



3rd Floor Gallery Building
4923-52nd Street, P.O. Box 1500
Yellowknife, NT X1A 2R3

July 20, 2022

Attention: Benjamin Roy
Regulatory Technician
Sahtu Land and Water Board
P. O. Box 1, Fort Good Hope, NT X0E 0H0

**Re: Canol Trail Remediation Project – S17J-001
Final Plan**

Dear Mr. Roy,

Please accept the attached Record of Post Remediation Site Conditions to satisfy the requirement for maps as part of the Final Plan. The Canol Remediation Project used approximately 33 hectares of land – 1 hectare for each of the 33 sites that were remediated.

If you have any questions or concerns regarding this report please contact me (email: jessica.wilson@canada.ca ph: 867-446-3494).

Sincerely,

Jessica Wilson
Project Officer, Contaminants and Remediation Division
Crown Indigenous Relations and Northern Affairs Canada (CIRNAC)

Enclosed:
Canol Trail Post Remediation Site Conditions Report



Crown-Indigenous Relations
and Northern Affairs Canada

Relations Couronne-Autochtones
et Affaires du Nord Canada

Canada 

GCDOCS # 104454816



Canol Trail – Mile Site 24

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 24** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

Remediation Project Start Date: 2018

Remediation Project End Date: 2018

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Drums and Small ASTs: One drum was removed from the Mile Site and consolidated at the Mile Site 46 (Krump's Hill Barrel Dump) drum cache.

- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

Mile Site 24 is not included in the initial MS program for the Project.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. Mile Site 24 is not included in the initial MS program for the Project.





Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 24.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 3 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☒ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

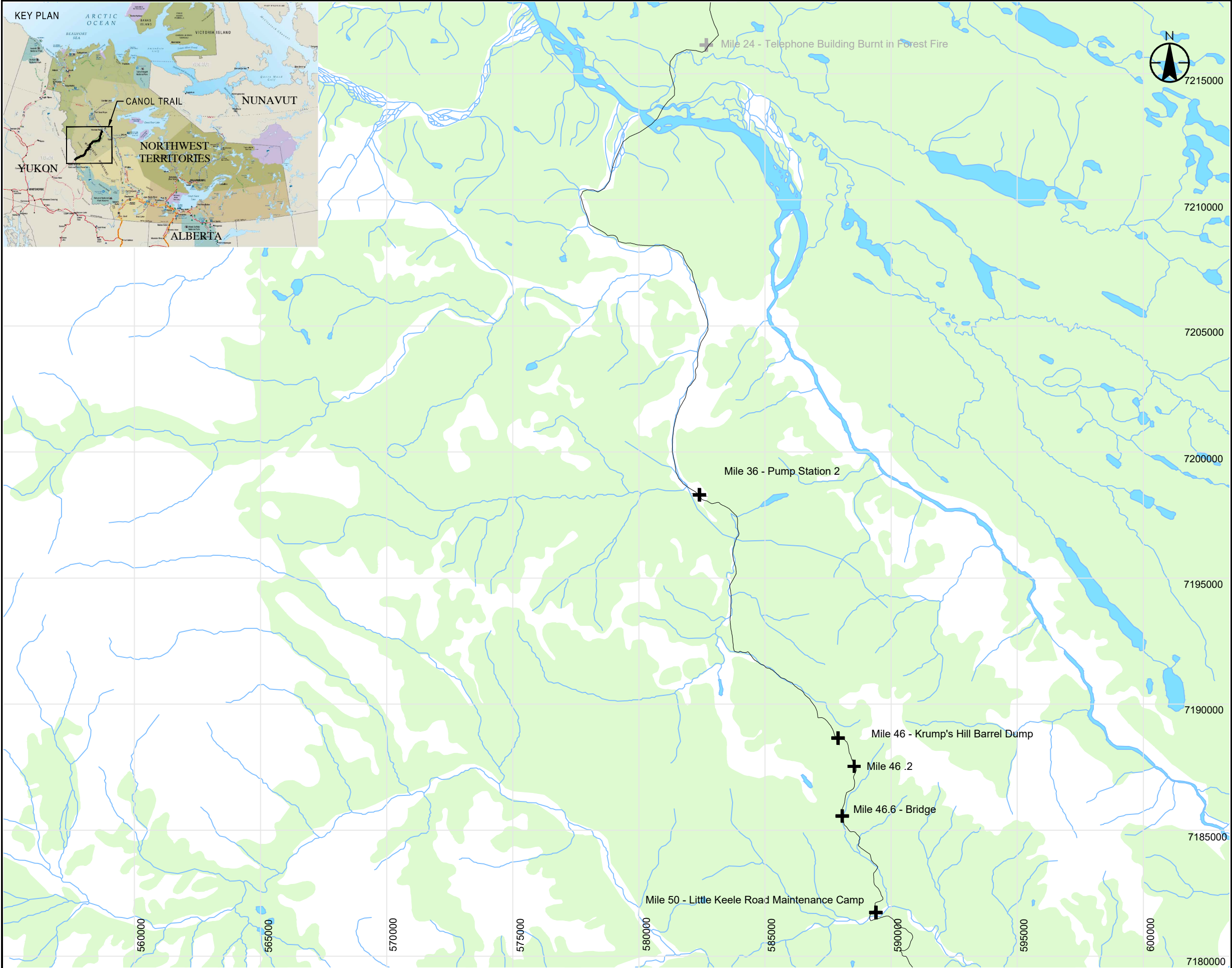
Address: _____

Telephone: _____

E-mail: _____



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Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 1 SITE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	02



Canol Trail – Mile Site 36 – Pump Station 2 Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
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The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 36 – Pump Station 2** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Moderate and Large Aboveground Storage Tanks (ASTs)	Remove chemical hazards of residual products. Mitigate physical hazards by proper closure.
Potential Underground Storage Tank (UST)	Locate, and if found, remove chemical hazards of residual products. Mitigate physical hazards by proper closure.
Standing Structures	Mitigate physical hazards of unmaintained standing buildings through administrative controls (barricades and signage).
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small ASTs	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
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<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
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	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Indigenous Organization(s)</i>	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
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- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles on-site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Medium and Large ASTs: Medium and large ASTs were cleaned and sealed and left on-site.
 - Potential UST: UST identified in Contract Specifications could not be located.
 - Standing Structures: Standing structures were boarded up and remain standing.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility. Some non-friable ACMs (green roofing shingles) may remain.





- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 36 – Pump Station 2.

Table 3 Monitoring and Surveillance Program for Mile Site 36 – Pump Station 2

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Moderate and Large ASTs	CIRNAC	Confirm that access to the insides of the ASTs remains sealed.
Standing Structures and ACMs	CIRNAC	Confirm that the standing structures remain structurally stable and comment on the condition/placement of any barricades. Confirm measurable amounts of residual, nonfriable ACMs have not been distributed at the Mile Site (i.e., enough to fill a regular-sized garbage bag [74 L capacity]) and remove from the site.
Drum and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MS program has been completed (2020); results are summarized below for each category. The same MS program activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Moderate and Large ASTs:

- Moderate and large ASTs were visually inspected. No concerns were noted.

Standing Structures and ACMs

- Visual inspections were completed. Remaining structures were standing and appeared stable. Generally, barricades appeared to have been effective at deterring access except at one location, where one barricade has been dislodged. No measurable amounts of roofing shingles were distributed across the Mile Site.





Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

Standing Structures:

- Remaining structures were monitored in Year 1 (2020), and will be monitored Year 3 (2022) and Year 5 (2024) of MS.

d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

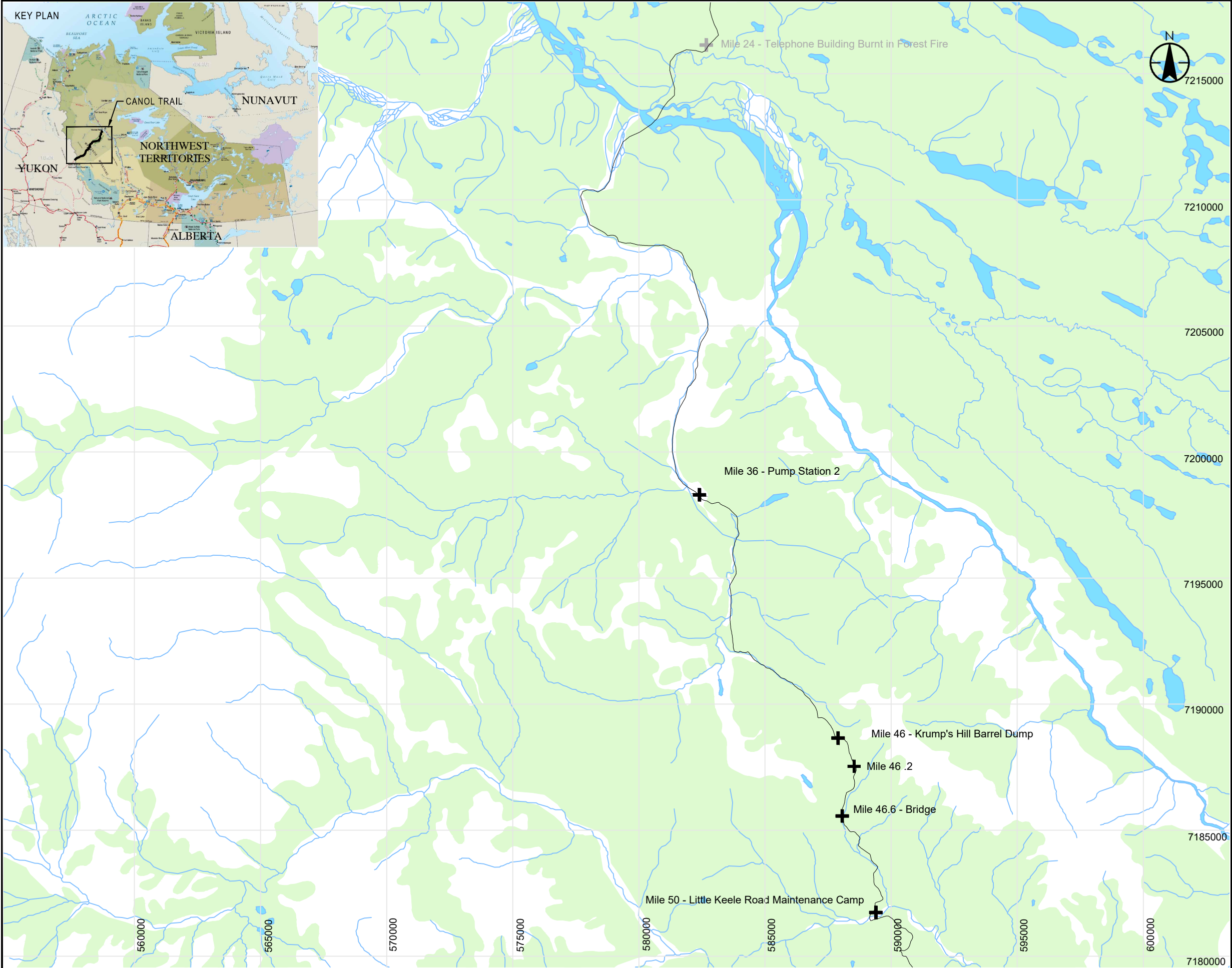
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



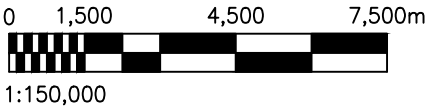
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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

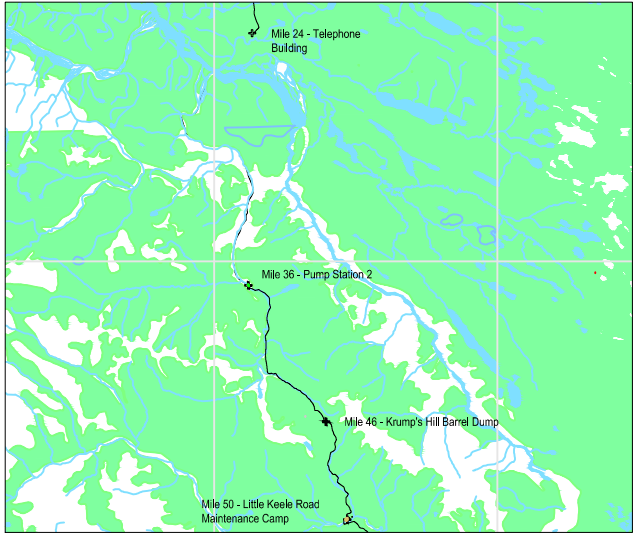
- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 1 SITE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	02



Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Building Standing (Boarded)
- AST
- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Berm
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)
- Road



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 1 MILE 36
DETAIL MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

07



Canol Trail – Mile Site 46 – Krump's Hill Barrel Dump

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
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Project Location:	Canol Trail, Northwest Territories (NT)
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The remedial objectives for the hazard categories identified at **Mile Site 46 – Krump's Hill Barrel Dump** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date:

2018

Remediation Project End Date:

2018 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 -Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: No wire was located at the Mile Site.
- Batteries: One battery was identified during initial assessment but was not located during remedial activities.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into a cache at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 46 – Krump's Hill Barrel Dump.





Table 3 Monitoring and Surveillance Program for Mile Site 46 – Krump's Hill Barrel Dump

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.





c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 46 – Krump's Hill Barrel Dump.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

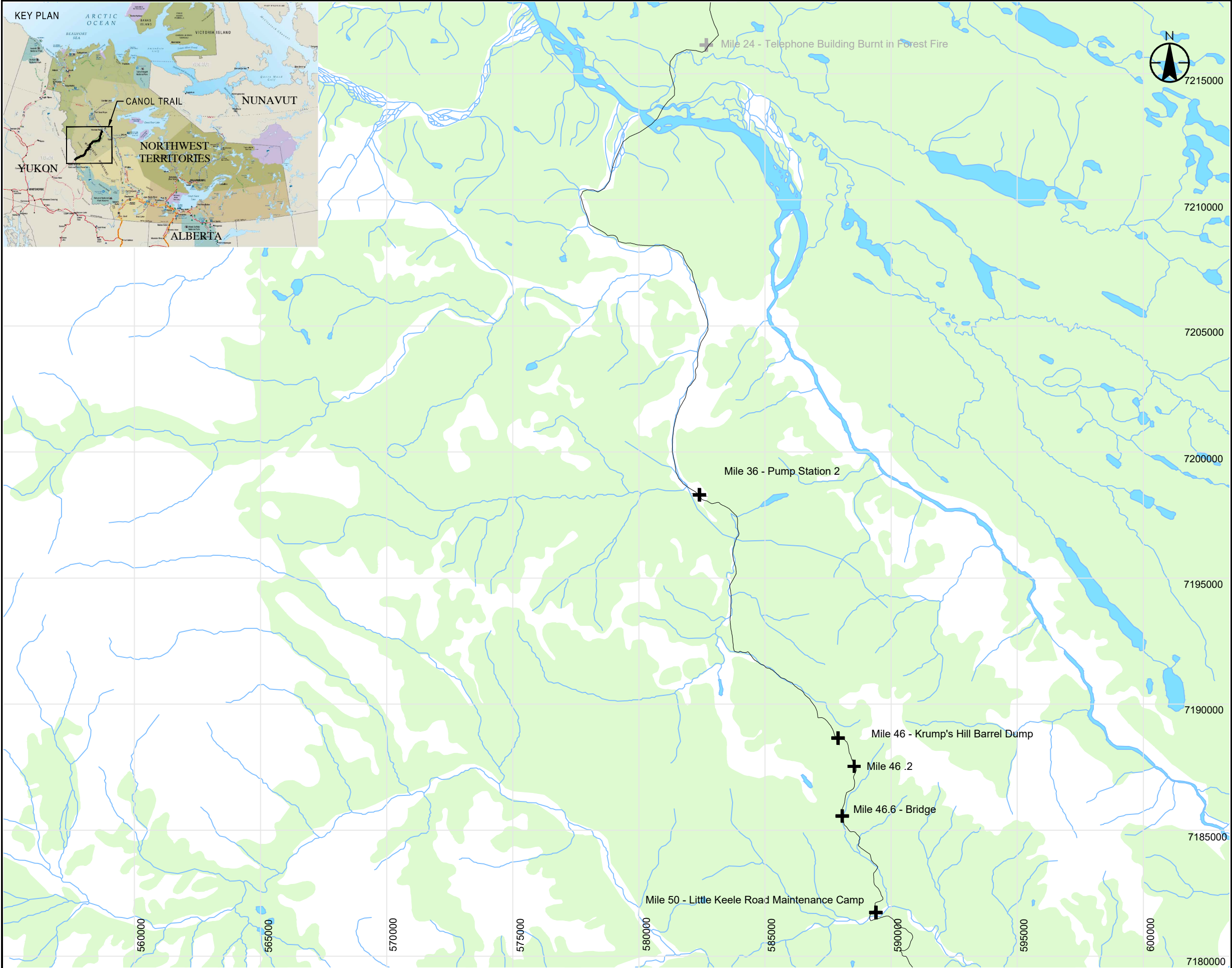
Address: _____

Telephone: _____

E-mail: _____



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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

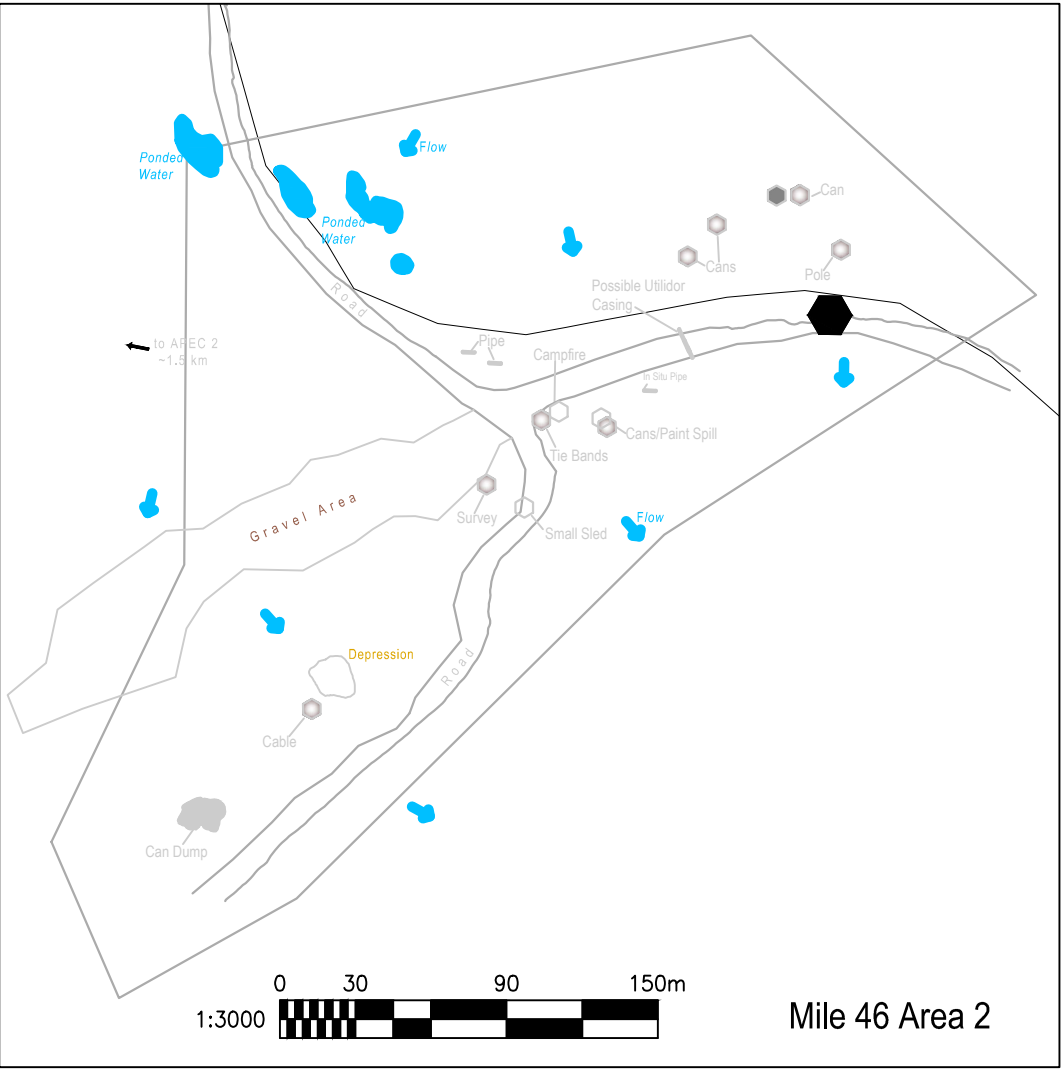
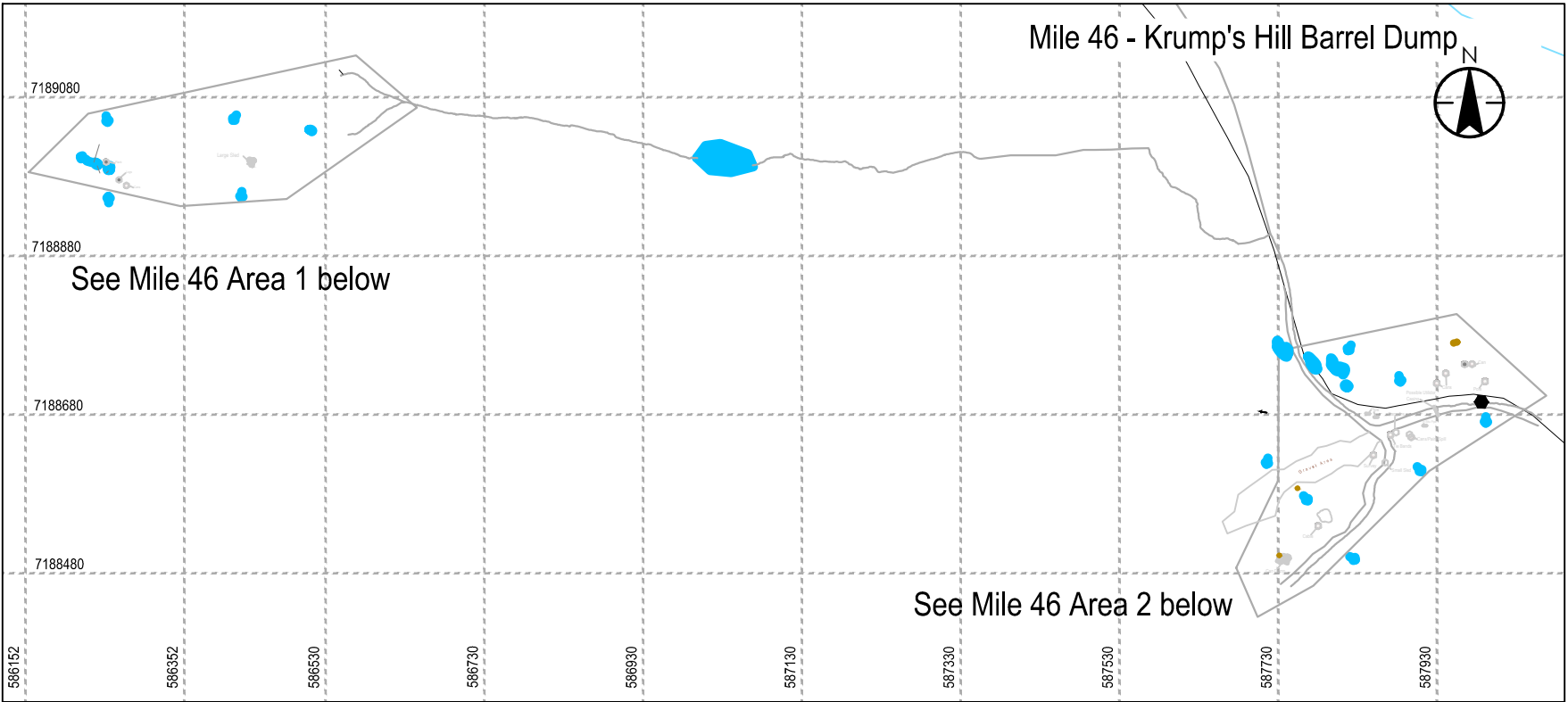
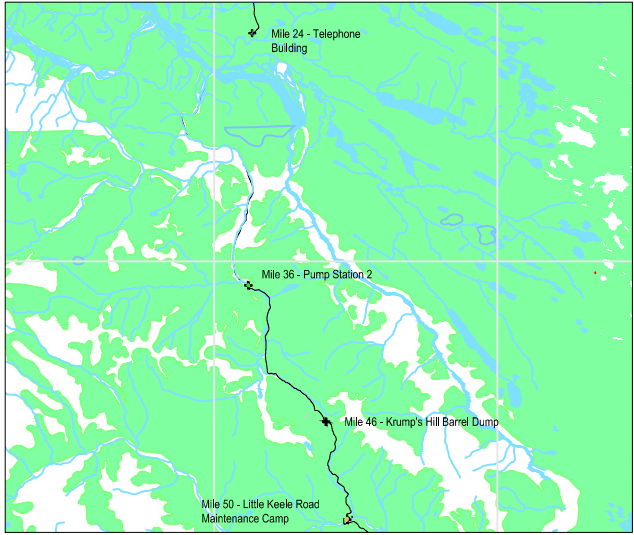
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 1 SITE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	02

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300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Building Standing (Boarded)
- AST
- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Berm
- Water
- Pounded/Standing Water
- Tree Line

D e b r i s

- Wood
- Metal and Wood
- Metal
- Wood
- Pipe
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 1 MILE 46
DETAIL MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

08



Canol Trail – Mile Site 46.2

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 46.2** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

Remediation Project Start Date: 2018
Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Drums and Small ASTs: 20 drums and/or small ASTs were consolidated into caches at Mile Site 46 (Krump's Hill Barrel Dump) and the remaining 13, which contained contaminated sediment, were taken to an appropriate disposal/storage location.

- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures described in Table 1 or Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 46.2.

Table 3 Monitoring and Surveillance Program for Mile Site 46.2

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.





To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drum Caches:

- Drum caches were visually inspected. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 46.2.

d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

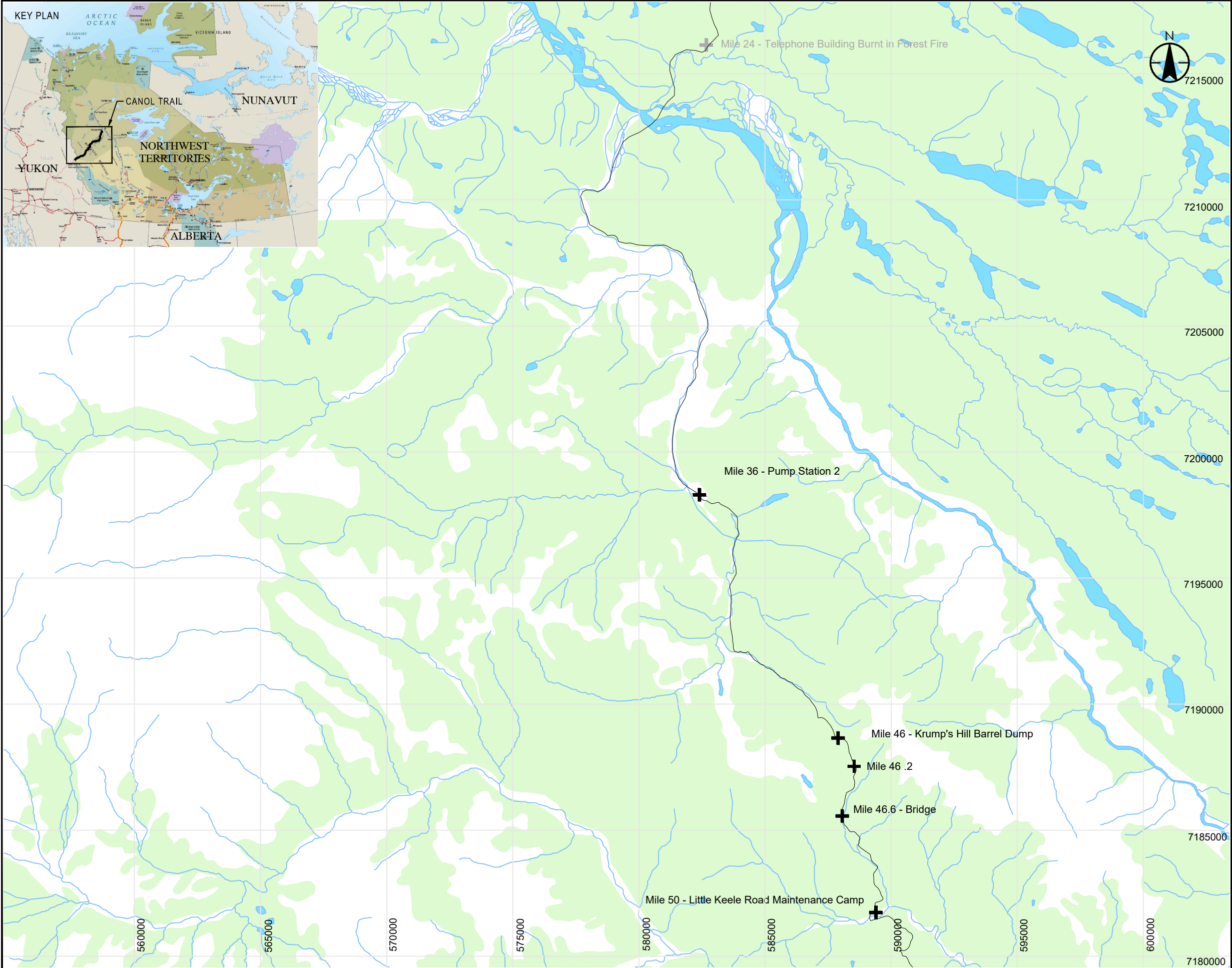
Address: _____

Telephone: _____

E-mail: _____



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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 1 SITE PLAN

Revision

Date

2020.02.13

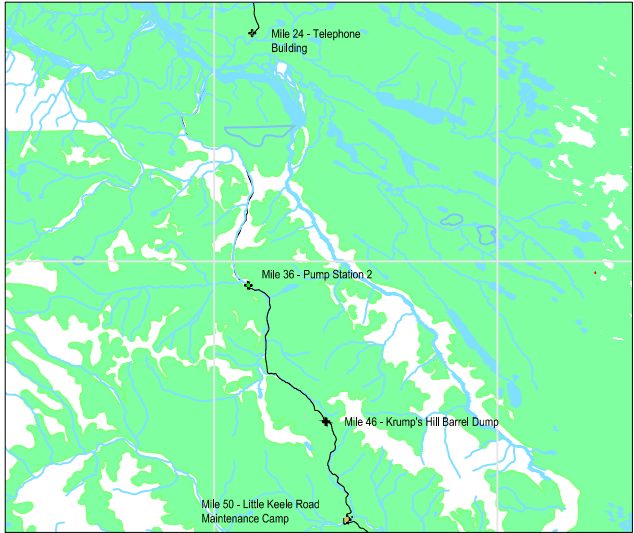
Project No.

121416600

Figure No.

02

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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

 Drum Cache

NOTE: ON FIRST SITE VISIT, DRUM CACHE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 1 MILE 46.2 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	09



Canol Trail – Mile Site 46.6

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 46.6** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Bridge	Remove risks to aquatic habitat as identified by DFO.

Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Bridge: The bridge was demolished, and associated bridge debris was removed and consolidated above the high-water mark.

- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 46.6.

Table 3 Monitoring and Surveillance Program for Mile Site 46.6

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Bridge	CIRNAC	Confirm that the bridge components remain consolidated and above the ordinary high-water mark. Confirm that the bridge removal has not caused changes to the riverbanks which could potentially affect fish passage.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.





To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Bridge

- Consolidated bridge component location was visually assessed. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no crown assets at Mile 46.6.

d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

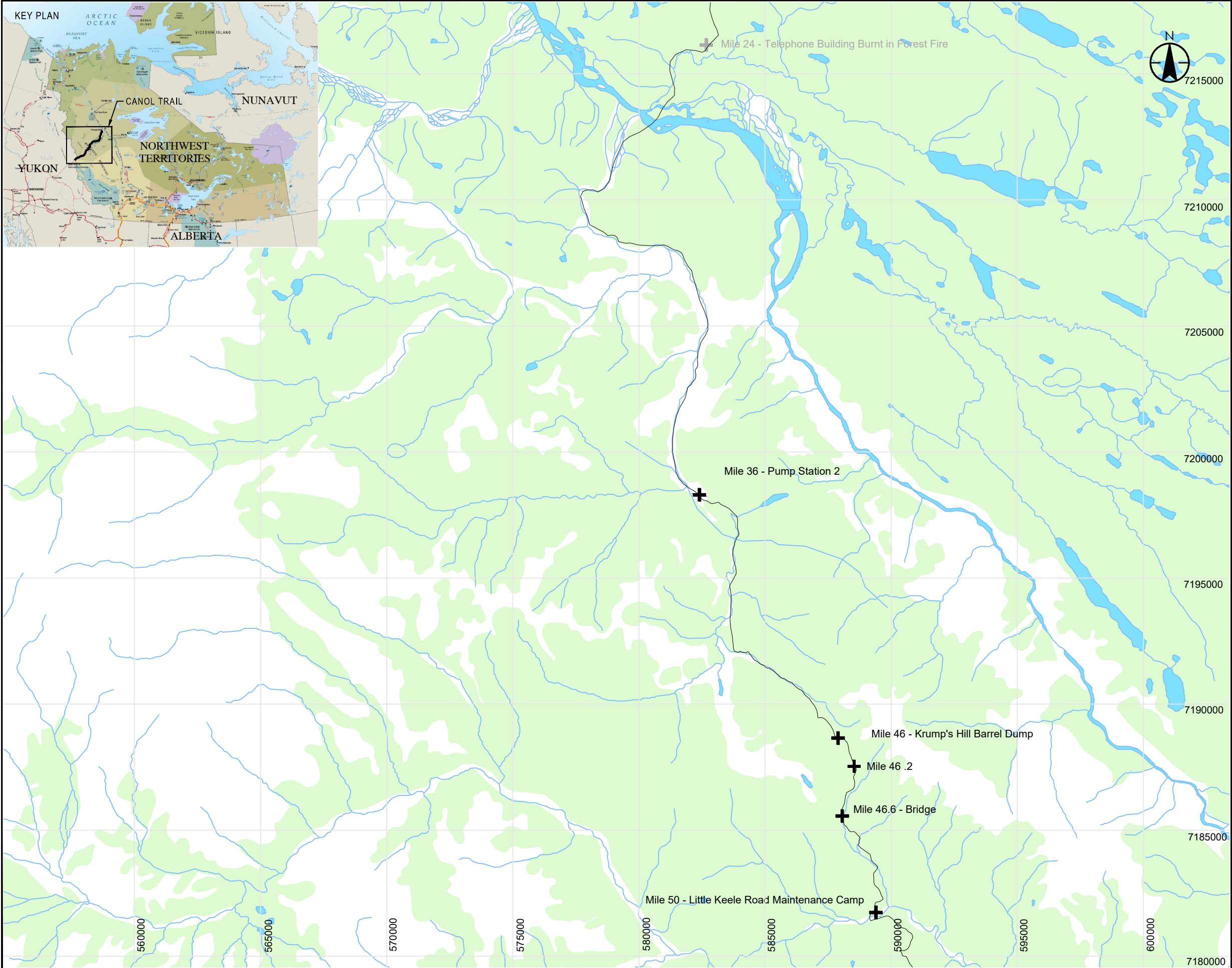
Address: _____

Telephone: _____

E-mail: _____



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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
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www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 1 SITE PLAN

Revision	Date 2020.02.13
Project No. 121416600	Figure No. 02



Canol Trail – Mile Site 50 – Little Keele Road Maintenance Camp Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 50 – Little Keele Road Maintenance Camp** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and / or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Indigenous Organization(s)</i>	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
 - Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.





- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 50 – Little Keele Road Maintenance Camp.

Table 3 Monitoring and Surveillance Program for Mile Site 50 – Little Keele Road Maintenance Camp

Monitoring Categories	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drum Caches:

- Drum caches were visually inspected. No major concerns were noted for the caches. Some unconsolidated drums were identified in one location outside of a cache, and drums from one cache appeared to have been redistributed across the Mile Site.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.





Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 50 – Little Keele Road Maintenance Camp.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

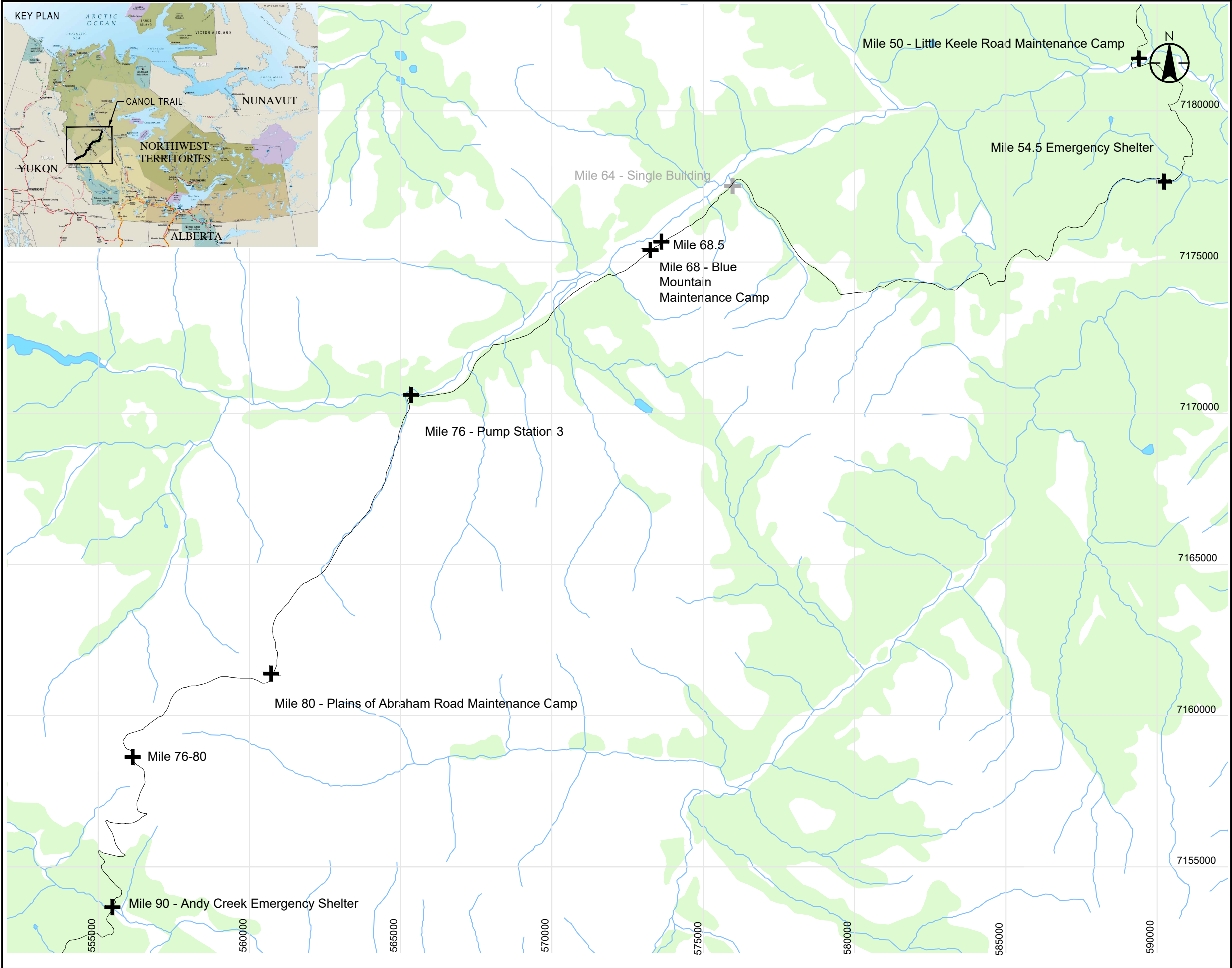
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Telephone: _____

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www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

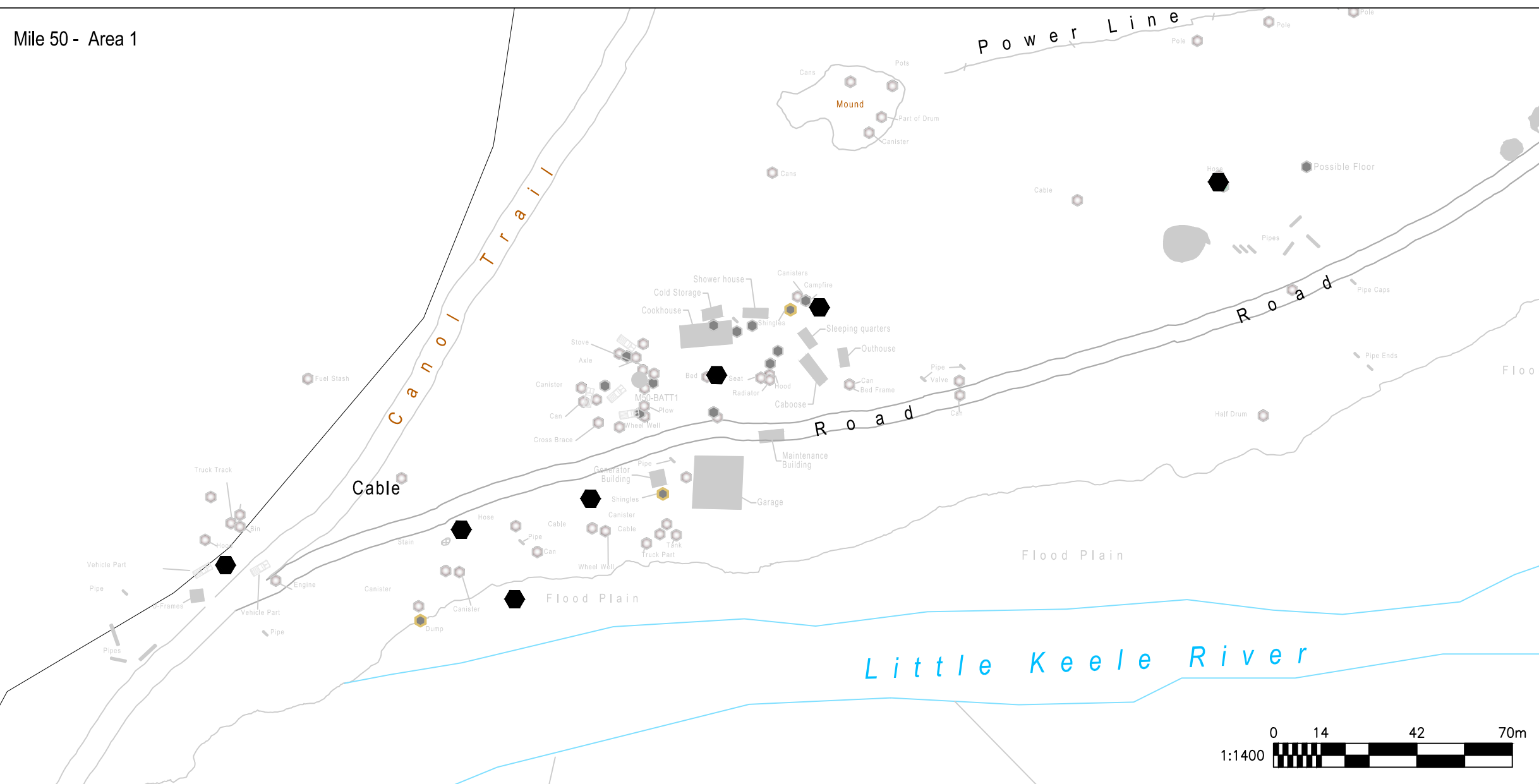
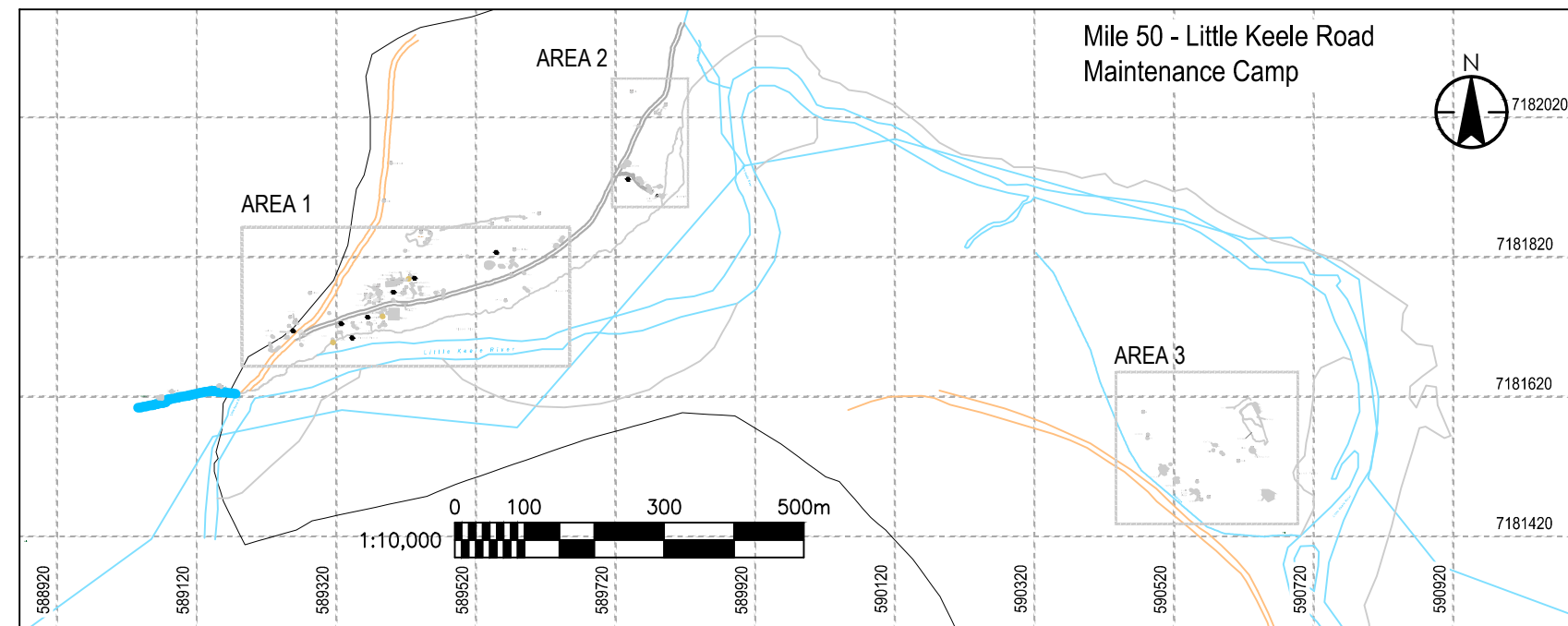
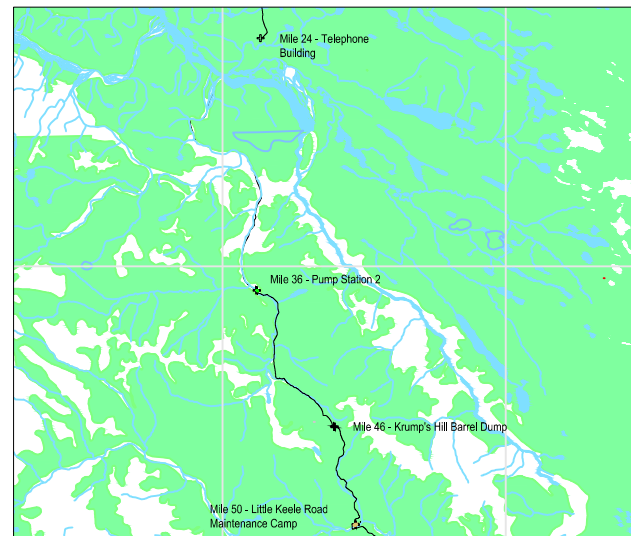
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Project No.

