



POND INLET MARINE
INFRASTRUCTURE
PROJECT

NUNAVUT WATER BOARD
ANNUAL REPORT 2021

WATER LICENCE:

8BW-PIM2122

CONTRACT NUMBER:	15255-00331-07
PROJECT NUMBER:	15255-00331
TA PROJECT NUMBER:	21807
DOCUMENT NUMBER:	TA_NWB_POND INLET MARINE INFRA PROJECT_ANNUAL_REPORT_2021
SUBMITTED BY:	TOWER ARCTIC LTD.
SUBMITTED TO:	NUNAVUT WATER BOARD
DATE SUBMITTED:	MARCH 14, 2022



1.	Purpose of the Report.....	2
2.	Small Craft Harbour Project	3
2.1.	Environmental Management	3
2.2.	Environmental Team of Tower Arctic.....	3
3.	Haul Road Project.....	3
3.1.	Regulatory Authorizations.....	5
3.2.	Construction Summary.....	5
3.3.	Regulatory Agency Inspection	6
3.3.1.	Required Actions	6
3.4.	Monitoring Plan.....	6
3.4.1.	Water Crossings Monitoring – 2021 Summary.....	7
3.5.	Unauthorized Discharge in Watercourse	7
3.6.	Water Use.....	7
3.7.	Wastes Disposal	7
3.8.	Reclamation and Closure Activities	7
4.	Closure	7

A. 2021 Photographic Records
B. Site Inspection Report from CIRNAC
C. Spills Reporting
D. As Built Drawings

[illegible]

1. Purpose of the Report

This annual report has been prepared to comply with the Nunavut Water Board (NWB) License No. 8BW-PIM2122 Part B condition 1. This condition requires the licensee to provide an annual report to the Board not later than the 31st of March of the year following the calendar year being reported. The requested information by the Part B item 1 are provided in **Table 1**.

Table 1: Table of Concordance

Requested information	Location of the information
a. Summary report of all construction activities including photographic records before, during and after construction	Refer to section 3.2.
b. Summary report of acid rock drainage and metal leaching characterization of the borrow material to be used for construction as required under Part C, Item 1	Information provided through the Annual Report 2018 (refer to the document named TA_NWB_8DW-PIM1821_Annual_Report_2018).
c. All monitoring information required under Part H of the Licence	Refer to section 3.8
d. A list of unauthorized discharges and a summary of follow-up action taken	Refer to section 3.5.
e. A summary of any abandonment and restoration work completed during the year and an outlined of any work anticipated for the next year	Refer to section 3.8
f. Any revision to approved plans and manuals as required by Part B, Item 8 submitted in the form of an addendum	Refer to section 3.4.
g. A summary of any studies or reports requested by the Board that relate to the use of Water and the deposit of Waste, or restoration, and a brief description of any future studies planned	Refer to section 3.6 and 3.7.
h. Any other details on water use or Waste disposal requested by the Board by the 1st of November of the year being reported	Refer to section 3.6 and 3.7.

2. Small Craft Harbour Project

The Hamlet of Pond Inlet is a northern community of Baffin Island, on the shore of Eclipse Sound. The Government of Nunavut (GN) has initiated the construction of a marine infrastructure project in Pond Inlet, Nunavut. The Marine Infrastructure Project in Pond Inlet is developed to improve the safety and functionality of the marine services. The project included a new Small Craft Harbour (SCH), the development of the new Quarry and the construction of the Haul Road.

The GN has mandated Tower Arctic (TA) as the general contractor for the construction operations. The equipment mobilization by sealift took place in 2018, 2019, 2020 and 2021 during the open-water season. As requested by the GN, TA started the SCH construction in September 2018 and the construction activities were scheduled until the end of November 2019. Due to delay in the project schedule for unforeseen reasons, a 2020 and 2021 construction seasons have been required to complete the project. The substantial completion of the Project was obtained on October 25, 2022.

2.1. Environmental Management

A Construction Environmental Management Plan (CEMP) was developed for the Pond Inlet Marine Infrastructure Project by TA to outline the implemented measures to avoid, manage or mitigate the impact of the marine based and land-based construction activities. During the project construction, TA implement these measures during the development of the Quarry, the construction of the Haul Road and the construction of the new SCH.

2.2. Environmental Team of Tower Arctic

The environmental team during the 2021 season was formed by two (2) on site Environmental Monitors (EM), one (1) environmental advisor and one (1) Environmental Coordinator (EC). The environmental team was also supported by delegates who were on site engineers and local workers.

3. Haul Road Project

A seven (7) kilometre road was necessary to haul over 200,000 tonnes of blasted rock from the Pond Inlet Municipal Quarry to the SCH to be built. According to the contractual requirements, TA was responsible for obtaining the Water Licence for the haul road construction. On July 23, 2018, Water Licence No. 8BW-PIM1821 was issued by the NWB and the licence authorized the installation of the necessary culverts to cross the encountered watercourses. Seven (7) culverts were installed in 2018 to cross the encountered watercourses. These culverts have diameters ranging from 600 mm to 1,200 mm. The culvert's sizes were determined on the site by the engineer according to the width of the crossed watercourses. **Figure 1 and Table 2** provide the culverts location and sizes.

Figure 1 – Map of The Haul Road and Culverts Location



Table 2: Haul Road Culverts Location and Diameter

Culvert Identification	Latitude	Longitude	Culvert Diameter (mm)
CS01	72°41'25.26"N	77°52'52.44"W	900
CS02	72°41'22.52"N	77°53'8.12"W	900
CS03	72°41'4.32"N	77°55'18.96"W	600
CS04	72°40'55.74"N	77°55'43.05"W	1200
CS05	72°40'49.61"N	77°56'13.95"W	600
CS06	72°40'37.00"N	77°58'40.61"W	600
CS07	72°41'38.15"N	77°58'57.96"W	1200

3.1. Regulatory Authorizations

As the construction of the SCH has been extended after the period covered by the Water License 8BW-PIM1821, TA applied to obtain another Water License to cover the rest of the 2021 season. The Water License 8BW-PIM2122 has been issued by the NWB on July 22, 2021. **Table 3** provides the Regulatory Authorizations obtained for the construction of the Haul Road.

Table 3: List of Regulatory Authorizations

Regulatory Authority	License	License no.	Expiration Date	License Holder
Nunavut Water Board	Type “B”	8BW-PIM1821	July 22, 2021	Tower Arctic Ltd.
Nunavut Water Board	Type “B”	8BW-PIM2122	January 1, 2022	Tower Arctic Ltd.
Nunavut Impact Review Board	Screening Decision	17QN015	-	Gov. of Nunavut

3.2. Construction Summary

During the first season, the Haul Road construction operations were from August 2018 to September 2018. The road was used to haul rock materials from September 2018 to October 2018. **Table 4** provides the date when the activities started and finished in 2018. During the second and the third season, the Haul Road has been maintained and used from September 2019 to November 2019 and from June 2020 to October 2020. **Table 5** to **Table 7** provides the starting and finishing dates of the construction activities during the 2019, 2020 and 2021 respectively. Refer to **Appendix A** which presents the photographic records of the culverts during the 2021 season (July 17, 2021).

