner (membrane) is combustible it shall be covered with non-combustible material. - Impermeability of membrane shall be conformed to CAN/ULC-S668, "Standard for Liners Used for Secondary Containment of Aboveground Flammable and Combustible Liquid Tanks," and be installed in accordance with the manufacturer's instructions.
NFPA (2015)	22.11.2.4 22.11.2.4.1	<ul style="list-style-type: none"> - The dike shall liquid tight .and built of earth, steel, concrete or solid masonry. - The dike shall withstand full hydrostatic head. - Dike walls height of ≥ 0.9 m shall have a flat section at the top not less than 0.6 m. - Dike slope shall be in accordance with the material's angle of repose of the material of which the wall is constructed.
Design Rationale Nunavut (2006)	4.6.1	<ul style="list-style-type: none"> - Diked containment area shall be made impervious by a minimum 60mil thick High-Density Polyethylene (HDPE) impervious liner (membrane). - 80mm thick sand layers shall be provided on each side of the liner (membrane). - A geotextile fabric shall be installed on top of the sand layer. - A topping of 150 mm of compacted fine gravel installed over top of the sand and geotextile layer to finish grades on drawings. - The core of dike walls can be constructed of coarse gravel or common fill material. The inside face of dike wall shall be made imperious by installing an HDPE liner membrane with 80 mm thick sand layer on each side of the membrane and 150 mm topping of compacted fine material. - An anchoring trench shall be provided on top of the dike walls to prevent displacement of both the geotextile fabric and the liner membrane. The trench shall be filled with material free of sharp edges such as smooth stones, concrete, metal or other nonorganic material to assure 15kg/m of anchoring material. - Compacted gravel dike wall shall have a flat top of at least 600 mm wide and shall be at least 600 mm high. - The dike wall shall have a slope of 1 vertical to 2 horizontals.

3.3 Secondary Containment – Drainage

Table 3- 3 - Criteria for containment basin drainage

Code	Article	Drainage
NFC (2020)	4.3.7.8	<ul style="list-style-type: none"> - Liquids, debris and precipitation shall not accumulate in the contained space created by the secondary containment.

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

		<ul style="list-style-type: none"> - Provision shall be made for removing liquid form the secondary containment in conformance with Subsection 4.1.6 of NFC (2020). - Controls of the liquid removal system required shall be: <ol style="list-style-type: none"> 1. normally closed. 2. accessible under fire exposure conditions; and 3. located so they can be operated from outside the contained space.
NFPA (2015)	22.11.2.1 22.11.2.6 22.11.2.6.2	<ul style="list-style-type: none"> - Minimum 1% slope away from the tank for at least 15 m or to the dike base, whichever is less. - For more than one tank inside a dike – the dike shall be sub-divided either by drainage channel or at least by intermediate dike, to prevent minor spills from a tank from endangering adjacent tanks within the diked area. - Intermediate dike shall be minimum 45 cm in height
Design Rationale Nunavut (2006)	4.6.1	<ul style="list-style-type: none"> - Provisions shall be made to drain the water from inside dike areas. The floor of dike areas shall be sloped gently away from the tank bases and towards the drainage sumps via the inside edge of dike walls. - Sumps are usually 250 mm deep and are made from the bottom part of 205 L steel drums that have been cut and perforated.

3.4 Minimum Clearance versus Tanks

Table 3- 4 - Criteria for tank placement in the containment basin

Code	Article	Minimum clearance
NFC (2020)	Table 4.3.2.1	- TK capacity > 5 000 000 L – 15 m between the tank and the property limit or a building on the same property
	4.3.2.2	- Between two tanks – 0.25 times the sum of their diameter, but not less than 1m
	4.3.7.4	- Between the tank shell and dike toe – 1.5 m
NFPA (2015)	Table 22.4.1.1 (a)	<ul style="list-style-type: none"> - TK to property limit - ½ x diameter of the tank (floating roof with risk protection) - TK to property limit – 2 x diameter of the tank (fixed roof without protection)
	Table 22.4.2.1	- Between tanks (all tanks not over 45 m in diameter)- 1/6 x sum of adjacent tank diameter but no less than 0.9m


	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalisis: <u>704148-5000-41EB-0002</u></i>	Rev.	Date:
	1	05/29/2025	

	Table 22.4.1.1 (b)	<ul style="list-style-type: none"> - TK to property limit for TK capacity 1M – 2M gal – 41m (135ft) - TK to property building for TK capacity 1M – 2M gal – 13.7m (45ft)
Design Rationale Nunavut (2006)	4.5	<ul style="list-style-type: none"> - As per NFC requirement - Between tank and CL of the dike wall – 1.5m or ½ of the tank height


3.5 Tank Foundation Requirements

Table 3- 5 - Criteria for the foundations of tanks

Code	Article	Tank foundation
NFC (2020)	4.3.3.1	<ul style="list-style-type: none"> - Storage tank shall rest on the ground or on foundation, support or piling made of concrete, masonry or steel. - Foundations shall be designed to minimized uneven settling of the tank and to minimize corrosion of the part of the tank resting on the foundation. - Clearance below the base of the tank exceeds 300 mm.
NFPA (2015)	22.5.2	<ul style="list-style-type: none"> - Tank shall rest on the ground or on foundation made of concrete, masonry, piling, or steel. - Tank foundation shall be designed to minimize the possibility of uneven settling of the tank and to minimize corrosion in any part of the tank resting on the foundation.
Design Rationale Nunavut (2006)	4.4.1	<ul style="list-style-type: none"> - Base surface: compacted 600mm thick fine gravel. - Finish surface upon which the tank bottom will rest clean dry sand 300mm higher than the dike floor (Surrounding ground surface). - 1200mm shoulder around the tank sloped 1:120 horizontal outwards from the tank shall be provided. Beyond the shoulder limit the slope shall be 1 vertical 2 horizontal graded to the floor of the dike. - The crown on the finished grade under the tank floor plated shall consists of clean dry sand - The finished tank grade shall be crowned from the periphery to the center. A minimum slope of 1 vertical to 120 horizontals shall be provided. - Thank foundation pas, at the perimeter of the tank, shall be level.

3.6 Survey Data

The design of these infrastructures is based on topographic contour maps produced from aerial LiDAR survey taking in September 2024 and as built drawings supplied by Agnico Eagle.

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalis: <u>704148-5000-41EB-0002</u></i>	Rev.	Date:
	1	05/29/2025	

4. Fuel Tank Farm Design

4.1 Tanks, Piping, and Instrumentation/Control Systems

4.1.1 Tank Design – Planned Construction for 2026

The tanks are field-erected vertical storage tanks used for the storage of Diesel Fuel and Jet-A Fuel.

Planned construction for 2026 includes the construction of one Jet-A fuel storage tank (62TNK11605), as well as the installation of the tank floors for four diesel fuel storage tanks (62TNK11601, 62TNK11602, 62TNK11603, and 62TNK11604). Some piping and electrical work will also begin in 2026

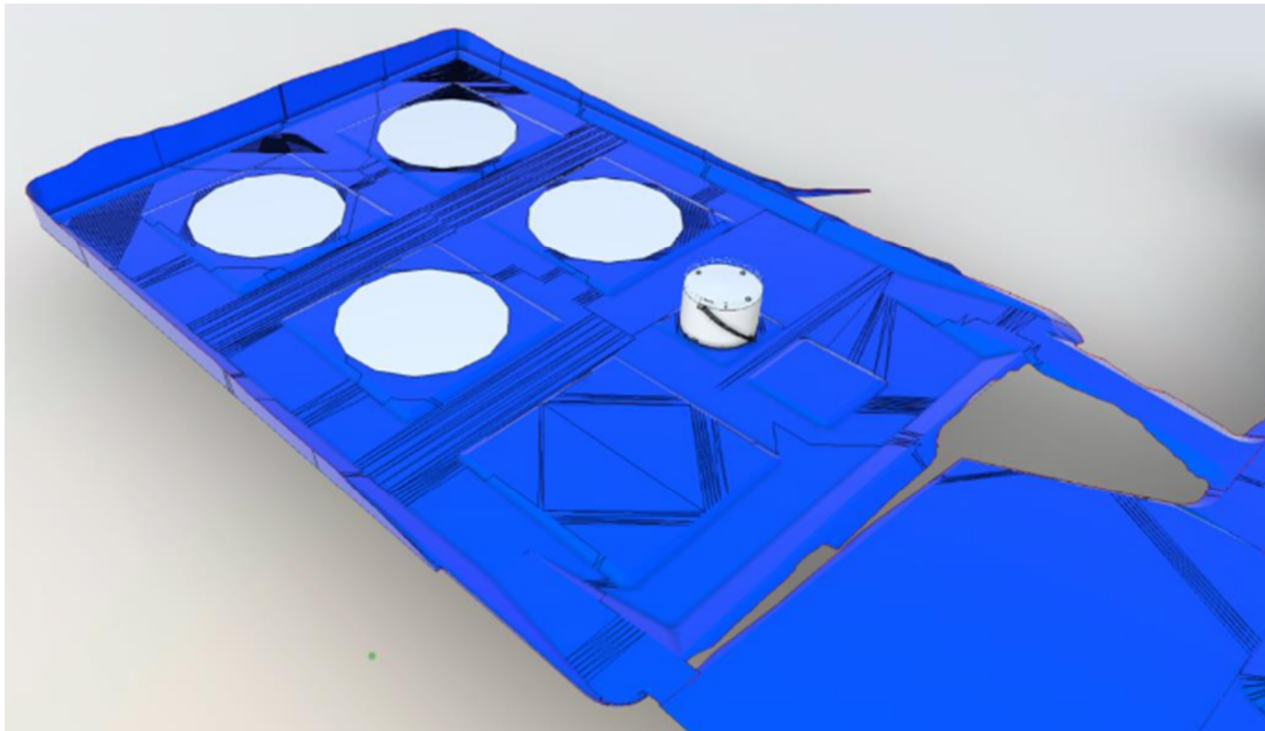



Figure 4-1 - Planned Construction 2026: 1.5 ML Jet-A tank + four 12.5 ML tank floors

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

4.1.2 Tank Design – Planned Construction for 2027

Planned construction for 2027 includes completing the construction of four diesel fuel storage tanks—62TNK11601, 62TNK11602, 62TNK11603, and 62TNK11604. Additional piping and electrical work will also be completed in 2027.

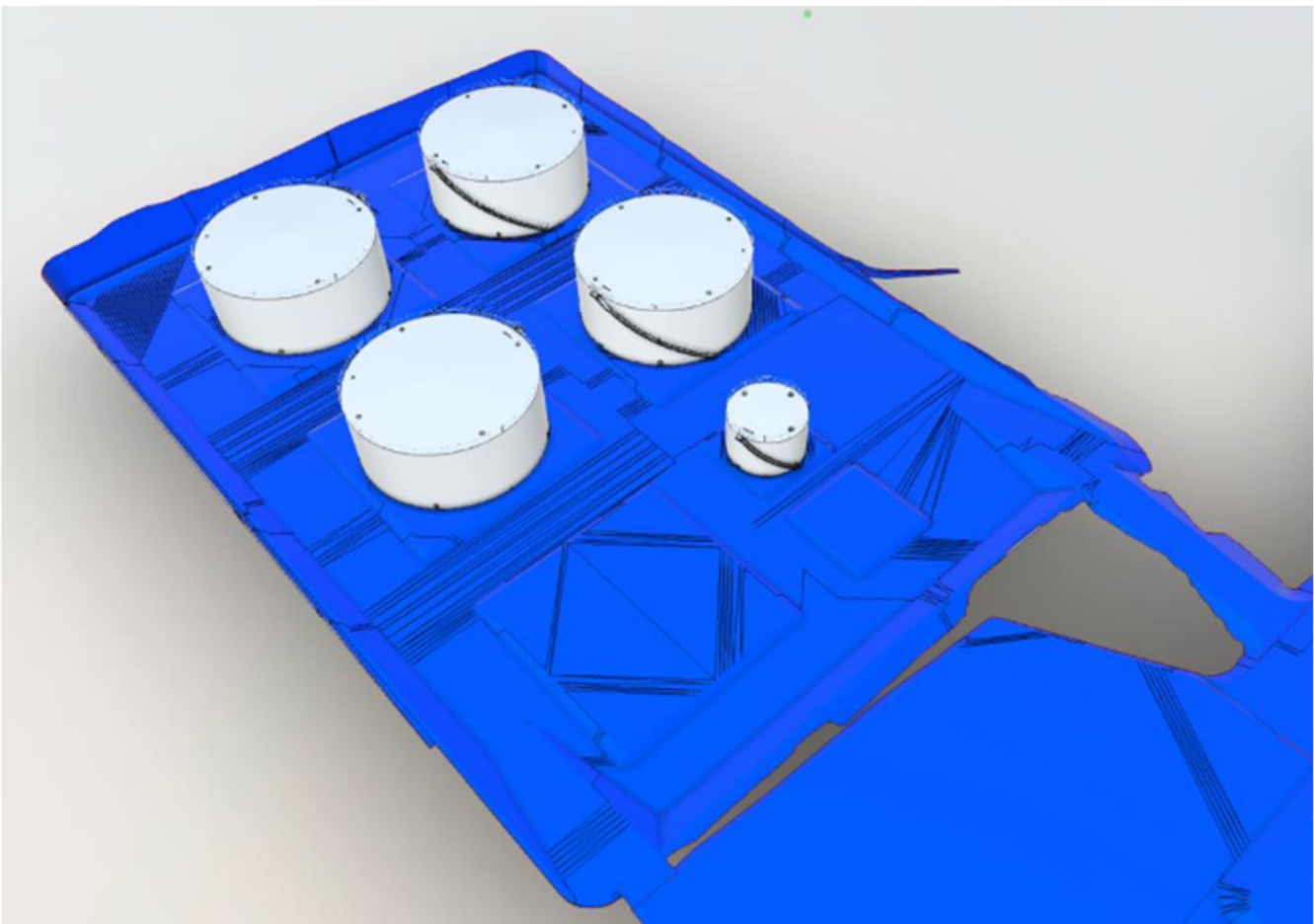



Figure 4-2 - Planned Construction 2027: Diesel Fuel Tanks 12.5 ML tank Completed

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalis: <u>704148-5000-41EB-0002</u></i>	Rev.	Date:
	1	05/29/2025	

4.1.3 Tank Design - Planned Construction for 2028

Planned construction for 2028 includes all final piping and electrical work, installation of the pump stations, commissioning, and first fill.

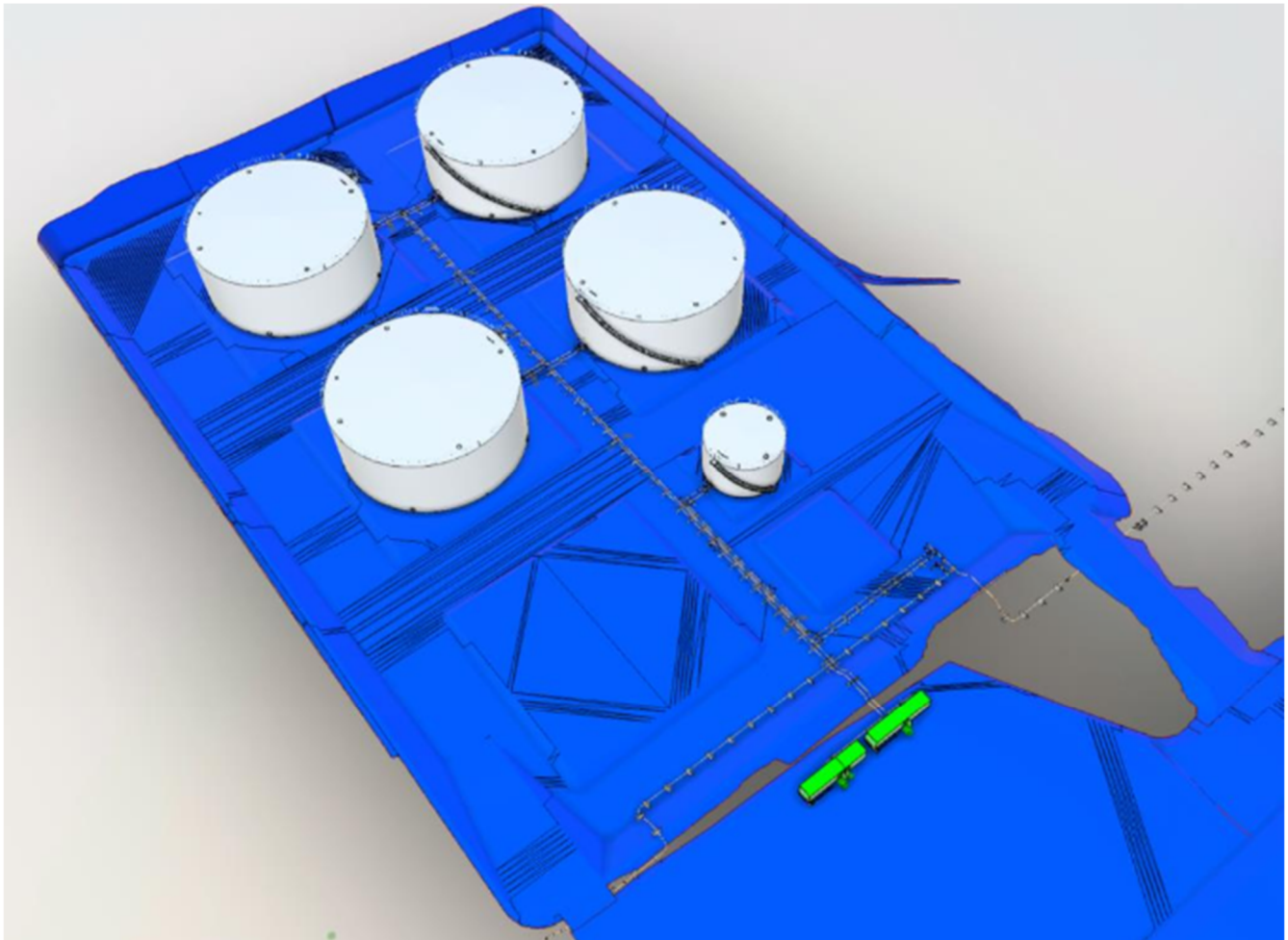



Figure 4-3 - Planned Construction 2028: Piping, Electrical, Pump Station Completed

In addition to tanks 62TNK11601 to 62TNK11605, the secondary containment area has been designed for one potential future diesel fuel storage tank and one potential future Jet-A fuel storage tank. Equipment numbers have not been assigned to these potential future tanks. The capacity of the future Jet-A tank will be the same as

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

that of tank 62TNK11605. The capacity of the future diesel fuel storage tank will be the same as that of tanks 62TNK11601 to 62TNK11604.

The design, fabrication, erection, welding, inspection, testing, and identification of the new vertical storage tanks shall comply with the latest edition of API Standard 650.

Normal and emergency venting of the vertical storage tanks shall comply with the latest edition of API 2000.

Tank general arrangement drawings issued for vendor quotation are included in Appendix D.

Detailed engineering design of the tanks, including completion of the API 650 tank datasheets, will be completed by the selected tank vendor.

The Jet-A fuel storage tank will be painted on both the exterior and interior.

The main characteristics of each tank are specified in Table 4-1.

Table 4- 1- Characteristics of the Tanks


Item	Product Stored	Nominal Tank Capacity (m ³)	Tank Diameter (m)	Nominal Tank Wall Height (m)
62TNK11601	Diesel Fuel	12,500	34.9	14.4
62TNK11602	Diesel Fuel	12,500	34.9	14.4
62TNK11603	Diesel Fuel	12,500	34.9	14.4
62TNK11604	Diesel Fuel	12,500	34.9	14.4
62TNK11605	Jet-A Fuel	1,500	15	9

4.1.4 Tank Spacing

Minimum spacing between tanks has been established as 0.25 times the sum of the tank diameters in accordance with National Fire Code requirements.