121416600

Figure No.

03



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Markham ON L3R 0B8
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www.stantec.com

Legend

Features Requiring MS

-  Building Standing (Boarded)
-  AST
-  Drum Cache
-  Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

-  Building Demolished and/or Consolidated
 Berm
 Water

D e b r i s

-  Wood
-  Metal and Wood
-  Metal
-  Wood
-  Pipe

Project/Client

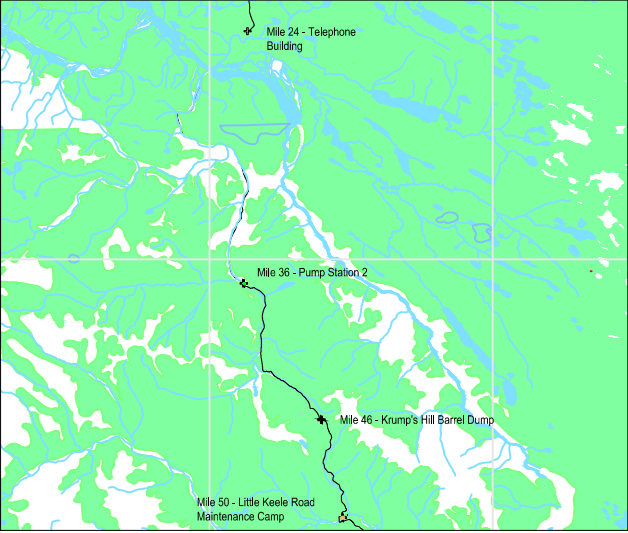
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
 ZONE 1 MILE 50
 DETAIL MILE PLAN SHEET 1

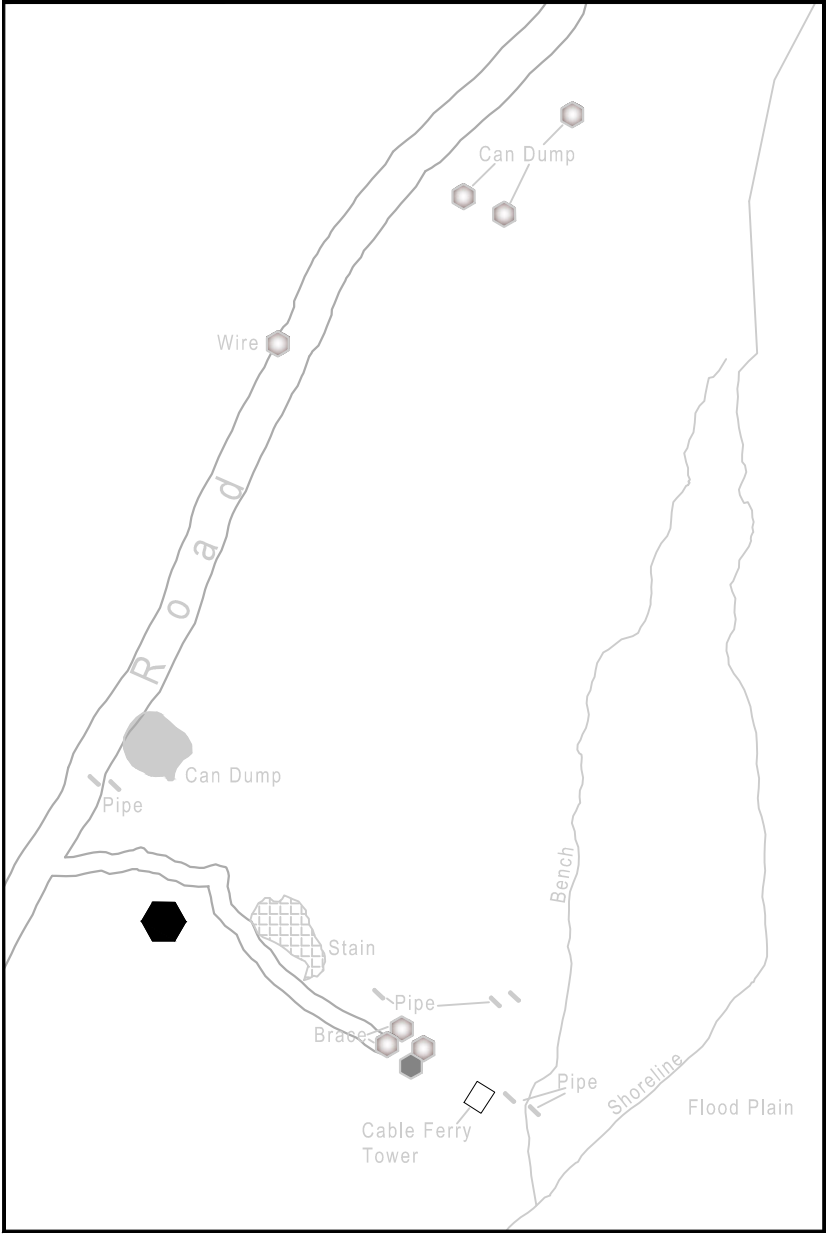
Revision	Date
	2020.02.13

Project No. 121416600	Figure No. 10
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Mile 50 - Area 2



Mile 50 - Area 3



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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Water
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 1 MILE 50
DETAIL MILE PLAN SHEET 2

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

11



Canol Trail – Mile Site 54.5 – Emergency Shelter Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 54.5 – Emergency Shelter** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: No wire was located at the Mile Site.
- Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
- Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
- Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
- ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into a cache at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 54.5 – Emergency Shelter.





Table 3 Monitoring and Surveillance Program for Mile Site 54.5 – Emergency Shelter

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drum Caches:

- The drum cache could not be located. Another attempt to locate will be undertaken in Year 3 (2022).

Existing Signage:

- Signage could not be located. Another attempt to locate will be undertaken in Year 3 (2022).

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?





There are no Crown investments at Mile Site 54.5 – Emergency Shelter.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

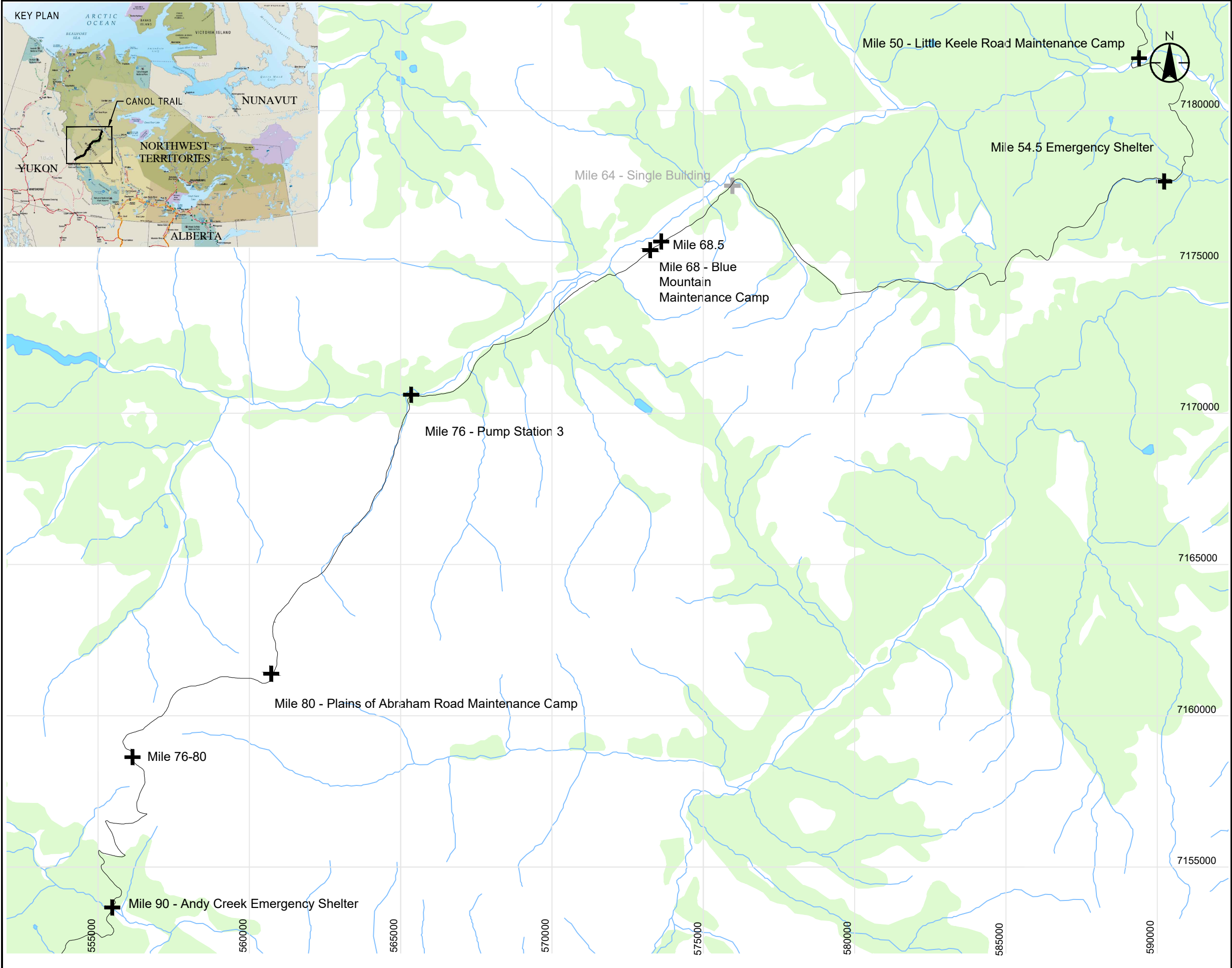
Company: _____

Address: _____

Telephone: _____ E-mail: _____



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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

2020.02.13

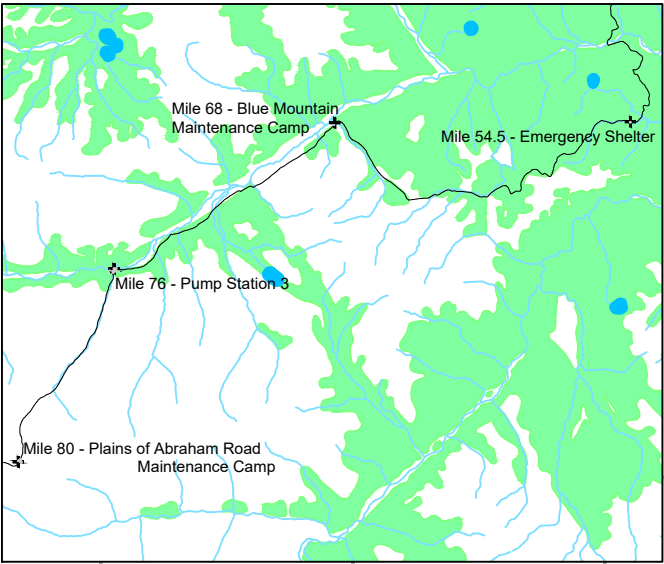
Project No.

121416600

Figure No.

03

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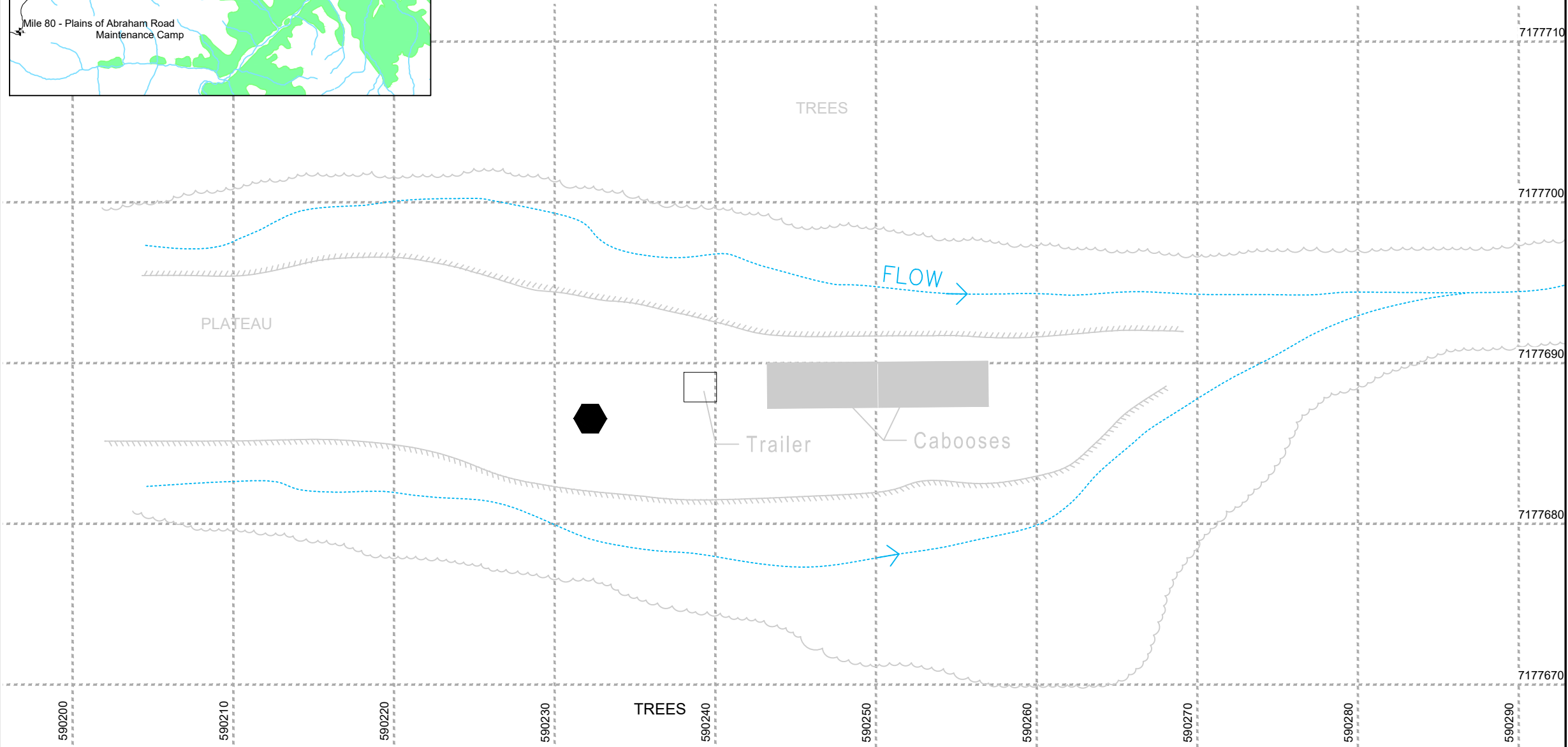
Features Requiring LTM

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SIGNAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

- Building Demolished and/or Consolidated
- Water
- Tree Line



Mile 54.5 - Emergency Shelter

Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 2 MILE 54.5 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	12



Canol Trail – Mile Site 68 – Blue Mountain Road Maintenance Camp Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 68 – Blue Mountain Road Maintenance Camp** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles (between Mile Sites 68 and 76)	Remove physical hazard from wire or unstable poles (where near trail).
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 -Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from between Mile Sites 68 (Blue Mountain Road Maintenance Camp) and 76 (Pump Station 3) and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at Mile Site 68 (Blue Mountain Road Maintenance Camp).
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 68 – Blue Mountain Road Maintenance Camp.





Table 3 Monitoring and Surveillance Program for Mile Site 68 – Blue Mountain Road Maintenance Camp

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. The assessed sign had blown off its post.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.





c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 68 – Blue Mountain Road Maintenance Camp.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

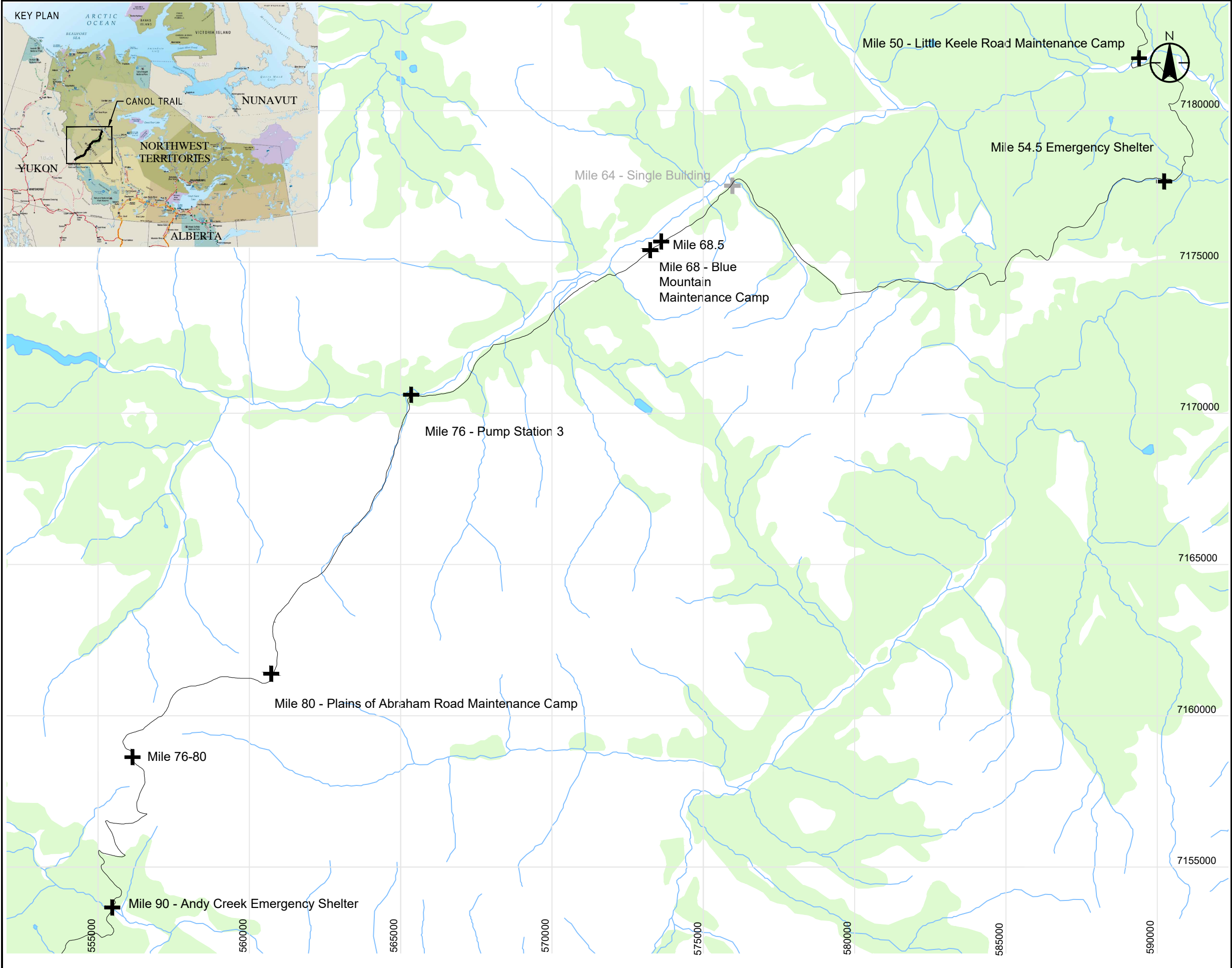
Address: _____

Telephone: _____

E-mail: _____



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Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

2020.02.13

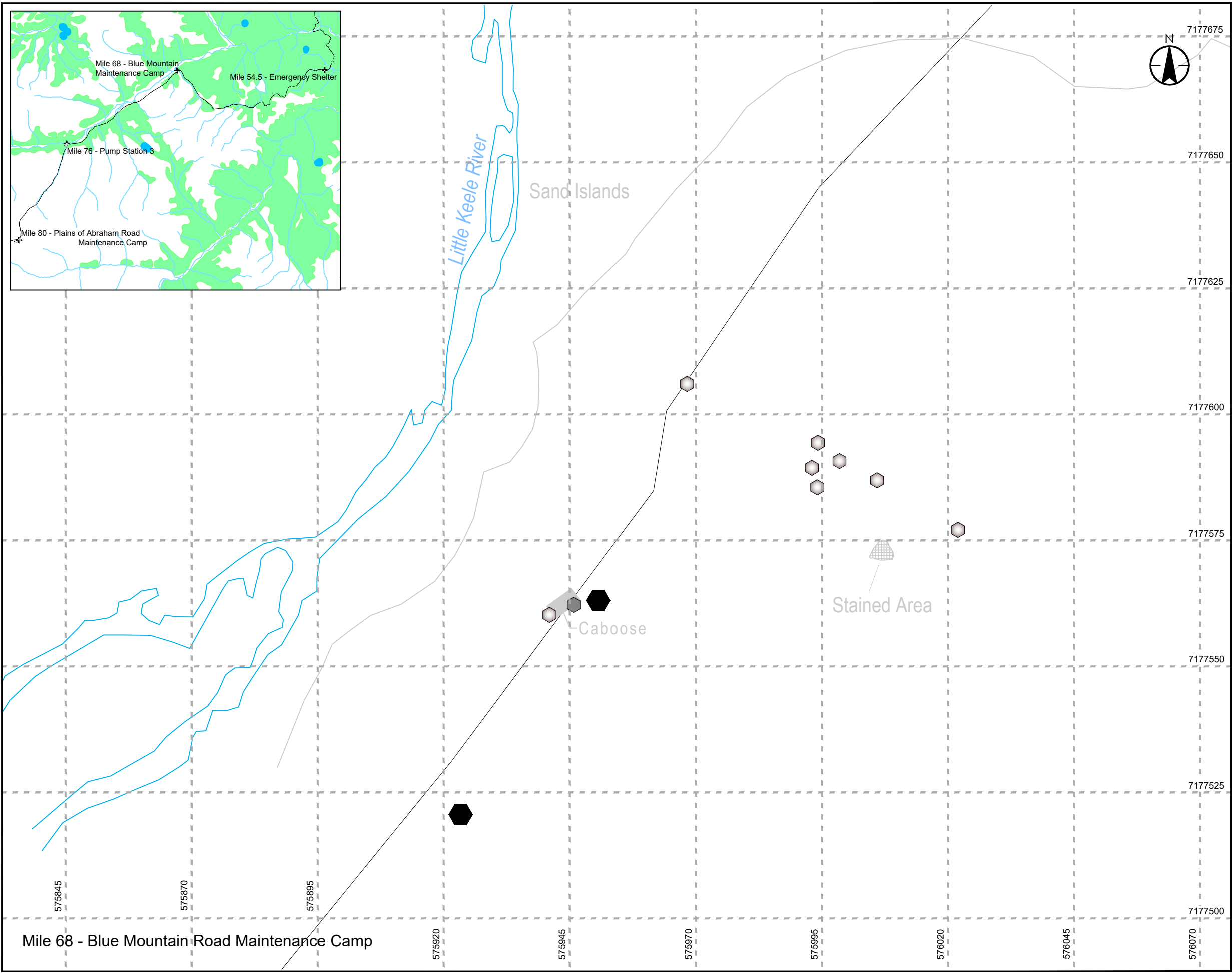
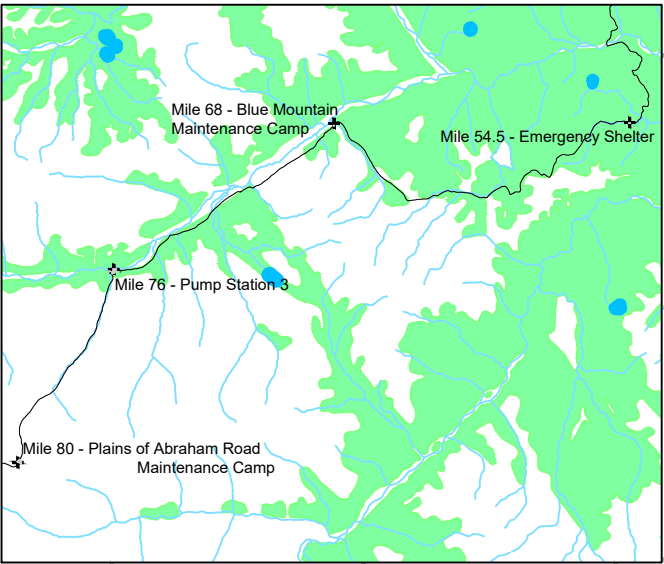
Project No.