Table 4: 2018 Construction Activities Limited to Haul Road

Construction Activity	Date activity started	Date activity finished	Completion Status
Contractor mobilization	August 5, 2018	September 15, 2018	± 75 %
Quarry development	August 11, 2018	October 18, 2018	± 15 %
Haul road construction	August 11, 2018	September 23, 2018	± 100 %
Haul Road maintenance	September 24, 2018	October 18, 2018	Work in progress
Rock hauling	September 24, 2018	October 18, 2018	± 20 %
Winter shut down	October 18, 2018	October 20, 2018	± 25 %

Table 5: 2019 Construction Activities Limited to Haul Road

Construction Activity	Date activity started	Date activity finished	Completion Status
Contractor mobilization	September 7, 2019	October 4, 2019	± 100 %
Quarry development	September 21, 2019	October 30, 2019	± 50 %
Haul Road maintenance	September 21, 2019	October 30, 2019	Work in progress
Rock hauling	September 24, 2019	October 30, 2019	± 50 %
Winter shut down	October 30, 2019	November 12, 2019	± 50 %

Table 6: 2020 Construction Activities Limited to Haul Road

Construction Activity	Date activity started	Date activity finished	Completion Status
Contractor mobilization	August 28, 2020	August 30, 2020	± 100 %
Quarry development	June 10, 2020	October 22, 2020	± 60 %
Haul Road maintenance	June 10, 2020	October 22, 2020	Work in progress
Rock hauling	June 10, 2020	October 22, 2020	± 60 %
Winter shut down	October 21, 2020	October 28, 2020	100%

Table 7: 2021 Construction Activities Limited to Haul Road

Construction Activity	Date activity started	Date activity finished	Completion Status
Quarry development	April 15, 2021	October 17, 2021	100 %
Haul Road maintenance	April 5, 2021	October 17, 2021	100 %
Rock hauling	April 15, 2021	October 17, 2021	100 %
Winter shut down	October 15, 2021	October 21, 2021	100%

3.3. Regulatory Agency Inspection

On July 23, 2021, an inspector from the Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) conducted a site inspection and the inspection report has been transmitted to the NWB on November 29, 2021. During the inspection, the onsite EM from TA and the representative from the GN were present. **Appendix B** provides the inspection report.

3.3.1. Required Actions

Actions have been required by the Inspector (refer **Appendix B** sections 2 and 3). TA proposes the following actions:

- **Spill Reporting:**

For each spill located on the Pond Marine Infrastructure Project, TA provides in this 2021 annual report the detailed information including the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean-up the spill site. **Appendix C** provides a list of the spills reported in 2021.

Spills related to the Pond Inlet Marine Infrastructure project were reported no later than 24 hours after the spill occurrences. Those reports were provided through the 24-Hour Spill Line and include the details on the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean-up the spill site.

3.4. Monitoring Plan

An updated Monitoring Plan (MP) to describe how TA implemented the monitoring activities were produced before the 2019 season. The water crossing monitoring plan has been updated following the receipt on October 11, 2019, of the NWB Technical Review of the 2018 Annual Report. Discussion occurred between the NWB and TA to state the necessary improvement for the monitoring methods. During this meeting TA and NWB agreed on the stability condition and the runoff discharge monitoring methods and TA adjusted the monitoring methods accordingly. These updated monitoring methods

have been used by the environmental team of TA during the 2020 and 2021 seasons. This plan has been provided to the NWB through the 2020 annual report of the Water License 8BW-PIM1821.

3.4.1. Water Crossings Monitoring – 2021 Summary

The water crossings have been monitored by TA from April to October 2021. The monitoring of the circular culverts identified in **Table 2** has been conducted on a weekly basis before and during the using of the Haul Road for the construction activities of the Pond Inlet Marine Infrastructure Project. The usage of the Haul Road was during the freshet, summer, and freeze-up periods. The Runoff Monitoring and the Stability Monitoring have been conducted as per the Water Crossing Monitoring Plan.

3.5. Unauthorized Discharge in Watercourse

No unauthorized discharge in a watercourse has been observed during the 2021 construction season.

3.6. Water Use

The water used for the accommodation of the workforce was provided directly by the Municipality of Pond Inlet. No water has been pumped from or in a watercourse during the construction of the Haul Road.

3.7. Wastes Disposal

The non-hazardous wastes have been temporarily stored at TA's garage area, or directly shipped to the municipal landfill. The hazardous wastes were stored at the TA's garage area, and the vast majority of those wastes was shipped by sealift to a proper disposal facility during the demobilization which has been done in the fall of 2021 with the completion of the project.

3.8. Reclamation and Closure Activities

At the end of the 2021 construction season, the Haul Road has not been blocked by TA as required in the Water License. In its letter from August 5, 2021, and addressed to TA, the Hamlet of Pond Inlet required to keep the road usable, and the road has been handed over to the Municipality of Pond Inlet in useful condition. No reclamation and closure activities related to the Haul Road have been completed and TA demobilized from the Site as defined in the agreement between TA and the GN. **Appendix D** provides the as-built drawings which shows the location of the road that has been handed over to the Municipality of Pond Inlet.

4. Closure

Expecting this report is to your entire satisfaction and provides the required information about the 2021 construction season.

Report prepared by:

TOWER ARCTIC LTD.



Olivier Bédard-Richard, Environmental Coordinator



Appendix A

2021 Photographic Records



CS01-Downstream



CS01-Upstream



CS02-Downstream



CS02-Upstream



CS03-Downstream



CS03-Upstream



CS04-Downstream



CS04-Upstream



CS05-Downstream



CS05-Upstream



CS06-Downstream



CS06-Upstream



CS07-Downstream



CS07-Upstream



Appendix B

Site Inspection Report from CIRNAC

WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Tower Arctic Ltd.	Simon-Pier Laberge
License No. / Expiry	Representative's Title
8BW-PIM2122	Project Manager
Land / Other Authorizations	Land / Other Authorizations
N2019X0012	03QN074
Date of Inspection	Inspector
July 23, 2021	Joseph Monteith
Activities Inspected	
<input checked="" type="checkbox"/> Camp <input type="checkbox"/> Drilling <input type="checkbox"/> Mining <input checked="" type="checkbox"/> Construction <input checked="" type="checkbox"/> Reclamation <input checked="" type="checkbox"/> Fuel Storage	
<input checked="" type="checkbox"/> Roads/Hauling <input checked="" type="checkbox"/> Other: Spill Report sites <input type="checkbox"/> Other:	

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:					
A: SCOPE, DEFINITIONS AND ENFORCEMENT					
B: GENERAL CONDITIONS	A				
C: CONDITIONS APPLYING TO SECURITY	NI				
D: CONDITIONS APPLYING TO WATER USE	A				1-11
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT	A				12-13
F: CONDITIONS APPLYING TO MODIFICATIONS	NI				
G: CONDITIONS APPLYING TO CONSTRUCTION	NI				
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING	A				14
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING	NA				
J: CONDITIONS APPLYING TO MONITORING	A				
SCHEDULES	A				
<i>*The observation number corresponds with specific comments provided below.</i>					
Location(s):	NW: Latitude: 72° 42' 02.7" N Longitude: 77° 59' 27.6" W NE: Latitude: 72° 42' 08.3" N Longitude: 77° 52' 12.0" W SE: Latitude: 72° 40' 53.9" N Longitude: 77° 52' 12.0" W SW: Latitude: 72° 40' 54.7" N Longitude: 77° 59' 58.0" W				
Samples taken by Inspector:					
<input type="checkbox"/> Yes <input type="checkbox"/> No					