Spacing between any of the tanks and the property line exceeds the minimum spacing of 15 m required by the National Fire Code.

Tank shell to centerline of containment dike spacing was calculated based on the maximum projection of a tank wall leak. The maximum calculated projection distance from the tank occurs when a leak occurs at mid-height of the tank and is calculated to equal the height of the tank. Minimum distance from the shell of the storage tanks to centerline of the containment dike is therefore 14.4 m for the diesel storage tanks and 9 m for the Jet-A fuel storage tank.

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

4.1.5 Fire Fighting Access

An access route constructed in conformance with Subsection 3.2.5 of Division B of the National Building Code will be provided to permit the approach of fire-fighting vehicles to within 60 m travelling distance of each of the storage tanks.


4.1.6 Piping Design

New piping will be installed for filling of the new tanks and to supply the pump stations from the tanks.

The existing ocean vessel unloading pipeline to the existing diesel fuel and Jet-A fuel storage tanks will be modified to accommodate the new tank farm and to avoid a new entrance to a new material laydown area.

The main piping design criteria are as follows:

- Piping will be installed above ground except at road crossings where buried sections of piping will be required.
- Above ground piping will be single wall steel pipe. Buried piping will be double walled pipe with interstitial leak detection.
- Piping shall comply with Agnico Eagle Mines Limited General Guideline Design 60-000-270-GGD-001_R4 Piping Valves Fittings General Specifications. Above ground piping shall be to Pipe Specification Class CC10 and below grade piping shall be Pipe Specification Class CC16.
- Maximum support spacing shall comply with Agnico Eagle Mines Limited General Guideline Design 60-000-270-GGD-004_R0 Pipe supports. Additional support will be provided near concentrated loads and bends. Pipe supports should be designed to permit thermal expansion and contraction of piping without damaging the pipe or the pipe exterior paint. Flexible connections shall be provided to accommodate thermal expansion and contraction of piping systems without damage to piping, accessories, pipe supports, or equipment.
- No threaded connections or threaded and back welded connections shall be permitted where it is possible to use welded or flanged joints.
- Pressure relief valves shall be provided to prevent over-pressure of piping and components in outdoor piping where fluid can be trapped due to valve closure or closure of other devices.
- Protection from over pressure of piping systems shall be provided where required using safety relief valves.
- Manual valves are provided for maintenance and emergency isolation of tanks and equipment.

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

Information regarding the P&ID is provided in Appendix D.

4.1.7 Instrumentation and Control

The fuel piping and fuel storage tanks shall be provided with instrumentation, sensors, and alarms. Please refer to the P&ID drawings in Appendix D.

Diesel fuel tanker truck filling and Jet-A fuel truck filling operations will be manually controlled using control panels and motorized valves to select the storage tank supplying the fuel for truck filling. Motorized valves will remain closed (fail close) except when selected to supply fuel to the pump station.

Filling of the fuel storage tanks occurs during a limited period during the summer shipping season. Filling operations are completed under continuous supervision with an operator at the storage tanks in direct radio contact with the ship unloading pump operator. The tank being filled will be manually selected using manual valves. Manual confirmation of tank levels (tank dipping) is scheduled regularly during the filling operation. Storage tanks are provided with level transmitters and local alarms if high tank levels are exceeded.

4.1.8 Commissioning

The design, fabrication, erection, welding, inspection, testing, and identification of the new vertical storage tanks shall be compliant to the latest edition of API Standard 650. Prior to putting a storage tank into service, the tank will pass quality control checks as per API 650 requirements. Tanks will also be cleaned, dried, strapped and closed to be made ready for service.

Piping systems shall be examined and tested in accordance with the piping material specification class and applicable design code.


Instrumentation, sensors, alarms, and motorized valves shall be commissioned and operational before fuel systems are put into service.

4.1.9 Maintenance/Inspection

A qualified maintenance team will inspect the system on a regular basis in accordance with AEM's maintenance planning and as required to comply with applicable codes and standards.

Most of the new piping will be installed above ground and inspected regularly before and during operation. Piping located outside of containment areas is limited, will only be used periodically, and will be inspected before and during each use. Piping outside of containment areas will be cleaned (pigged) and left empty with an inert gas blanket when not in use.

The short sections of buried piping required for road crossings will be double-walled pipe with interstitial leak detection.

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

Field erected storage tanks shall be inspected as per CCME Section 8.4 and API 653 “Tank Inspection, Repair, Alteration and Reconstruction”.


4.2 Secondary Containment

4.2.1 Design Criteria Adopted

The following design criteria are based on the general design criteria developed for this project (AtkinsRéalisis 2025).

The design criteria for the fuel tank farm are as follows:

- The capacity of the containment basin must comply with Articles 4.6 and 4.3.7.3 of the Nunavut Design Rationale (2006) and Article 4.3.7.3 of the NFC (2020), respectively.
- Not less than 100% of the capacity of the largest storage tank + 10% of the greater capacity between the capacity of the largest storage tank or the capacity of the sum of all the other storage tanks located in the contained space, whichever is greater.
- To prevent the entry of precipitation and water used for firefighting purposes into the contained space-secondary containment shall have volumetric capacity of not less than the capacity of the largest storage tank located in the contained space.
- The diked containment area shall be made impervious by means of a high-density polyethylene (HDPE) geomembrane with a minimum thickness of 60 mil (≈ 1.5 mm), placed between two geotextile membranes. The geotextile shall consist of needle-punched short-staple polypropylene Fibers, with a minimum tensile strength of 650 N under wet conditions.
- Provisions shall be made to drain the water from inside dike areas. The floor of dike areas shall be sloped gently away from the tank bases and towards the drainage sumps via the inside edge of dike walls.
- Sumps are usually 250 mm deep and are made from the bottom part of 205 L steel drums (commonly referred to in the industry as a 45-gallon drum) that have been cut and perforated.
- Base surface: compacted 600 mm thick fine gravel.
- Finish surface upon which the tank bottom will rest clean dry sand 300mm higher than the dike floor (Surrounding ground surface).
- 1200mm shoulder around the tank sloped 1:120 horizontal outwards from the tank shall be provided. Beyond the shoulder limit the slope shall be 1 vertical 2 horizontal graded to the floor of the dike.
- The crown on the finished grade under the tank floor plated shall consists of clean dry sand
- The finished tank grade shall be crowned from the periphery to the center. A minimum slope of 1 vertical to 120 horizontals shall be provided.
- Tank foundation, at the perimeter of the tank shall be level.

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

4.2.2 Design Approach Applied to the Project

The following section provides an overview of the design of the containment basin and the sumps intended for the removal of precipitation water and, if necessary, the pumping of potential petroleum product overflows. Additional details are provided in the engineering drawings included in Appendix A.

4.2.3 Pond Excavation

Secondary containment will be excavated in overburden using a 3H:1V slope to ensure stability. However, in the area designated for the Tank Farm, the excavation will primarily involve rock, which will be excavated with slopes of 1H:10V. sizes are approximately a Length: ±180 m x Width: ±125 m x Depth ±5 m.

4.2.4 Liner System

The liner system will consist of the following layers (bottom to top):

- Membrane bedding material consisting of non-potential acid generating (NPAG) crushed stone 0-38 mm diameter, 200 minimum thickness, compacted to 95% S.P.M.D. (Standard Proctor Maximum Density),
- Non-woven geotextile, tensile strength of 650 N.
- High density polyethylene (HDPE) resin membrane liner with inhibitors added to base plastic to resist deterioration by ultra-violet and heat exposure, 1.5 mm thickness.
- Non-woven geotextile, tensile strength of 650 N, and
- Liner protection bedding material consisting of non-potential acid generating (NPAG) crushed stone 0-38 mm diameter, 300 minimum thickness, compacted to 95% S.P.M.D. (Standard Proctor Maximum Density).


4.2.5 Calculation of Secondary Containment Capacity

4.2.5.1 Inputs

Table 4- 2 - Input data for required retention volume calculation

Item	Value
Number of large tanks	5
Volume per large tank	12.5 ML
Number of small tanks	2
Volume per small tank	1.5 ML
Regulatory criterion	10% of VTRMT* + largest single tank volume

* Total Volume of the Remaining Tanks

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

4.2.5.2 Calculation

Table 4- 3 - Required retention volume calculation

Step	Expression	Value
VTRM*	$VTRM^* = (4 \times 12.5 \text{ ML}) + (2 \times 1.5 \text{ ML})$	53.0 ML
10% of VTRMT*	$0.10 \times VTRM^* = 0.10 \times 53.0 \text{ ML}$	5.30 ML
Largest single tank	$V_{largest} = 12.5 \text{ ML}$	12.5 ML
Required capacity	$V_{required} = 5.30 \text{ ML} + 12.5 \text{ ML}$	17.80 ML
Freeboard	$\pm 400 \text{ mm higher than the design volume elevation}$	$\pm 25.66 \text{ ML}$

* Total Volume of the Remaining Tanks

4.2.6 Verification of Membrane Resistance to Live Loads


The objective of this verification is to ensure that the membrane exhibits sufficient structural integrity and load-bearing capacity under the anticipated live load conditions. Calculations and assessments shall confirm compliance with applicable design standards and safety factors. The evaluation includes:

- Load Analysis: Determination of the magnitude and distribution of live loads acting on the membrane.
- Strength Assessment: Verification that the membrane material and configuration can withstand these loads without failure or excessive deformation.

The report titled “Design Review of Liner Systems for Robert’s Bay Tank Farm” (Document Agnico Eagle 6212-116-132-REP-003 / AtkinsRéalisis: 704148-0000-41EB-0001_RB) was issued on October 17, 2025. It demonstrates that the HDPE geomembrane system, protected by two layers of geotextile, meets the required strength specifications. A copy of this report is provided in Appendix B.

5. Schematic of Containment Basin

Figure 5.1 presents a perspective view of the overall basin installation, located near the offloading area, overlaid on the existing site with the different planned phases of tank construction. A view of the surface drainage orientation is also shown for the secondary retention basin, as well as for the surface near the loading station.

 AGNICO EAGLE	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalis: <u>704148-5000-41EB-0002</u></i>	Rev. 1	Date: 05/29/2025

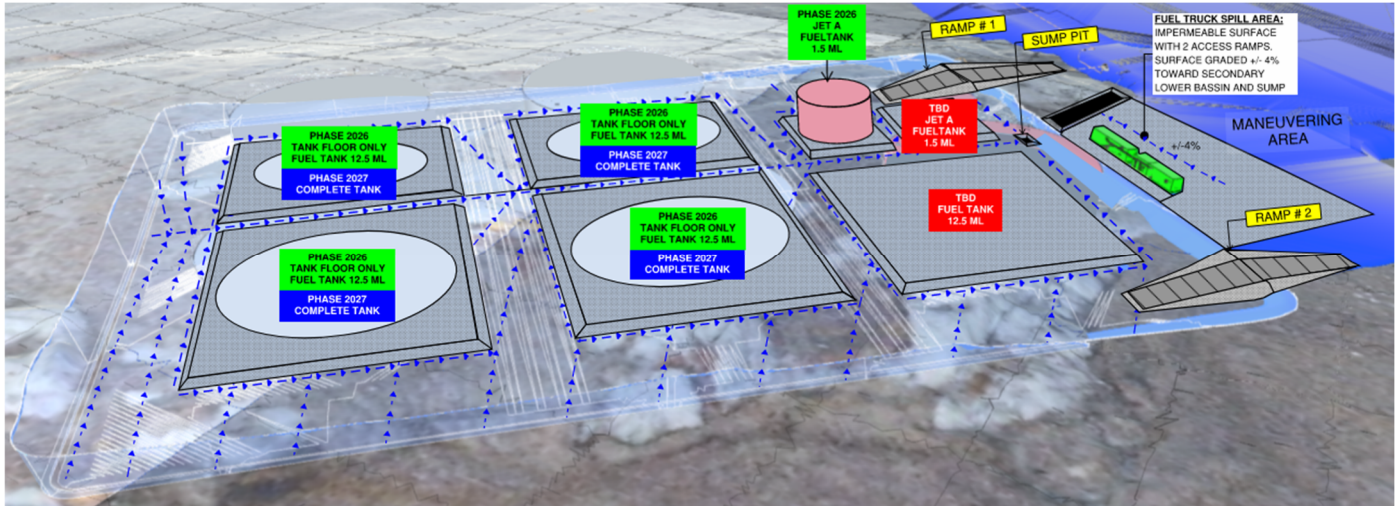


Figure 5-1 - Installation of the containment basin

6. Engineering Documents


General arrangement and construction drawings for civil works are provided in Appendix C.

7. Overburden Stripping and Disposal

Stripping of overburden soils on the site is very limited, as open-pit development is not planned and the overburden materials, organic matter, and vegetation are not removed prior to the construction of roads, platforms, and the proposed overburden disposal site. Therefore, overburden stripping is only planned during the development of Quarry AF to allow for its exploitation. The stripped materials will be stored directly on undisturbed ground near the tank farm.

Where possible, it is recommended that overburden stripping be conducted in winter, as thawed soils may present challenges depending on the construction objectives. The sensitivity of the clay is estimated to range from 4 to 22, with an average of 8, which is relatively low but may indicate that the soil is not workable. Although the sensitivity is low, samples of the same material did not show signs of liquefaction during handling and testing, and the stress-strain curves from consolidated undrained triaxial tests do not suggest rapid structural failure in the event of soil disturbance.

Based on available data, thawed overburden soils (including clays) can be stripped using conventional methods involving trucks and excavators. The construction of temporary access roads using raw quarry materials (ROQ) may be necessary for the excavation of thawed overburden.

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

In cases of winter excavation, frozen overburden soils will be excavated using drilling and blasting techniques; as a result, the resulting overburden pile will consist of fragmented frozen materials containing significant amounts of ice. Compaction of this frozen material is not feasible, and significant seasonal settlement due to thawing is expected. As the overburden pile thaws, its workability is likely to become difficult.

8. Bedrock Characteristic

The most widespread rock type exposed at the surface of the site is mafic volcanic rock, primarily basalt. The high ridges on the site are generally composed of diabase (Proterozoic rocks). In isolated areas, small amounts of gabbro, felsic volcanic rock, and granitoids are present. These rock types are typically competent and exhibit well-defined foliation. Site-wide outcrop mapping is presented in Figures 2 and 3 in Appendix A.

9. Construction Methodology

9.1 Construction Materials

The most common material available at the site is the Runoff Quarry Material (ROQ). The low permeable till is almost absent at the site; therefore, HDPE geomembrane is used as liner for the pond and sumps.

All geosynthetic materials and liner construction shall be in accordance with the requirements developed by the Geosynthetic Research Institute (GRI).


Natural sand or sand and gravel borrows are also not available at the site, therefore, crushed rock is used as transition and bedding materials.

To protect the liner from crushed stone damages non-woven geotextile, install on one or both sides of the liner is used, depending on the use of bedding layer.

All materials used for earthworks are natural and from local excavations, free from acid generation/metal leaching potential (i.e. non-PAG). Materials selection, placement, compaction and quality control requirements are as per project's earthworks specifications.

Table 9- 1 - List of Earthworks Materials

Type	Description
ROQ	Run-off-Quarry Material, (Ø 0-500 mm); minimum thickness 500 mm; compacted to method specification (specified roller passes)
Transition Material	Crushed stone (Ø 0-50 mm); minimum thickness 200 mm; compacted to 95% Standard Proctor Maximum Dry Density (SPMD).

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	


Bedding Material	Crushed stone (Ø 0-20 mm); minimum thickness 100 mm; compacted to 95% Standard Proctor Maximum Dry Density (SPMD).
Geotextile	Needle punched Non-woven Geotextile Fabric
Geomembrane	High Density Polyethylene liner, 1.5 mm thickness (60 mil)

9.2 Quality Control

The project's earthworks construction Quality Control and Assurance Program (QA/QC) testing standard procedures listed in Table 9-2 shall be followed.

Table 9- 2 - List of Tests for Earthworks


Test Standard	Details
ASTM D2487	Classification of Soils for Engineering Purposes
ASTM D2216	Water (Moisture) Content in Soil and Rock
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D854	Specific Gravity of Soils
ASTM D698	Laboratory Compaction Characteristics of Soil Using Standard Effort
ASTM D2922	ASTM D2922 Density of Soil in Place by Nuclear Methods

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	


10. References

SRK Consulting (Canada) Inc. (2017). *Hope Bay Project Geotechnical Design Parameters and Overburden Summary Report*. Report Prepared for TMAC Resources Inc. Project No. 1CT022.013. November 2017.

SRK Consulting (Canada) Inc. (2022). *Technical Specifications Earthworks and Geotechnical Engineering*. prepared for Agnico Eagle Mines Limited – Hope Bay Project, Nunavut Canada – Revision 1 – Issue for Construction No.: CAPR00181.