121416600

Figure No.

03

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300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Water
- Debris
- Metal



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 MILE 68 DETAIL
MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

13



Canol Trail – Mile Site 68.5

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 68.5** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, aboveground storage tanks [ASTs], etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 68.5.

Table 3 Monitoring and Surveillance Program for Mile Site 68.5

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.





To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 68.5.

d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

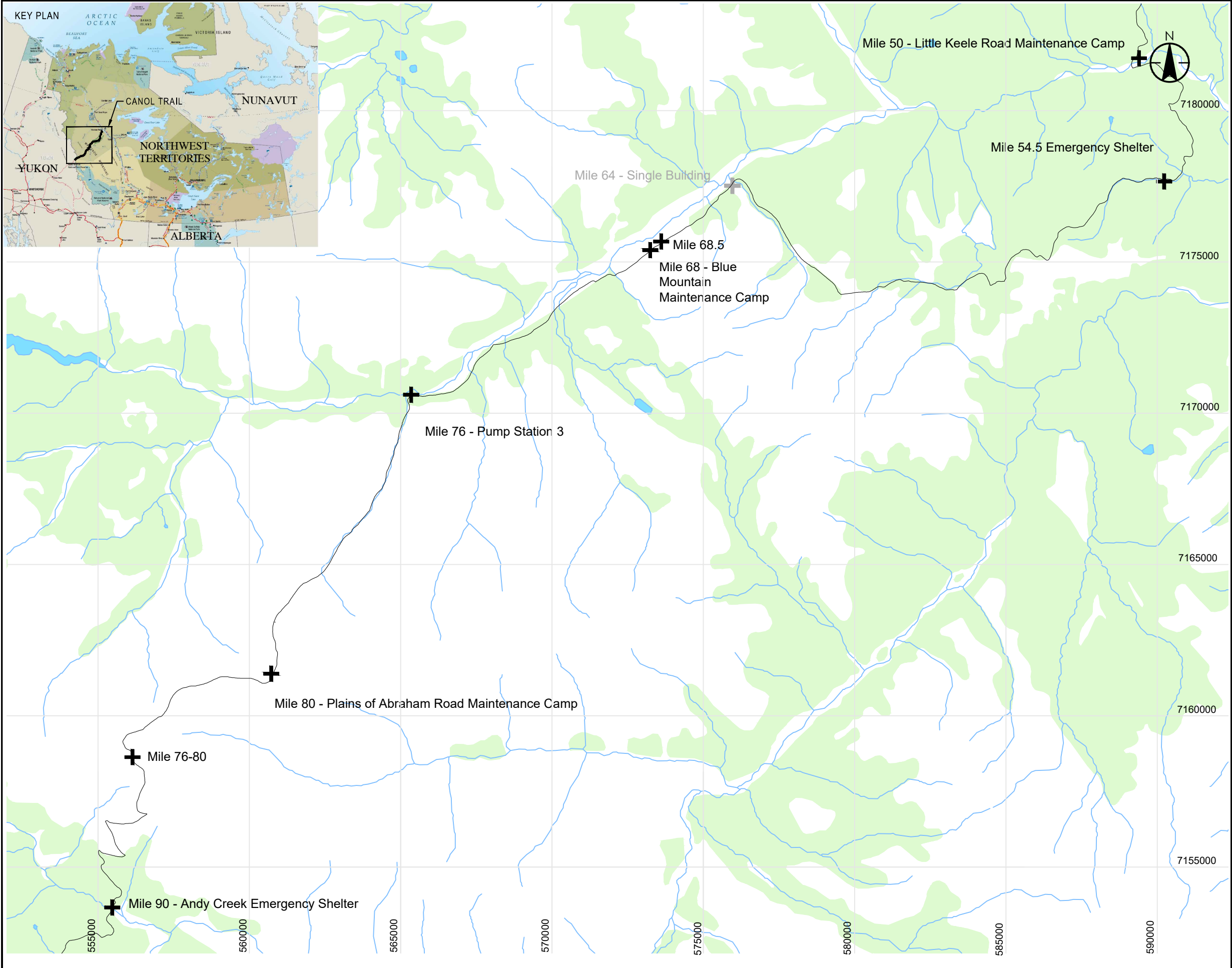
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Telephone: _____ E-mail: _____



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- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

2020.02.13

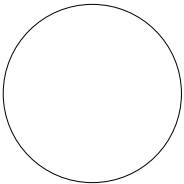
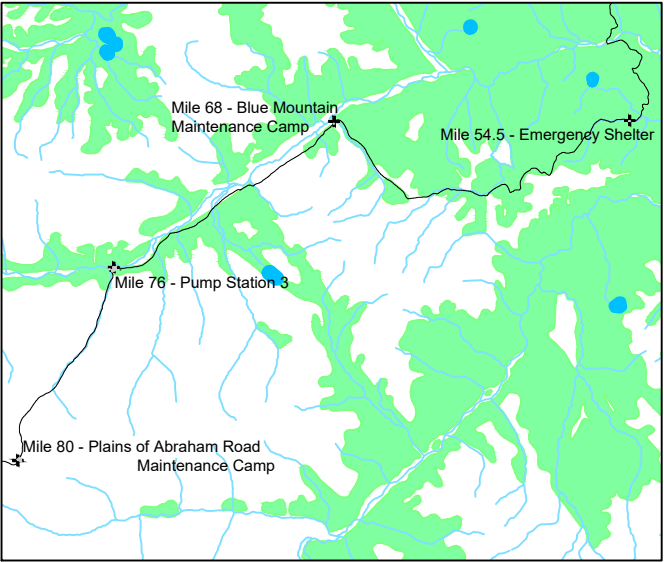
Project No.

121416600

Figure No.

03

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 Site location from GPS coordinates

NOTE: SITE FEATURES TO BE RECORDED (GPS) DURING FIRST SITE VISIT AND FIGURE TO BE UPDATED.



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
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ZONE 2 MILE 68.5 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
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Canol Trail – Mile Site 76 – Pump Station 3 Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 76 – Pump Station 3** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Moderate and Large Aboveground Storage Tanks (ASTs)	Remove chemical hazards of residual products. Mitigate physical hazards by proper closure.
Underground Storage Tank (UST) - Water	Mitigate physical hazards by proper closure.
Standing Structures	Mitigate physical hazards of unmaintained standing buildings through administrative controls (barricades and signage).
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small ASTs	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Indigenous Organization(s)</i>	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Moderate and Large ASTs: Moderate and large ASTs were cleaned and sealed and left on-site.
 - UST: UST was cleaned and sealed.
 - Standing Structures: Standing structures were boarded up and remain standing.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility. Some non-friable ACMs (green roofing shingles) may remain.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.





- Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 76 – Pump Station 3.

Table 3 Monitoring and Surveillance Program for Mile Site 76 – Pump Station 3

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Moderate and Large ASTs	CIRNAC	Confirm that access to the insides of the ASTs remains sealed.
UST	CIRNAC	Confirm that the backfilled area remains intact and level.
Standing Structures and ACMs	CIRNAC	Confirm that the standing structures remain structurally stable and comment on the condition/placement of any barricades. Confirm measurable amounts of residual, nonfriable ACMs have not been distributed at the Mile Site (i.e., enough to fill a regular-sized garbage bag [74 L capacity]) and remove from the site.
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Moderate and Large ASTs:

- Moderate and large ASTs were visually inspected. No concerns were noted.

UST Location:

- The former UST location was visually inspected. No concerns were noted.





Standing Structures and ACMs:

- Standing structures were visually inspected. Remaining structures were standing and appeared stable. Generally, barricades appeared to have been effective at deterring access except at one location, where it appeared a bear had interfered with the barricade. No measurable amounts of roofing shingles were distributed across the Mile Site.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted for most of the caches. Some scattered drums were observed at one location.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

Standing Structures:

- Remaining structures were monitored in Year 1 (2020), and will be monitored Year 3 (2022) and Year 5 (2024) of MS.

d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

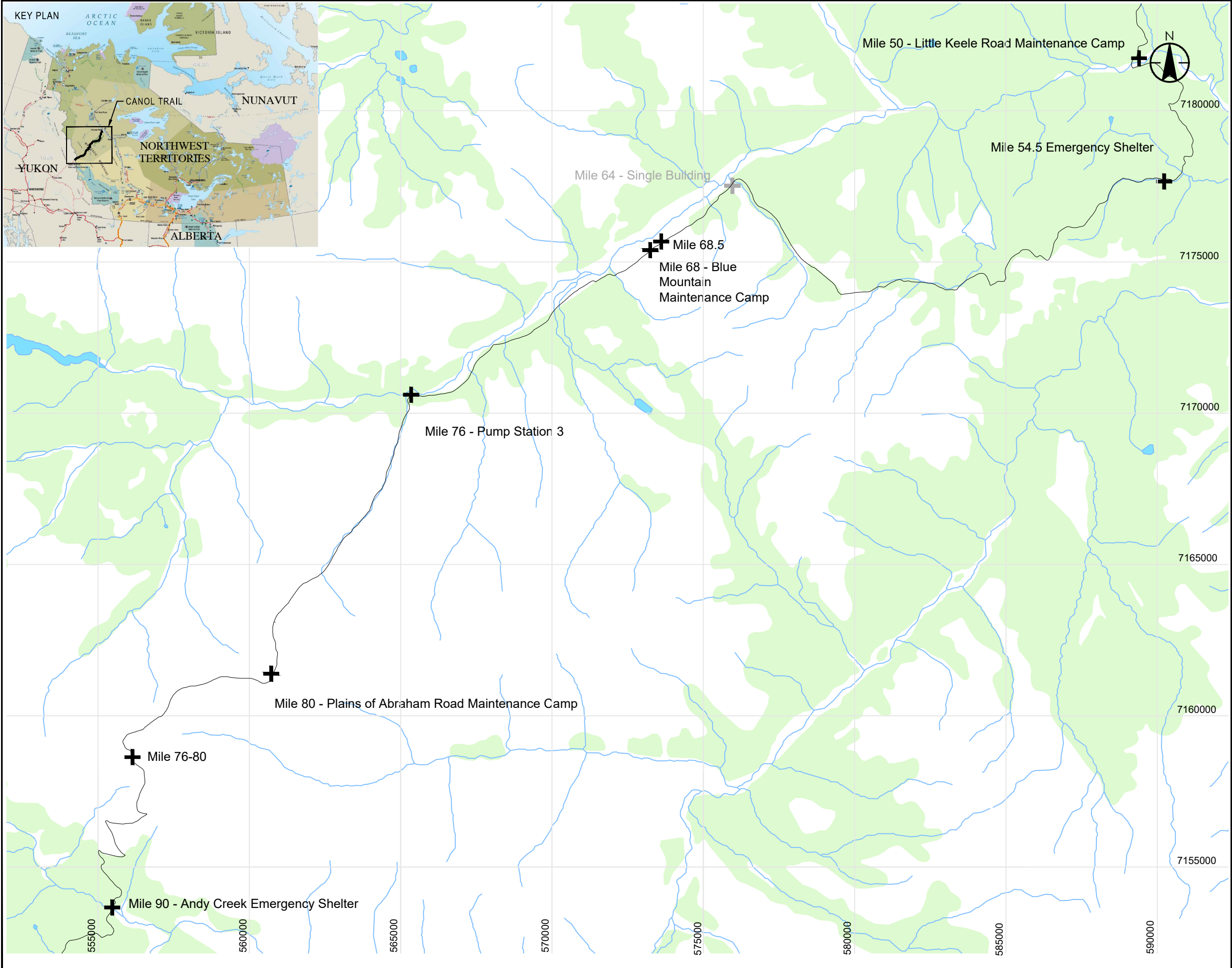
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



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Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

03



Canol Trail – Mile Site 76-80

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 76-80** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, aboveground storage tanks [ASTs], etc.).

Remediation Project Start Date:

2018

Remediation Project End Date:

2018 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 76-80.

Table 3 Monitoring and Surveillance Program for Mile Site 76-80

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.





To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Existing Signage:

- Signage could not be located. Another attempt to locate the signs will be undertaken in Year 3 (2022).

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 76-80.

d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

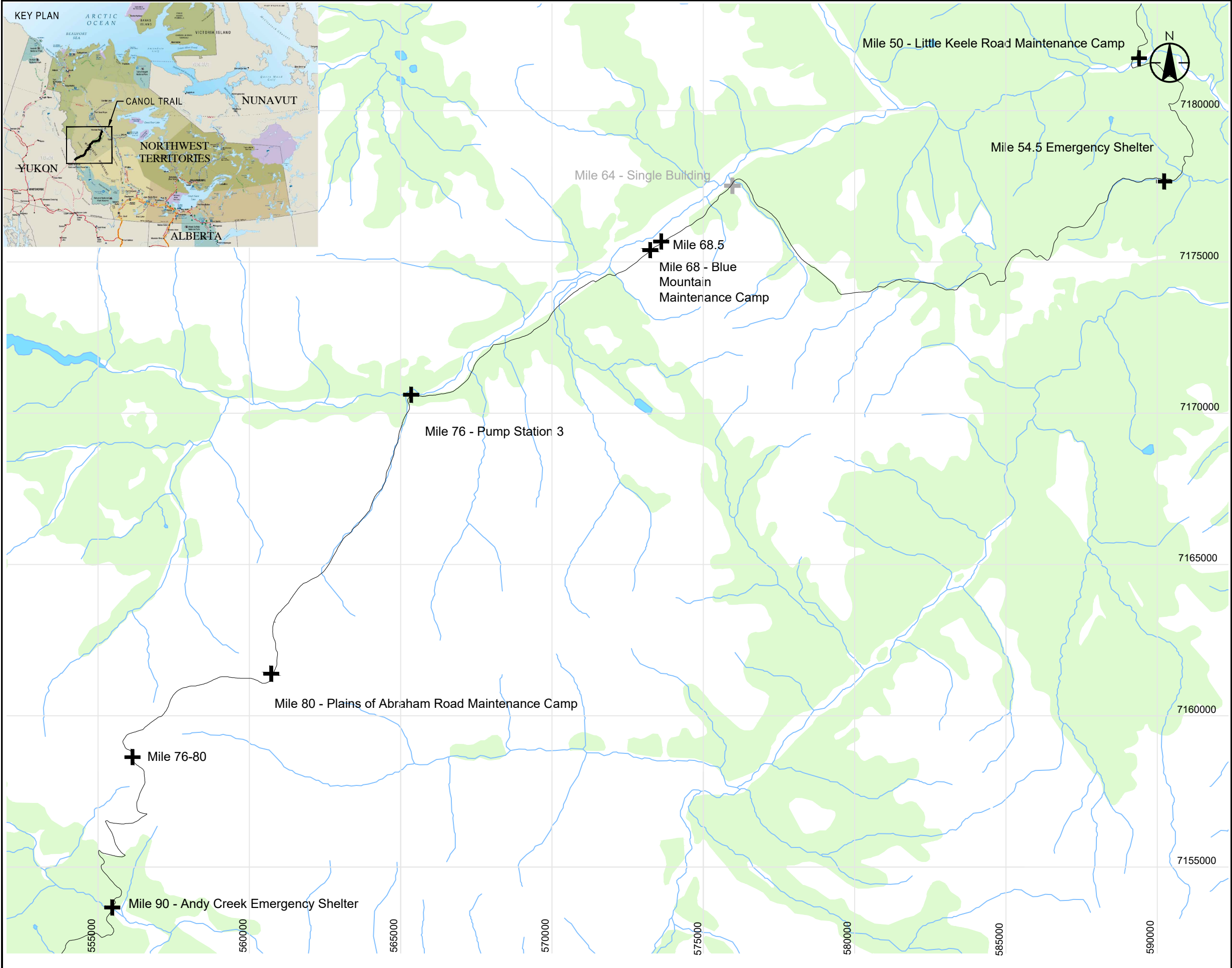
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Address: _____

Telephone: _____ E-mail: _____



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Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

2020.02.13

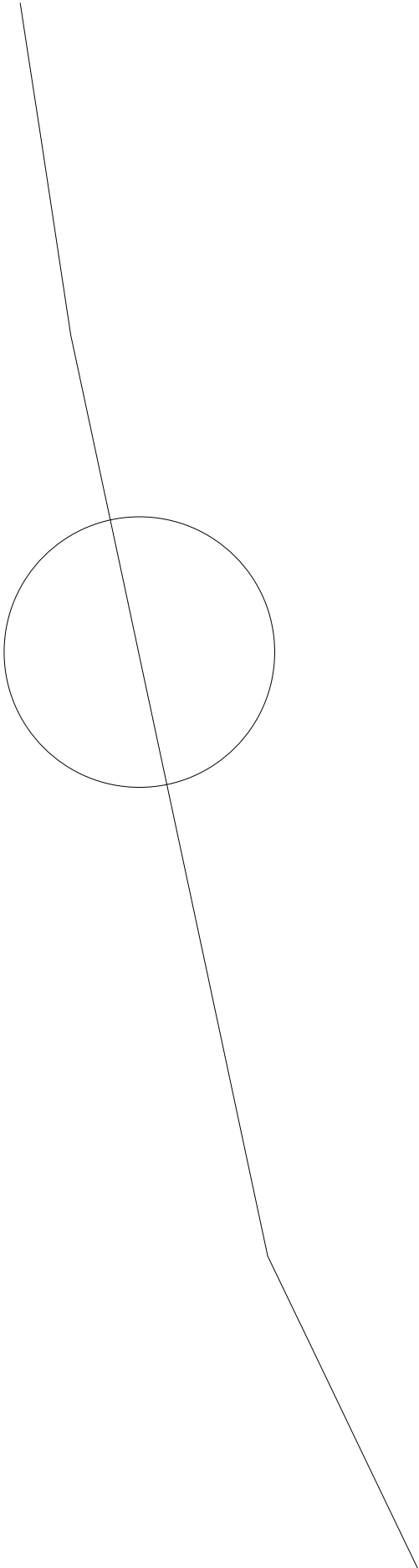
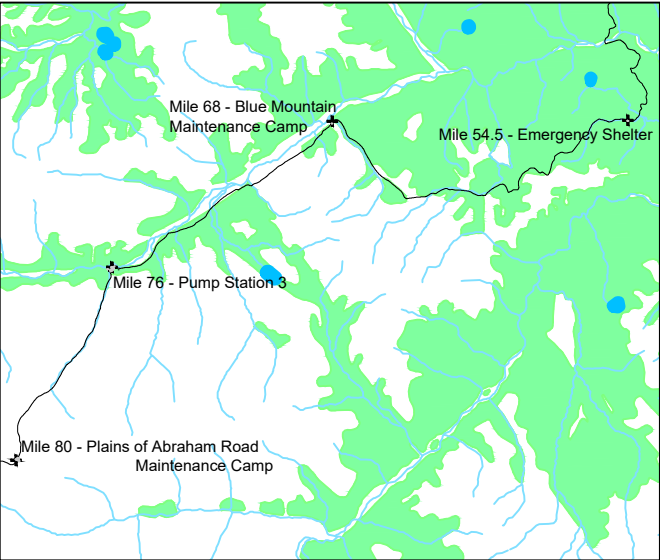
Project No.

121416600

Figure No.

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Legend

Features Requiring MS

-  Site location from GPS coordinates

NOTE: SITE FEATURES TO BE RECORDED (GPS) DURING FIRST SITE VISIT AND FIGURE TO BE UPDATED.



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 2 MILE 76-80 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	16



Canol Trail – Mile Site 80 – Plains of Abraham Road Maintenance Camp Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at ***Mile Site 80 – Plains of Abraham Road Maintenance Camp*** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
Indigenous Organization(s)	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.





- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 80 – Plains of Abraham Road Maintenance Camp.

Table 3 Monitoring and Surveillance Program for Mile Site 80 – Plains of Abraham Road Maintenance Camp

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.





Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from potential contaminants of concern was not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 80 – Plains of Abraham Road Maintenance Camp.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

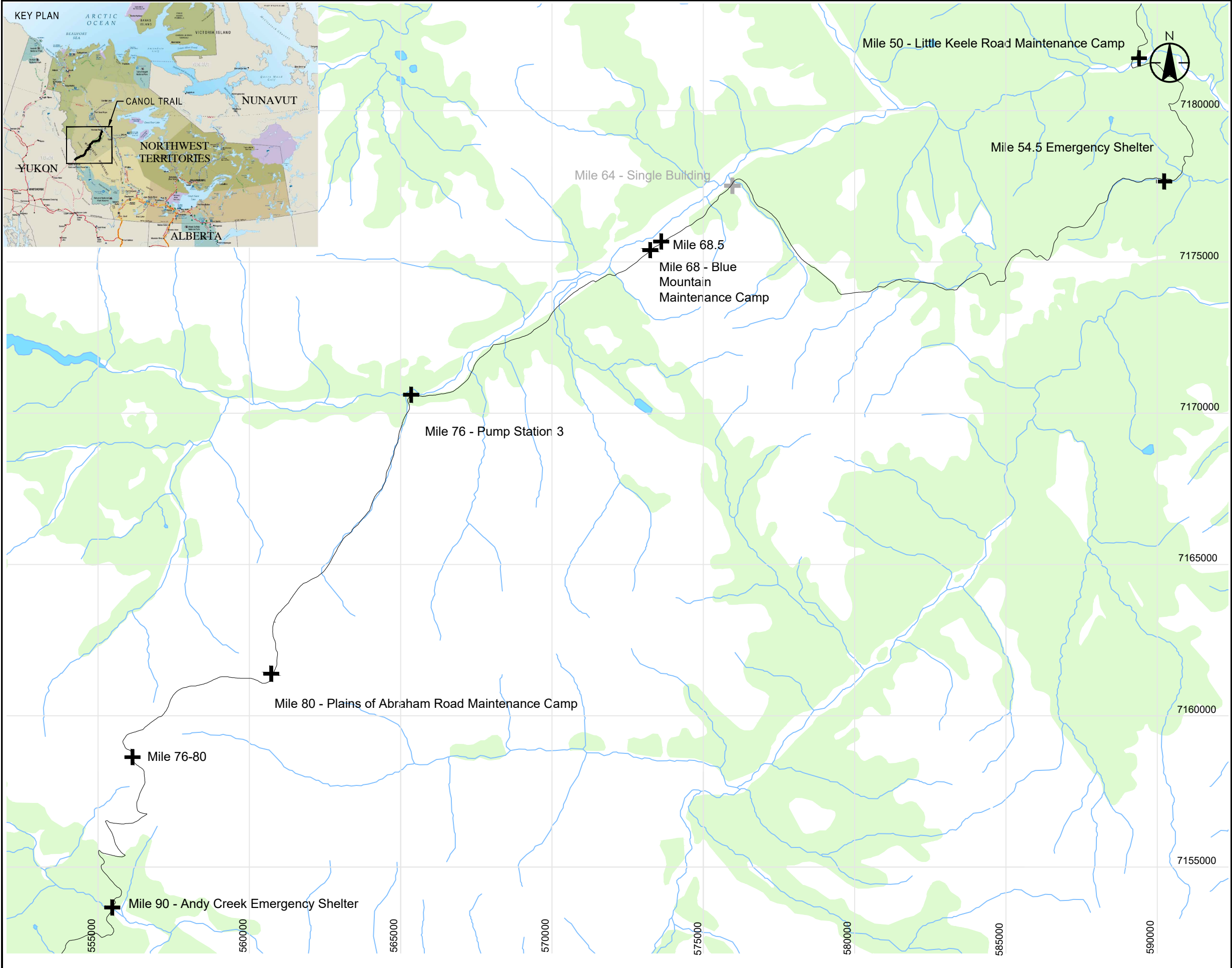
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Telephone: _____

E-mail: _____



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www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