SECTION 1	<input type="checkbox"/> Comments (s. 11)	<input type="checkbox"/> Non-Compliance with Act or Licence (s. 11)	<input type="checkbox"/> Action Required (s. 11)
BACKGROUND Construction of the Pond Inlet Marine Infrastructure Project was underway through three open-water seasons, which initiated in 2018. The project was complete by September 2021. On July 12, 2021, The Nunavut Water Board issued 8BW-PIM2122 to Tower Arctic Ltd. The licence was issued for the purposes of watercourse crossings. No direct water use was authorized. Led by the Government of Nunavut (GN) - Community and Government Services (CGS), ownership and responsibility will transfer to the GN - Economic Development and Transportation (EDT) once operational. A map of the construction of the Pond Inlet Marine Infrastructure Project (photo 1)			
Inspector Statement On July 23, 2021, a Water License inspections were conducted by Water Resource Officer(WRO) Joseph Monteith at the site of the Pond Inlet Infrastructure Project, Pond Inlet, Qikiqtani Region, Nunavut, to verify compliance with the terms and conditions of the Water Licence 8BW-PIM2122.			
General Condition 1. On Tuesday, April 07, 2021, the Nunavut Water Board uploaded to their FTP site a copy of Tower Arctic's 2020 Annual Report. ftp://ftp.nwb-oen.ca/registry/8%20MISCELLANEOUS/8B/8BW%20-%20Watercourse/8BW-PIM1821%20Tower%20Arctic%20Ltd/3%20TECH/1%20GENERAL%20(B)/2%20ANNUAL%20RPT/			

2. A copy of the Water License was contained in a binder with tabulated with other authorizations at the time of the inspection

Conditions Applying to the Protection of Water

A map of the Stream Crossings – (See photo 2)

3. A total of 7 water crossings along the hauling road from the municipal quarry to the site of the Pond Inlet Infrastructure Project (Photo 2).
4. CS-07 Water Crossing (Photo 3)
5. CS-06 Water Crossing (Photo 4)
6. CS-05 Water Crossing (Photo 5)
7. CS-01 Water Crossing (Photo 6)
8. CS-02 Water Crossing (Photo 7)

Quarry Site

9. Top of the Quarry Pit, looking in (photo 8,9)
10. Inside the Quarry Pit (Photo 8, 9)
11. Quarry Stock Pile, was observed to be inland and 31 metres away from any water body. Located between CS-07 and CS-06 (Photo 13).

Waste

12. An agreement with the community of Pond Inlet was struck to receive all waste from the construction to the community landfill
13. All hazardous waste is contained in sea cans, in secondary containment. To be shipped to an approved Hazardous Waste Storage Facility (Photos 10, 11).

Spill Reports

14. A total of 23 Spill Reports reported for 2021 that Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) is the lead on. The majority of the spills will be closed as they are below the reportable threshold of the NT/NU Spills working Group Agreement. As per the water license, all spills, regardless of size and quantity will be reported; with a follow up written report.

SECTION 2 ☐ Comments ☐ Non-Compliance with Act or Licence ☒ Action Required

The following information is a summary of the Actions Required by the licensee to promote and ensure compliance. Please provide a response to the following Actions Required within 30 days of receiving this report proposing timelines to address the concerns noted:

- As per the water license, all spills, regardless of size and quantity will be reported; with a follow up report after 30 days on the status can be summarized in one report for the minor spills to satisfy the requirements of the license, to follow up with a written report. The larger spills which go over the reportable limit will individually require proper follow up, with individual reports.
- Follow the CCME guidelines for proper remediation of a hazardous waste spill.

SECTION 3 ☐ Comments ☒ Non-Compliance with Act or Licence ☐ Action Required

Part G: Conditions Applying to Spill Contingency Planning

Item 4;

If during the term of this License, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:

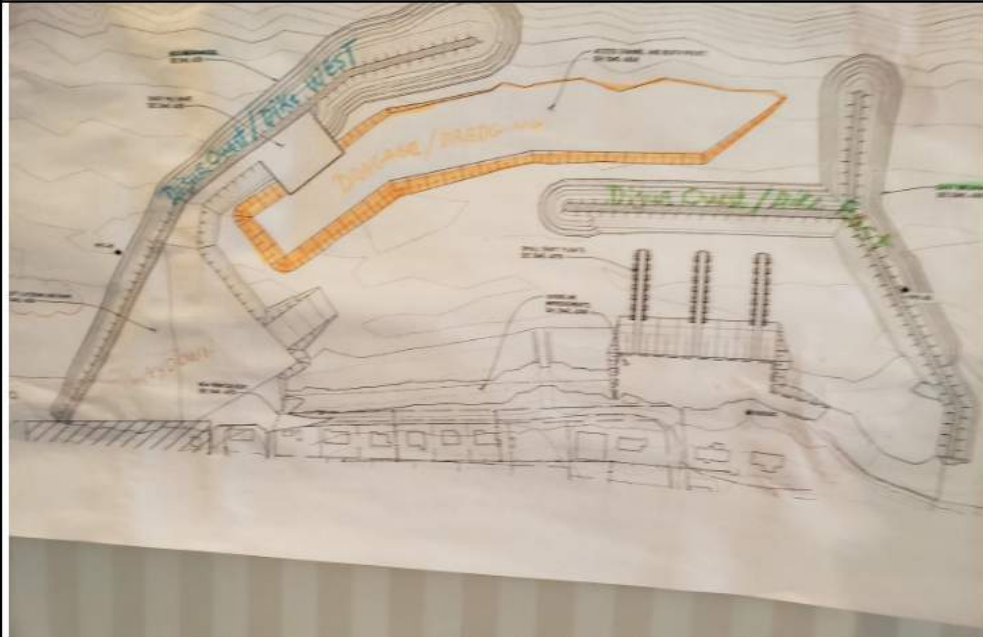
- a. Employ the Spill Contingency Plan;
- b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
- c. **For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean-up the spill site.**

Licensee or Representative	Inspector's Name
Signature	Joseph Monteith
Date	November 29, 2021