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalis: <u>704148-5000-41EB-0002</u></i>	Rev.	Date:
	1	05/29/2025	

Appendices

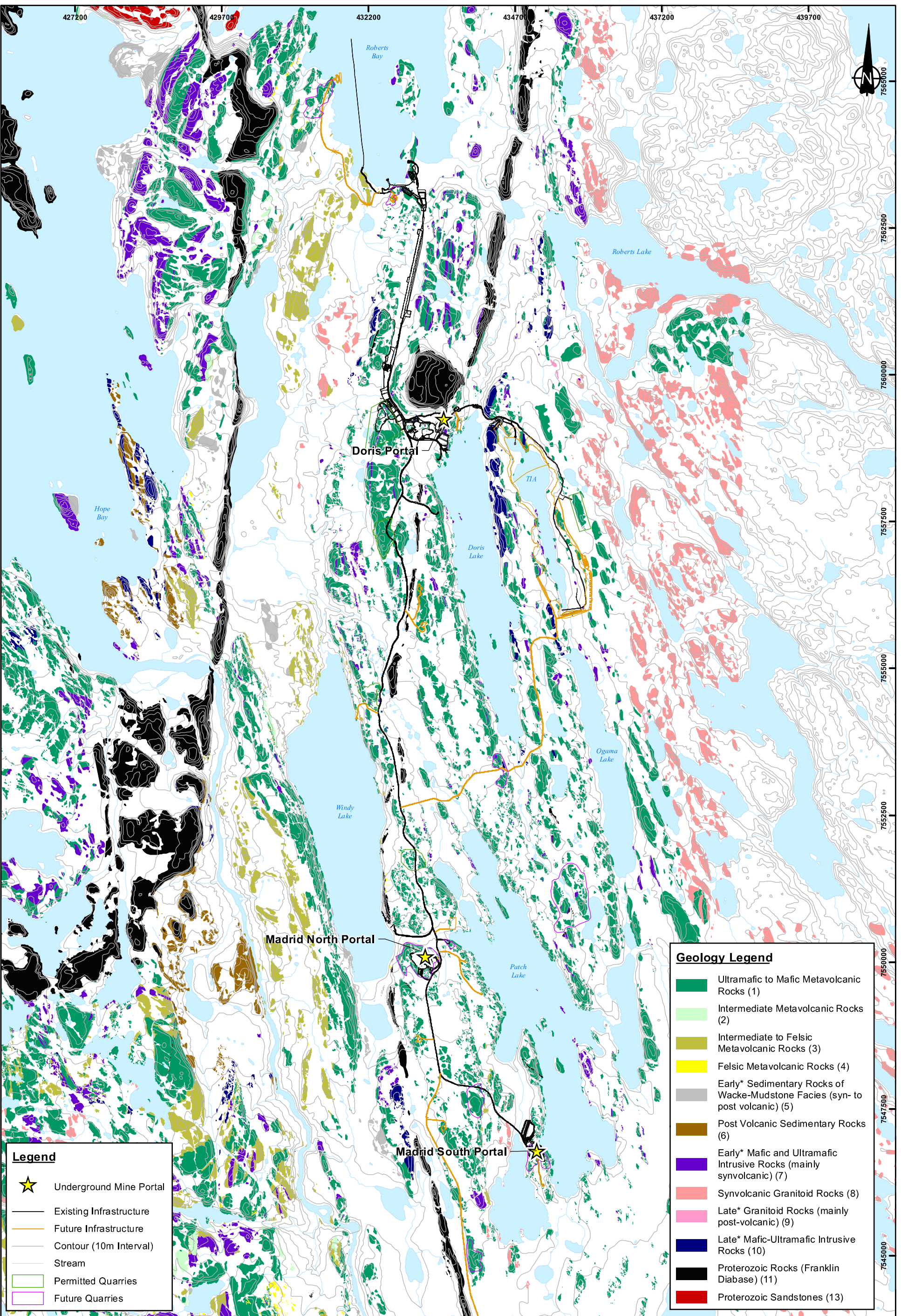
	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

Appendix A

Excerpt from the HB Project Geotechnical DP and Overburden Summary Report (SRK, 2017)

- Figure 2 – Overburden Summary Report / Doris and Madrid Mining Area Outcrop Mapping (after Sherlock 2002)
- Figure 3 - Overburden Summary Report / Boston Mining Area Outcrop Mapping (after Sherlock 2002)

\\wan-srv0\projects\01_SITES\Hope_Bay\1CT022.013_Phase_2_FEIS_Water_Licence_Submission\040_AutoCAD\GIS_MXD\Overburden_Summary_Dec2017\1CT022.013_Fig_2_OutcropMapping_mzs_RevB.mxd

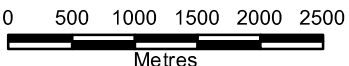


Legend

- Underground Mine Portal
- Existing Infrastructure
- Future Infrastructure
- Contour (10m Interval)
- Stream
- Permitted Quarries
- Future Quarries

Geology Legend

- Ultramafic to Mafic Metavolcanic Rocks (1)
- Intermediate Metavolcanic Rocks (2)
- Intermediate to Felsic Metavolcanic Rocks (3)
- Felsic Metavolcanic Rocks (4)
- Early* Sedimentary Rocks of Wacke-Mudstone Facies (syn- to post volcanic) (5)
- Post Volcanic Sedimentary Rocks (6)
- Early* Mafic and Ultramafic Intrusive Rocks (mainly synvolcanic) (7)
- Synvolcanic Granitoid Rocks (8)
- Late* Granitoid Rocks (mainly post-volcanic) (9)
- Late* Mafic-Ultramafic Intrusive Rocks (10)
- Proterozoic Rocks (Franklin Diabase) (11)
- Proterozoic Sandstones (13)



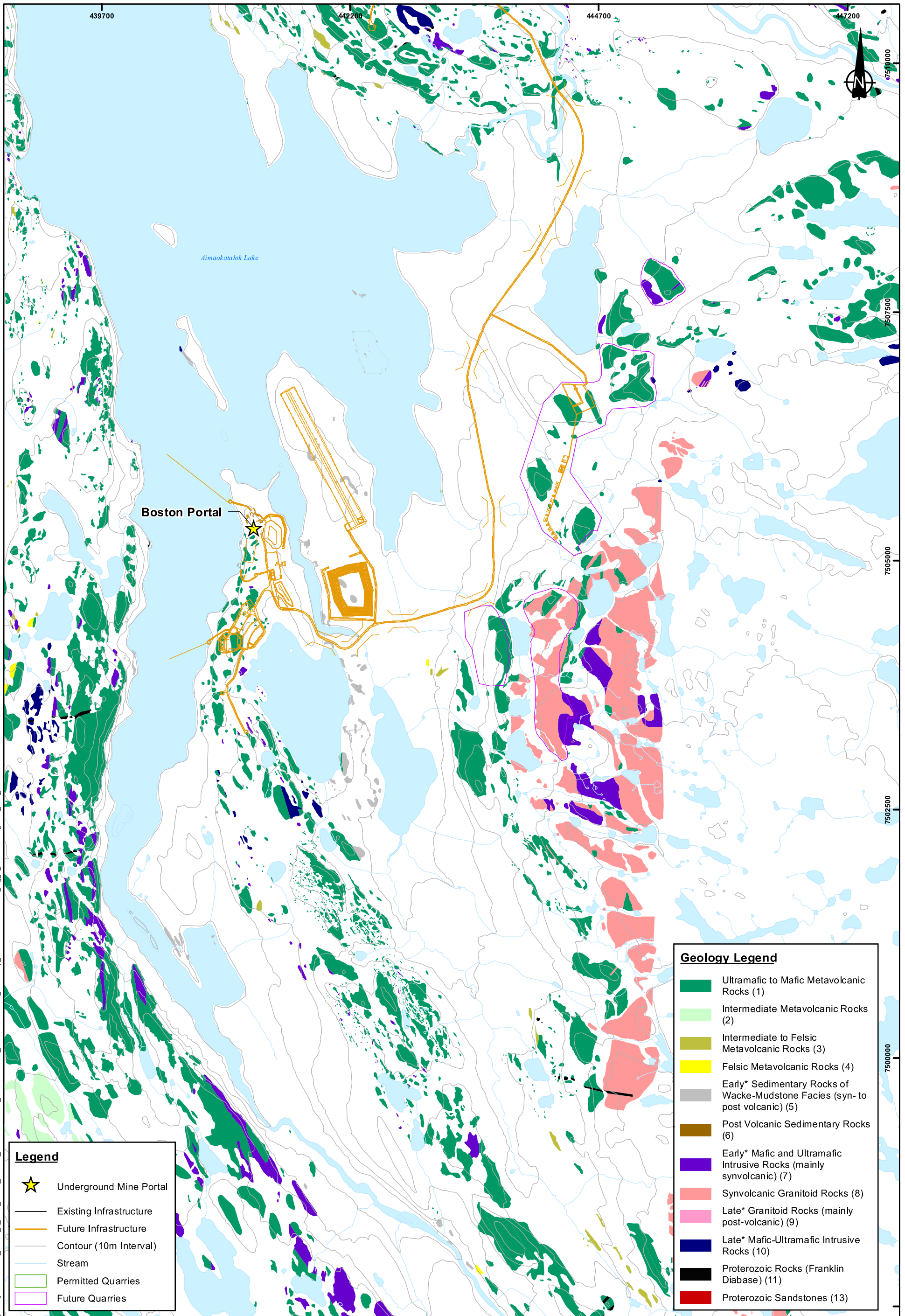
Notes:
 1. *early and late used in a relative sense only.
 2. Coordinate System: NAD 1983 UTM Zone 13N
 3. Base Topo Data: CanVec, Natural Resources Canada



Project No: 1CT022.013
 Filename: 1CT022.013_Fig_2_OutcropMapping_mzs_RevB

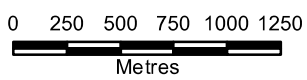
HOPE BAY PROJECT

Overburden Summary Report		
Doris and Madrid Mining Area Outcrop Mapping (After Sherlock 2002)		
Date: Dec 2017	Approved: CM	Drawing: 2



Legend	
	Underground Mine Portal
	Existing Infrastructure
	Future Infrastructure
	Contour (10m Interval)
	Stream
	Permitted Quarries
	Future Quarries

Geology Legend	
	Ultramafic to Mafic Metavolcanic Rocks (1)
	Intermediate Metavolcanic Rocks (2)
	Intermediate to Felsic Metavolcanic Rocks (3)
	Felsic Metavolcanic Rocks (4)
	Early* Sedimentary Rocks of Wacke-Mudstone Facies (syn- to post volcanic) (5)
	Post Volcanic Sedimentary Rocks (6)
	Early* Mafic and Ultramafic Intrusive Rocks (mainly synvolcanic) (7)
	Synvolcanic Granitoid Rocks (8)
	Late* Granitoid Rocks (mainly post-volcanic) (9)
	Late* Mafic-Ultramafic Intrusive Rocks (10)
	Proterozoic Rocks (Franklin Diabase) (11)
	Proterozoic Sandstones (13)



Notes:
 1. *early and late used in a relative sense only.
 2. Coordinate System: NAD 1983 UTM Zone 13N
 3. Base Topo Data: CanVec, Natural Resources Canada




Project No: 1CT022.013
 Filename: 1CT022.013_Fig_3_BostonMiningArea_mzs_RevB

HOPE BAY PROJECT

Overburden Summary Report		
Boston Mining Area Outcrop Mapping (After Sherlock 2002)		
Date: Dec 2017	Approved: CH	Drawing: 3

\\wan-srv0\projects\01_SITES\Hope_Bay\1CT022.013_Phase_2_FEIS_Water_Licence_Submission\040_AutoCAD\GIS_MXD\Overburden_Summary_Dec2017\1CT022.013_Fig_3_BostonMiningArea_mzs_RevB.mxd

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalisis: <u>704148-5000-41EB-0002</u></i>	Rev.	Date:
	1	05/29/2025	

Appendix B


DESIGN REPORT

DESIGN REVIEW OF LINER SYSTEMS FOR TANK FARM

DOCUMENT Agnico Eagle NO. 6212-116-131-REP-003

AtkinsRéalisis: 704148-0000-41EB-0001 RB

2025-10-17

 AGNICO EAGLE	DESIGN REPORT DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev. B	Date: 10/17/2025

Title of document: **DESIGN REVIEW OF LINER SYSTEMS FOR TANK FARM**


Client: **AGNICO EAGLE MINES LTD (AEM)**

Project: **HOPE BAY BLOCKS 4 AND 5 PROJECT - CIVIL WORKS**

Prepared by: Richard Marcoux, P. Eng.
 # NAPEG: L2376

Reviewed by: René Laviolette, P. Eng.
 # NAPEG: L3861



	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	


Notice to Reader

This report has been prepared and the work referred to in this report has been undertaken by AtkinsRéalis Canada Inc. (AtkinsRéalis), for the exclusive use of [Agnico Eagle Mines Ltd.](#), who has been party to the development of the scope of work and understands its limitations. The methodology, findings, conclusions and recommendations in this report are based solely upon the scope of work and subject to the time and budgetary considerations described in the proposal and/or contract pursuant to which this report was issued. Any use, reliance on, or decision made by a third party based on this report is the sole responsibility of such third party. AtkinsRéalis accepts no liability or responsibility for any damages that may be suffered or incurred by any third party as a result of the use of, reliance on, or any decision made based on this report.

The findings, conclusions and recommendations in this report (i) have been developed in a manner consistent with the level of skill normally exercised by professionals currently practicing under similar conditions in the area, and (ii) reflect AtkinsRéalis' best judgment based on information available at the time of preparation of this report. No other warranties, either expressed or implied, are made with respect to the professional services provided to [Agnico Eagle Mines Ltd.](#) or the findings, conclusions and recommendations contained in this report. The findings and conclusions contained in this report are valid only as of the date of this report and may be based, in part, upon information provided by others. If any of the information is inaccurate, new information is discovered or project parameters change, modifications to this report may be necessary.

This report must be read as a whole, as sections taken out of context may be misleading. If discrepancies occur between the preliminary (draft) and final version of this report, it is the final version that takes precedence. Nothing in this report is intended to constitute or provide a legal opinion.

The contents of this report are confidential and proprietary. Other than by [Agnico Eagle Mines Ltd.](#), copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted without the express written permission of [Agnico Eagle Mines Ltd.](#) and AtkinsRéalis.

	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 <i>AtkinsRéalis: <u>704148-0000-41EB-0001</u></i>	Rev.	Date:
	B	10/17/2025	

List of Revisions

#	Prep.	Rev.	App.	Date	Pages	Remarks
A				2025-10-14	All	Issue for internal review
B				2025-10-25	All	Issue for client review


	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	

Table of contents

1.	Introduction	5
1.1	Context	5
1.2	Purpose	6
1.3	Language and Measuring Units.....	6
2.	Design Criteria and Design Basis	7
3.	Design and analysis	11
3.1	Typical cross-sections considered for the retention basin	11
3.2	Calculations of the evaluated options.....	11
3.2.1	Base Configuration of the Retention Basin System	11
3.2.2	Design load applied to the basin surface	12
3.2.3	Assumptions and Calculations	13
3.2.4	Comparative Table of Geomembrane Options.....	13
3.2.5	Technical Recommendation	13

List of Tables


Table 2- 1 - Design Criteria and Design Basis Summary - DESIGN VEHICLES.....	7
Table 2- 2 - Design Criteria and Design Basis Summary - VEHICLE SPECIFICATIONS.....	7
Table 2- 3 - Design Criteria and Design Basis Summary - RETENTION BASIN BASE	8
Table 2- 4 - Size Distribution 0-38 mm	8
Table 2- 5 - Types of Nonwoven Geotextiles	9
Table 2- 6 - Geomembrane Performance Comparison	10

List of Figures

Figure 3.1 - Typical installation detail for sealing a retention pond	11
Figure 3.2 - Load applied by the design vehicle	12

List of Appendice

Appendix A – Supplier Documentation

	DESIGN REPORT DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev. B	Date: 10/17/2025

1. Introduction

1.1 Context



The **Hope Bay property** is in the Kitikmeot region of Nunavut, Canada, approximately 685 km northeast of Yellowknife and 125 km southwest of Cambridge Bay. The property spans 191,342 hectares and includes portions of the Hope Bay and Elu greenstone belts. The 80-km-long Hope Bay greenstone belt hosts three main gold deposits: Doris, Madrid, and Boston.


Agnico Eagle Mines Ltd (AEM) acquired the Hope Bay property in February 2021. The project has significant infrastructure, including underground mine development at the Doris and Boston deposits, a processing plant with a capacity of 2,000 tonnes per day, airstrips, a port, and an all-weather road network.

Since taking over, AEM has focused on exploration activities, particularly at the Doris and Madrid deposits. The company aims to upgrade and expand the mineral resources, with ongoing drilling programs targeting high-potential areas. As of December 31, 2023, Hope Bay hosts proven and probable mineral reserves of 3.4 million ounces of gold.

The site development involves new civil constructions such as pad ore storage, diversion berms, roads and others. Water from freshet, rain and underground mining dewatering is handled by storing water in sumps and pits that need to be pumped.

AtkinsRéalisis is mandated by AEM to provide professional services to carry out basic engineering and detailed engineering for the water management infrastructure and civil works required for the Hope Bay project.



	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	

1.2 Purpose

This report provides the information and calculations that were considered in the selection of the waterproof geomembrane and geotextile membranes chosen for the construction of the retention basin for the Robert's Bay fuel tanks.

It is important to note that the scope of this report is limited to the material selection process and does not encompass the complete engineering design of the retention basin structure or the mechanical systems that will be integrated with it. These design elements will be addressed in a separate and dedicated design report, which will be submitted independently for formal review and approval by AEM.

1.3 Language and Measuring Units

All documents will be produced in English.


The International System of Units (SI) will be used for design, calculations, drawings and any other document related to the project.

For manufactured items, as-built units shall be retained and conversion to SI units provided where appropriate.

The following units are to be used for this study:

- Distance – meter (m)
- Elevation – metres above mean sea level (masl)
- Volume – cubic meter (m³)
- Pressure – kilo pascal (kPa)
- Unit Weight – kilo pascal (kPa)
- Temperature – Celsius (°C)
- Time – seconds (sec), years (yr)



	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev.:	Date:
	B	10/17/2025	

2. Design Criteria and Design Basis

The selection of the waterproof geomembrane and specific geotextile membranes for the bottom of the fuel tank retention basin is justified by structural calculations demonstrating their capacity to withstand the loads induced by emergency vehicles that may operate over these materials. The design criteria and basis summary are provided in table 2-2 and 2-3.

Table 2- 1 - Design Criteria and Design Basis Summary - DESIGN VEHICLES



Vehicles	Illustrations	Source	Reference
2000 F-550 Fire Truck		Paul Tithecott, Security Officer AEM	Email sent on September 24, 2025, to George Miller and Raphael Lachance from AEM
2003 Pierce Fire Engine			

Table 2- 2 - Design Criteria and Design Basis Summary - VEHICLE SPECIFICATIONS

Item	Characteristics	Value
2000 F-550 Fire Truck	Gross Vehicle Weight Rating (GVWR)	7 937 Kg (17 500 lbs)
	Gross Axle Weight Rating (GAWR) -FRONT (2 tires)	2 721 Kg (6 000 lbs)
	Gross Axle Weight Rating (GAWR) -REAR (4 tires)	6 123 Kg (13 500 lbs)
2003 Pierce Fire Engine	Gross Vehicle Weight Rating (GVWR)	20 638 Kg (45 500 lbs)
	Gross Axle Weight Rating (GAWR) -FRONT (2 tires)	9 752 Kg (21 500 lbs)
	Gross Axle Weight Rating (GAWR) -REAR (4 tires)	10 886 Kg (24 000 lbs)




	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	

Table 2- 3 - Design Criteria and Design Basis Summary - RETENTION BASIN BASE


Layer	General Description	Characteristics
① Thanks and Internal Access Road Bedding	NPAG crushed stone foundation (0–38 mm) Thickness 150 mm compacted to 95% P.M.	According to the specific requirements adopted by AEM (see an example of a possible particle size distribution below) ⁽¹⁾
② and ④ Protection	Nonwoven geotextile	Needle punched short stable polypropylene fiber, tensile strength minimum 650 N, wet condition ⁽²⁾
③ Impermeability	HDPE geomembrane	High density polyethylene resin inhibitors added to base plastic to resist deterioration by ultra-violet and heat exposure 1.5 mm thickness (60 mils) ⁽³⁾
⑤ Bedding	NPAG crushed stone foundation (0–38 mm) Variable thickness ⁽⁴⁾ minimum 300 mm compacted to 95% P.M.	According to the specific requirements adopted by AEM (see an example of a possible particle size distribution below) ⁽¹⁾
⑥ Subgrade	Coarse backfill materials to reach bedding level, if required	According to the specific requirements adopted by AEM (e.g.: 0-600 mm or 0-1000 mm)
⑦ Bottom of excavation	Either soft subgrade or rock cut surface	Blasted or excavated area, depending on the preparation required to meet the projected elevation levels

⁽¹⁾ E.G. Particle Size Distribution for 0-38 mm

Table 2- 4 - Size Distribution 0-38 mm

Diameter (mm)	% Passing (Finer Fraction)	% Passing (Coarser Fraction)
0.01	0	10
0.1	10	40
1	20	70
10	40	90
31.5	80	100
38	85-95	100



	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	

(2) The needle-punched nonwoven geotextile is available under the following product brands:

Table 2- 5 - Types of Nonwoven Geotextiles

Supplier	Name of Product	Grap Tensile Strength (N)	Weight (g/m ²)
Armttec	Armttec 200 (CC6)	712	200
Texel	Texel 7609	507	660
Innovex	Novatex B120	801	930
Soleno	TX-170	801	930
Hancor/ADS	ADS 0601T	711	203
Layfield	Layfield LP8	911	+/- 270 (estimated)

For use in the bottom of the retention basin project, it is recommended to select geotextile membranes with higher weight, such as models from Texel, Innovex, or Soleno, when long-term durability and resistance are required. Layfield LP8 utilizes high-performance polypropylene fibers, optimized for mechanical strength without adding excessive weight to the material. Texel 7612 and its equivalents combine polypropylene and polyester, which increases both the mass and the long-term durability and resistance.