2020.02.13

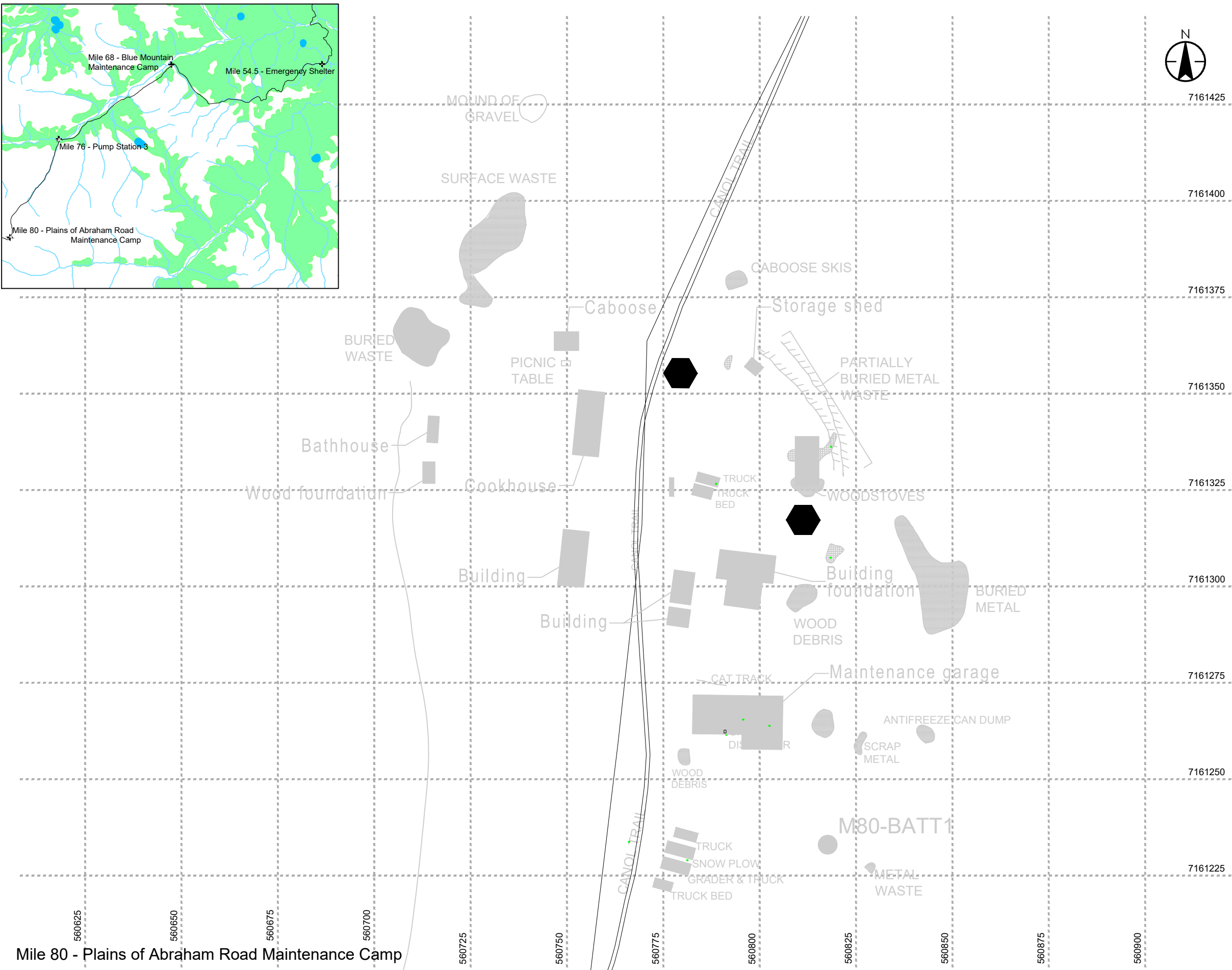
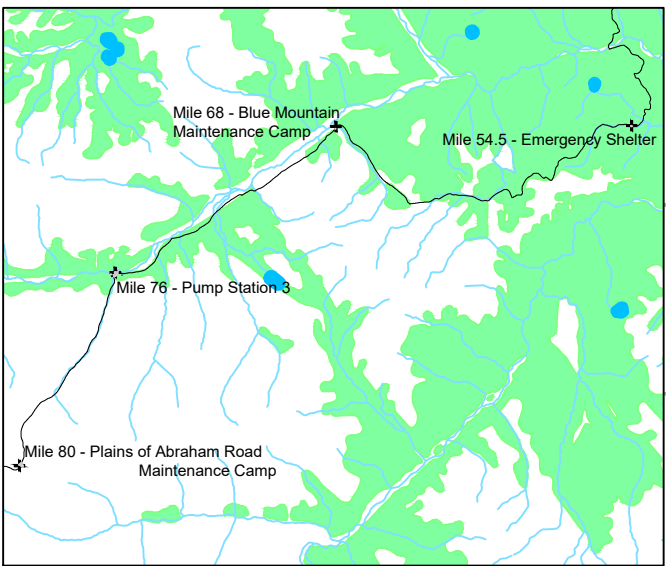
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Mile 80 - Plains of Abraham Road Maintenance Camp



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Legend

Features Requiring LTM

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

- Building Demolished and/or Consolidated
- Debris
 - Wood
 - Metal and Wood
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 MILE 80 DETAIL
MILE PLAN

Revision

Date
2020.02.13

Project No.
121416600
Figure No.
17



Canol Trail – Mile Site 90 – Andy Creek Road Maintenance Camp Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 90 – Andy Creek Road Maintenance Camp** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Residual Fuels	Remove chemical risk from ongoing spill potential.
Petroleum Hydrocarbon (PHC) Impacted Soils	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: No telephone wire was located at the Mile Site.
- Residual Fuels: No residual fuel was located at the Mile Site.
- PHC Impacted Soil: Soil with PHC concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
- Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into a cache at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 90 – Andy Creek Road Maintenance Camp.





Table 3 Monitoring and Surveillance Program for Mile Site 90 – Andy Creek Road Maintenance Camp

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. One sign had been knocked over but was stood upright at the time of MS program site visit in Year 1. The signage was clearly visible and legible.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.





c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 90 – Andy Creek Road Maintenance Camp.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

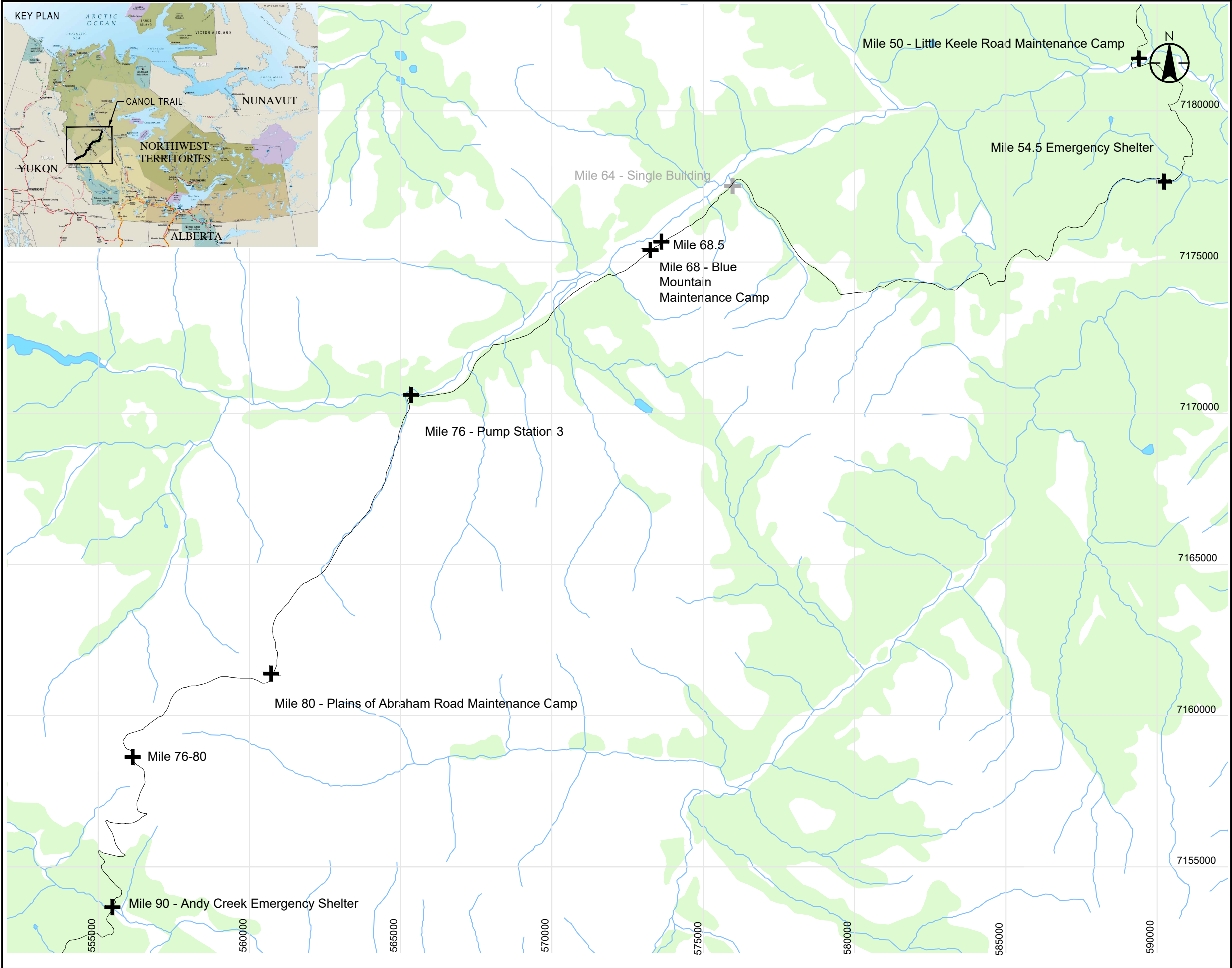
Address: _____

Telephone: _____

E-mail: _____



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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 2 SITE PLAN

Revision

Date

2020.02.13

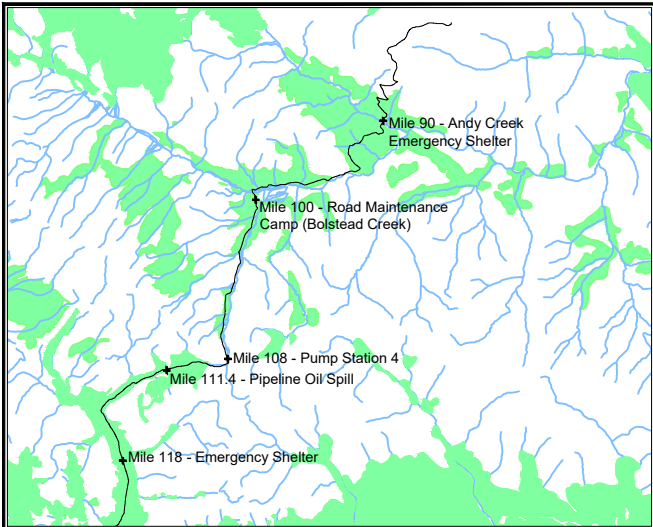
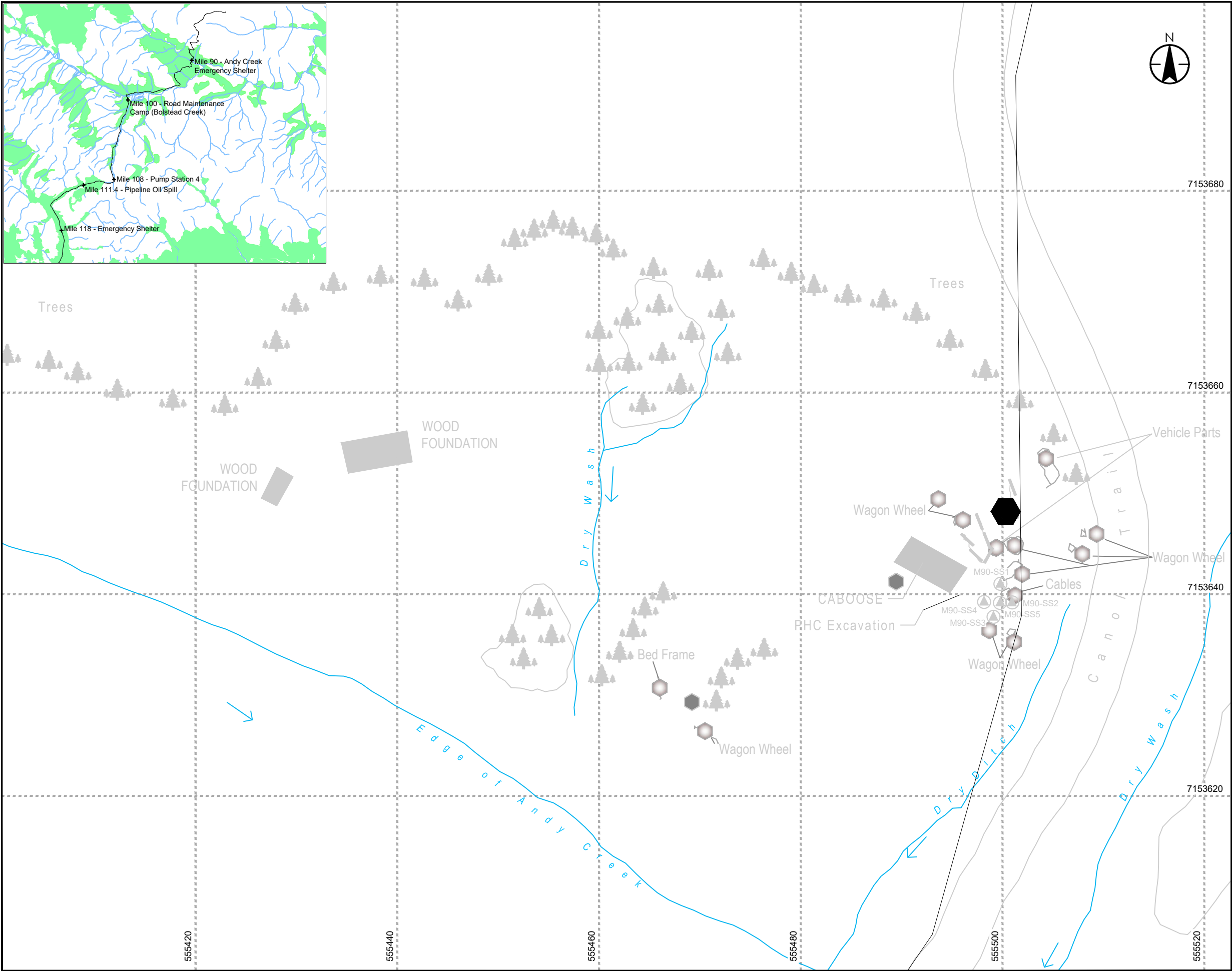
Project No.

121416600

Figure No.

03

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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 3 MILE 90 DETAIL
MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

18



Canol Trail – Mile Site 100 – Bolstead Creek Road Maintenance Camp Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 100 - Bolstead Creek Road Maintenance Camp** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date:

2018

Remediation Project End Date:

2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: No wire was located at the Mile Site.
- Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
- Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
- Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
- ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 100.





Table 3 Monitoring and Surveillance Program for Mile Site 100 – Bolstead Creek Road Maintenance Camp

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.





c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 100 – Bolstead Creek Road Maintenance Camp.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

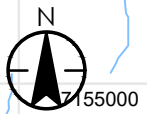
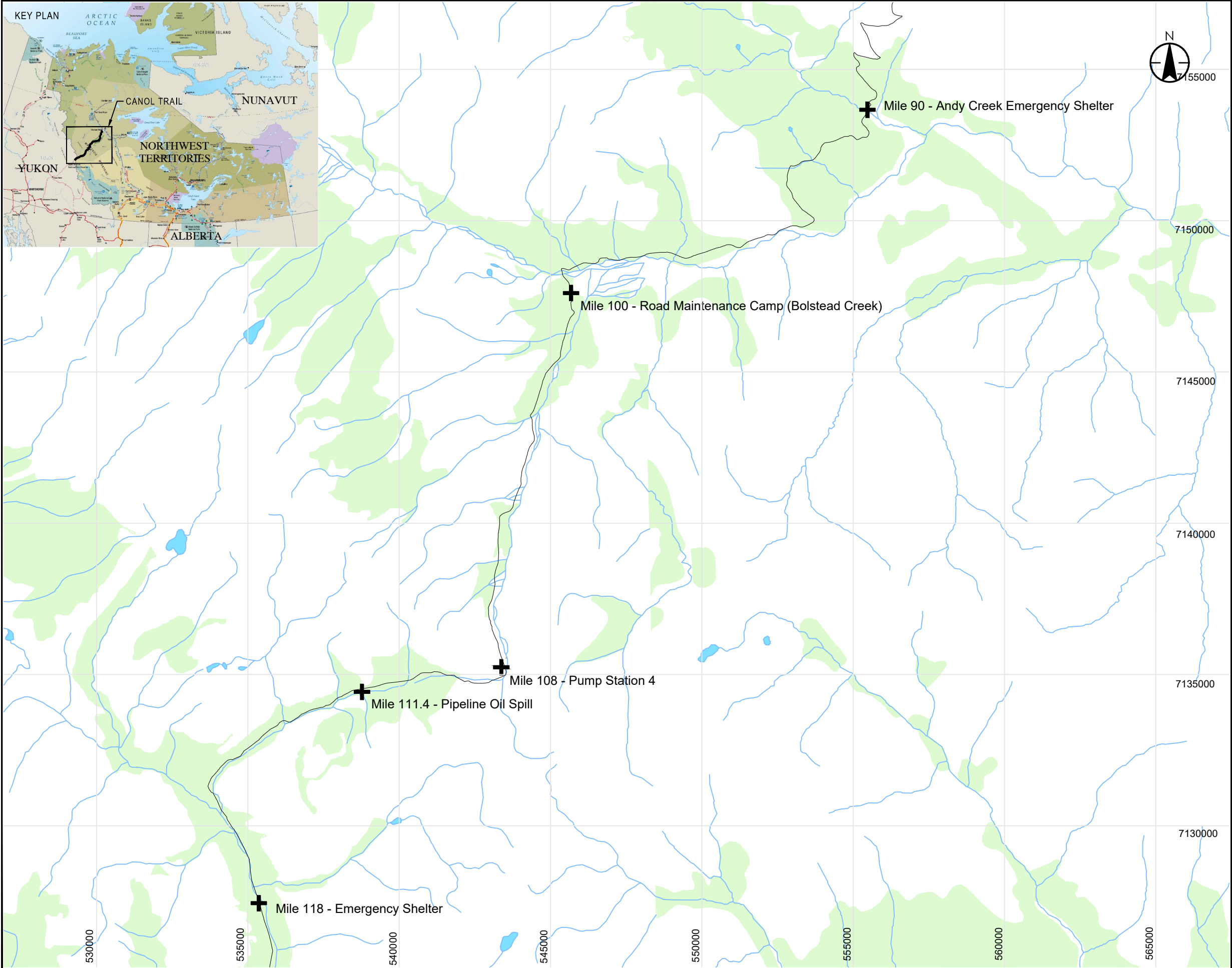
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Stantec

Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 3 SITE PLAN

Revision

Date

2020.02.13

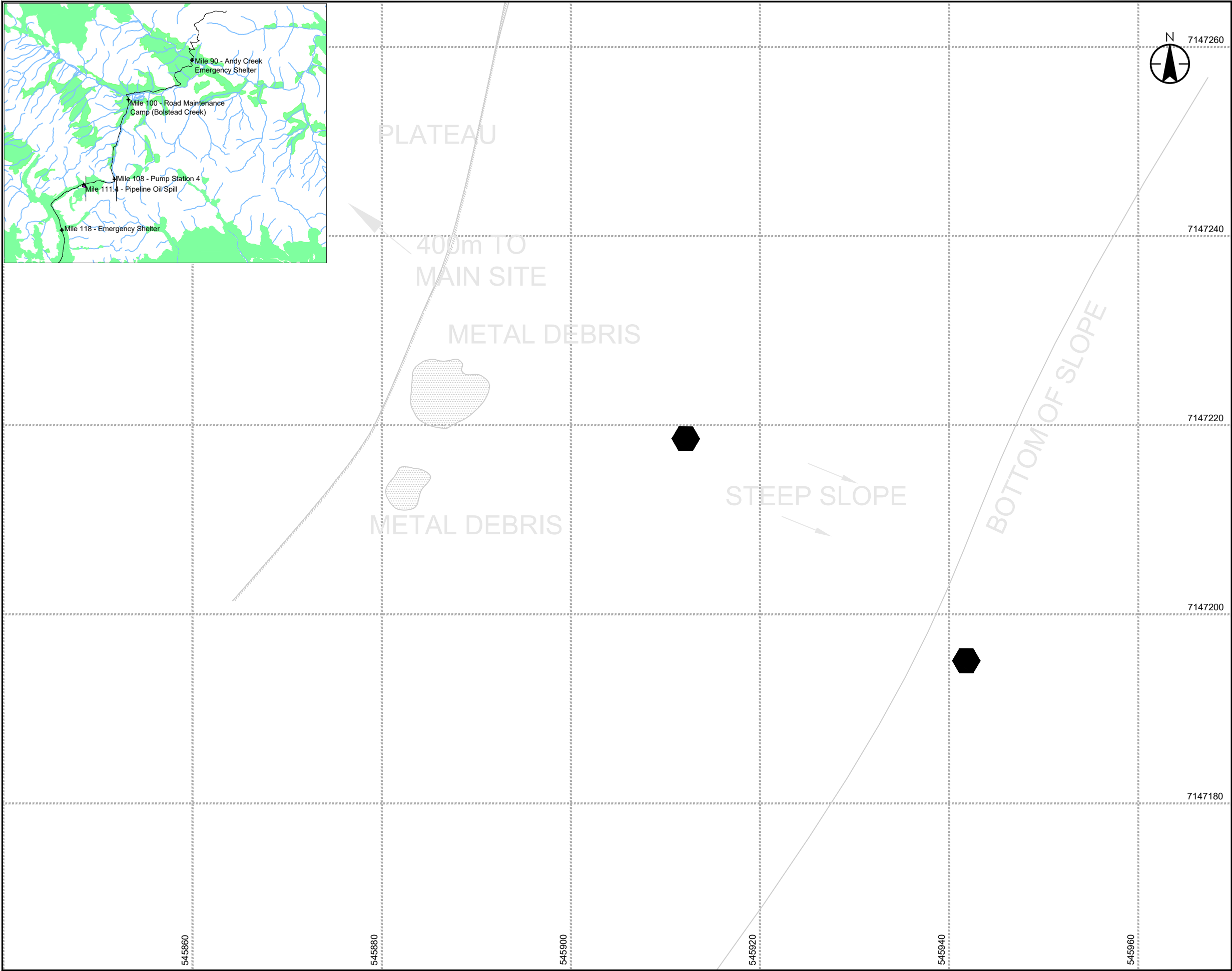
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121416600

Figure No.