CC: Licensing Department, NWB
Justin Hack, Manager of Field Operations, CIRNAC

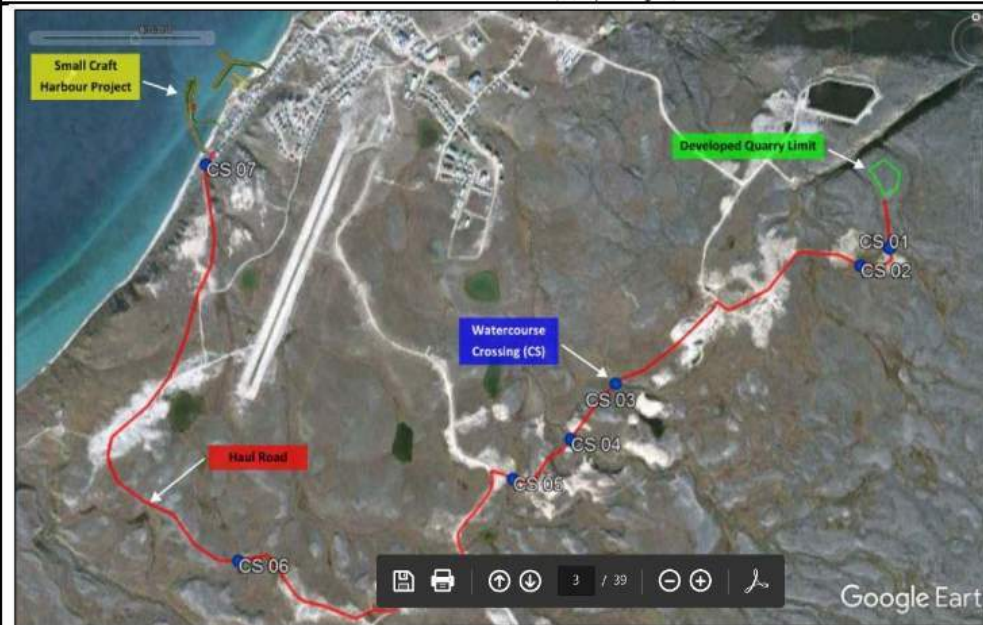
PHOTO LOG

Date	Camera	Inspector	
July 2021,	Nikon Coolpix	Joseph Monteith	8BW-PIM1821
Photo Log #	Location		
Photo 1	Pond Inlet, Qikiqtani Region, Nunavut		



Description: The Pond Inlet Marine Infrastructure Project is to build the small craft harbour. On site Construction map.

Photo Log #1	Location
Photo 2	Pond Inlet, Qikiqtani Region, Nunavut



Description: CS-01, and CS-02 were not observed in the 2020 inspection. They were inspected in 2021.





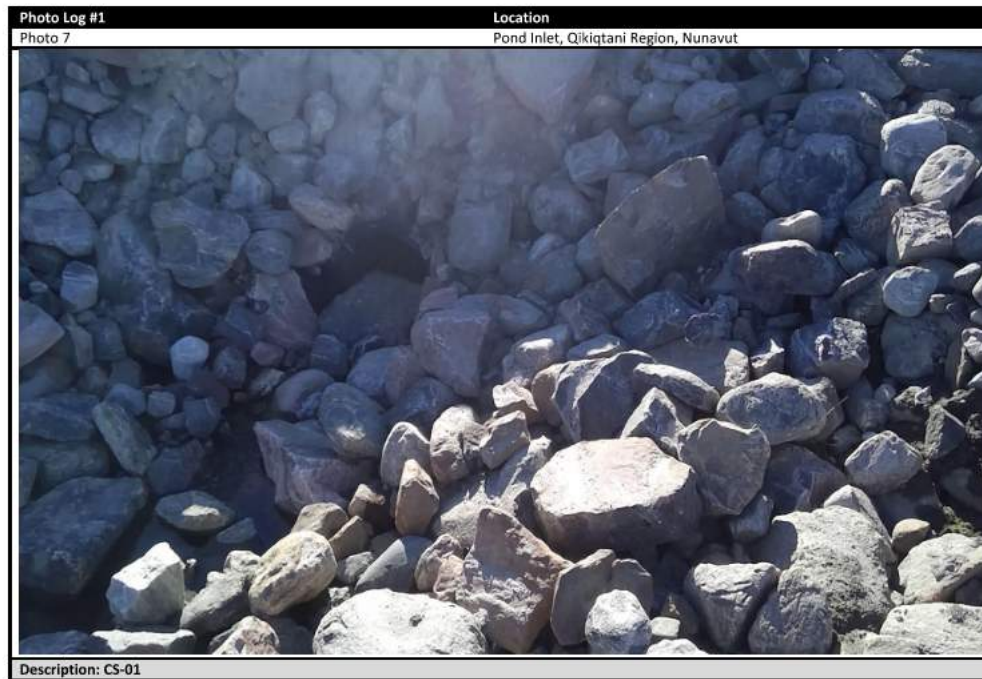




Photo Log #1

Location

Photo 11

Pond Inlet, Qikiqtani Region, Nunavut



Description: Hazardous Material transfer station, and temporary storage location.

Photo Log #1

Location

Photo 12

Pond Inlet, Qikiqtani Region, Nunavut



Description: Boom not visible, but installed to mitigate the impact of construction.