(3) The HDPE geomembrane

There are several types of geomembranes depending on their intended use; it is possible to find a suitable type that will meet the project requirements. Considering that AEM uses certain products available on-site from the Layfield brand, we will carry out a series of calculation simulations for the following cases, we will also consider the possibility of using LLDPE (Linear Low-Density Polyethylene) instead of HDPE:

Case 1: HDPE 30 mils

Case 2: HDPE 60 mils

Case 3: LLDPE 60 mils

The LLDPE membranes are entirely suitable and, in many cases, preferable to HDPE geomembranes for installations in northern environments with permafrost.

Here is a small comparison table on the next page, between HDPE and LLDPE.





	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	

Table 2- 6 - Geomembrane Performance Comparison

Criterion	HDPE	LLDPE
Flexibility	Less flexible, more rigid	Very flexible, adapts better to ground movements
Stress crack resistance	Moderate	Excellent
Chemical resistance (hydrocarbons)	Excellent	Excellent (similar to HDPE)
Puncture resistance	Good, but more brittle	Better due to its elasticity
Freeze/thaw behavior	May crack under mechanical stress	Better tolerance to thermal cycles
Installation	Must be welded on site, weather-sensitive	Can be prefabricated in factory, faster installation

(4) Variable thickness of bedding

The variable thickness of 0–38 mm mentioned for the bedding, consisting of a minimum of 300 mm of NPAG crushed stone compacted to 95% Modified Proctor, is due to final surface adjustments that will be required in certain areas of the basin to reach the proposed final elevations, promoting drainage toward one or more low points.

	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	

3. Design and analysis

3.1 Typical cross-sections considered for the retention basin

The configuration that will be tested under design loads is illustrated in Figure 3.1.1. We have reused the abbreviated descriptions previously presented in Table 2-3.

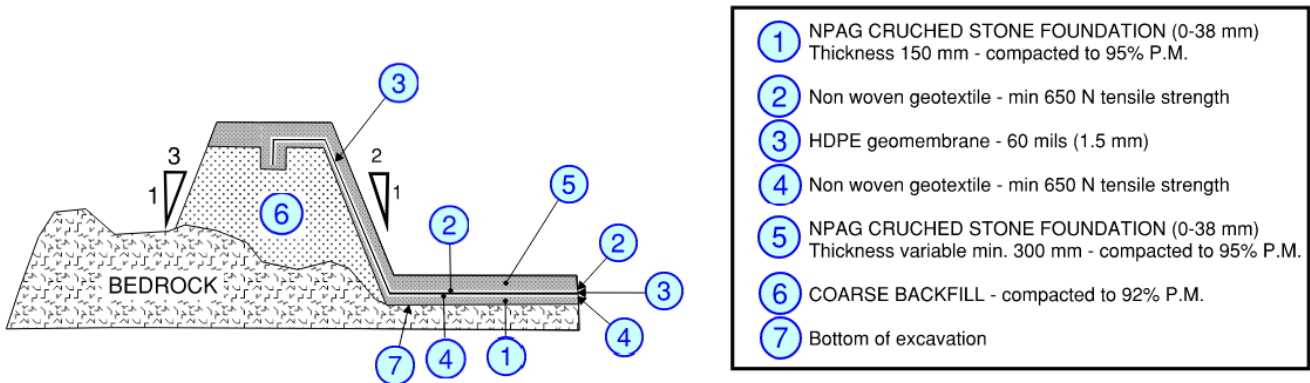



Figure 3.1 - Typical installation detail for sealing a retention pond

3.2 Calculations of the evaluated options

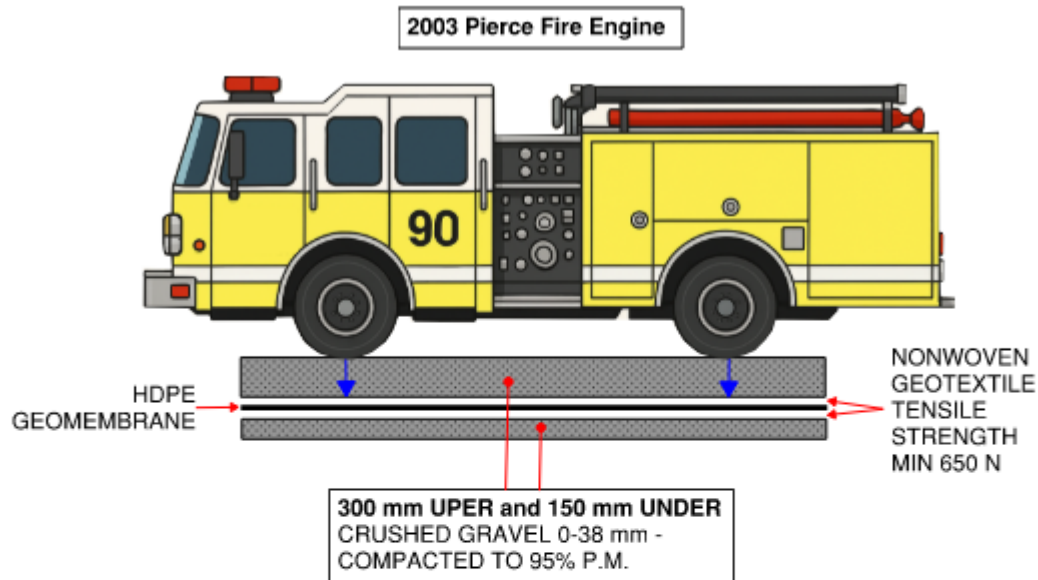
3.2.1 Base Configuration of the Retention Basin System

For the petroleum tank farm retention basin project, the selected infrastructure for the tank base and basin consists of the following layered system:

- 300 mm of NPAG crushed stone (0–38 mm), compacted to 95% Modified Proctor
- Geotextile membrane with 650 N tensile strength
- HDPE or LLDPE geomembrane, 40 or 60 mils
- Geotextile membrane with 650 N tensile strength (geomembrane sandwiched between two geotextiles)
- 150 mm of NPAG crushed stone (0–38 mm), compacted to 95% Modified Proctor

	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 <i>AtkinsRéalisis: <u>704148-0000-41EB-0001</u></i>	Rev. B	Date: 10/17/2025

3.2.2 Design load applied to the basin surface



Total weight = 20 638 kg or 20,76 metric tons

Assumption: Wheel contact area: 0.03 m² and axle load distribution front: 9 752 kg and 10 886 kg rear

Front axle (2 wheels): 9 752 kg --> per wheel /2 : 4 876 kg
 Rear axle (4 wheels): 10 886 kg --> per wheel /4 : 2 722 kg


Applied load maximum on one wheel: 4 876 kg / 0.03 m² x 9.81/1 000 000 = 1.59 MPa/wheel

Estimated Pressure Dissipation
 Crushed gravel 0-38 mm (300 mm thick, compacted to 95%) → Estimated pressure reduction: 50% →
 Pressure after this layer: 0.80 MPa

Needle-punched nonwoven geotextile (tensile strength: 650 N) → Minimal additional dissipation →
 Pressure transmitted to the geomembrane: 0.80 MPa.

Figure 3.2 - Load applied by the design vehicle

The applied point load on the upper gravel layer is 0.80 MPa per wheel.

	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 AtkinsRéalisis: <u>704148-0000-41EB-0001</u>	Rev.	Date:
	B	10/17/2025	

3.2.3 Assumptions and Calculations

The following assumptions are applied to all cases:

- 50% pressure reduction through the 300 mm compacted gravel;
- Minimal dissipation through the geotextile (100% of pressure transmitted);
- Transmitted pressure to geomembrane: $0.80 \text{ MPa} \times 0.5 = 0.40 \text{ MPa}$

3.2.4 Comparative Table of Geomembrane Options

Table 3- 1 - Comparative Analysis of Safety Factors

Geomembrane Option	Puncture Resistance (MPa)	Transmitted Pressure (MPa)	Safety Factor
HDPE 60 mils	2.00	0.40	5.00
HDPE 40 mils	1.40	0.40	3.50
LLDPE 60 mils	1.60	0.40	4.00
LLDPE 40 mils	1.20	0.40	3.00


3.2.5 Technical Recommendation

Based on the calculated safety factors:

- HDPE 60 mils remains the most robust option with a safety factor of 5.00, ideal for high-risk containment applications.
- LLDPE 60 mils offers a good compromise between flexibility and protection, with a safety factor of 4.00;
- HDPE 40 mils and LLDPE 40 mils are acceptable for less critical conditions, but their lower safety factors (3.50 and 3.00, respectively) suggest that additional protective measures may be required (e.g., thicker gravel or reinforced geotextile).

Considering the above findings, we recommend the installation of a 60-mil HDPE geomembrane, protected on both sides by needle-punched, nonwoven polypropylene geotextiles with a minimum tensile strength of 650 N. This composite liner system should be covered with a 300 mm thick layer of 0–38 mm crushed gravel, placed over a 150 mm thick sub-base layer of the same material.

All granular layers must be compacted to a minimum of 95% Modified Proctor density to ensure structural stability and optimal performance of the containment system.

	DESIGN REPORT		
	DESIGN REVIEW OF LINER SYSTEMS FOR ROBERT'S BAY TANK FARM		
	Document No.: 6212-116-132-REP-003 <i>AtkinsRéalis: <u>704148-0000-41EB-0001</u></i>	Rev.	Date:
	B	10/17/2025	

Appendices

NONWOVEN GEOTEXTILES

Protect your geomembrane materials from damage while staying compliant with your industry regulations. These nonwoven geotextiles are an industry favorite due to their cost-effective properties and consistent filtration.

Manufactured from high-quality polypropylene fibers, Layfield's nonwoven geotextiles achieve their unique properties through the interlocking fibers that are formed during the needle-punching process. Nonwovens are heat set and needle punched, which enhances their strength-to-weight ratio. Consequently, nonwoven needle-punched geotextiles not only provide excellent filtration, separation, and protection but also offer superior water flow properties for drainage and other applications.

Jan 2024		Non-Woven Geotextiles (US Values)									
	AST M	LP3.5	LP4	LP4.5	LP6	LP7	LP8	LP10	LP12	LP16	
Material Properties	Grab Tensile (lbs)	D463 2	90	100	120	160	180	205	250	300	380
	Elongation (%)	D463 2	50	50	50	50	50	50	50	50	50
	Tear (lbs)	D453 3	40	45	50	60	75	80	100	115	140
	CBR Punc (lbs)	D624 1	250	250	310	410	450	500	700	800	1025
	AOS (sieve)	D475 1	50	70	70	70	70	80	100	100	100
	Permittivity (sec ⁻¹)	D449 1	2.0	2.0	1.7	1.5	1.4	1.4	0.83	0.83	0.7
	Water Flow (gpm/ft ²)	D449 1	145	140	120	110	100	95	75	65	50
	UV (500 hrs)	D435 5	70%	70%	70%	70%	70%	70%	70%	70%	70%
	Roll Size (ft)		15 x 360	15 x 360	15 x 360	15 x 300	15 x 300	15 x 300	15 x 300	15 x 300	15 x 150
	Roll Weight ^{1,4} (lbs)		160	167	190	202	220	250	308	400	250

Note1: Typical values. All other values are minimum average roll values (MARV).

Note2: LP6, LP7, and LP8 may be 15 x 360 ft depending on inventory.

Note3: LP10 also available in 1.2 and LP12 in 1.0

Note4: This is average shipping roll weight - it's not to be used to calculate grams/m² weight of the actual material.

Disclaimer: Layfield disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

For up-to-date technical information, be sure to visit us online at www.LayfieldGroup.com

NONWOVEN GEOTEXTILES

Jan 2024

Non-Woven Geotextiles (Metric Values)

	ASTM	LP3.5	LP4	LP4.5	LP6	LP7	LP8	LP10	LP12	LP16	
Material Properties	Grab Tensile (N)	D4632	401	445	533	711	800	911	1,112	1,330	1,690
	Elongation (%)	D4632	50	50	50	50	50	50	50	50	50
	Tear (N)	D4533	178	200	222	267	333	356	444	511	623
	CBR Punc (N)	D6241	1110	1110	1380	1820	2000	2220	3114	3510	4560
	AOS (microns)	D4751	250	212	212	212	212	180	150	150	150
	Permittivity (sec ⁻¹)	D4491	2.0	2.0	1.7	1.5	1.4	1.4	0.83	0.83	0.7
	Water Flow (l/min/m ²)	D4491	5,900	5,689	4,885	4,480	4,074	3,870	3,056	2,650	2,035
	UV (500 hrs)	D4355	70%	70%	70%	70%	70%	70%	70%	70%	70%
	Roll Size (m)		4.57 x 110	4.57 x 110	4.57 x 110	4.57 x 91.4	4.57 x 91.4	4.57 x 91.4	4.57 x 91.4	4.57 x 91.4	4.57 x 45.7
	Roll Weight ^{1.4} (kg)		73	78	86	92	99	113	140	181	112

Disclaimer: Layfield disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

For up-to-date technical information, be sure to visit us online at www.LayfieldGroup.com

HEATGARD® – GEOMEMBRANE

Your critical containment infrastructure demands the best in longevity, toughness, and chemical resistance. HeatGuard® is made from next-generation bimodal resins that retain antioxidants for an unprecedented length of time. This retention over time is vital to extending the service life of a geomembrane.

Environmental Stress Cracking (ESCR), a common failure mechanism, can be combatted with lower-density resins, which generally lead to less stress cracking risk. Unfortunately, this also leads to lower chemical resistance. With HeatGuard® made from bi-modal resins, the resulting product has a stronger crystal from both the high molecular weight portion and the lower molecular weight polyethylene. The result is a more robust product with a very low risk of stress cracking and a high level of chemical resistance.

January 2025		HeatGuard®			
Property	ASTM Test Method	HeatGuard® 40	HeatGuard® 60	HeatGuard® 80	Testing Frequency
Thickness (min. avg.)	D5199	40 mil 1.0 mm	60 mil 1.5 mm	80 mil 2.0 mm	Every Roll
Density (min. avg.)	D792	0.950 g/cc	0.950 g/cc	0.950 g/cc	Every 200,000 lbs /90,000 kg
Tensile Strength at Yield (min. avg.)	D6693 Type IV	100 ppi 17.5 N/mm	142 ppi 24.8 N/mm	210 ppi 36.7 N/mm	Every 20,000 lbs /9,000 kg
Tensile Elongation at Yield (min. avg.) ¹	D6693 Type IV	12%	12%	12%	Every 20,000 lbs /9,000 kg
Tensile Strength at Break (min. avg.)	D6693 Type IV	170 ppi 29.7 N/mm	240 ppi 42 N/mm	310 ppi 54.2 N/mm	Every 20,000 lbs /9,000 kg
Tensile Elongation at Break (min. avg.) ²	D6693 Type IV	600%	600%	600%	Every 20,000 lbs /9,000 kg
Tear Resistance (min. avg.)	D1004	29 lbs 128.9 N	47 lbs 209 N	60 lbs 266.8 N	Every 45,000 lbs /20,000 kg
Puncture Resistance (min. avg.)	D4833	78 lbs 346.9 N	120 lbs 533.7 N	144 lbs 640.5 N	Every 45,000 lbs /20,000 kg
Carbon Black Content	D4218	2-3%	2-3%	2-3%	Every 20,000 lbs /9,000 kg
Carbon Black Dispersion	D5596	Cat 1 or 2	Cat 1 or 2	Cat 1 or 2	Every 45,000 lbs /20,000 kg
Stress Crack Resistance (min.) ³	D5397 (App X1)	1000 hours	1000 hours	1000 hours	Once every two resin railcars
Oxidative Induction Time (min.)	D3895	100 min	100 min	100 min	Every 200,000 lbs /90,000 kg
High Pressure Oxidative Induction Time (min.)	D5885	400 min	400 min	400 min	Every 200,000 lbs /90,000 kg

Disclaimer: Layfield disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

Property	ASTM Test Method	HeatGard® 40	HeatGard® 60	HeatGard® 80	Testing Frequency
Oven Aging at 85°C HPOIT Retained after 90 days (min. avg.)	D5721 D5885 (App X3)	85%	85%	85%	Once per Formulation
Oven Aging at 85°C OIT Retained After 90 Days (min. avg.)	D5721 D3895 (App X3)	70%	70%	70%	Once per Formulation
UV Resistance, HPOIT Retained after 1,600 hours (min. avg.)	D7238 D5885	80%	80%	80%	Once per Formulation

Notes 1: Calculated at gage length of 1.3 in. (33 mm)

Notes 2: Calculated at gage length of 2.0 in. (50 mm)

Notes 3: Tested using tensile strength at yield (min. avg.) published in the above specification

January 2025		HeatGard® Field Seam Strength	
Property	ASTM Test Method	HeatGard® 60	HeatGard® 80
Heat Bonded Seam Strength Tested at 73°F (23°C)	D6392	120 ppi 525 N/25 mm	160 ppi 701 N/25 mm
Peel Adhesion Strength (Extrusion Weld)	D6392	78 ppi 340 N/25 mm	104 ppi 455 N/25 mm

INSTALLATION

HeatGard® HDPE is a field fabricated material that needs to be installed by skilled installers. Installers will unroll the material on site and then join the sheets together using wedge welding or extrusion welding techniques. Installation will need to take place during periods of suitable weather. Cold temperatures are not normally a problem but precipitation in any form, whether rain, snow, dew, or fog can bring the installation of HeatGard® HDPE to a halt. HeatGard® HDPE is a bit stiffer than regular HDPE which will require additional care during installation and special care if backfilling is required. Contact Layfield for additional installation details and guidance.