04

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Stantec Consulting Ltd.
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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring LTM

-  Drum Cache
-  Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOACTIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

- D e b r i s

 Metal and Wood



Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

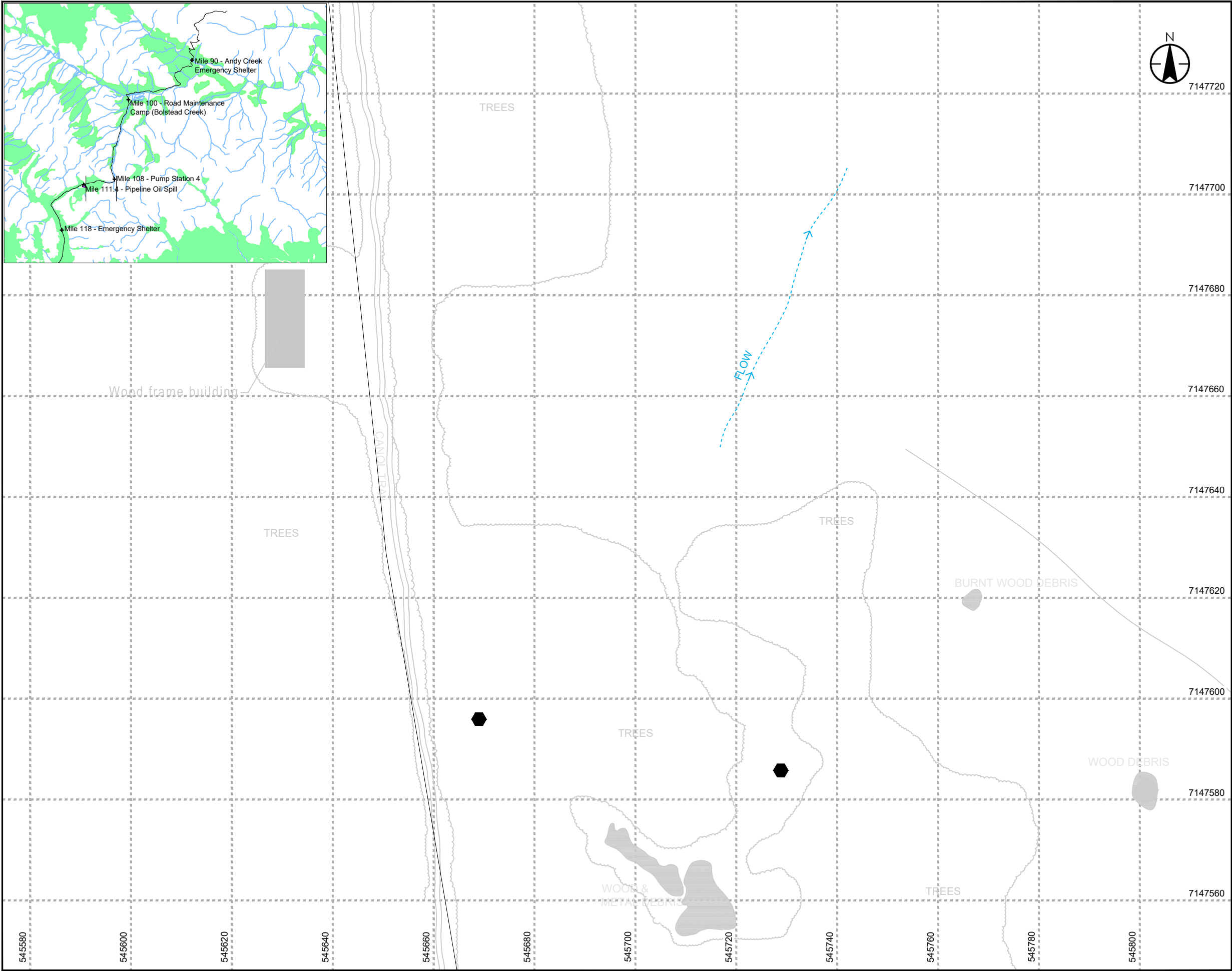
Title

ZONE 3 MILE 100 DETAIL
MILE PLAN SHEET 1

Revision	Date 2020.02.13
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Project No. 121416600	Figure No. 19
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545800



Stantec

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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring LTM



Drum Cache



Signage

NOTE: ON FIRST SITE VISIT, SIGNAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM



Building Demolished and/or Consolidated

D e b r i s



Wood



Metal and Wood



Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

**ZONE 3 MILE 100 DETAIL
MILE PLAN SHEET 2**

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

20



Canol Trail – Mile Site 108 – Pump Station 4 Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 108 – Pump Station 4** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Moderate and Large Aboveground Storage Tanks (ASTs)	Remove chemical hazards of residual products. Mitigate physical hazards by proper closure.
Underground Storage Tank (UST) – Water	Mitigate physical hazards by proper closure.
Standing Structures	Mitigate physical hazards by proper closure.
Partially Collapsed/ Collapsed Buildings	Mitigate physical hazards of unmaintained standing buildings through administrative controls (barricades and signage).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small ASTs	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Indigenous Organization(s)</i>	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- Risk Assessment for Two Sites Along the Canol Trail with Lead Impacts. Letter prepared by Stantec for PSPC on behalf of CIRNAC, dated March 6, 2020.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Moderate and Large ASTs: Moderate and large ASTs were cleaned and sealed and left at the Mile Site.
 - UST: The UST (water tank) was cleaned and sealed and left at the Mile Site.
 - Standing Structures: Standing structures were boarded up and remain standing.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.





- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 108 – Pump Station 4.

Table 3 Monitoring and Surveillance Program for Mile Site 108 – Pump Station 4

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Moderate and Large ASTs	CIRNAC	Confirm that access to the insides of the ASTs remains sealed.
UST (Water)	CIRNAC	Confirm that the backfilled area remains intact and level.
Standing Structures	CIRNAC	Confirm the standing structures remain structurally stable and that barricades are effective at deterring access to the inside of the structures.
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.
Lead Impacted Soils	CIRNAC	Replace general warning signs at Mile Site access points with risk specific signage (residual contaminants - no camping).

d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Moderate and Large ASTs:

- Moderate and large ASTs were visually inspected. No concerns were noted.

UST

- Former UST location was visually inspected. No concerns were noted.





Standing Structures

- Standing structures were visually inspected. No concerns were noted.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

Standing Structures:

- Remaining structures were monitored in Year 1 (2020), and will be monitored in Year 3 (2022) and Year 5 (2024) of MS.

d) Are there any site use restrictions?

At the time of writing, there are proposed restrictions to site use related to environmental site conditions following completion of the remediation project.

Recreational site use at Mile Site 108 is discouraged due to the presence of lead impacted soil in the vicinity of battery locations M108-BATT3 and M108-BATT4. Signage warning potential recreational site users of the risk from residual lead impacted soil will be installed as part of the Signage Replacement Program in Year 3 of the MS Program.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

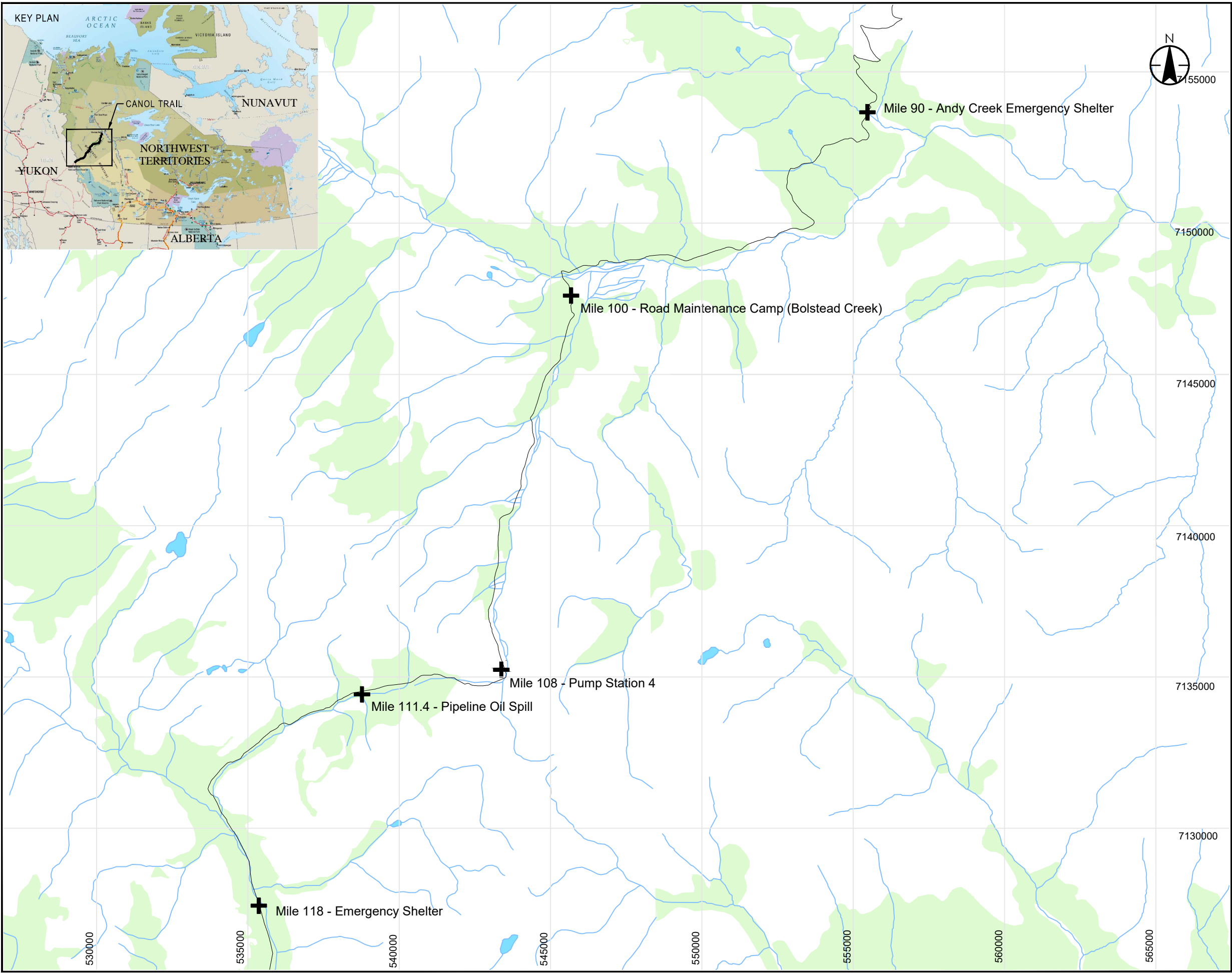
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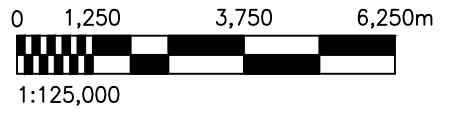
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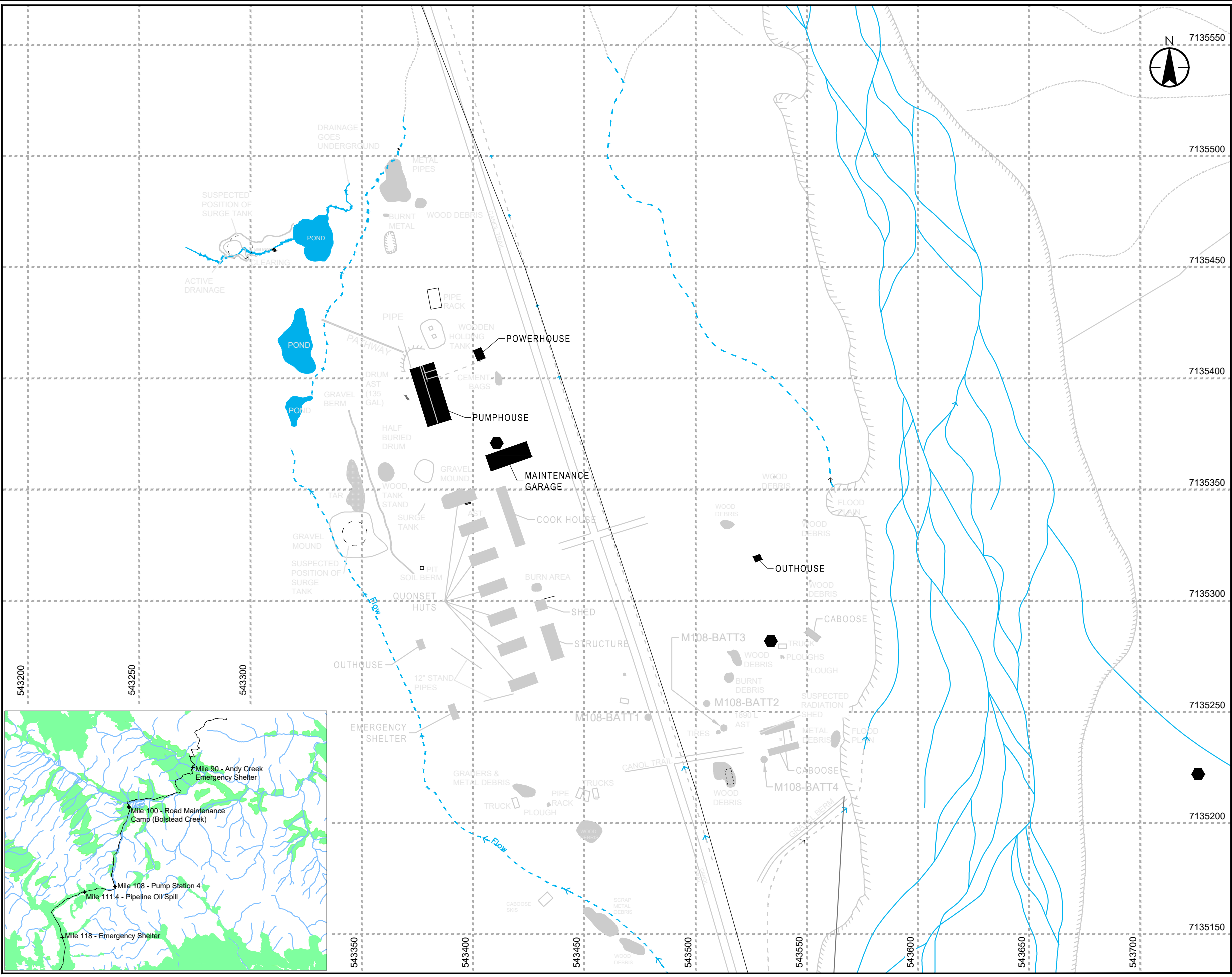
Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 3 SITE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	04

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543700



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Legend

Features Requiring MS

- Building Standing (Boarded)
- Drum Cache

- Signage

NOTE: ON FIRST SITE VISIT, SIGNAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Water

D e b r i s

- Wood
- Metal and Wood
- Wood
- Pipe
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

**ZONE 3 MILE 108 DETAIL
MILE PLAN**

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

21



Canol Trail – Mile Site 111.4

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 111.4** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Petroleum Hydrocarbon (PHC) Impacted Soil	Leave impacted soil in place and reduce human exposure potential through signage (Risk Management).

Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.





- Risk Assessment for Six Mile Sites Along the Canol Trail with Historical Petroleum Hydrocarbon Spills. Letter prepared by Stantec for PSPC on behalf of CIRNAC, dated March 6, 2020.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: No telephone wire was located at the Mile Site.
 - PHC Impacted Soils: PHC impacted soil was left in place, warning sign was installed.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 111.4.

Table 3 Monitoring and Surveillance Program for Mile Site 111.4

Monitoring Component	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
PHC Impacted Soil	CIRNAC	Confirm excavation/trenching activities have not occurred/are not occurring in the impacted soil area without appropriate health and safety measures in place. While not an MSP activity, confirm land-use has not changed to a more intensive land use.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.





PHC Impacted Soils

- No excavation or trenching activities, historical or current, were observed and no change in land use was evident.

Existing Signage:

- Signage could not be located. Another attempt to locate will be undertaken in Year 3 (2022).

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 111.4.

d) Are there any site use restrictions?

At the time of writing, there are proposed restrictions to site use related to environmental site conditions following completion of the remediation project.

Recreation site use should not occur at Mile Site 111.4. The currently installed generic contaminated sites signage will be replaced with signage warning potential recreational site users of the risk from residual PHC impacted soil as part of the Signage Replacement Program in Year 3 of the MS Program.

Excavation/trenching activities should not occur at Mile Site 111.4 without a health and safety plan in place due to the presence of residual PHC impacted soil that poses potential vapour inhalation risks to workers.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

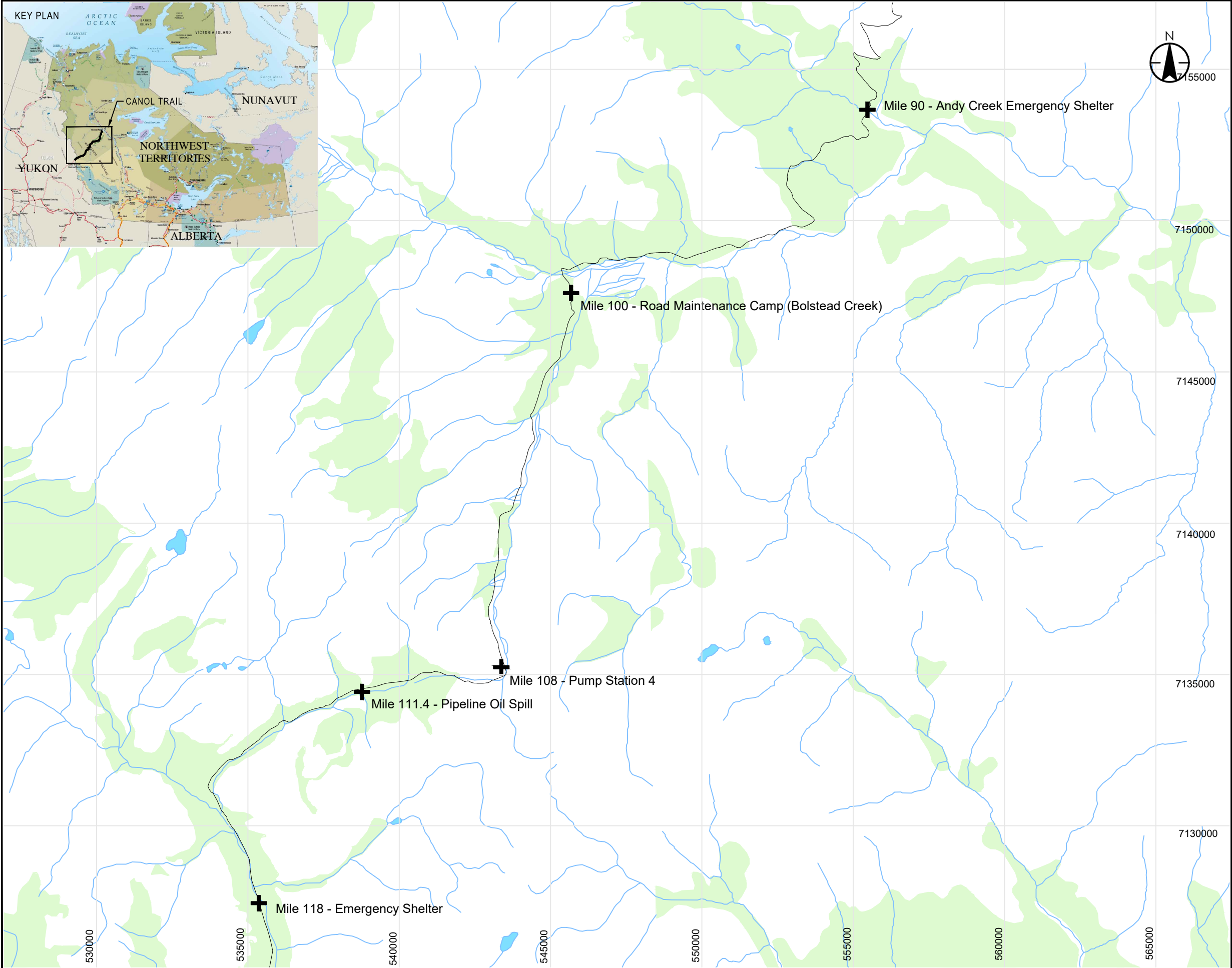
Address: _____

Telephone: _____

E-mail: _____



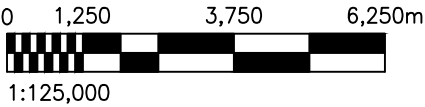
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Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 3 SITE PLAN

Revision

Date

2020.02.13

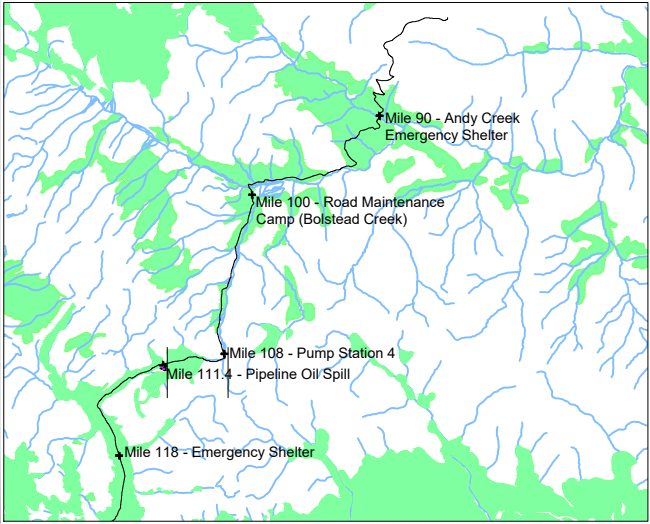
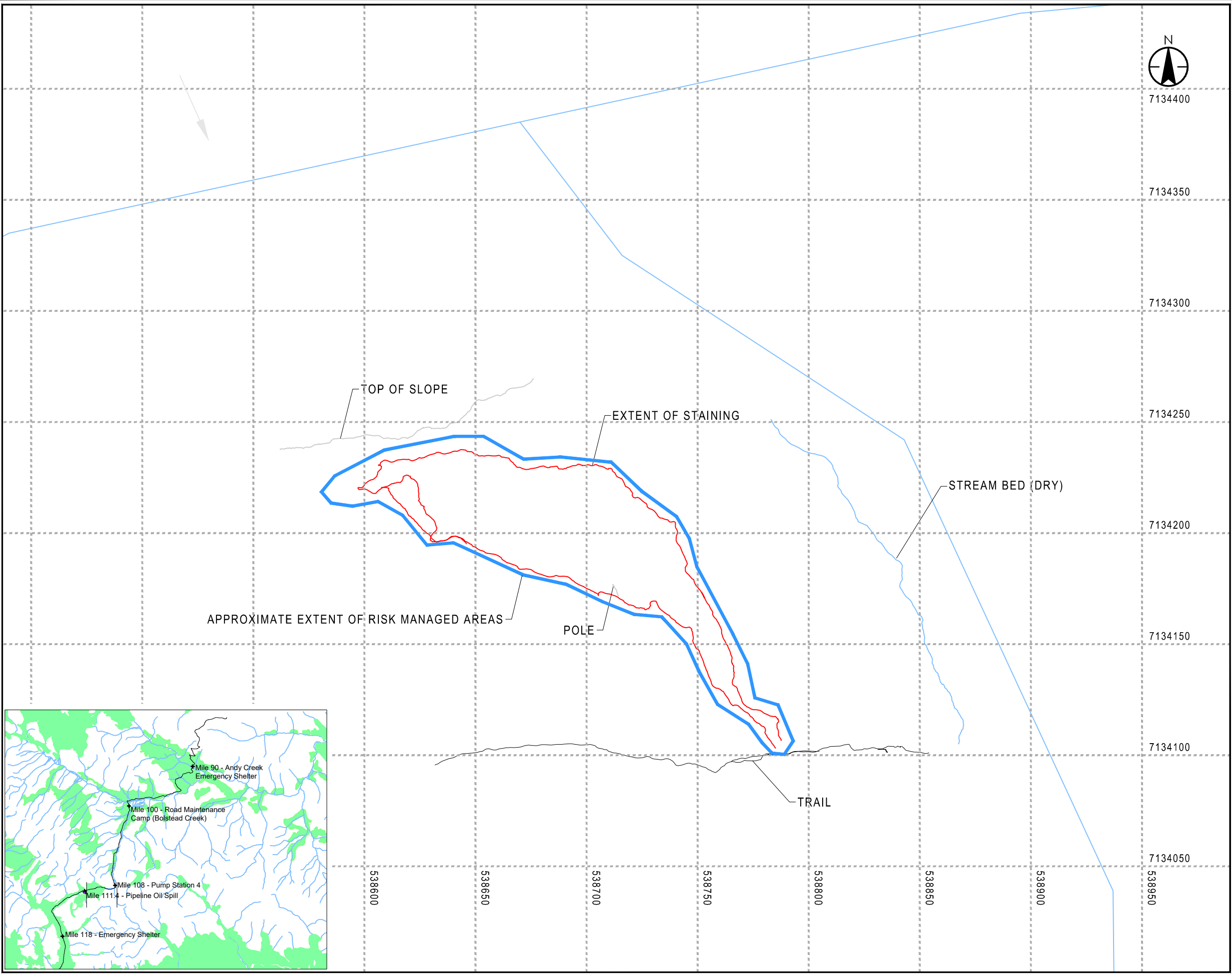
Project No.