Photo Log #1	Location
Photo 13	Pond Inlet, Qikiqtani Region, Nunavut
	
Description: Quarry Pitt Stock Pile	



Appendix C

Spill Reporting

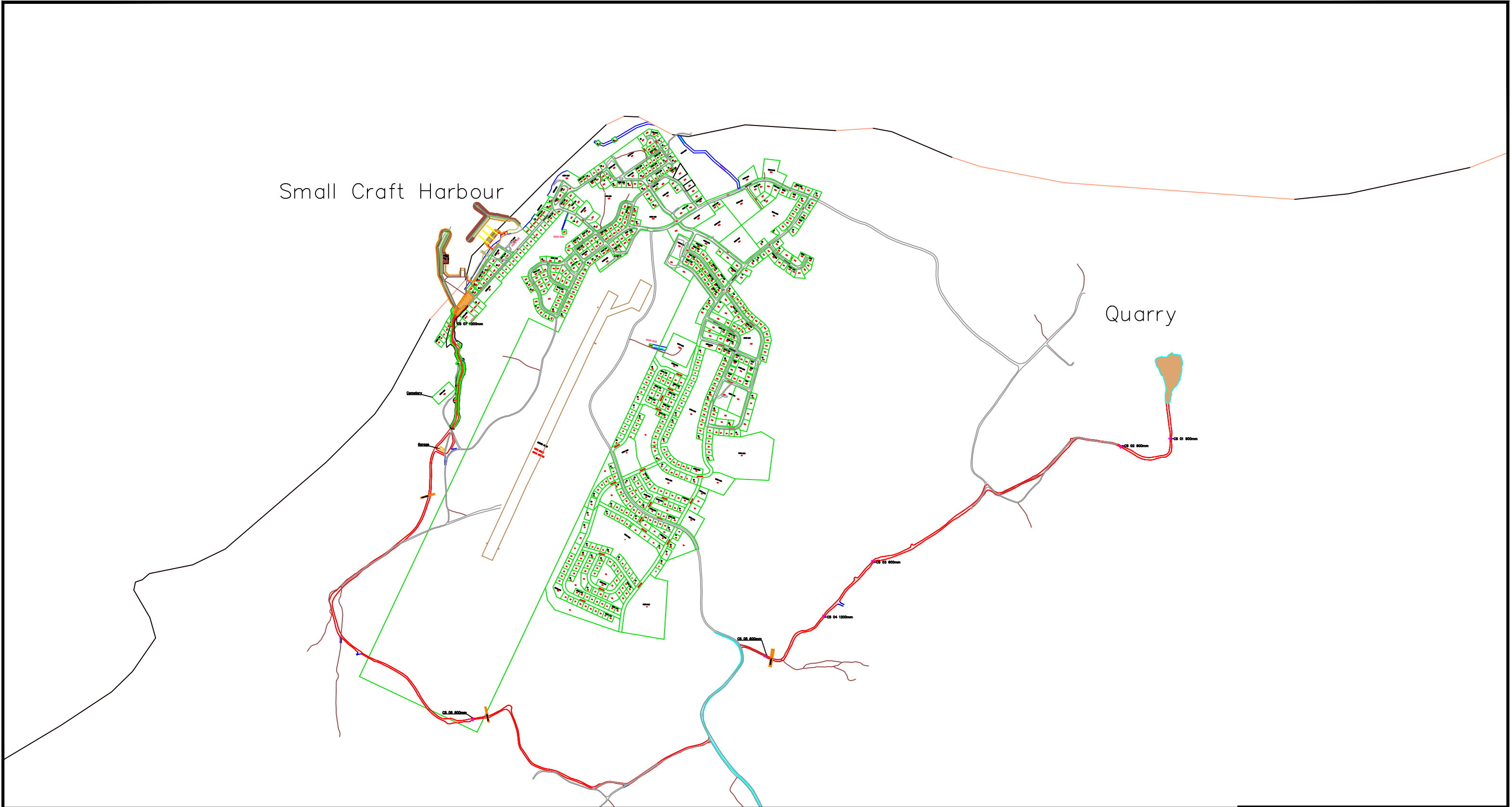
Date	Location	Quantity	Product	Environment affected	Report number (NT-NU SPILL REPORT)	Latitude	Longitude	Spill source	Area of contamination (m2)	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS
May 31, 2021	Quarry	80L	Biodegradable hydraulique oil	Soil	20-21216	72°41'36"N	-77°52'57"O	Excavator	3	During the operation of the excavator, a hydraulic hose broke and the hydraulic oil leaked from the hose. The oil mostly spilled directly on the ground and it has been determined by the mechanic and the foreman that around 80 L spilled. The contaminated soil has been fully recovered on May 31. The site remediation has been visually confirmed. The soil has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
June 3, 2021	Haul road	2L	Fuel	Soil	20-21224	72°41'18"N	-77°53'57"O	Fuel truck	1	During fuelling operation of a generator, 2 L of fuel spilled on the ground and the surface water (no watercourse has been contaminated). The contaminated soil and water has been fully recovered on June 2 by digging and using absorbents pads. The site remediation has been visually confirmed by the superintendent. The soil and the water has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The contaminated soil and water are going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
June 21, 2021	Haul road	5L	Biodegradable hydraulique oil	Soil	20-21254	72°41'31"N	-77°52'57"O	Excavator	1	A hydraulic hose broke and the hydraulic oil leaked from the hose. The oil spilled on the ground and it has been determined by the mechanic and the foreman that 5 L spilled. The contaminated soil has been fully recovered on June 22. The site remediation has been visually confirmed. The soil has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
June 27, 2021	SCH	5L	Fuel	Soil	20-21266	72°41'42"N	-77°58'53"O	Fuel truck	0.5	Two (2) fuel spills occurred during the fuelling operation using the fuel truck. One is located at the Small Craft Harbor area above the High Water Line and the second is located at the Garage area of Tower Arctic. The contaminated sites have been remediated on June 28. The remediation of the sites are going to be visually confirmed by the Environmental Monitor of Tower Arctic on June 28. An update of the report is going to be provided as soon the sites are confirmed as remediated. The Fuelling Method of Tower Arctic has been reviewed with the worker in charge of the fuelling operation. During the fuelling operation planned on June 28, the Environmental Monitor of Tower Arctic is going to assess the proper implementation of the method.
	TA's Garage					72°41'19"N	-77°59'2"O	Fuel truck		
June 28, 2021	SCH	0.01L	Biodegradable hydraulique oil	Soil	20-21271	72°41'45"N	-77°59'55"O'	Excavator	0.09	At the Shoreline of the Small Craft Harbor and above the high water line, a hydraulic hose broke and biodegradable hydraulic oil leaked from the hose. Oil spilled on the ground and it has been determined by the Environmental Monitor that 0.01L spilled. The contaminated soil has been fully recovered on June 28. The site remediation has been visually confirmed. The soil has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
July 2, 2021	SCH	20L	Biodegradable hydraulique oil	Soil	20-21278	72°41'52"N	-77°58'26"O	Rock truck	3	At the Shoreline of the Small Craft Harbor and above the high water line, a hydraulic hose broke and biodegradable hydraulic oil leaked from the hose. Oil spilled on the ground and it has been determined that about 20L spilled. The contaminated soil has been recovered and placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil will be to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
July 9, 2021	TA's Garage	1L	Fuel	Soil	20-21293	72°41'19"N	-77°59'3"O	Fuel truck	1	Different spills occurred where the TA fuel truck is parked. As no equipment is fuelled here (instead of a generator) and as the TA fuel truck has been verified by the mechanics for any leaks we suspect that the spills happened when the fuel truck was refuelled itself by the Hamlet fuel truck. The contaminated soil has been recovered and the site remediation has been visually confirmed by the EM. The soil was placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil will be to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
July 10, 2021	TA's Garage	8L	Coolant	Soil	20-21294	72°41'20"N	-77°58'53"O	Rock truck	1	Two spills involved preston leaks but from different hoses and different rock trucks. The contaminated soil has been recovered and verified by the EM on site. The contaminated soil is placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil will be to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
						72°41'21"N	-77°58'53"O			
July 10, 2021	Haul road	5L	Coolant	Soil	20-21295	72°40'45"N	-77°56'34"O	Rock truck	1	The hose for cab heater broke while driving. By the time of the intervention was completed, 5L of prestone leaked. The contaminated soil has been fully recovered on July 10th. The site remediation has been visually confirmed. The soil has been placed in the proper Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
July 11, 2021	SCH	5L	Coolant	Soil	20-21xxx	72°41'47"N	-77°59'7"O	Bulldozer	1	At the wharf of the Small Craft Harbor and below the high water line, a water pump hose broke and preston leaked. About 5L of preston spilled. The contaminated soil has been fully recovered on July 11th. The site remediation has been visually confirmed. The soil has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
July 11, 2021	TA's Garage	5L	Coolant	Soil	20-21xxx	72°41'19"N	-77°58'59"O	Rock Truck	1	The spill involved preston leaks from an hose of the cab heater. The spill occurred when repairing the hose because the spill tray used by the mechanics was perforated. The contaminated soil has been fully recovered on July 11th. The site remediation has been visually confirmed. The soil (and the perforated spill tray) has been placed in the proper Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
July 23, 2021	SCH	< 1L	Grease	Soil	20-21313	72°41'47"N	-77°59'7"O	Unknown	0.25	At the wharf of the Small Craft Harbor, below the high water line, and about 5m from water at the time of reporting, grease was found over a surface of about 0.25m2. The site remediation has been visually confirmed. The soil has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.