Disclaimer: Layfield disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

AtkinsRéalis



AtkinsRéalis

© AtkinsRéalis unless otherwise stated

	DESIGN REPORT FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev. 1	Date: 05/29/2025

Appendix C

Drawing - 62-116-230-001 R2 – 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
116-FUEL TANK FARM EXPANSION (RF)
230 – GENERAL EARTH WORKS
GENERAL PLAN VIEW
ROBERT'S BAY LAYOUT
FUEL TANK FARM

Drawing - 62-116-230-004 R2 – 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
116-FUEL TANK FARM EXPANSION (RF)
230 – GENERAL EARTH WORKS
SECTIONS
ROBERT'S BAY LAYOUT
FUEL TANK FARM

Drawing - 62-116-230-002 R2 – 1 / 1

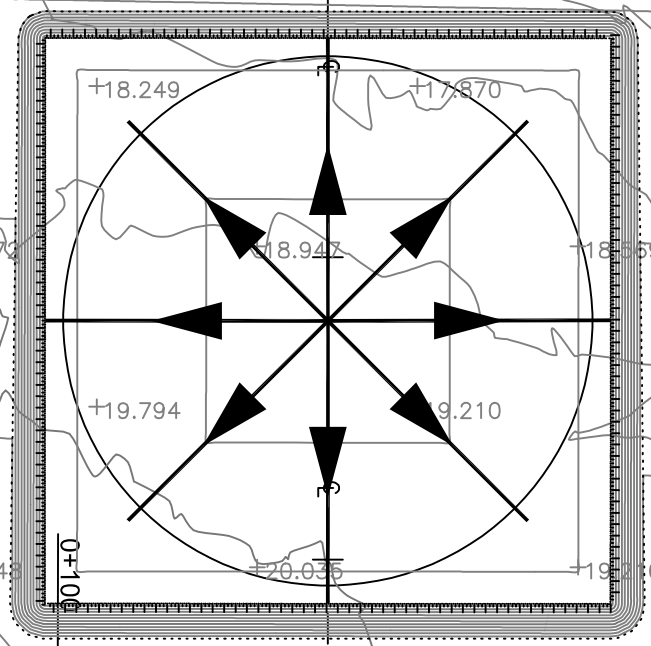
AGNICO EAGLE – HOPE BAY DIVISION
116-FUEL TANK FARM EXPANSION (RF)
230 – GENERAL EARTH WORKS
PLAN VIEW
ROBERT'S BAY LAYOUT
FUEL TANK FARM

Drawing - 62-116-230-005 R2 – 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
116-FUEL TANK FARM EXPANSION (RF)
230 – GENERAL EARTH WORKS
DETAILS FOR BERMS OF THE CONTAINMENT
ROBERT'S BAY LAYOUT
FUEL TANK FARM

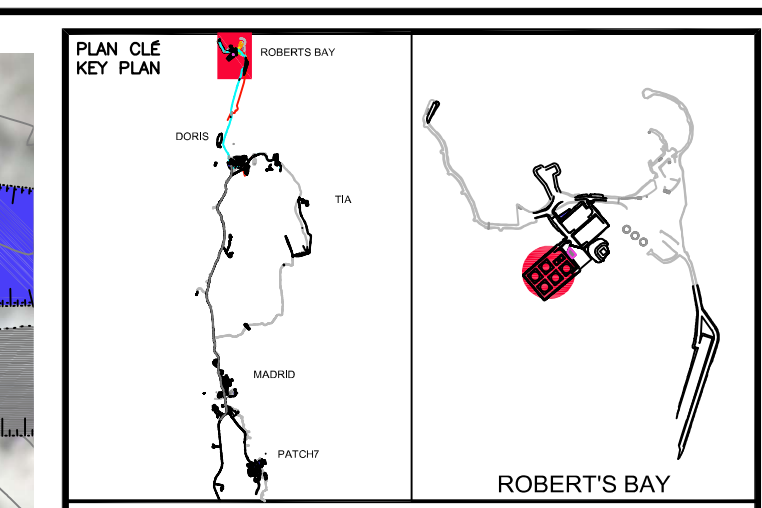
Drawing - 62-116-230-003 R2 – 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
116-FUEL TANK FARM EXPANSION (RF)
230 – GENERAL EARTH WORKS
SECTIONS
ROBERT'S BAY LAYOUT
FUEL TANK FARM



SLOPE GRADING ON TOP OF RESERVOIR FOUNDATIONS STARTING FROM CENTER (SLOPES 0.83%)
SLOPE GRADING DETAIL
SCALE : 1:500

NOTES:
ALL TANK BASE PLATFORMS SHALL BE LEVELED TO PROVIDE A SLOPE OF 1V:120H, GRADED FROM THE CENTER HIGH POINT TOWARD THE PERIPHERAL LOW POINTS, AS ILLUSTRATED IN THE ENGINEERING DRAWINGS
PROPOSED ELEVATIONS ARE TOP FINAL LAND TOP OF GRAVEL TANK BEDDING OR TOP GRAVEL OF THE TANK PAD



AtkinsRéalis
455, René-Lévesque Blvd West
Montreal (Quebec) H2Z 1Z3
Phone : 514 993-1000

Project # 704148
DWG# 704148-5000-41DP03-0002_02

NOTES GÉNÉRALES / GENERAL NOTES

- ALL CONTOURS, ELEVATIONS, AND COORDINATES ARE BASED ON THE LIDAR SURVEY CONDUCTED BY AEM IN SEPTEMBER 2025. (AS BUILT QUARRY AF 8092025)
- COORDINATES SYSTEM: UTM NAD83 ZONE 13.
- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

- EXISTING TOP OF SLOPE
- EXISTING BOTTOM OF SLOPE
- PROPOSED TOP OF SLOPE
- PROPOSED BOTTOM OF SLOPE

ÉMIS POUR AUTORISATION DE PERMIS
ISSUED FOR PERMITTING
AGNICO EAGLE
DATE : 2026-05-29

INFORMER QUE LA PRÉSENCE DE LAUSSES DE SABLE ET D'EAU DANS LES SÉDIMENTAIRES PEUT CAUSER DES PROBLÈMES DE STABILITÉ DES PENTES. IL EST RECOMMANDÉ DE RÉVÉRIFIER LA STABILITÉ DES PENTES EN PRÉSENCE DE LAUSSES DE SABLE ET D'EAU. (AGNICO EAGLE INC.)

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
---	---
---	---
---	---
---	---

PERMIT TO PRACTICE
ATKINSREALIS CANADA INC.
Signature: *[Signature]*
Date: 2026-05-29
PERMIT NUMBER: P260
NT/NU Association of Professional Engineers and Geoscientists



REV.	DATE	DESCRIPTION	PAR/BY	VER.	CLIENT
R2	2026-05-29	ISSUED FOR PERMIT	R.M.	R.L.	M.G.
R1	2026-04-21	ISSUED FOR PERMIT	R.M.	R.L.	M.G.
R0	2025-12-16	ISSUED FOR PERMIT	R.M.	R.L.	M.G.



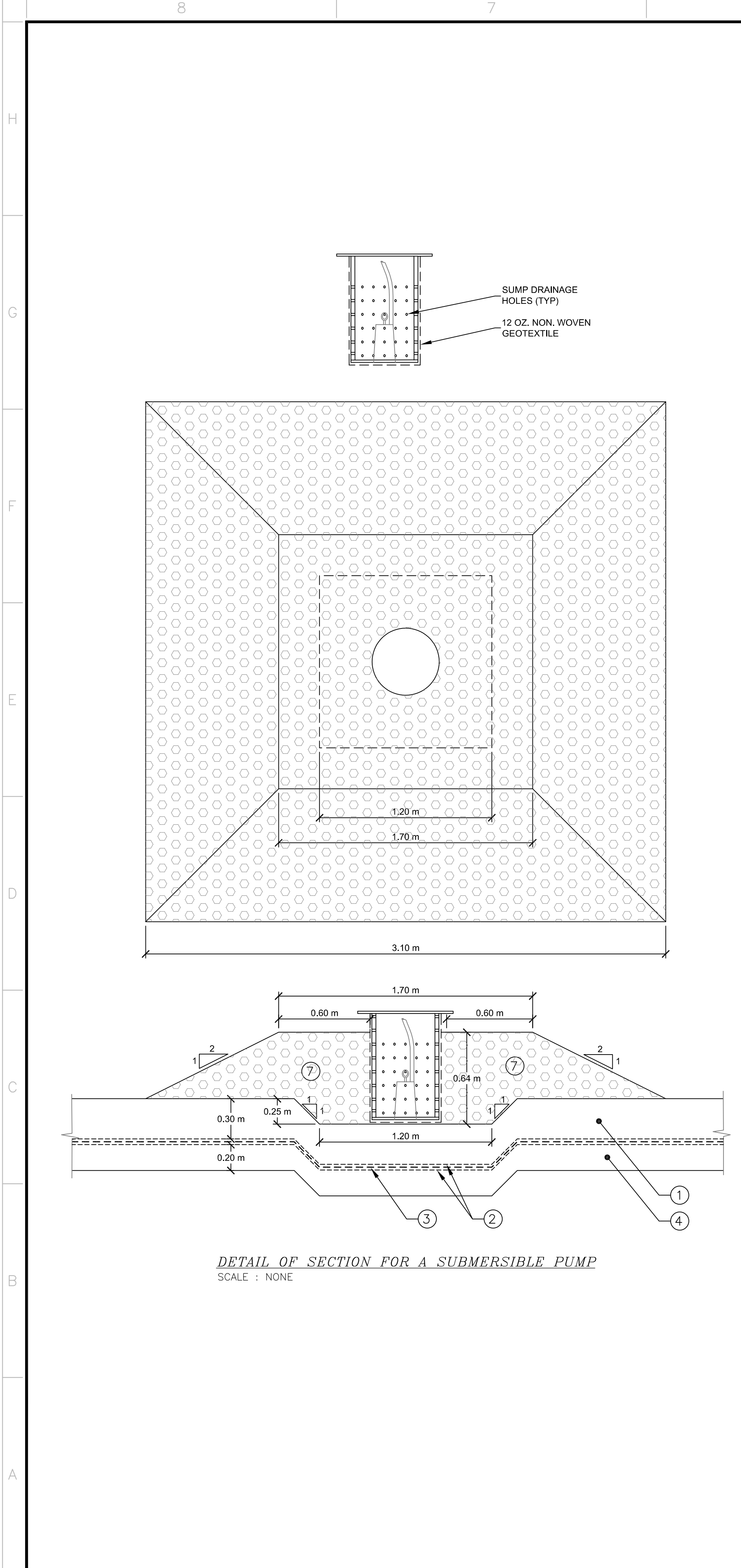
TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM EXPANSION (RF)
230 - GENERAL EARTH WORKS
FUEL TANK FARM
ROBERT'S BAY LAYOUT
PLAN VIEW

DESSIN PAR DRAWN BY	DATE
IP ISABELLE PICHE, tech.	2026-05-29
REVU PAR REVIEWED BY	DATE
RP RICHARD MARCOUX, P.Eng.	2026-05-29
VÉRIFIÉ PAR VERIFIED BY	DATE
RL RENÉ LAVIOLETTE, P.Eng.	2026-05-29
ÉCHELLE SCALE	DATE
1:500	2025-04-03

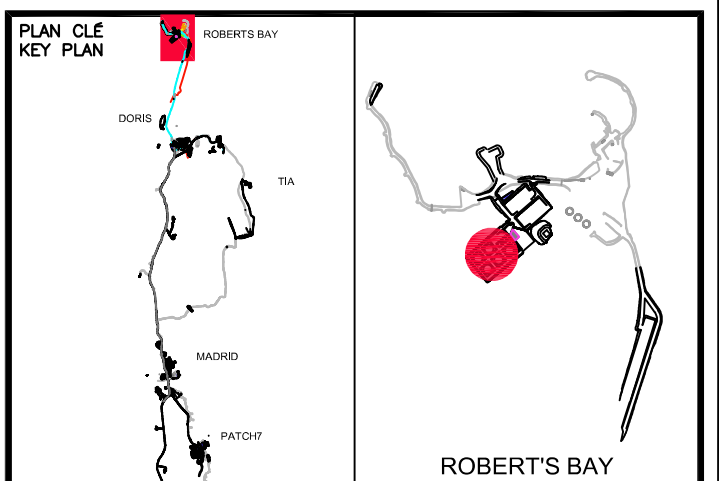
NO. DESSIN
PROJECT NO. 62-116-230-002

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHEET
6212/704148	R2	1 / 1

NE PAS UTILISER POUR CONSTRUCTION
NOT FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2026-05-29



FUEL TRUCK SPILL AREA PLAN VIEW
SCALE : 1:250



AtkinsRéalis

455, René-Lévesque Blvd West
Montreal (Quebec) H2Z 1Z3
Phone : 514 393-1000

Project # 704148 DWG# : 704148-5000-41DP03-0005_02

NOTES GÉNÉRALES / GENERAL NOTES

1. ALL CONTOURS, ELEVATIONS, AND COORDINATES ARE BASED ON THE LIDAR SURVEY CONDUCTED BY AEM IN SEPTEMBER 2025. (AS BUILT QUARRY AF 8092025)
2. COORDINATES SYSTEM: UTM NAD83 ZONE 13.
3. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

- EXISTING TOP OF SLOPE
- EXISTING BOTTOM OF SLOPE
- PROPOSED TOP OF SLOPE
- PROPOSED BOTTOM OF SLOPE

ÉMIS POUR AUTORISATION DE PERMIS / ISSUED FOR PERMITTING
AGNICO EAGLE DATE : 2026-05-29

L'INFORMATION CONTENUE EST LA PROPRIÉTÉ DE AGNICO EAGLE. L'ÉTAT DES RETENUES SUR DESSIN, SANS AUTORISATION ÉCRITE, PEUT ÊTRE DIFFUSÉ, REPRODUIT OU COPIÉ À TITRE D'INFORMATION SEULEMENT. AGNICO EAGLE NE GARANTIT PAS L'ACCORD DE LA PRÉSENTATION. LE CLIENT EST RESPONSABLE DE LA VÉRIFICATION DES DIMENSIONS ET DES COORDONNÉES. LE CLIENT EST RESPONSABLE DE LA VÉRIFICATION DES DIMENSIONS ET DES COORDONNÉES. LE CLIENT EST RESPONSABLE DE LA VÉRIFICATION DES DIMENSIONS ET DES COORDONNÉES. LE CLIENT EST RESPONSABLE DE LA VÉRIFICATION DES DIMENSIONS ET DES COORDONNÉES.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG



REV.	DATE	DESCRIPTION	PAR/ÉV	VER.	CLIENT
R2	2026-05-29	ISSUED FOR PERMIT	R.M.	R.L.	M.G.
R1	2026-04-21	ISSUED FOR PERMIT	R.M.	R.L.	M.G.
R0	2025-12-16	ISSUED FOR PERMIT	R.M.	R.L.	M.G.

PERMITS TO PRACTICE
ATKINSRÉALIS CANADA INC.
Signature: *[Signature]*
Date: 2026-05-29
PERMIT NUMBER: P260
NT/NU Association of Professional Engineers and Geoscientists


REVISIONS

AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM EXPANSION (RF)
230 - GENERAL EARTH WORKS
FUEL TANK FARM
ROBERT'S BAY LAYOUT
PLAN VIEW, PROFILES AND DETAILS

DESSINÉ PAR / DRAWN BY	DATE
IP ISABELLE PICHE, tech	2026-05-29
REVU PAR / REVIEWED BY	DATE
RM RICHARD MARCOUX, P.Eng.	2026-05-29
VÉRIFIÉ PAR / VERIFIED BY	DATE
RL RENÉ LAVIOLETTE, P.Eng.	2026-05-29

NO. DESSIN / DRAWING NO.
62-116-230-005

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHEET
6212/704148	R2	1 / 1

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 AtkinsRéalisis: <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

Appendix D

Drawing - 62-116-205-001 R5- 1 / 1

AGNICO EAGLE – HOPE BAY
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
FUEL PIPELINE AND PIGGING SYSTEM

Drawing - 62-116-205-002 R0- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
 DIESEL FUEL STORAGE
62TNK11601 & 62TNK11603

Drawing - 62-116-205-003 R0- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
 DIESEL FUEL STORAGE
62TNK11602 & 62TNK11604

Drawing - 62-116-205-004 R1- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
 DIESEL FUEL DISTRIBUTION
62PST11601

Drawing - 62-116-205-005 R0- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
 JET-A FUEL STORAGE
62TNK11605

Drawing - 62-116-205-006 R1- 1 / 1


AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
 JET-A FUEL DISTRIBUTION
62PST11602

Drawing - 62-116-230-007 R0- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
PIGGING RECIEVER

Drawing - 62-116-230-008 R0- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 205 – PIPING & INSTRUMENTATION DIAGRAM
 FUEL TRANSFER PUMP HOUSE
62PST11603

	DESIGN REPORT		
	FUEL TANK FARM EXPANSION (RF)		
	Document No.: 6212-116-230-REP-001 <i>AtkinsRéalisis:</i> <u>704148-5000-41EB-0002</u>	Rev.	Date:
	1	05/29/2025	

Drawing - 62-116-210-001 R0- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 210 – GENERAL ARRANGEMENT
 PLAN VIEW
 ROBERTS BAY
FUEL FARM ARRANGEMENT


Drawing - 62-116-210-004 R0- 1 / 1

AGNICO EAGLE – HOPE BAY DIVISION
 116 - FUEL TANK FARM
 210 – GENERAL ARRANGEMENT
 PLAN VIEW
 ROBERTS BAY
FARM – TANKS & PIPING GENERAL ARRANGEMENT

ÉMIS POUR AUTORISATION DE PERMIS / ISSUED FOR PERMITTING
 DATE : 2025-11-18

NE PAS UTILISER POUR CONSTRUCTION / NOT FOR CONSTRUCTION
 DATE : 2025-11-18

PLAN CLE / KEY PLAN



WSP Canada Inc.
 1289 PREMIER WAY
 THUNDER BAY (ONTARIO) CANADA P7B 0A3
 TEL: 807 625-6700 | FAX: 807 623-4491 | WWW.WSP.COM
 CAD047281.7022

CIMA+

NOTES GÉNÉRALES / GENERAL NOTES

NOTES:

1. PIG LAUNCHER AND PIG RECEIVER CONSTRUCTED FROM 8" PIPE.
2. ALL GATE VALVES TO BE FULL BORE.
3. LOW POINT DRAINS (LPD) AND HIGH POINT VENTS (HPV) TO BE LOCATED IN THE FIELD BY THE CONTRACTOR AT EACH LOW/HIGH POINT.
4. PIPING SPOOL FOR FUTURE CONNECTION.
5. POPPET CHECK VALVE MODEL: GENERANT PCV-BF-SS-B-10 OR APPROVED EQUIVALENT
6. REFER TO LINE LIST, DOCUMENT 6209-116-270-PPL-001 FOR DESIGN CONDITIONS.
7. PRESSURE TO BE REGULATED AND LIMITED TO 150 psig.
8. EXISTING CHECK VALVE TO BE RELOCATED.
9. BACK-UP CONNECTION FOR INERT GAS, IF REQUIRED.
10. TEMPORARY CONICAL STRAINER TO BE REMOVED AFTER FIRST PIPE UTILISATION.
11. JET FUEL SAMPLING PORT/DRAIN.
12. EXISTING OPERATION PROCEDURE FOR JET FUEL TO BE UPDATED BY AGNICO EAGLE.
13. LINE TO BE REMOVED AND BLIND FLANGE THE NOZZLE.