121416600

Figure No.

04

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Legend

NOTE: SITE FEATURES TO BE RECORDED (GPS)
DURING FIRST SITE VISIT AND FIGURE TO BE
UPDATED.

Features With No LTM

Water

Approximate Extent of
Risk Managed areas



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 3 MILE 111.4
DETAIL MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

22



Canol Trail – Mile Site 118 – Oil Spill and Emergency Shelter Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 118 – Oil Spill and Emergency Shelter** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Categories	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, aboveground storage tanks [ASTs], etc.).

Remediation Project Start Date:

2018

Remediation Project End Date:

2018 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 118 – Oil Spill and Emergency Shelter.

Table 3 Monitoring and Surveillance Program for Mile Site 118 – Oil Spill and Emergency Shelter

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.





- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Existing Signage:

- Signage was visually inspected. One sign had been knocked down/blown over and was tipped back into a standing position during the Year 1 MS program site visit. The signage was clearly visible and legible.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural
The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable
There is no groundwater used for drinking water at the Mile Site.
2. Impacts to nearby surface water resources
Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 118 – Oil Spill and Emergency Shelter.

- d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

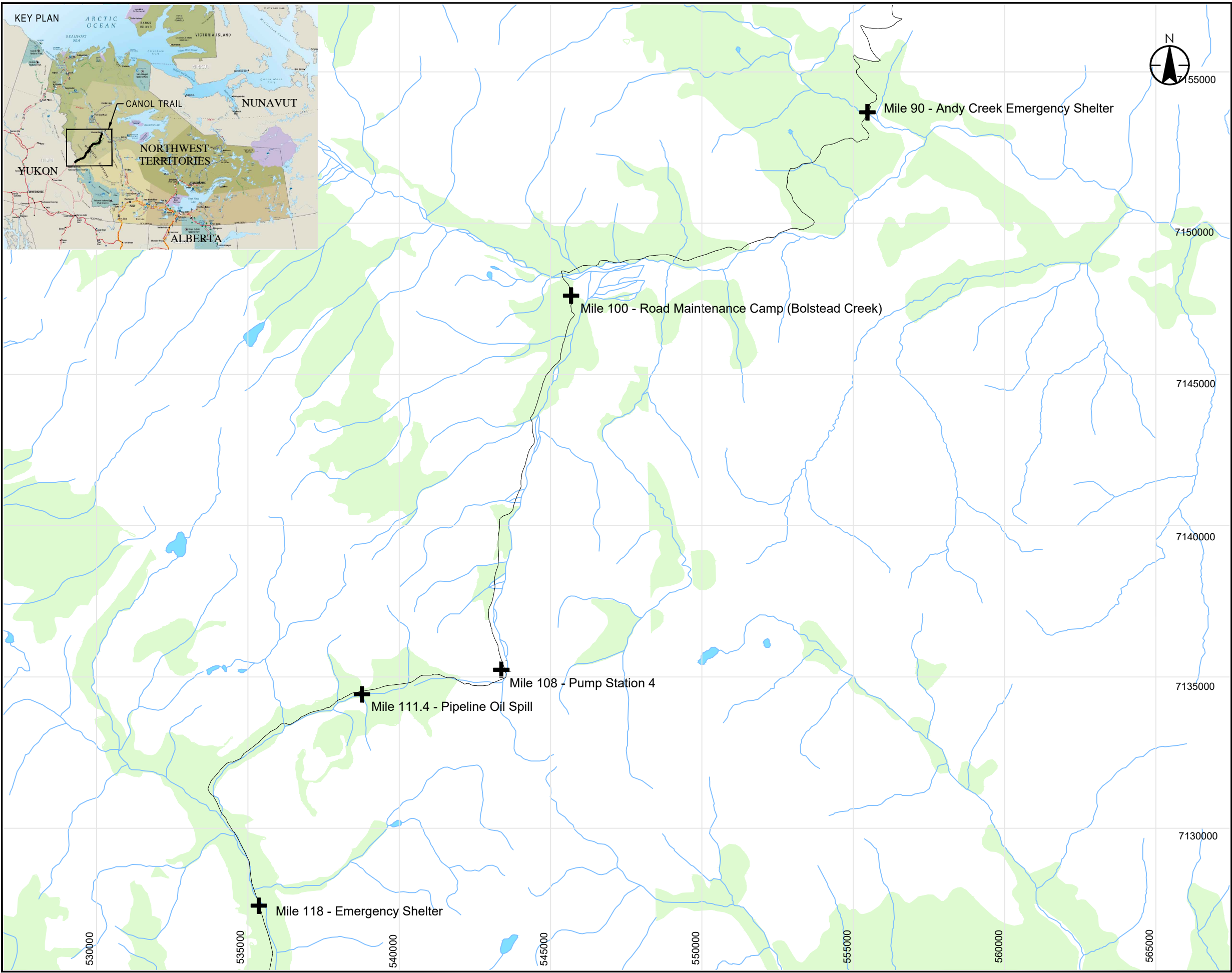
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Address: _____

Telephone: _____ E-mail: _____



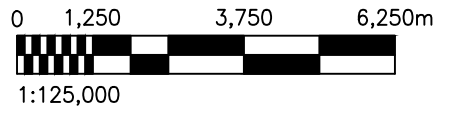
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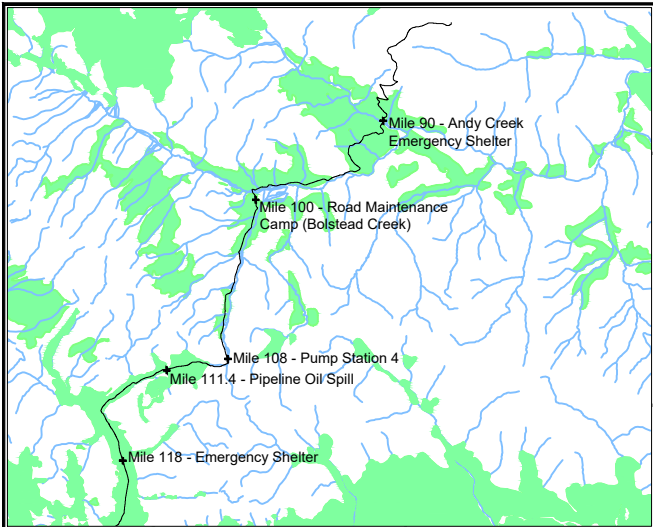
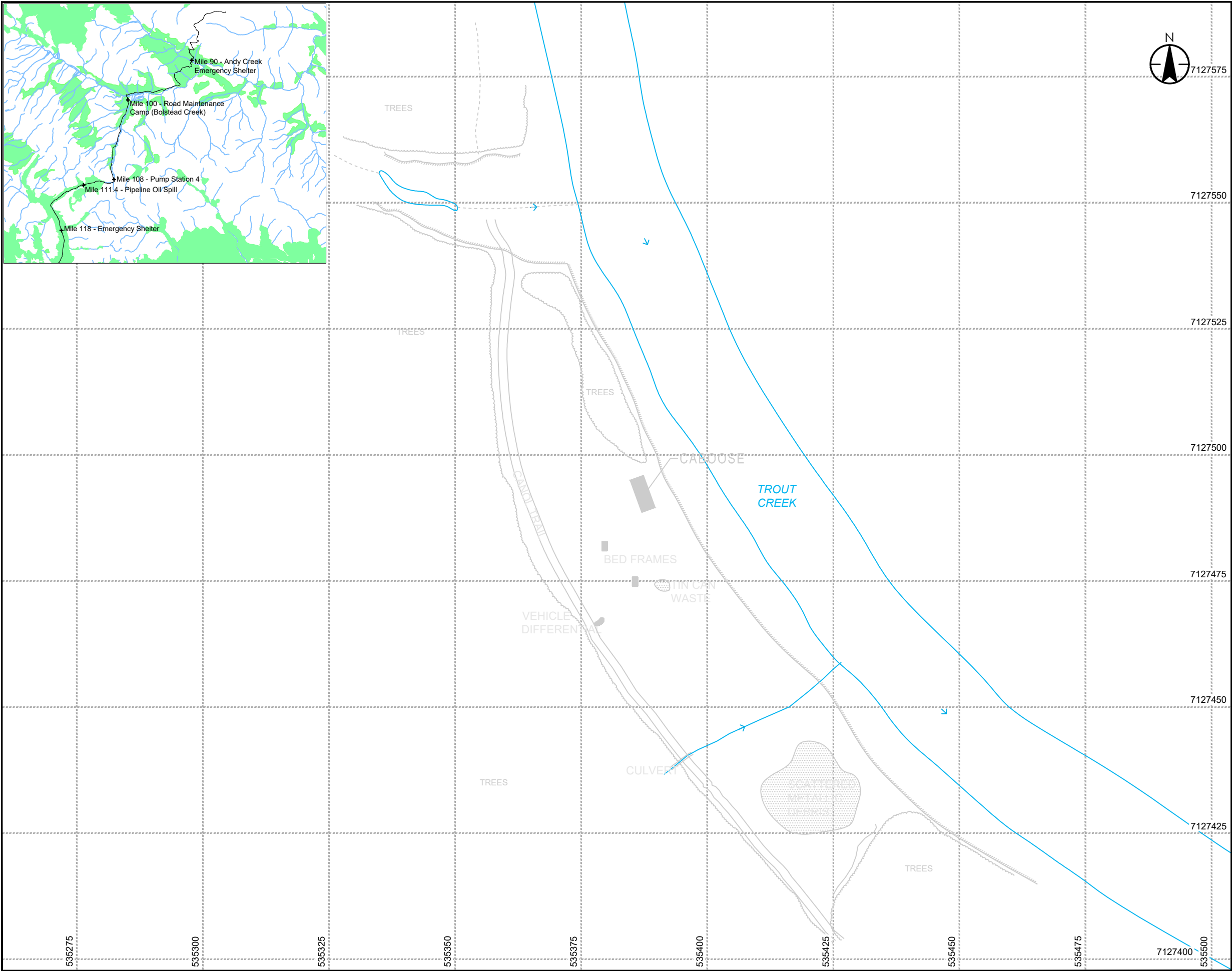
Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 3 SITE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	04

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Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS



Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOACTIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS



Building Demolished and/or Consolidated



Berm



Water

Debris



Wood



Metal and Wood



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 3 MILE 118 DETAIL
MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

23



Canol Trail – Mile Site 131 – Twitya River Road Maintenance Camp

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the Sahtu Land Claims Agreement, from approximately Mile 101 in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 131 – Twitya River Road Maintenance Camp** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
Indigenous Organization(s)	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.





- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 131 – Twitya River Road Maintenance Camp.

Table 3 Monitoring and Surveillance Program for Mile Site 131 – Twitya River Road Maintenance Camp

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental





guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 131 – Twitya River Road Maintenance Camp.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

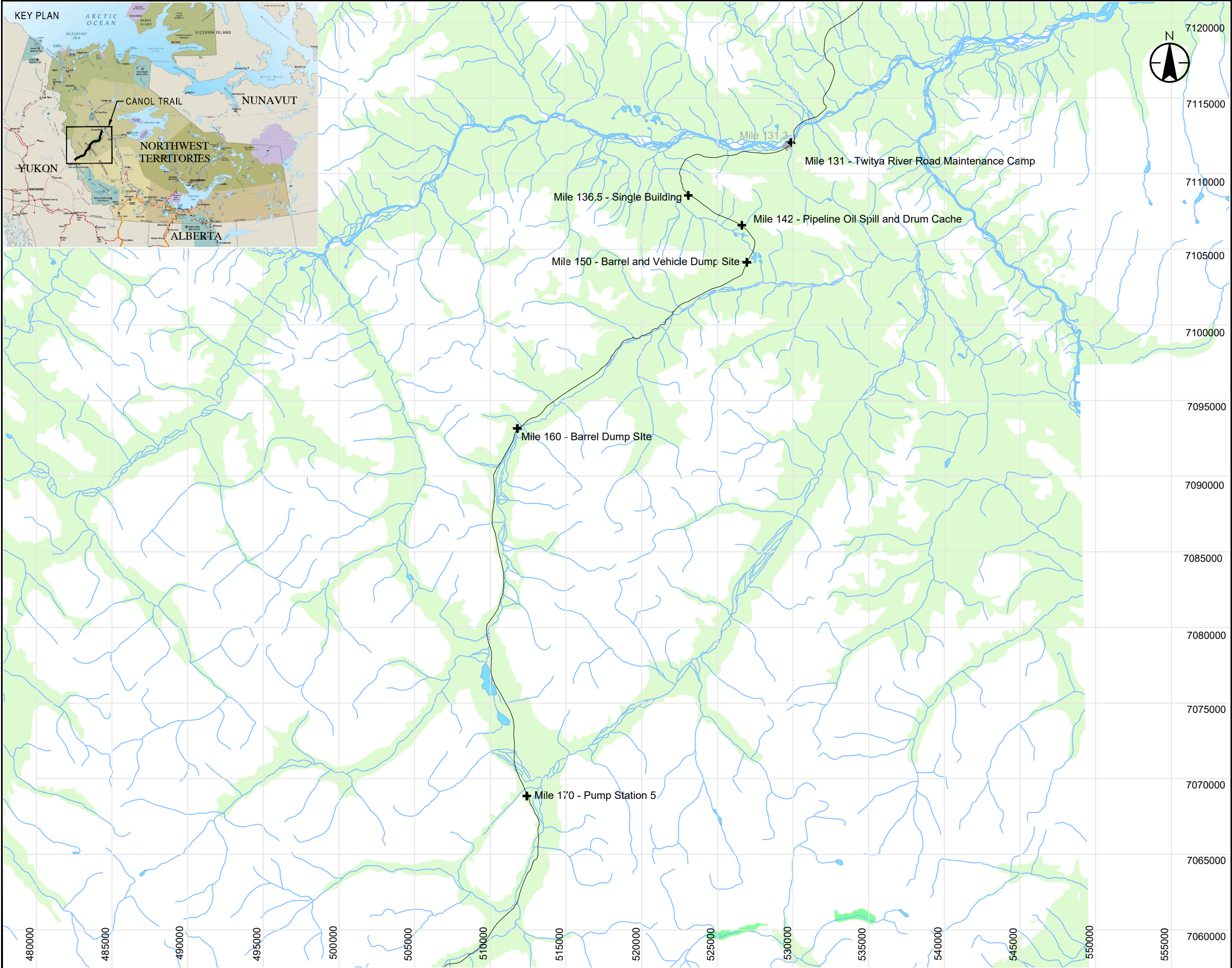
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Telephone: _____

E-mail: _____



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300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

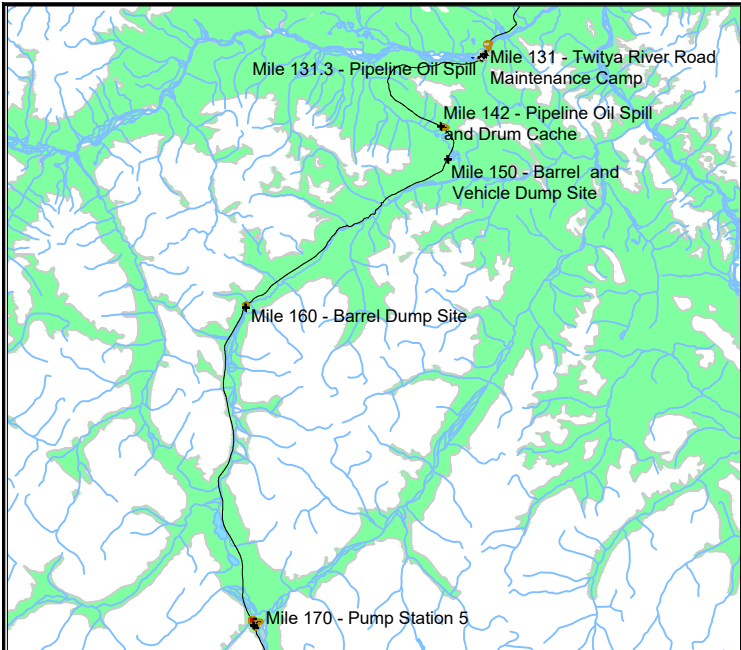
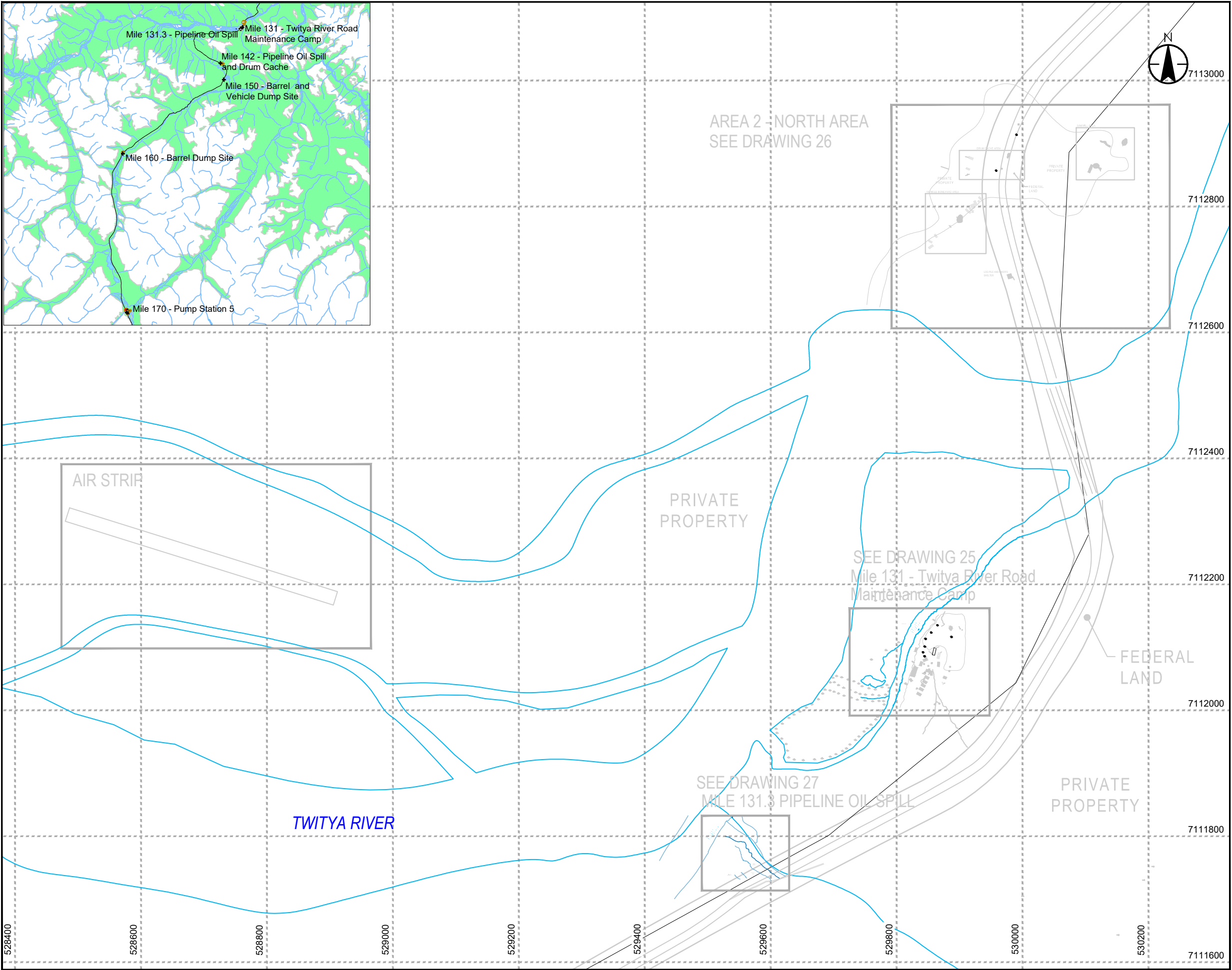
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	05

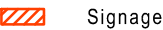
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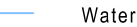
Features Requiring MS



Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS



Water



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 MILE 131
OVERVIEW MILE PLAN

Revision

Date

2020.02.13

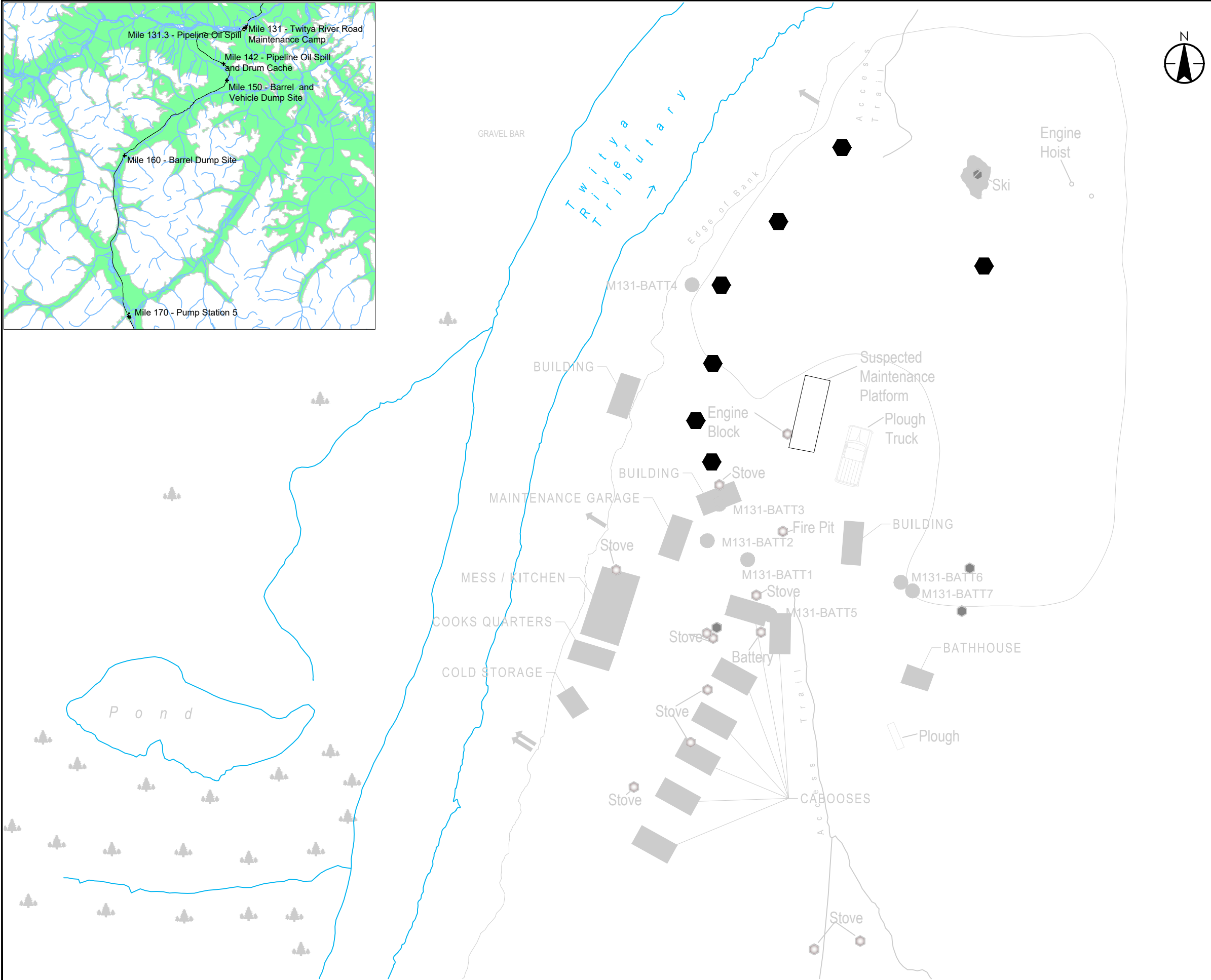
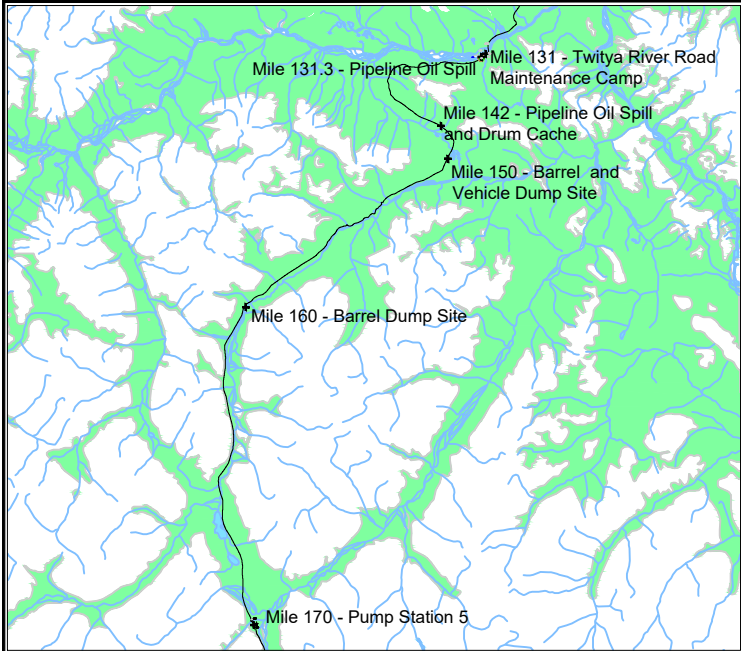
Project No.