Date	Location	Quantity	Product	Environment affected	Report number (NT-NU SPILL REPORT)	Latitude	Longitude	Spill source	Area of contamination (m2)	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS
July 26, 2021	TA's Garage	< 10L	Fuel	soil	20-21318	72°41'19"N	-77°59'3"O	Rock Truck	1.5	Multiple spills occurred where the TA fuel truck is parked. After investigate, different sources of leaks were found on the fuel truck. The fuel truck is on process to be fixed, meanwhile, spill trays and absorbant layers are displayed to retain the leaks. Once the contaminated soil will be recovered and the site remediation visually confirmed by the EM, an update will be sent.
August 5, 2021	SCH	20L	Biodegradable hydraulique oil	Soil	20-21329	72°41'48"N	-77°59'5"O	Excavator	30	At the temporary access dredge of the Small Craft Harbor and below the high water line, a o'ring of an hydraulic hose broke and biodegradable hydraulic oil leaked from the hose. As the excavator was close to the water (1m from the edge), the operator moved it away from water to avoid any contact with the sea (which explain why more surface was impact). The oil on the ground was recovered immediately using absorbant layers. The contaminated soils in the excavator traction plates was recovered. The site remediation has been visually confirmed. The soil and layers has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
August 15, 2021	SCH	1L	Biodegradable hydraulique oil	Soil	20-21348	72°41'48"N	-77°59'5"O	Excavator	30	Small leak falling on the track of the excavator at a rhythm of one drop per 7 seconds. The spill and leak weren't noticed until the end of the day. The excavator had already made a few small leaks by then. They were all identified and the contaminated soil was put in a Quatrex container container and brought to the Tower Arctic garage. Estimation of leaked oil was made considering 1 drop of oil every 7 seconds for a duration of 12 hours (worst case scenario). At an estimated 0.065mL per drop, the calculation showed less than 1L. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
August 24, 2021	SCH	0.2L	Biodegradable hydraulique oil	Soil	20-21364	72°41'46"N	-77°59'03"O	Excavator	0.25	During the infill removal material at the temporary dredge access, an o'ring of an hydraulic hose broke. Spill tray and absorbant layers were immediatly placed so about 0.2L biodegradable hydraulic oil leaked on the ground. The location of the spill is under the High water level and at about 50cm from the edge of the dredge access path. The spill occurred during the ebb tide, so enough time to remove all the contaminated soil. The excavator was moved to the garage to be cleaned and checked before brought back at the SHC. The contaminated soil has been fully recovered on August 24th. The site remediation has been visually confirmed. The soil has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
August 26, 2021	SCH	7L	Biodegradable hydraulique oil	Soil	20-21367	72°41'46"N	-77°59'03"O	Excavator	3	During the dredging at the temporary dredge access, an hydraulic hose broke. Absorbent layers were immediately placed but about 7L biodegradable hydraulic oil leaked from the hose. An unknown portion of it reached the ground. The location of the spill is under the High water level and at about 50cm from the edge of the dredge access path. The spill occurred during the ebb tide, so enough time to remove all the contaminated soil. The excavator was repaired and oil on the excavator was removed before starting to operate again. The contaminated soil has been fully recovered on August 26th. The soil has been placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
August 29, 2021	SCH	1.3L	Biodegradable hydraulique oil	Soil	20-21371	72°41'43"N	-77°58'58"O	Unknown	1.1	Multiple spills in the sealift laydown area above the high water line: - Grease was found over a surface of about 1m2. - Hydraulic biodegradable oil was found over a surface of about 0.1m2. The contaminated soil was placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
September 3, 2021	SCH	0.5L	Biodegradable hydraulique oil	Soil	20-21382	72°41'48"N	-77°58'42"O	Telehandler	1	An hose of the telehandler broke on the shoreline near the actual boat ramp, the spill occurred above the High water level. Absorbent layers were immediately used and the contaminated soil was recovered. The EM was present during the cleaning. The soil is placed in Quatrex bags at the temporary garage area of Tower Arctic at Pond Inlet. The soil is going to be shipped in an authorized receiver during the demobilization process of the Marine Infrastructure Project.
September 11, 2021	SCH	2L	Biodegradable hydraulique oil	Soil	20-21394	72°41'48"N	-77°59'5"O	Excavator	10	The leak occurred on the wharf. It was small enough and the reaction quick enough so that no oil reached the water. The excavator was stopped once the leak occurred and pads inside the operator's cabin were immediately used to absorb the oil on the surface. The contaminated soil was then picked up by another excavator and placed in a Quatrex container and brought to the Tower Arctic garage. Approximately 0.5m3 of soil were removed. No environmental monitor was on site at the time as I was on my way to Pond Inlet by plane when the leak took place. It was documented and taken care of by Tower Arctic personnel.
October 28, 2021	SCH	5L	Transmission fluid	Soil	20-21460	72°41'44"N	-77°59'2"O	Drill	1	Spill from a broken hose on the drill. The spill will be cleaned and stored at Tower Arctic Ltd. garage in a water tight steel container including absorbents inside for safety purposes. The contaminated soil and water will be demobilized in the 2022 Sealift period. The spill was above the HWL. Because of the winter condition, the remediation of the site is going to be confirmed during the summer 2022