INFORMATION IS CONTAINED ON THIS DRAWING IS THE PROPERTY OF AGNICO EAGLE LTD. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. THE INFORMATION HEREON IS THE PROPERTY OF AGNICO EAGLE LTD. AND MUST BE RETURNED UPON REQUEST. WITHOUT WRITING FROM AGNICO EAGLE LTD. NO OTHER INFORMATION IS TO BE DISCLOSED OR REPRODUCED. © AGNICO EAGLE LTD.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	NO. / NO.	DATE
WARTOX PAD PAID LEGEND 1	62-MAN-403-205-000-001_RB	
WARTOX PAD PAID LEGEND 2	62-MAN-403-205-000-002_RB	
PIPING DRAWINGS AND DETAILS	62-116-270-001 TO 010	

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/APP.	CLIENT
5	2025-11-18	ISSUED FOR PERMITTING	MMS / RES	
4	2024-10-14	ISSUED FOR CONSTRUCTION	SD / SD	
3	2024-07-30	ISSUED FOR CONSTRUCTION	SD / SD	
2	2024-06-10	ISSUED FOR CONSTRUCTION	SD / SD	
1	2024-05-08	ISSUED FOR CONSTRUCTION	SD / SD	
0	2024-02-13	ISSUED FOR CONSTRUCTION	SD / SD	

REVISIONS

PERMIT TO PRACTICE
 WSP Canada, Inc.
 Signature: [Signature]
 Date: 2025-11-18

PERMIT NUMBER: P407
 NTNU Association of Professional Engineers and Geoscientists

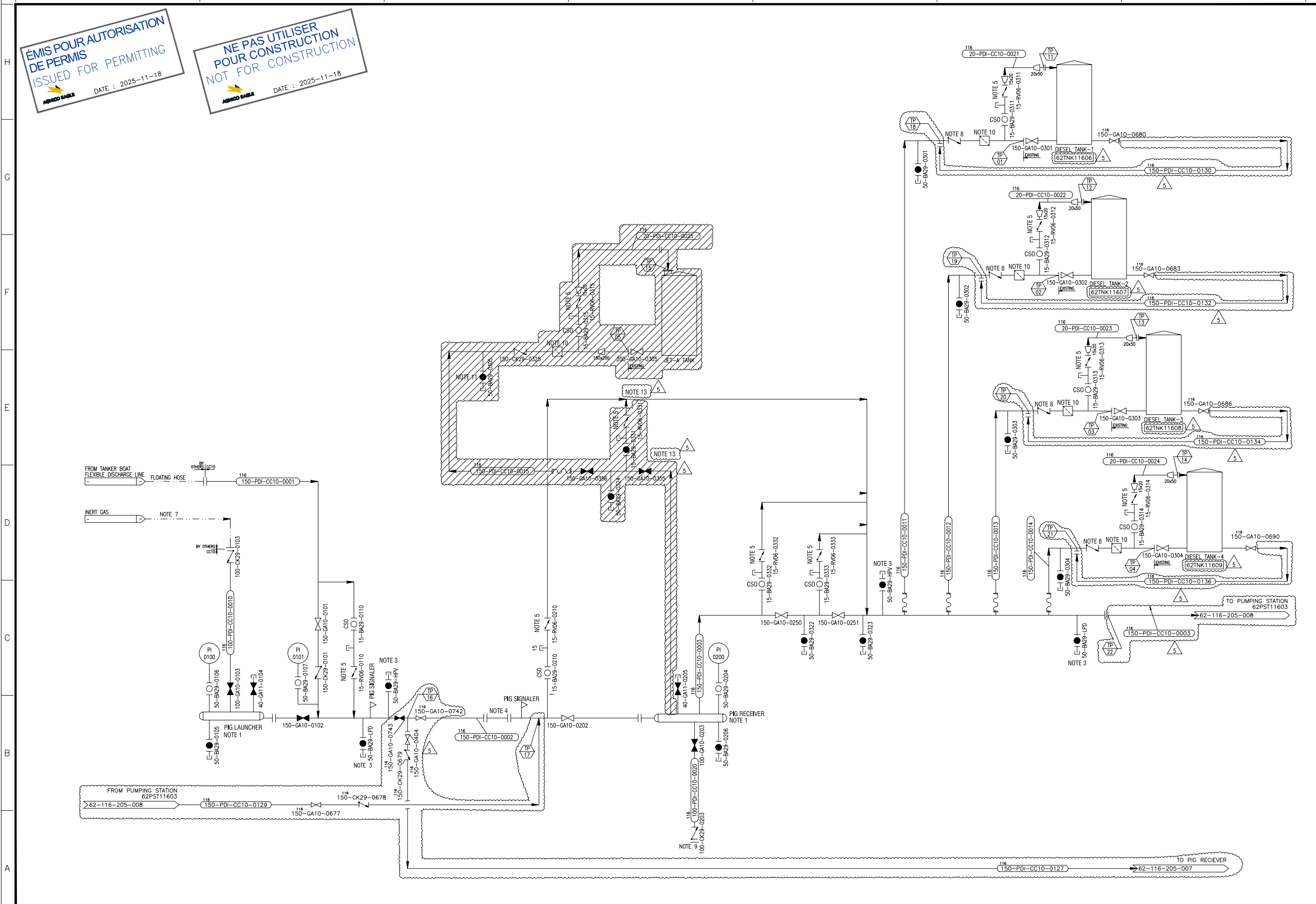
TITRE / TITLE
 AGNICO EAGLE - HOPE BAY
 116 - FUEL TANK FARM
 205 - PIPING & INSTRUMENTATION DIAGRAM
 FUEL PIPELINE AND PIGGING SYSTEM

DESSIN PAR / DRAWN BY: JOSH OSI, Tech. DATE: 2023-11-02
 VÉRIFIÉ PAR / CHECKED BY: SYLVIE DESSUREAULT, P.Eng. DATE: 2023-11-02
 APPROUVÉ PAR / APPROVED BY: SYLVIE DESSUREAULT, P.Eng. DATE: 2023-11-02

ÉCHELLE / SCALE: N.T.S. DATE: 2023-11-02

NO. DESSIN / DRAWING NO. 62-116-205-001

NO. PROJET / PROJECT NO. 6209 REVISION 5 FEUILLE / SHEET 1 / 1



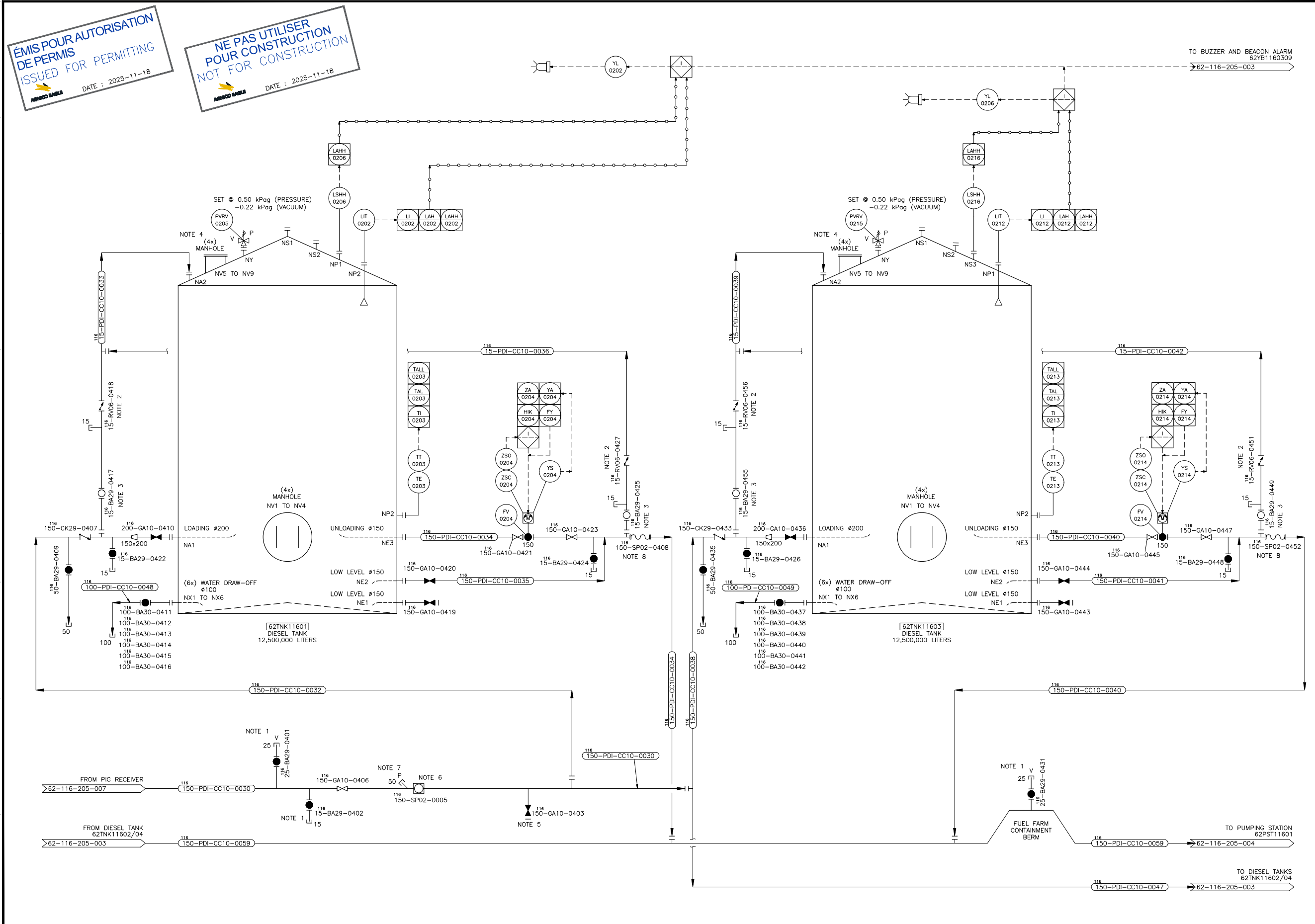
ÉMIS POUR AUTORISATION DE PERMIS
ISSUED FOR PERMITTING
AGNICO EAGLE
DATE : 2025-11-18

NE PAS UTILISER POUR CONSTRUCTION
NOT FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2025-11-18

TO BUZZER AND BEACON ALARM
62YB1160309
62-116-205-003

TO PUMPING STATION
62PST11601
62-116-205-004

TO DIESEL TANKS
62TNK11602/04
62-116-205-003



PLAN GLE KEY PLAN

WSP
WSP Canada Inc.
1209 PREMIER WAY
THUNDER BAY (ONTARIO) CANADA P7B 0A3
TEL: 807-625-8700 | FAX: 807-623-4491 | WWW.WSP.COM
CA0047291-7022

NOTES GÉNÉRALES / GENERAL NOTES

1. LOW POINT DRAINS (LPD) AND HIGH POINT VENTS (HPV) TO BE LOCATED IN THE FIELD BY THE CONTRACTOR AT EACH LOW/HIGH POINT
2. PRESSURE RELIEF VALVE SPRING RECOMMENDED TO ADJUST AT 207 kPag (30 PSIG)
3. LOCKED OPEN
4. MAN HOLE C/W EMERGENCY VENT (TO BE CONFIRMED WITH TANK MANUFACTURER)
5. FOR FUTURE STORAGE TANK CONNECTION
6. FUEL SIGHT GLASS
7. SIGHT GLASS CLEANING PORT
8. FLEXIBLE HOSE CONNECTION

Information is contained on this document as a property of Agnico Eagle Ltd. and not to be returned, copied, reproduced, disseminated, used, transferred or stored in any manner without the written consent of Agnico Eagle Ltd. All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Agnico Eagle Ltd.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
SURFACE FACILITIES LEGEND - 1	62-400-205-001
SURFACE FACILITIES LEGEND - 2	62-400-205-002

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/REV.	CLIENT
0	2025-11-18	ISSUED FOR PERMITTING	MMS	RSS

REVISIONS

PERMIT TO PRACTICE
Signature: [Signature]
Date: 2025-11-18
PERMIT NUMBER: P407
NTNU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM
205 - PIPING & INSTRUMENTATION DIAGRAM
DIESEL FUEL STORAGE
62TNK11601 & 62TNK11603

DESSINÉ PAR	DATE
M. SHETH	2025-06-24

REVU PAR	DATE
M. COJOCARIU	2025-06-24

VÉRIFIÉ PAR	DATE
R. SEHDEV	2025-06-24

ESCHÈLE
SCALE: N.T.S. DATE: 2025-06-24

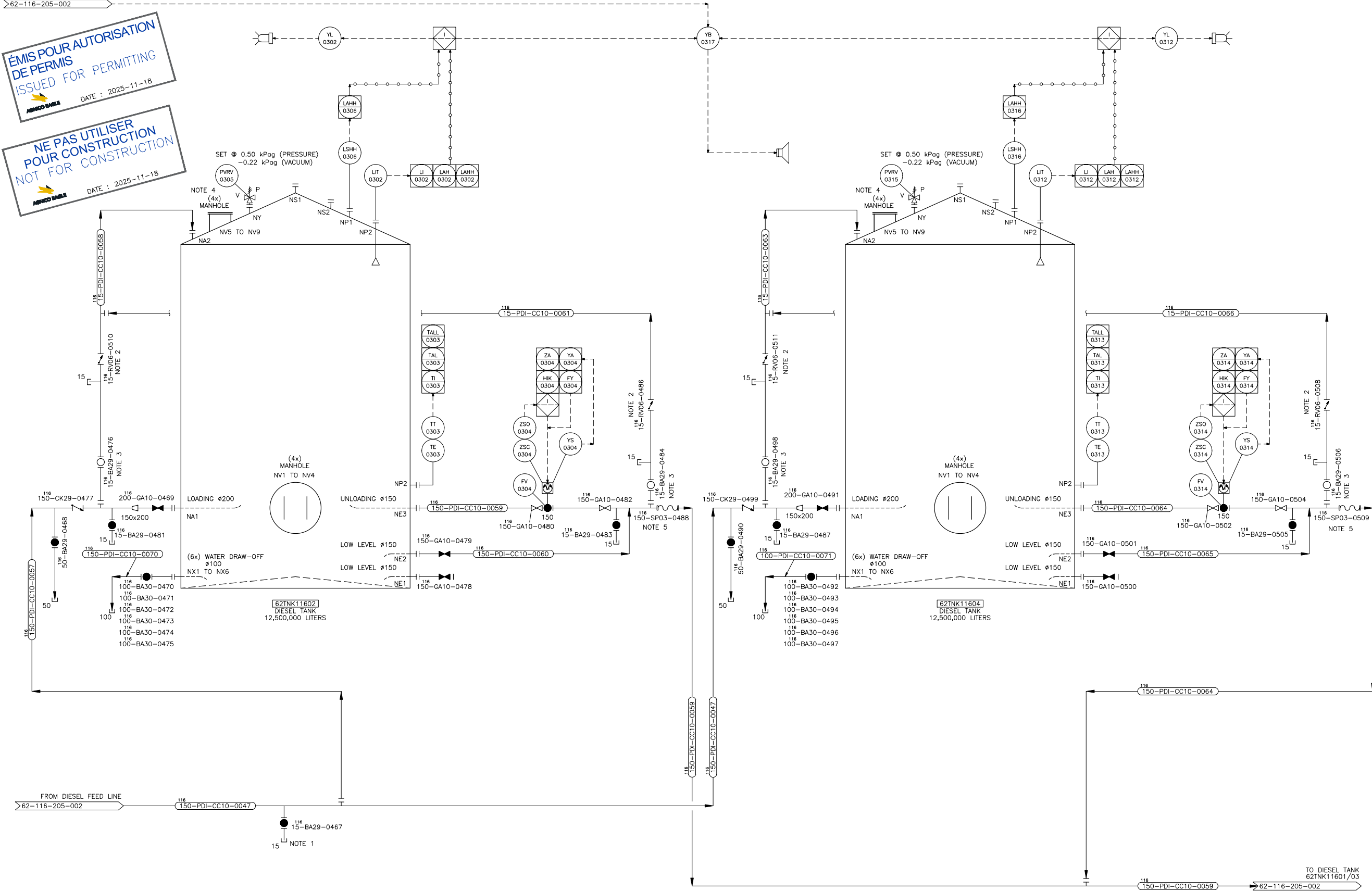
NO. DESSIN
PROJECT NO. **62-116-205-002**

NO. PROJET	REVISION	FEUILLE / SHEET
6212	0	1 / 1

FROM 62TNK11601/03
62LAH/LAHH1160202/0206
62-116-205-002

ÉMIS POUR AUTORISATION DE PERMIS
ISSUED FOR PERMITTING
AGNICO EAGLE DATE : 2025-11-18

NE PAS UTILISER POUR CONSTRUCTION
NOT FOR CONSTRUCTION
AGNICO EAGLE DATE : 2025-11-18



PLAN - CLE
KEY PLAN

WSP Canada Inc.
1209 PREMIER WAY
THUNDER BAY (ONTARIO) CANADA P7B 0A3
TEL: 807-625-8700 | FAX: 807-623-4491 | WWW.WSP.COM
CA0047291-7022

NOTES GÉNÉRALES / GENERAL NOTES

1. LOW POINT DRAINS (LPD) AND HIGH POINT VENTS (HPV) TO BE LOCATED IN THE FIELD BY THE CONTRACTOR AT EACH LOW/HIGH POINT
2. PRESSURE RELIEF VALVE SPRING RECOMMENDED TO ADJUST AT 207 kPag (30 PSig)
3. LOCKED OPEN
4. MAN HOLE C/W EMERGENCY VENT (TO BE CONFIRMED WITH TANK MANUFACTURER)
5. FLEXIBLE HOSE CONNECTION

Information is contained on this drawing as of the date of issue and is not intended to be used for any other purpose. The user of this drawing is responsible for ensuring that the information is current and accurate. WSP Canada Inc. does not warrant the accuracy or completeness of the information provided on this drawing. The user of this drawing is responsible for ensuring that the information is current and accurate. WSP Canada Inc. does not warrant the accuracy or completeness of the information provided on this drawing.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
SURFACE FACILITIES LEGEND - 1	62-400-205-001
SURFACE FACILITIES LEGEND - 2	62-400-205-002

REV.	DATE	DESCRIPTION	PAR/REV.	VER.	CLIENT
0	2025-11-18	ISSUED FOR PERMITTING	MMS	RSS	

REVISIONS

PERMIT TO PRACTICE
WSP Canada, Inc.
Signature: [Signature]
Date: 2025-11-18
LICENSÉE
NTNU
PERMIT NUMBER: P407
NTNU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM
205 - PIPING & INSTRUMENTATION DIAGRAM
DIESEL FUEL STORAGE
62TNK11602 & 62TNK11604

DESSINÉ PAR	DATE
M. SHETH	2025-06-24

REVU PAR	DATE
M. COJOCARIU	2025-06-24

VÉRIFIÉ PAR	DATE
R. SEHDEV	2025-06-24

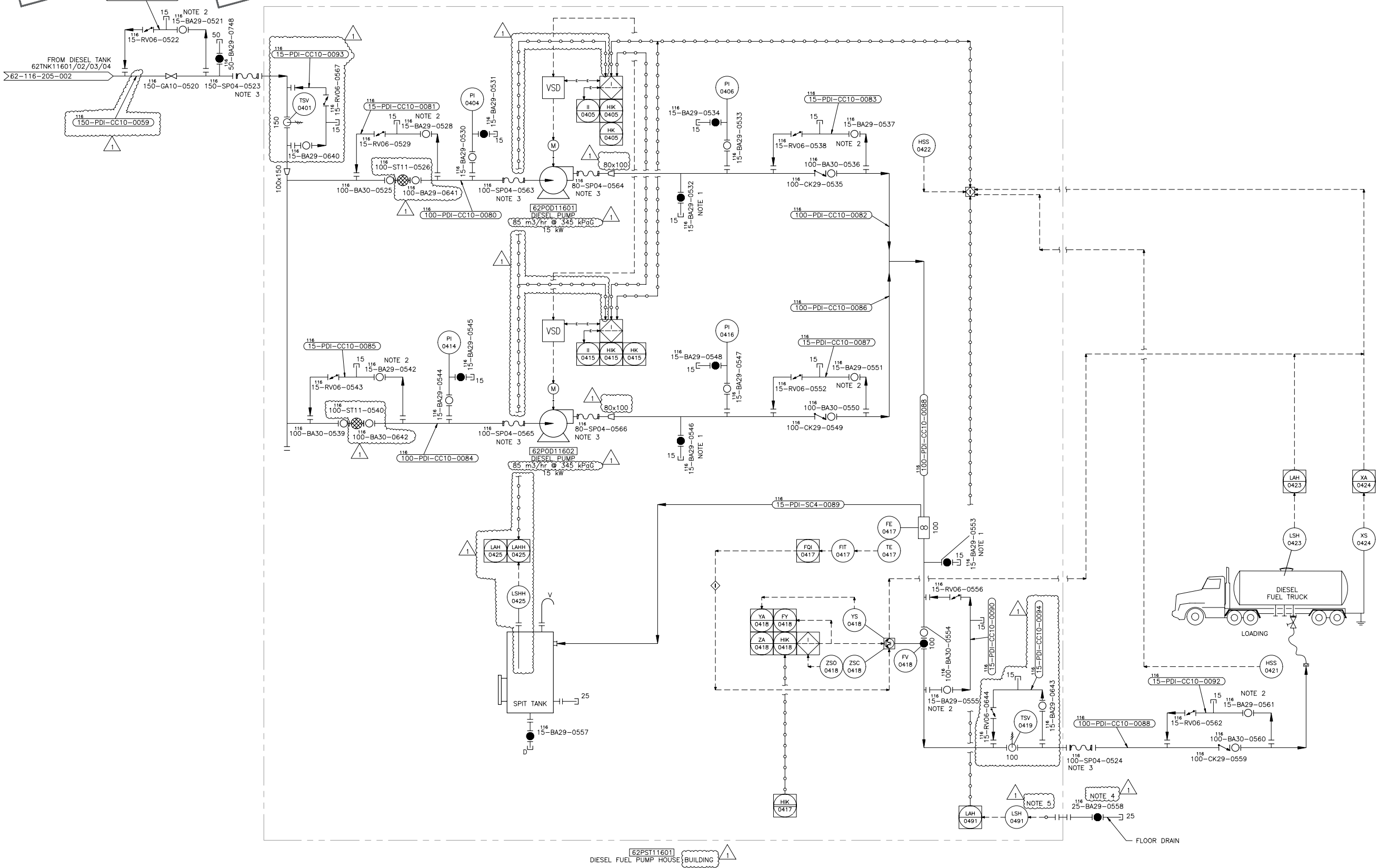
ÉCHELLE
SCALE N.T.S. DATE 2025-06-24

NO. DESSIN
PROJECT NO. 62-116-205-003

NO. PROJET	REVISION	Feuille / SHt
6212	0	1 / 1

ÉMIS POUR AUTORISATION DE PERMIS
ISSUED FOR PERMITTING
AGNICO EAGLE DATE : 2025-11-18

NE PAS UTILISER POUR CONSTRUCTION
NOT FOR CONSTRUCTION
AGNICO EAGLE DATE : 2025-11-18



PLAN GLE
KEY PLAN

WSP Canada Inc.
1209 PREMIER WAY
THUNDER BAY (ONTARIO) CANADA P7B 0A3
TEL: 807-625-8700 | FAX: 807-625-4491 | WWW.WSP.COM
CA0047291-7022

NOTES GÉNÉRALES / GENERAL NOTES

1. LOW POINT DRAINS (LPD) AND HIGH POINT VENTS (HPV) TO BE LOCATED IN THE FIELD BY THE CONTRACTOR AT EACH LOW/HIGH POINT
2. LOCKED OPEN
3. FLEXIBLE BRAIDED HOSE
4. FLOOR DRAIN LEVEL SWITCH
5. INSTALL DRAIN VALVE #25 WITH PLUG AT LOW POINTS

INFORMATION IS CONTAINED ON THIS DRAWING IS THE PROPERTY OF AGNICO EAGLE LTD. AND NOT BE RETURNED OR REPRODUCED WITHOUT WRITTEN PERMISSION. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
SURFACE FACILITIES LEGEND - 1	62-400-205-001
SURFACE FACILITIES LEGEND - 2	62-400-205-002

REV.	DATE	DESCRIPTION	PAR/REV.	VER.	CLIENT
1	2025-11-18	ISSUED FOR PERMITTING	MMS	RSS	
0	2025-09-12	ISSUED FOR TENDER	MMS	RSS	

REVISIONS

PERMIT TO PRACTICE
WSP Canada, Inc.
Signature: [Signature]
Date: 2025-11-18
LICENSEE: [Name]
NTNU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM
205 - PIPING & INSTRUMENTATION DIAGRAM
DIESEL FUEL DISTRIBUTION
62PST11601

DESSINÉ PAR / DRAWN BY	DATE
M. SHETH	2025-06-24

REVU PAR / REVIEWED BY	DATE
M. COJOCARIU	2025-06-24

VÉRIFIÉ PAR / VERIFIED BY	DATE
R. SEHDEV	2025-06-24

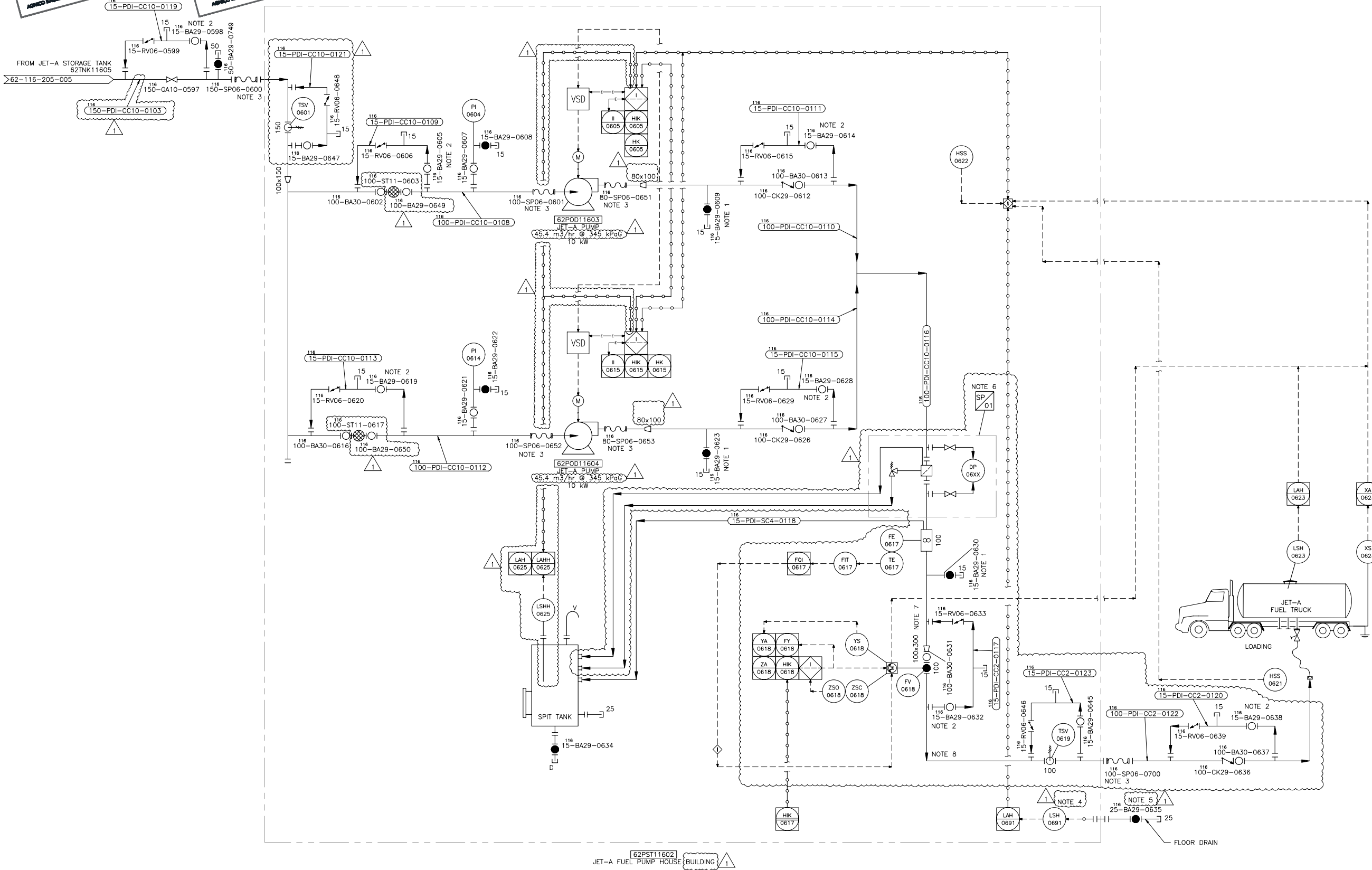
ÉCHELLE / SCALE: N.T.S. DATE: 2025-06-24

NO. DESSIN / PROJECT NO.: 62-116-205-004

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHEET
6212	1	1 / 1

**ÉMIS POUR AUTORISATION
DE PERMIS
ISSUED FOR PERMITTING**
DATE : 2025-11-18

**NE PAS UTILISER
POUR CONSTRUCTION
NOT FOR CONSTRUCTION**
DATE : 2025-11-18



PLAN CLE
KEY PLAN

wsp
WSP Canada Inc.
1209 PREMIER WAY
THUNDER BAY (ONTARIO) CANADA P7B 0A3
TEL: 807-625-8700 | FAX: 807-623-4491 | WWW.WSP.COM
CA0047291.7022

NOTES GÉNÉRALES / GENERAL NOTES

1. LOW POINT DRAINS (LPD) AND HIGH POINT VENTS (HPV) TO BE LOCATED IN THE FIELD BY THE CONTRACTOR AT EACH LOW/HIGH POINT
2. LOCKED OPEN
3. FLEXIBLE BRAIDED HOSE
4. INSTALL DRAIN VALVE #25 WITH PLUG AT LOW POINTS
5. FLOOR DRAIN LEVEL SWITCH
6. PARKER VELCON HM SERIES HORIZONTAL CDF VESSELS FOR AVIATION FUEL FILTRATION
7. THE PIPE SIZE AFTER FLOW METER AND UP TO FV0616 IS 300 MM AND LENGTH IS 5080 MM (200 INCHES); M.O.C. OF THE PIPE IS 304L
8. THE PIPE FROM FV0618 DOWNSTREAM WILL BE 100 MM DIA. IN SS304L

INFORMATION IS CONTAINED HEREIN IS THE PROPERTY OF WSP CANADA INC. AND NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF WSP CANADA INC. ALL RIGHTS RESERVED. © WSP CANADA INC. 2025

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
SURFACE FACILITIES LEGEND - 1	62-400-205-001
SURFACE FACILITIES LEGEND - 2	62-400-205-002

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/REV.	VER.	CLIENT
1	2025-11-18	ISSUED FOR PERMITTING	MMS	RSS	
0	2023-09-12	ISSUED FOR TENDER	MMS	RSS	

REVISIONS

PERMIT TO PRACTICE
WSP Canada, Inc.
Signature: [Signature]
Date: 2025-11-18
PERMIT NUMBER: P407
NTNU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM
205 - PIPING & INSTRUMENTATION DIAGRAM
JET-A FUEL DISTRIBUTION
62PST11602

DESSINÉ PAR DRAWN BY	DATE
M. SHETH	2025-06-24

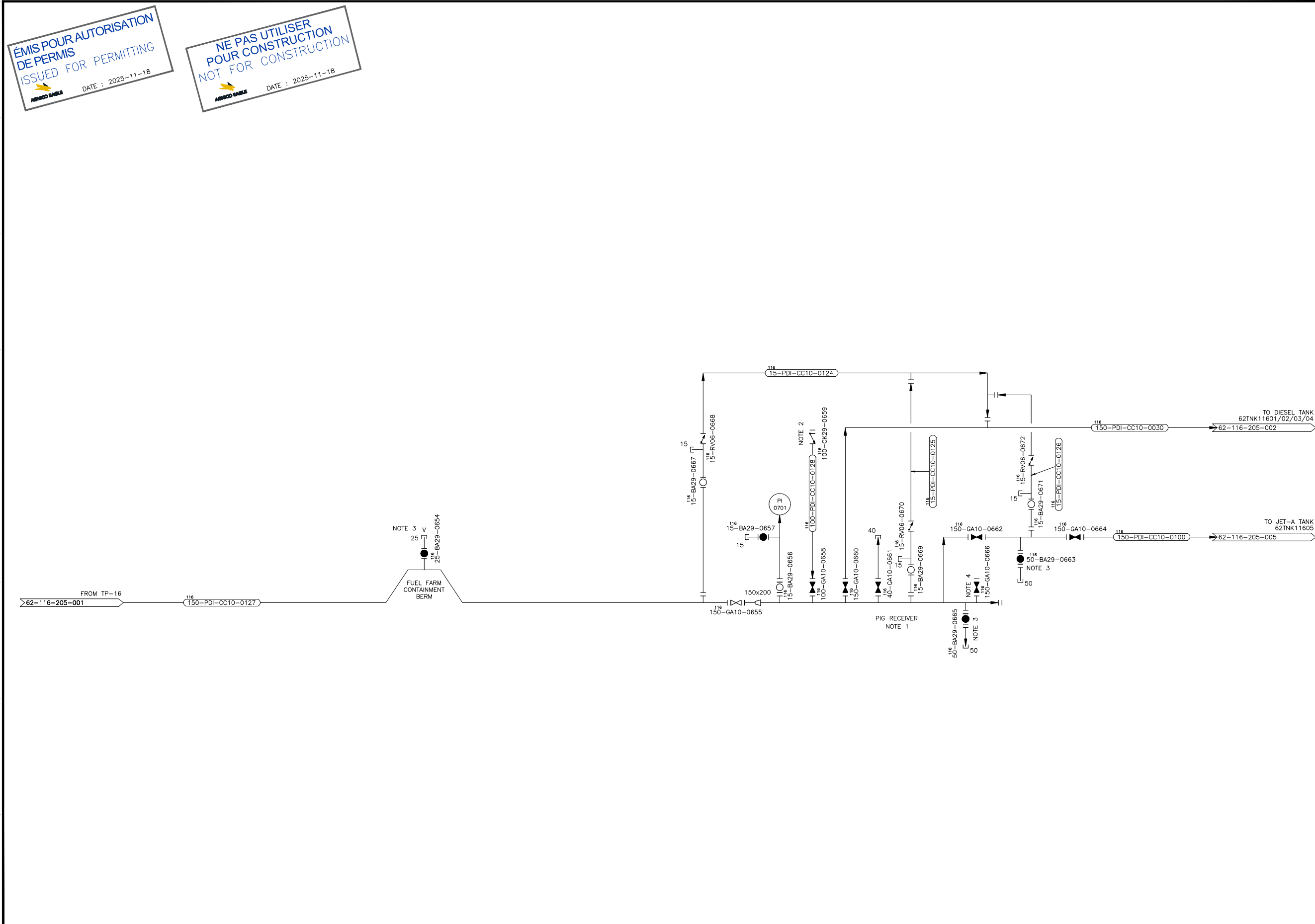
REVU PAR REVIEWED BY	DATE
M. COJOCARIU	2025-06-24

VÉRIFIÉ PAR VERIFIED BY	DATE
R. SEHDEV	2025-06-24

ÉCHELLE / SCALE N.T.S. **DATE** 2025-06-24

NO. DESSIN / PROJECT NO. 62-116-205-006


NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHEET
6212	1	1 / 1



ÉMIS POUR AUTORISATION DE PERMIS
ISSUED FOR PERMITTING
AGNICO EAGLE DATE : 2025-11-18

NE PAS UTILISER POUR CONSTRUCTION
NOT FOR CONSTRUCTION
AGNICO EAGLE DATE : 2025-11-18

PLAN CLE
KEY PLAN



WSP Canada Inc.
1269 PREMIER WAY
THUNDER BAY (ONTARIO) CANADA P7B 0A3
TEL: 807-625-8700 | FAX: 807-623-4491 | WWW.WSP.COM
CA0047291.7022


NOTES GÉNÉRALES / GENERAL NOTES

1. PIG RECEIVER CONSTRUCTED FROM 8" PIPE
2. BACKUP PRESSURE FOR INERT GAS IF REQUIRED
3. LOW POINT DRAINS (LPD) AND HIGH POINT VENTS (HPV) TO BE LOCATED IN THE FIELD BY THE CONTRACTOR AT EACH LOW/HIGH POINT
4. FOR FUTURE CONNECTION

INFORMATION IS CONTAINED ON THIS DRAWING IS APPROVED AS SHOWN AND NOT BE RETURNED FOR CHANGE. ANY ALTERATIONS MUST BE APPROVED BY THE ENGINEER. THIS DRAWING IS THE PROPERTY OF WSP CANADA INC. AND NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT PERMISSION IN WRITING FROM WSP CANADA INC., NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
FUEL PIPELINE & PIGGING SYSTEM	62-116-205-001
SURFACE FACILITIES LEGEND - 1	62-400-205-001
SURFACE FACILITIES LEGEND - 2	62-400-205-002



REV.	DATE	DESCRIPTION	PAR/REV.	VER.	CLIENT
0	2025-11-18	ISSUED FOR PERMITTING	MMS	RSS	

REVISIONS

PERMIT TO PRACTICE
WSP Canada, Inc.
Signature: *[Signature]*
Date: 2025-11-18
PERMIT NUMBER: P407
NTNU Association of Professional Engineers and Geoscientists

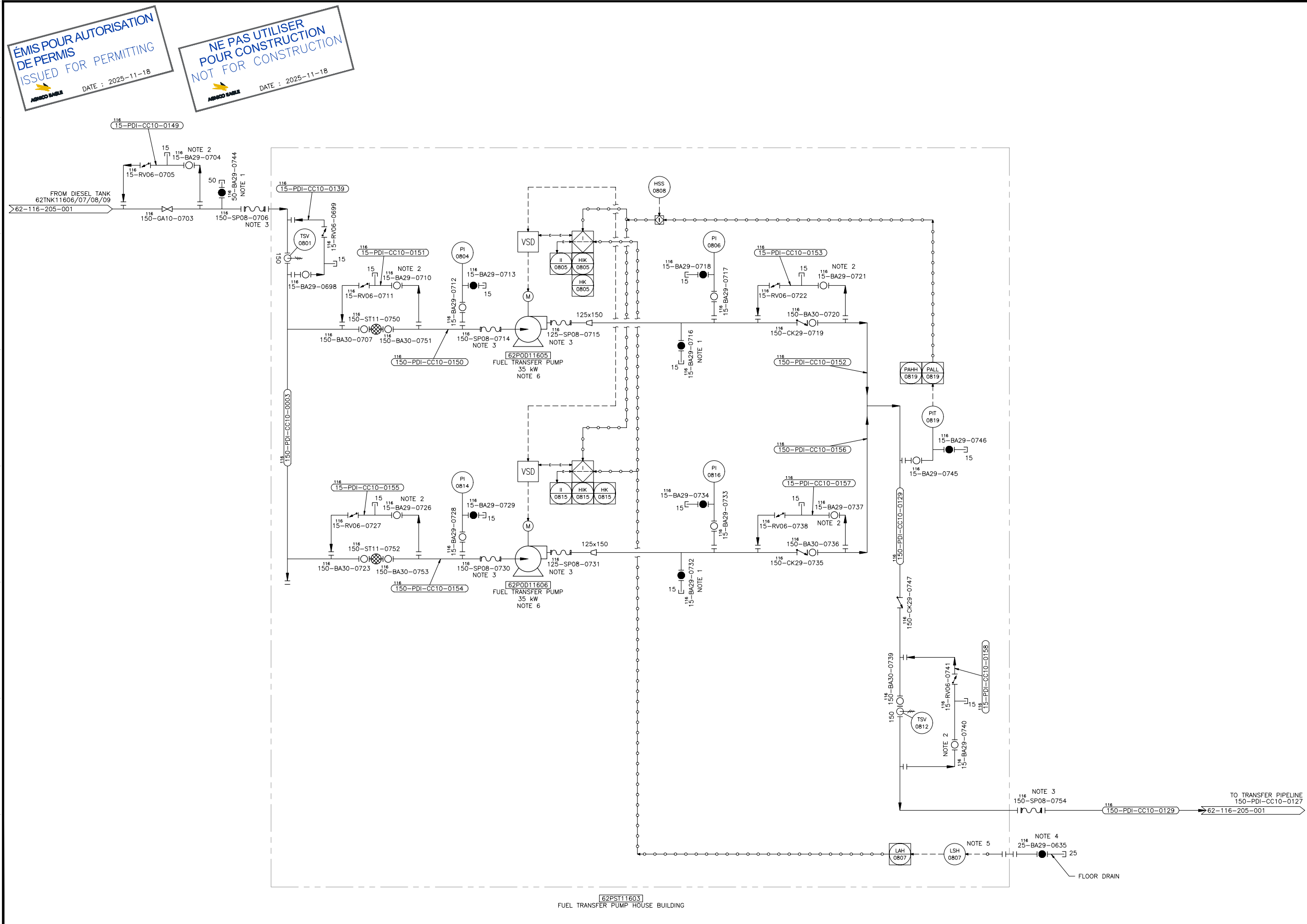
TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM
205 - PIPING & INSTRUMENTATION DIAGRAM
PIGGING RECIEVER