Appendix D

As Built Drawings



Pond Inlet Marine Infrastructure
Haul Road Asbuilt

Date: November 25,2021

== Haul Road Asbuilt

Drawn by: Claude Migneault



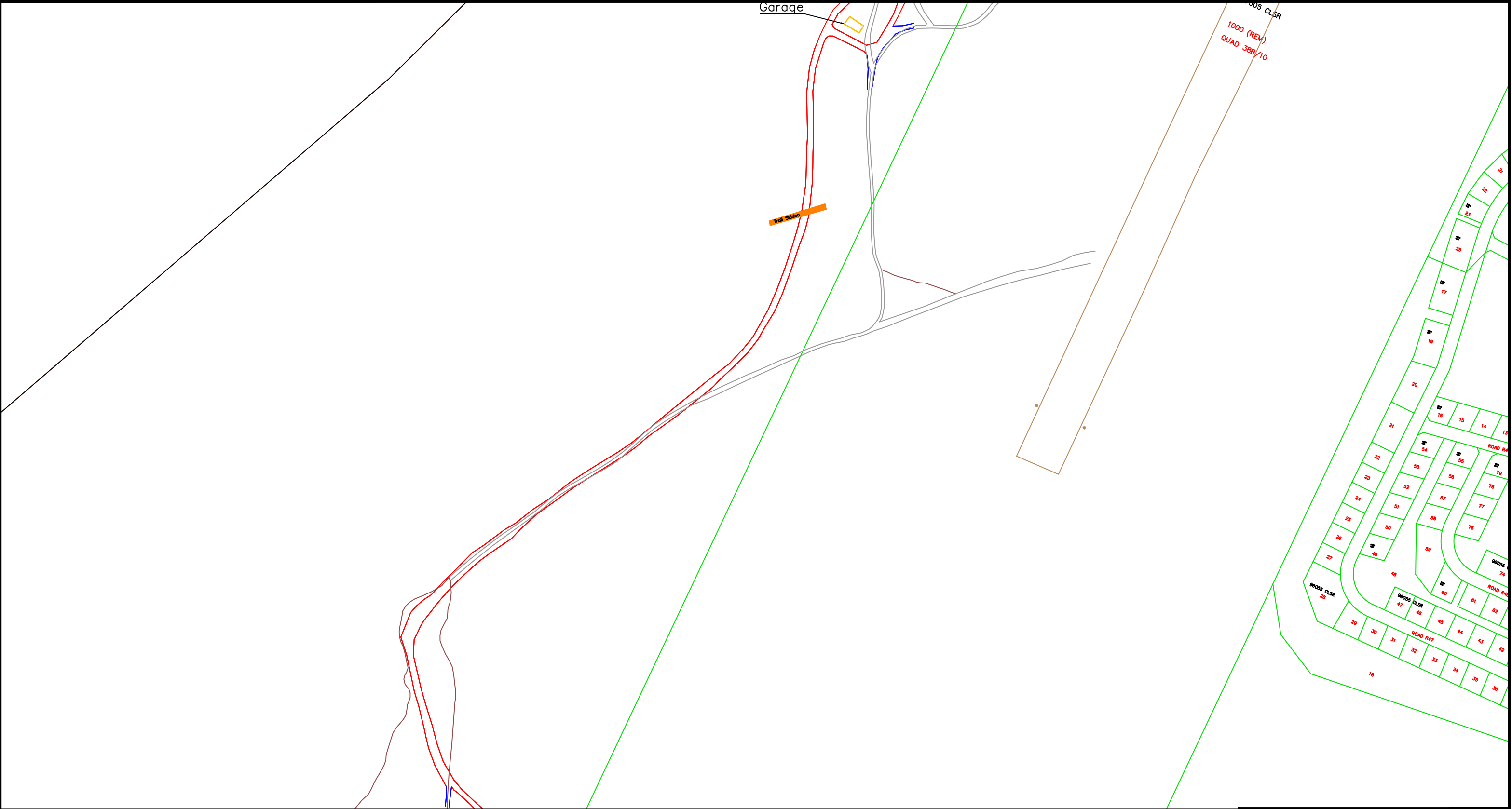
Scale : n/a


Project : Goverment of Nunavut

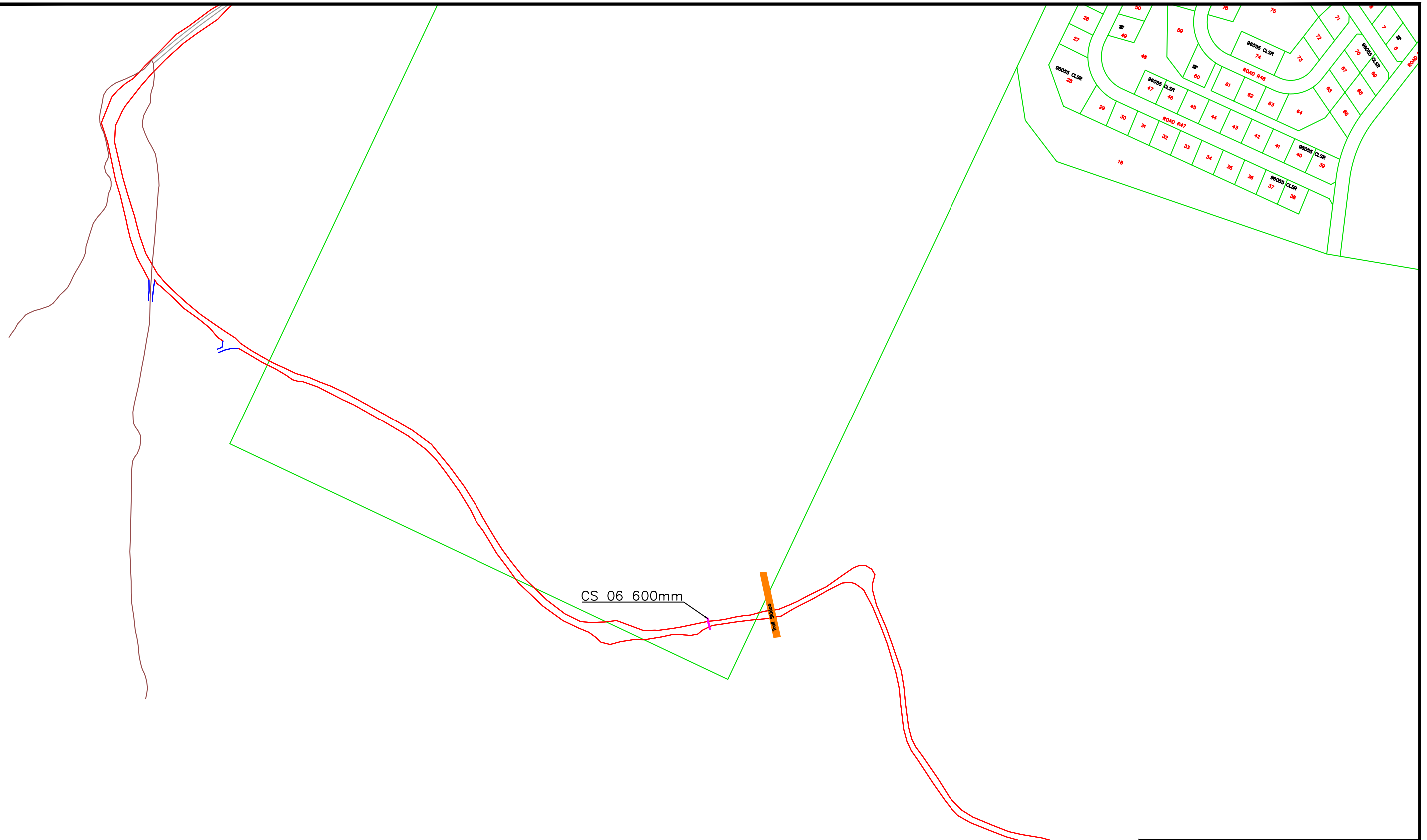
Project
21 807

Drawing #
n/a

Sheet
1/7



Pond Inlet Marine Infrastructure Haul Road Asbuilt					Date: November 25,2021	
					===== = Haul Road Asbuilt	
Scale : n/a	Project : Goverment of Nunavut	Project 21 807	Drawing # n/a	Sheet 3/7	Drawn by: Claude Migneault	