DESSINÉ PAR DRAWN BY	M. SHETH	DATE DATE	2025-08-05
REVU PAR REVIEWED BY	M. COJOCARIU	DATE DATE	2025-08-05
VÉRIFIÉ PAR VERIFIED BY	R. SEHDEV	DATE DATE	2025-08-05

ÉCHELLE
SCALE N.T.S. DATE 2025-08-05

NO. DESSIN
DRAWING NO. 62-116-205-007

NO. PROJET PROJECT NO.	6212	REVISION	0	FEUILLE / SHIT	1 / 1
---------------------------	------	----------	---	----------------	-------



ÉMIS POUR AUTORISATION
DE PERMIS
ISSUED FOR PERMITTING
AGNICO EAGLE DATE : 2025-11-18

NE PAS UTILISER
POUR CONSTRUCTION
NOT FOR CONSTRUCTION
AGNICO EAGLE DATE : 2025-11-18

PLAN / CLE
KEY PLAN

WSP Canada Inc.
1209 PREMIER WAY
THUNDER BAY (ONTARIO) CANADA P7B 0A3
TEL: 807 625-8700 | FAX: 807 623-4491 | WWW.WSP.COM
CA0047291.7022

NOTES GÉNÉRALES / GENERAL NOTES

1. LOW POINT DRAINS (LPD) AND HIGH POINT VENTS (HPV) TO BE LOCATED IN THE FIELD BY THE CONTRACTOR AT EACH LOW/HIGH POINT
2. LOCKED OPEN
3. FLEXIBLE BRAIDED HOSE
4. INSTALL DRAIN VALVE #25 WITH PLUG AT LOW POINTS
5. FLOOR DRAIN LEVEL SWITCH INSTALLED AT THE LOW POINT
6. MOTOR kW DETERMINED BY HYDRAULIC POWER CALCULATION. VENDOR TO PROVIDE ACTUAL "kW"

INFORMATION IS CONTAINED HEREIN IS THE PROPERTY OF AGNICO EAGLE LTD. AND NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF AGNICO EAGLE LTD.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
SURFACE FACILITIES LEGEND - 1	62-400-205-001
SURFACE FACILITIES LEGEND - 2	62-400-205-002

AGNICO EAGLE

REV.	DATE	DESCRIPTION	PAR/REV.	CLIENT
0	2025-11-18	ISSUED FOR PERMITTING	MMS	RSS

REVISIONS

PERMIT TO PRACTICE
WSP Canada, Inc.
Signature: [Signature]
Date: 2025-11-18
PERMIT NUMBER: P407
NTNU Association of Professional Engineers and Geoscientists

TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM
205 - PIPING & INSTRUMENTATION DIAGRAM
FUEL TRANSFER PUMP HOUSE
62PST11603

DESSINÉ PAR DRAWN BY	DATE
M. SHETH	2025-09-16

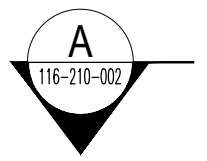
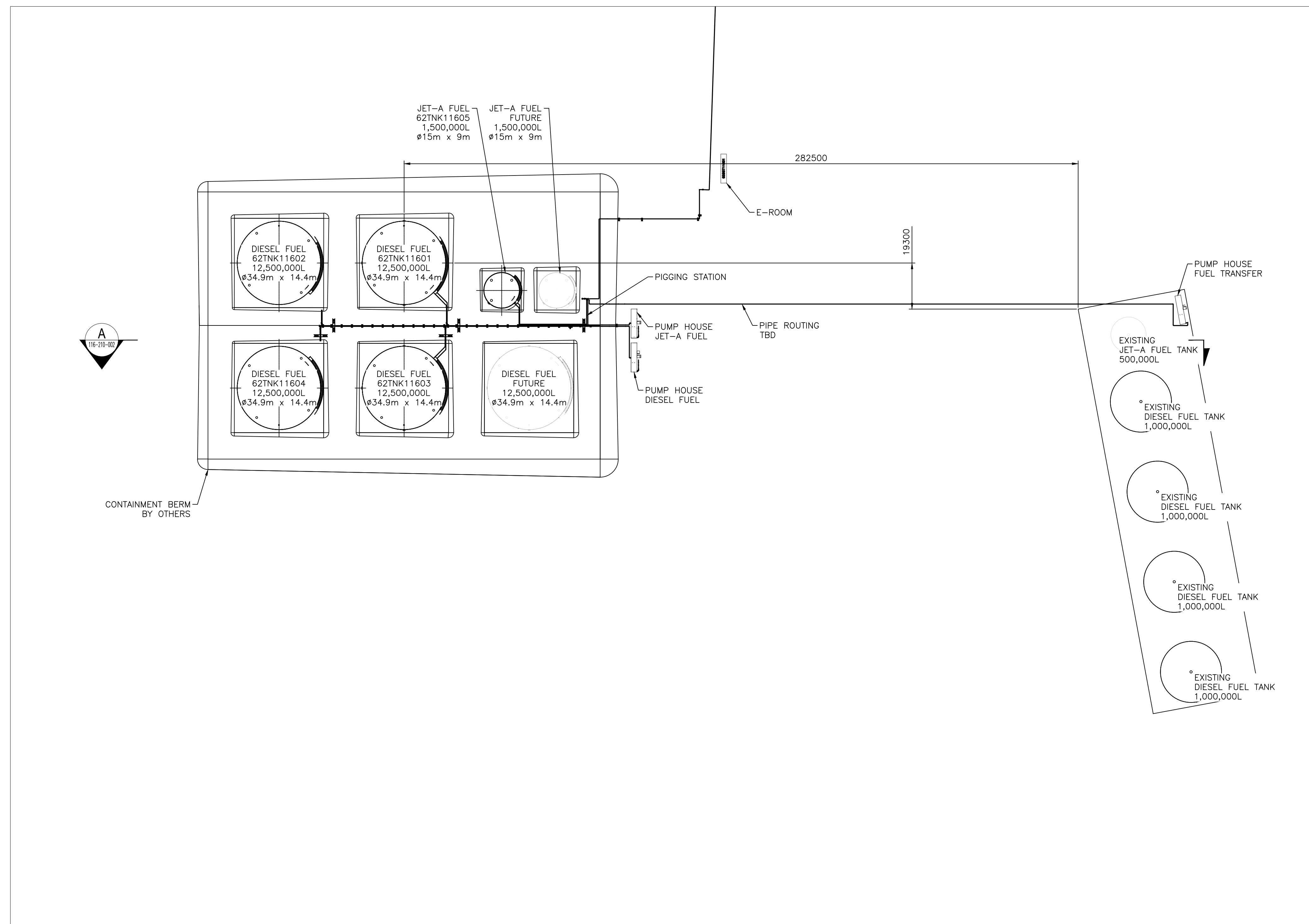
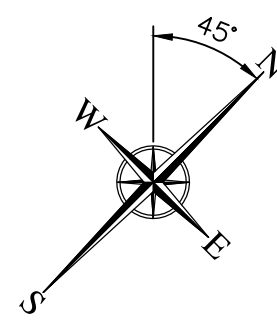
REVU PAR REVIEWED BY	DATE
M. COJOCARIU	2025-09-16

VÉRIFIÉ PAR VERIFIED BY	DATE
R. SEHDEV	2025-09-16

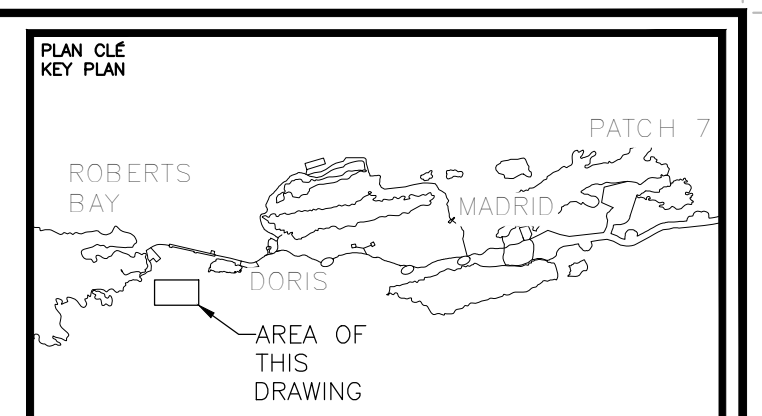
ÉCHELLE
SCALE N.T.S. DATE 2025-09-16

NO. DESSIN
DRAWING NO. 62-116-205-008

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHEET
6212	0	1 / 1



ROBERTS BAY FUEL FARM ARRANGEMENT - PLAN
SCALE: 1:1000



wsp
WSP Canada Inc.
1268 PREMIER WAY
THUNDER BAY (ONTARIO) CANADA P7B 0A3
TEL: 807 625-6700 | FAX: 807 623-4491 | WWW.WSP.COM
CA0047291.7022

NOTES GÉNÉRALES / GENERAL NOTES

ÉMIS POUR AUTORISATION DE PERMIS
ISSUED FOR PERMITTING
AGNICO EAGLE DATE: 2025-11-20

NE PAS UTILISER POUR CONSTRUCTION
NOT FOR CONSTRUCTION
AGNICO EAGLE DATE: 2025-11-20

POUR COMMENTAIRES
FOR COMMENTS
AGNICO EAGLE DATE: 2025-11-20

L'INFORMATION CONTENUE EST LA PROPRIÉTÉ DE AGNICO-EAGLE LTD. ET NE DOIT ÊTRE RETOURNÉE À AGNICO-EAGLE LTD. SANS AUTORISATION ÉCRITE. NOUS GARANTISONS QUE LES INFORMATIONS CONTENUES SONT VRAIES ET CORRECTES À LA DATE DE LA PRÉPARATION DE CE DOCUMENT. AGNICO-EAGLE LTD. ASSUME AUCUNE RESPONSABILITÉ POUR LES ERREURS OU OMISSIONS. AGNICO-EAGLE LTD. IS THE PROPERTY OF AGNICO-EAGLE LTD. AND MUST BE RETURNED UPON REQUEST WITHOUT WRITTEN PERMISSION. WE GUARANTEE THAT THE INFORMATION IS CORRECT AND TRUE AT THE DATE OF PREPARATION OF THIS DOCUMENT. AGNICO-EAGLE LTD. ASSUMES NO RESPONSIBILITY FOR ERRORS OR OMISSIONS.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
ROBERTS BAY FLOW SHEET	62-116-200-001
ROBERTS BAY TANKS & PIPING GA	62-116-210-004



REV.	DATE	DESCRIPTION	PREP.	APP.	CLIENT
0	2025-11-20	ISSUED FOR PERMITTING	JMK	SDL	

REVISIONS

PERMIT TO PRACTICE
WSP Canada, Inc.
Signature: _____
Date: 2025-11-20
PERMIT NUMBER: P407
NTNU Association of Professional Engineers and Geoscientists

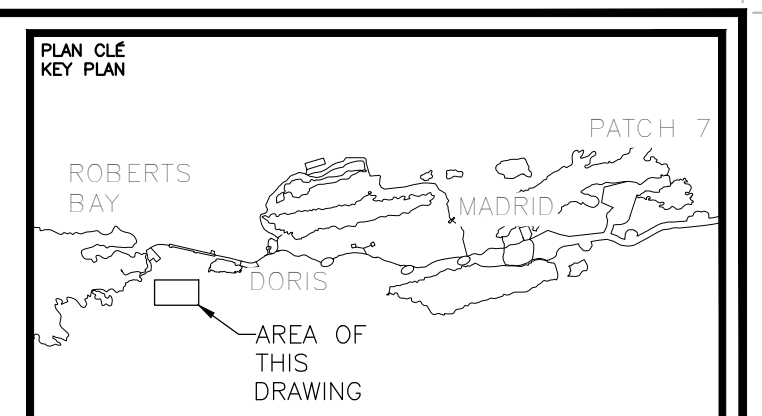
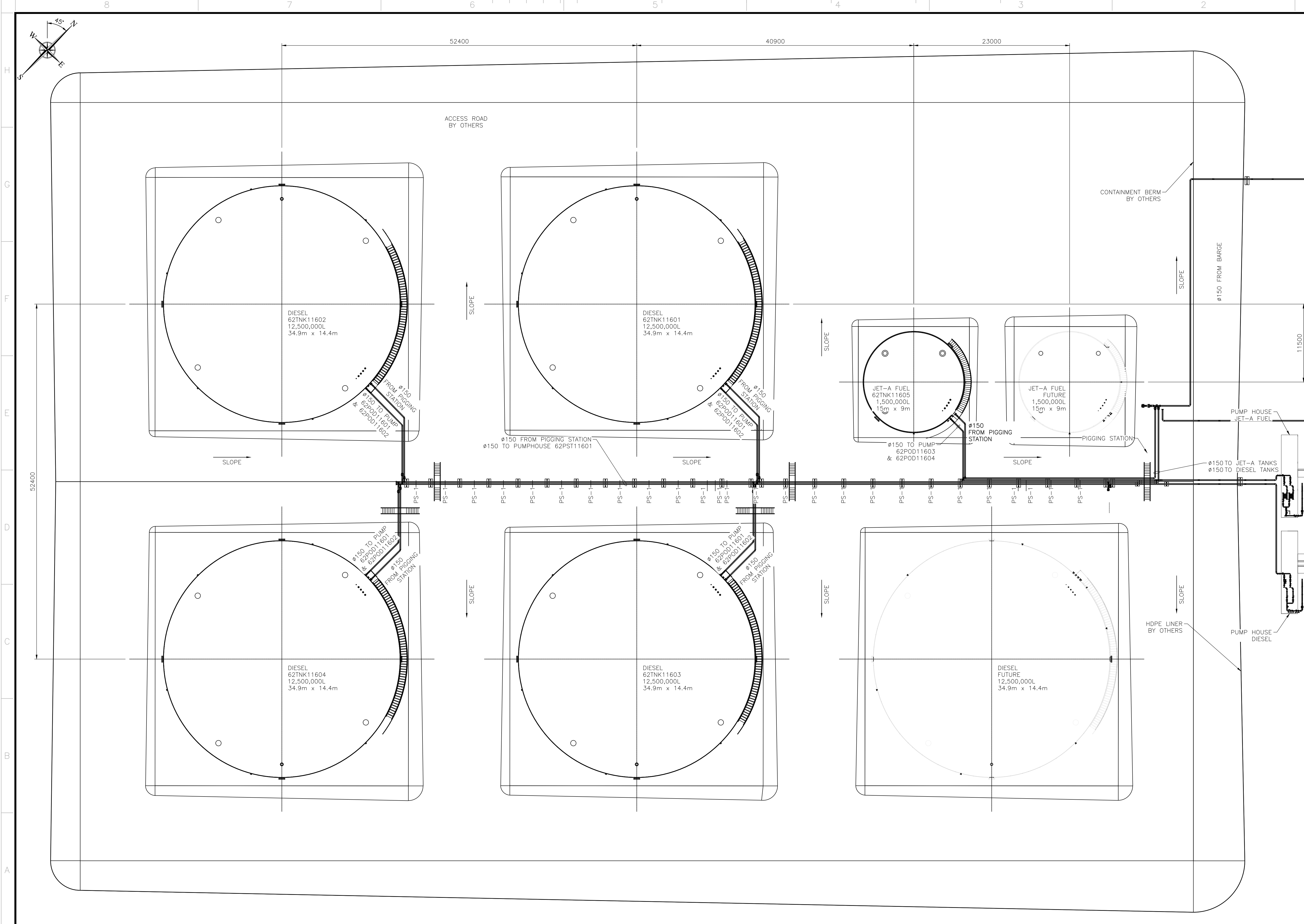
TITRE / TITLE
AGNICO EAGLE - HOPE BAY DIVISION
116 - FUEL TANK FARM
210 - GENERAL ARRANGEMENT
PLAN VIEW
ROBERTS BAY
FUEL FARM ARRANGEMENT

DESINÉ PAR DRAWN BY	J. KAUKINEN	DATE 2025-05-06
VÉRIFIÉ PAR CHECKED BY	W. HODGSON	2025-05-28
APPROUVÉ PAR APPROVED BY	S. LINTUNEN	2025-05-28

ÉCHELLE
SCALE: 1:1000 DATE: 2025-05-06

NO. DESSIN 62-116-210-001
DRAWING NO.

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHEET
6212	0	1 / 1



NOTES GÉNÉRALES / GENERAL NOTES

ÉMIS POUR AUTORISATION DE PERMIS / ISSUED FOR PERMITTING
 AGNICO EAGLE DATE : 2025-11-20

NE PAS UTILISER POUR CONSTRUCTION / NOT FOR CONSTRUCTION
 AGNICO EAGLE DATE : 2025-11-20

POUR COMMENTAIRES / FOR COMMENTS
 AGNICO EAGLE DATE : 2025-11-20

INFORMATION CONTENUE EST LA PROPRIÉTÉ DE AGNICO-EAGLE LTD. ET DOIT ÊTRE RETENUE SOUS SCÈAU. UNE AUTRISATION ÉCRITE NE GARANTIT PAS L'EXÉCUTION DE TRAVAIL À MOINS QU'UNE PERMISSEION ÉCRITE NE SOIT OBTENUE. © AGNICO-EAGLE LTD.
 THE INFORMATION HEREIN IS THE PROPERTY OF AGNICO-EAGLE LTD. AND MUST BE RETAINED UNDER LOCK AND KEY. WRITTEN PERMISSION IS REQUIRED FOR REPRODUCTION OR USE FOR ANY OTHER PROJECT. © AGNICO-EAGLE LTD.

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
ROBERTS BAY FLOW SHEET	62-116-200-001
ROBERTS BAY FUEL FARM ARRANGEMENT	62-116-210-001



REV.	DATE	DESCRIPTION	CHK	SQL
0	2025-11-20	ISSUED FOR PERMITTING	JMK	SDL

REVISIONS

PERMIT TO PRACTICE
 WSP Canada, Inc.
 Signature: S. LINTUNEN
 Date: 2025-11-20
PERMIT NUMBER: P407
 NTNU Association of Professional Engineers and Geoscientists

TITRE / TITLE
 AGNICO EAGLE - HOPE BAY DIVISION
 116 - FUEL TANK FARM
 210 - GENERAL ARRANGEMENT
 PLAN VIEW
 ROBERTS BAY
 FARM - TANKS & PIPING GENERAL ARRANGEMENT

DESSINÉ PAR / DRAWN BY	J. KAUKINEN	DATE / DATE	2025-05-06
VÉRIFIÉ PAR / CHECKED BY	W. HODGSON	DATE / DATE	2025-05-06
APPROUVÉ PAR / APPROVED BY	S. LINTUNEN	DATE / DATE	2025-05-06

ÉCHELLE / SCALE: 1:250 DATE: 2025-05-06

NO. DESSIN / DRAWING NO. 62-116-210-004

NO. PROJET / PROJECT NO.	REVISION	FEUILLE / SHEET
6212	0	1 / 1