Pond Inlet Marine Infrastructure
Haul Road Asbuilt

Date: November 25,2021

== Haul Road Asbuilt

Scale : n/a

Project : Goverment of Nunavut

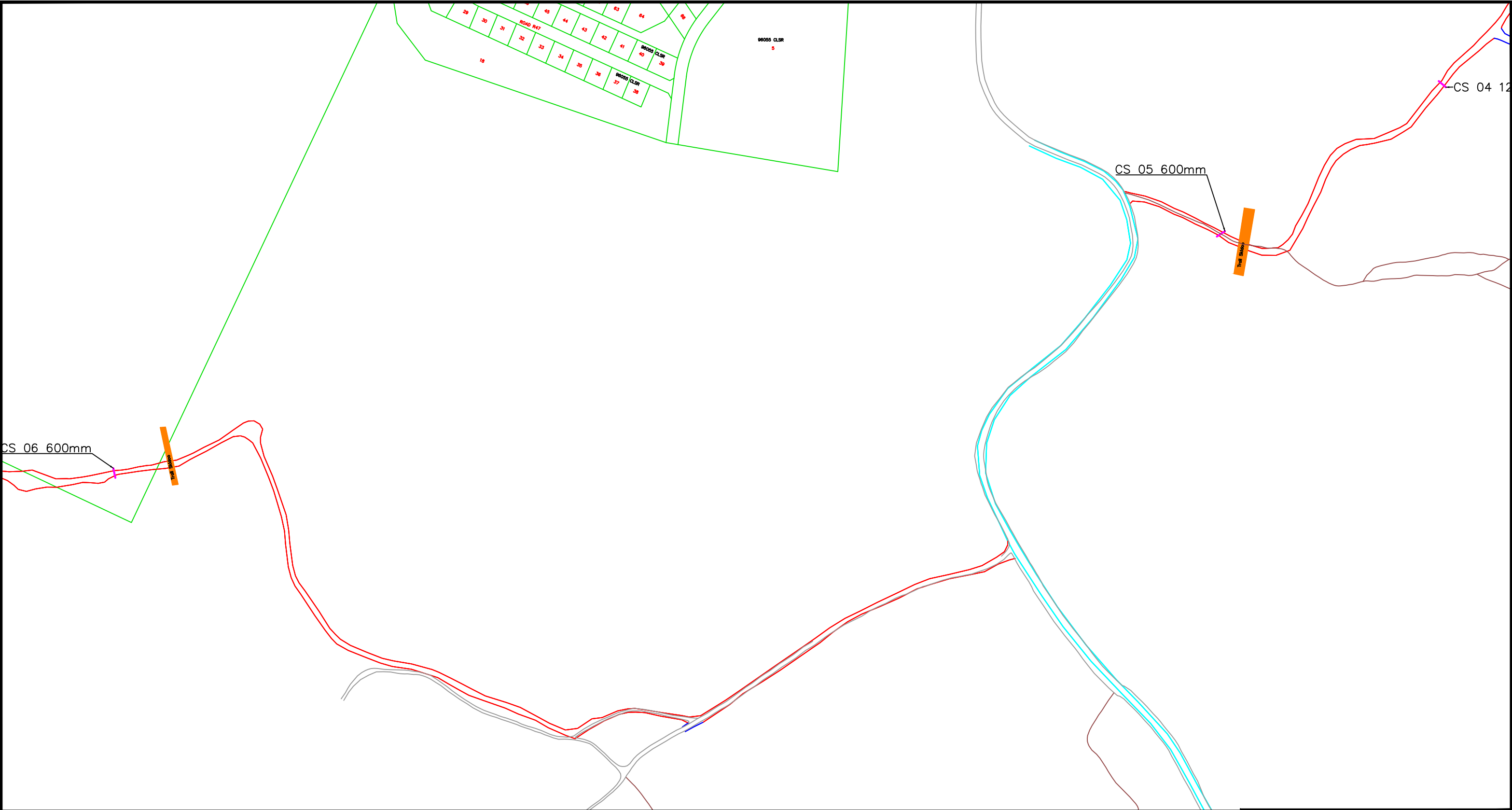
Project
21 807


Drawing #
n/a

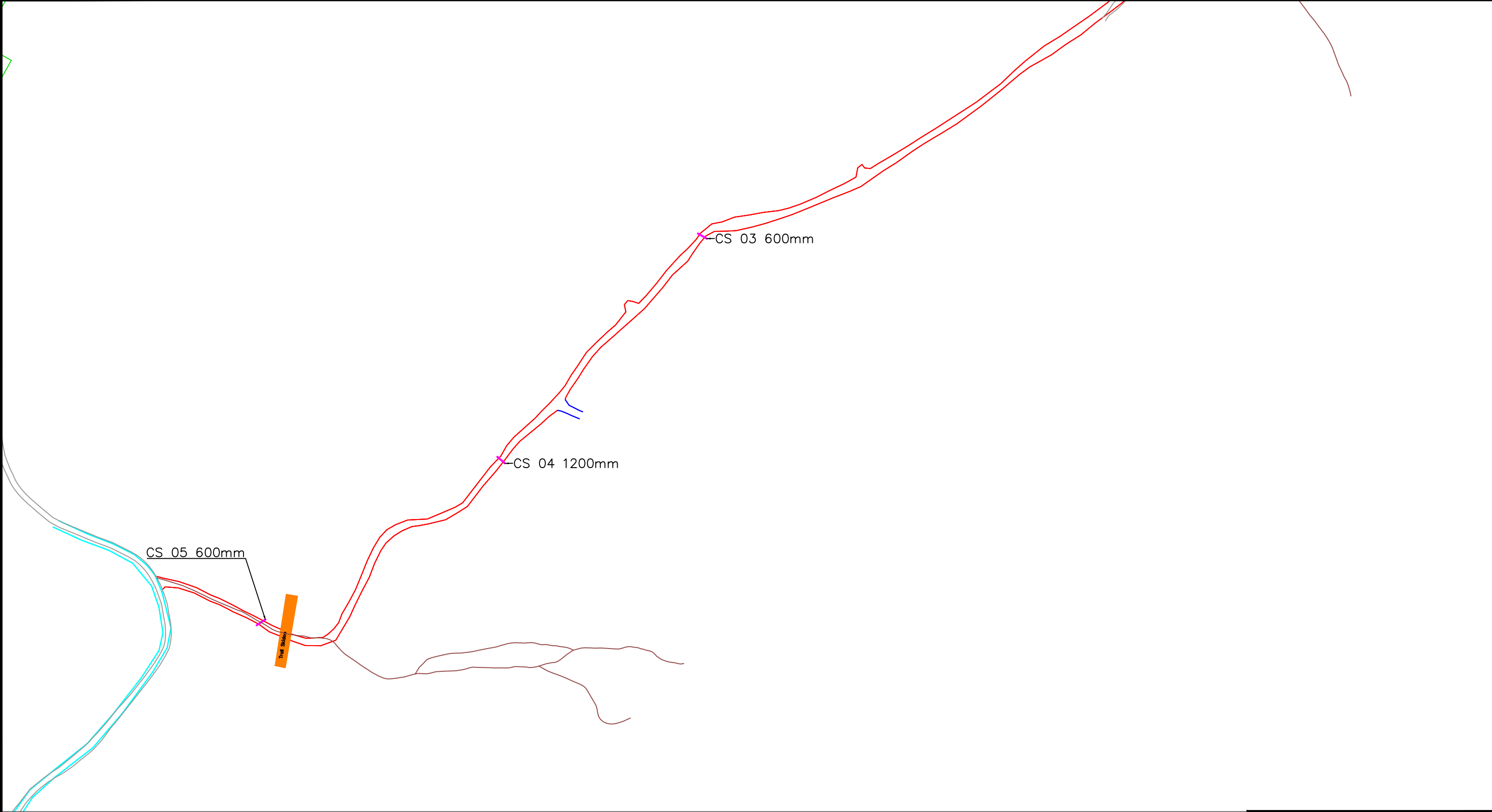
Sheet
4/7


Drawn by: Claude Migneault





Pond Inlet Marine Infrastructure Haul Road Asbuilt					Date: November 25,2021	
					==== = Haul Road Asbuilt	
Scale : n/a	Project : Goverment of Nunavut	Project 21 807	Drawing # n/a	Sheet 5/7	Drawn by: Claude Migneault	



Pond Inlet Marine Infrastructure Haul Road Asbuilt					Date: November 25,2021	
					==== = Haul Road Asbuilt	
Scale : n/a	Project : Goverment of Nunavut	Project 21 807	Drawing # n/a	Sheet 6/7	Drawn by: Claude Migneault	



Pond Inlet Marine Infrastructure Haul Road Asbuilt					Date: November 25,2021
					==== = Haul Road Asbuilt
Scale : n/a	Project : Government of Nunavut	Project 21 807	Drawing # n/a	Sheet 7/7	Drawn by: Claude Migneault