121416600

Figure No.

24

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Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 MILE 131
DETAIL MILE PLAN SHEET 1

Revision

Date

2020.02.13

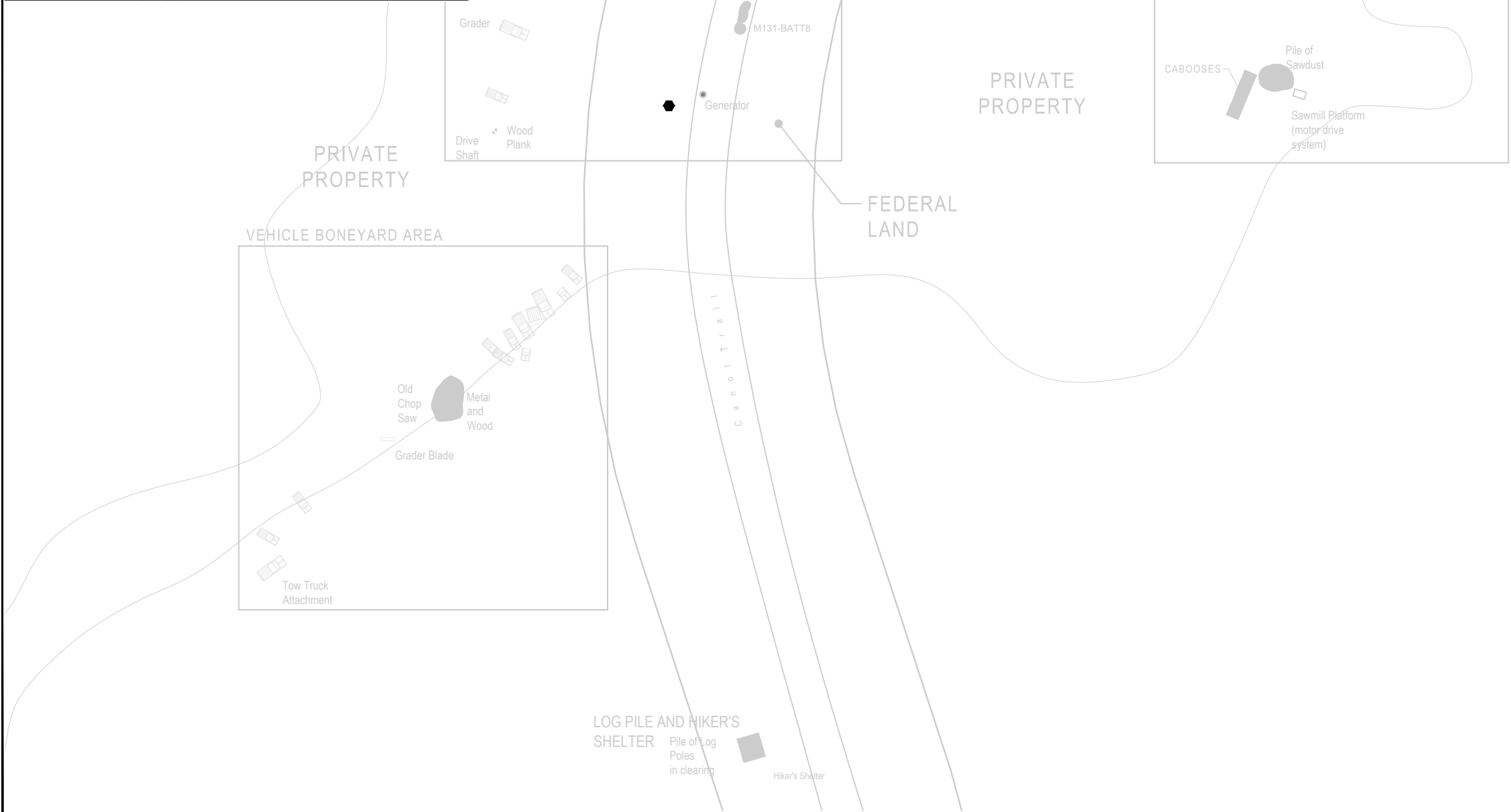
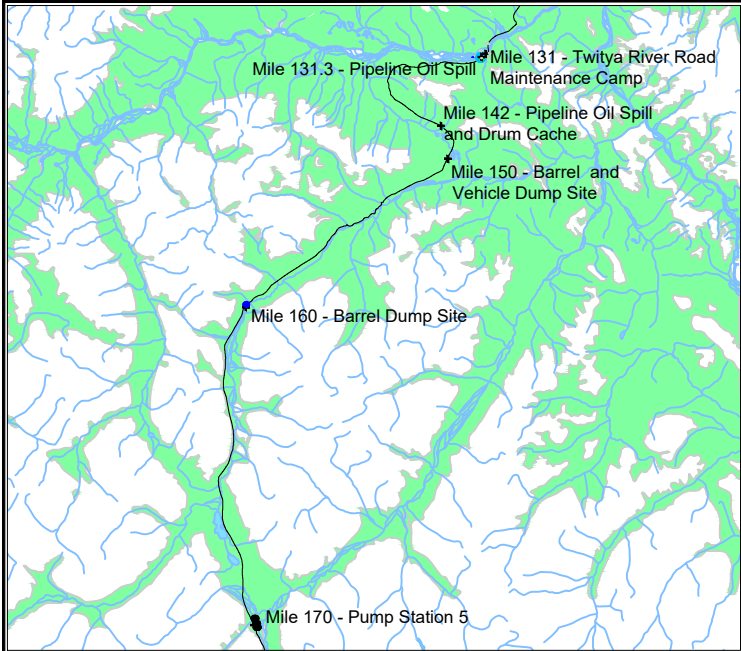
Project No.

121416600

Figure No.

25

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Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated

Debris

- Wood
- Metal and Wood
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 4 MILE 131 DETAIL MILE PLAN SHEET 2	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	26



Canol Trail – Mile Site 131.3 – Pipeline Spill Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 131.3 – Pipeline Spill** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Petroleum Hydrocarbon (PHC) Impacted Soils	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.

Remediation Project Start Date: 2018

Remediation Project End Date: 2019

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- PHC Impacted Soil: Soil with PHC concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.

- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

Mile Site 131.3 – Pipeline Spill is not included in the initial MS program for the Project.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. Mile Site 131.3 – Pipeline Spill is not included in the MS Program.





Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no crown investments at Mile Site 131.3 – Pipeline Spill.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 3 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☒ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

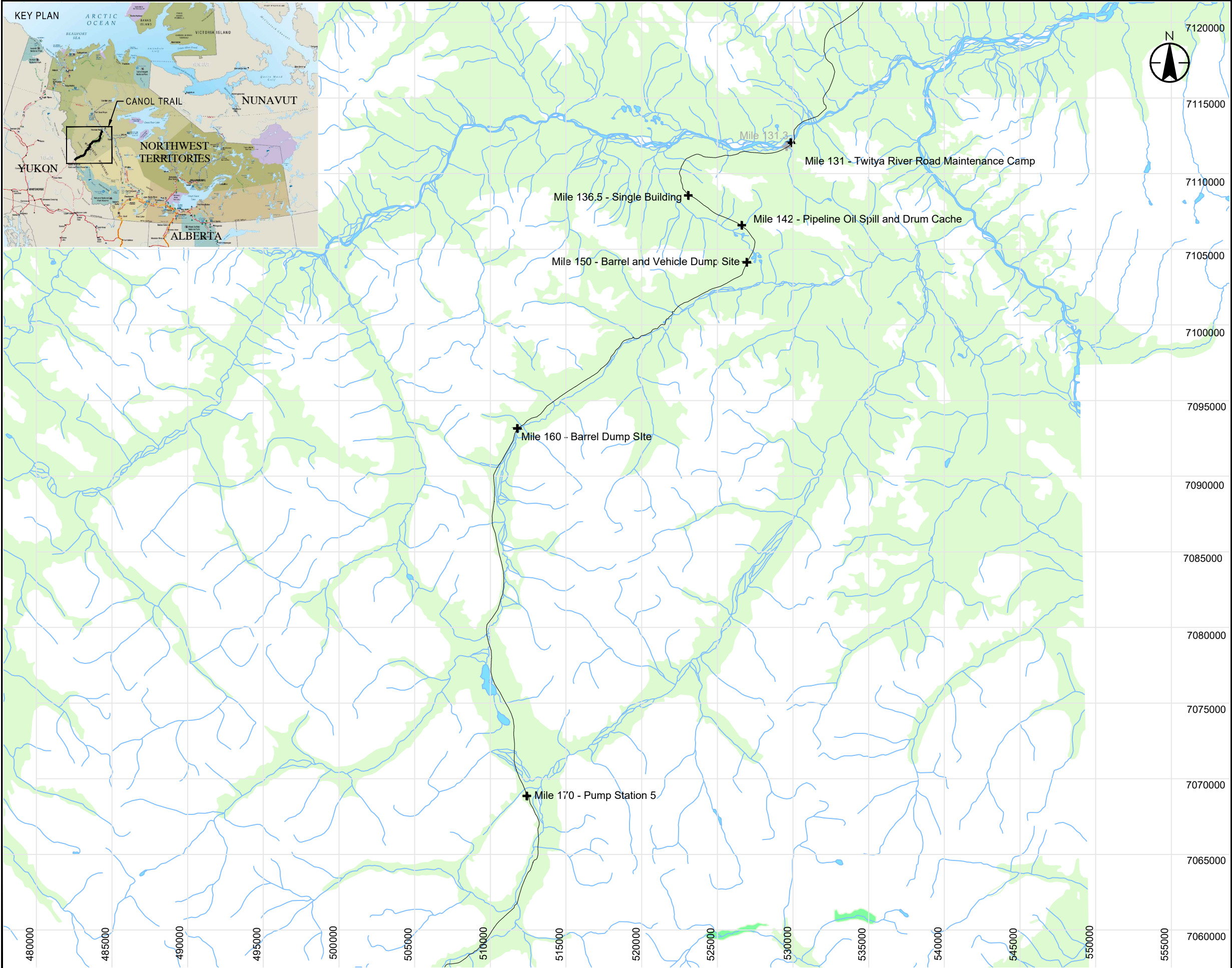
Address: _____

Telephone: _____

E-mail: _____



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300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



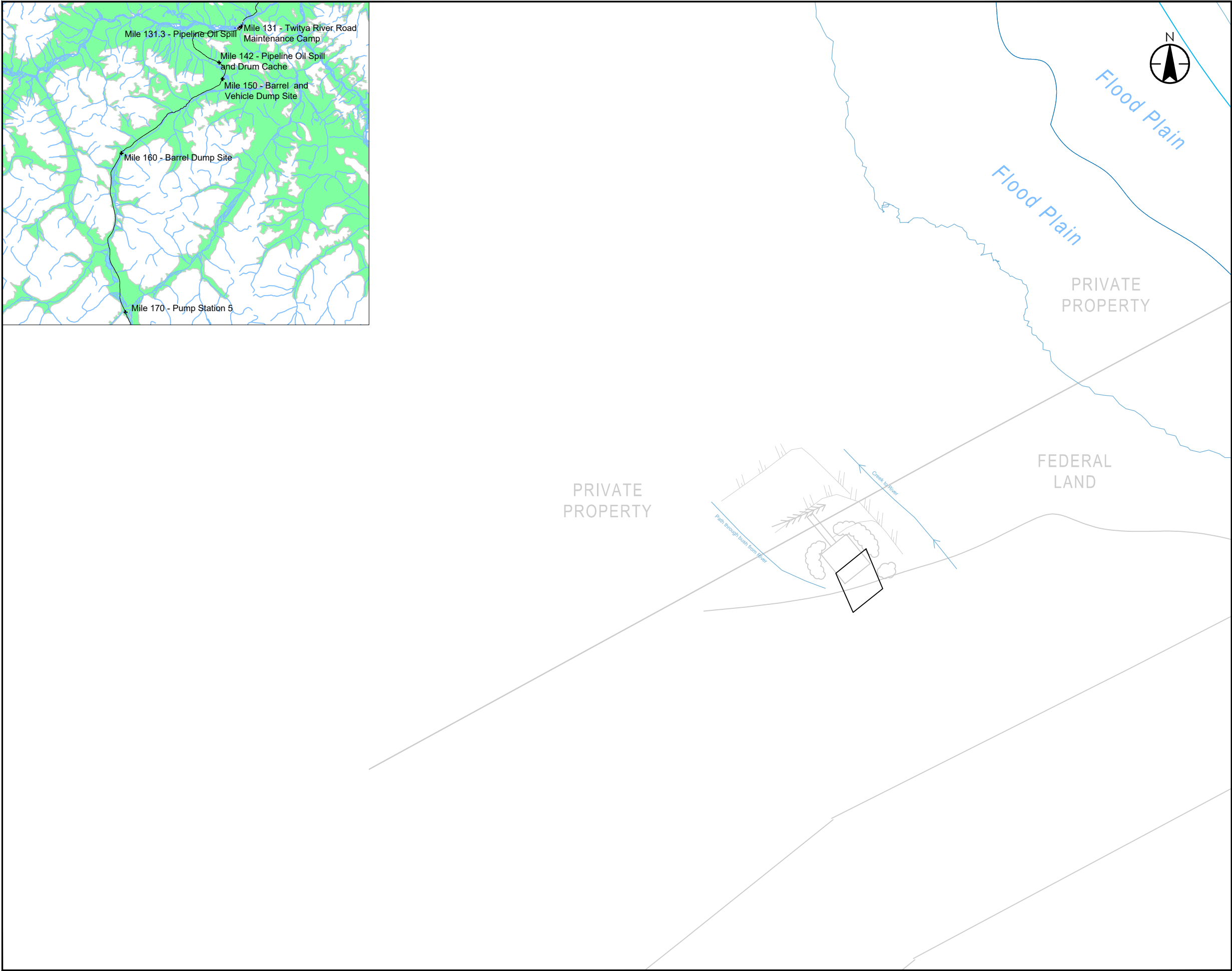
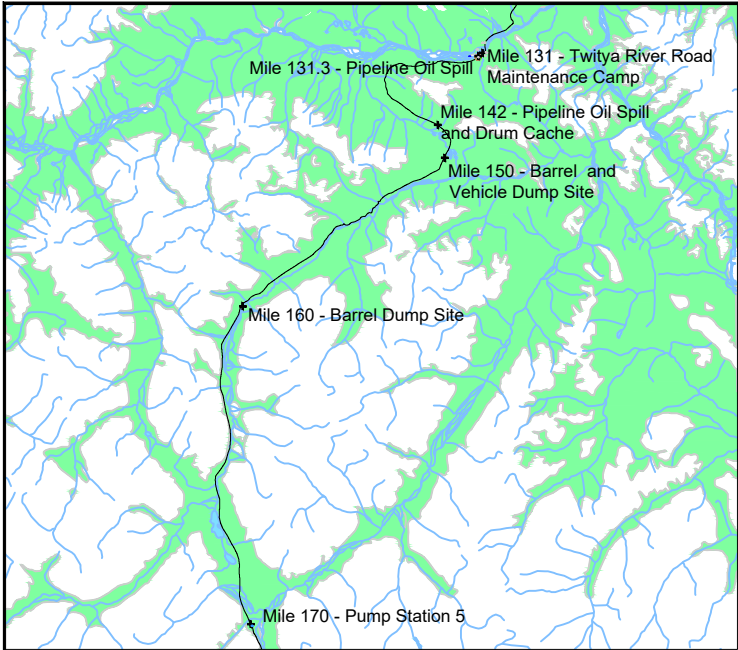
Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	05



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Legend

Features Requiring LTM

Features With No LTM

- Excavation Extents
- Approximate Property Boundary



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 4 MILE 131.3 DETAIL EXCAVATION PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	27



Canol Trail – Mile Site 136.5

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 136.5** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).
Partially Collapsed/Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, aboveground storage tanks [ASTs], etc.).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Remediation Project Start Date: 2018
Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 136.5

Table 3 Monitoring and Surveillance Program for Mile Site 136.5

Monitoring Component	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.





- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Existing Signage:

- Signage could not be located. Another attempt to locate the signage will be undertaken in Year 3 (2022).

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 136.5.

- d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

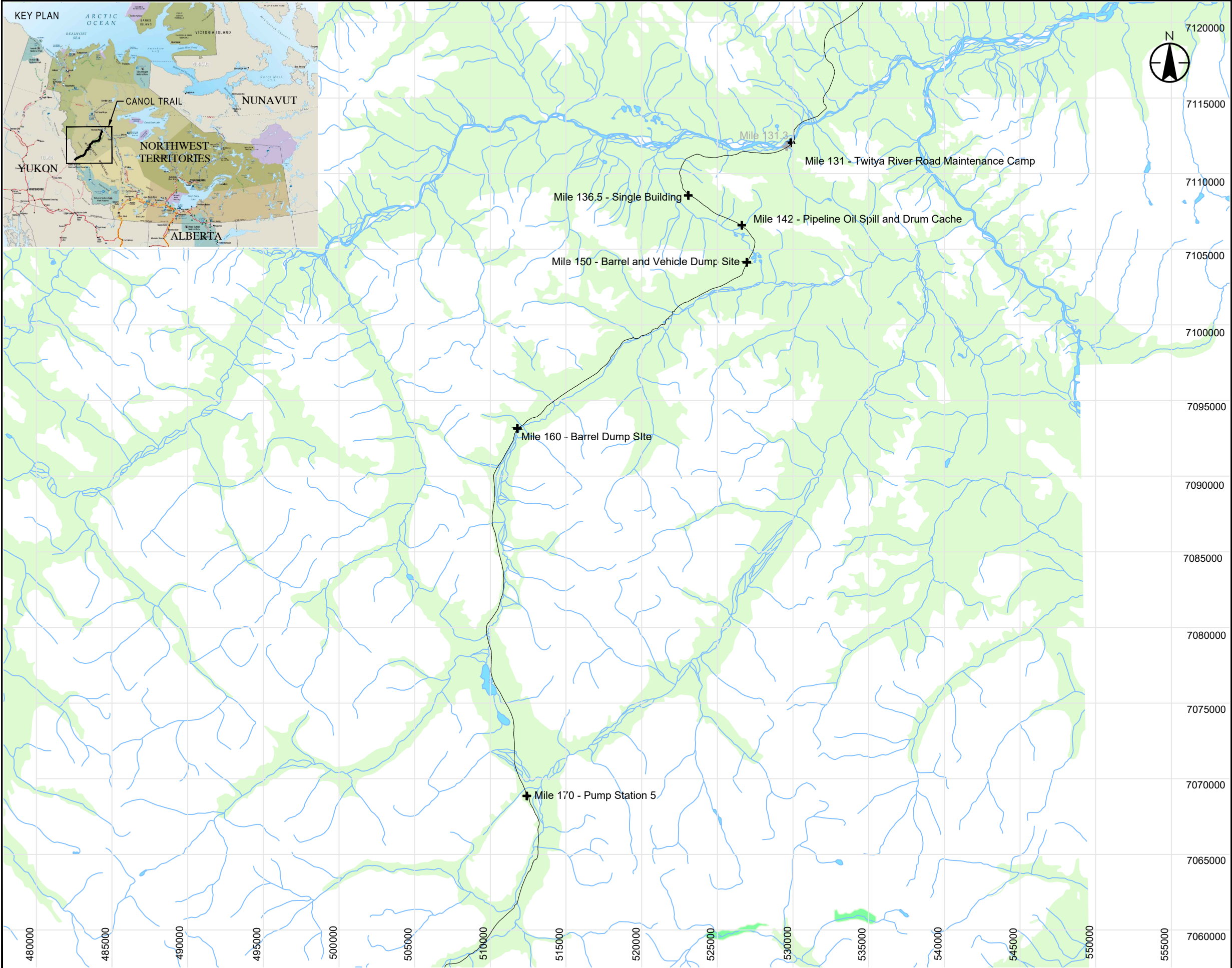
Address: _____

Telephone: _____

E-mail: _____



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Markham ON L3R 0B8
Tel: 905.944.7777
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Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision

Date

2020.02.13

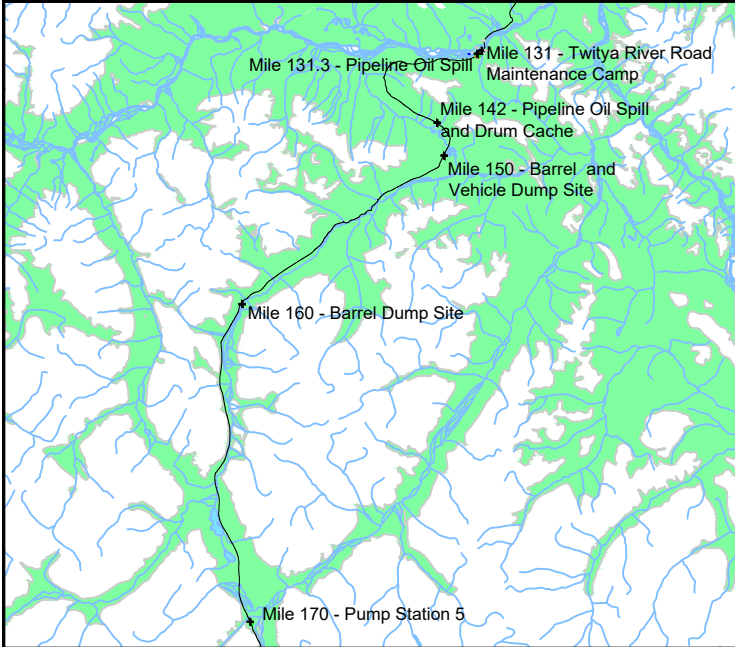
Project No.

121416600

Figure No.

05

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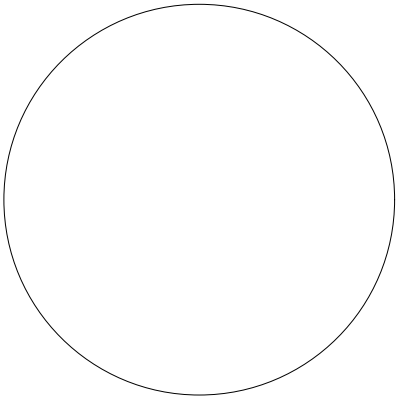


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Legend

-  Site Location from GPS Coordinates

NOTE: SITE FEATURES TO BE RECORDED (GPS) DURING FIRST SITE VISIT AND FIGURE TO BE UPDATED.



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 4 MILE 136.5 DETAIL EXCAVATION PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	28



Canol Trail – Mile Site 142 – Drum Cache/Pipeline Spill

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 142 – Drum Cache/Pipeline Spill** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
- Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
- Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
- Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
- Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 142 – Drum Cache/Pipeline Spill.





Table 3 Monitoring and Surveillance Program for Mile Site 142 – Drum Cache/Pipeline Spill

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. One sign had been knocked over but was repositioned during the Year 1 MS program site visit. No other concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.





c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 142 – Drum Cache/Pipeline Spill.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

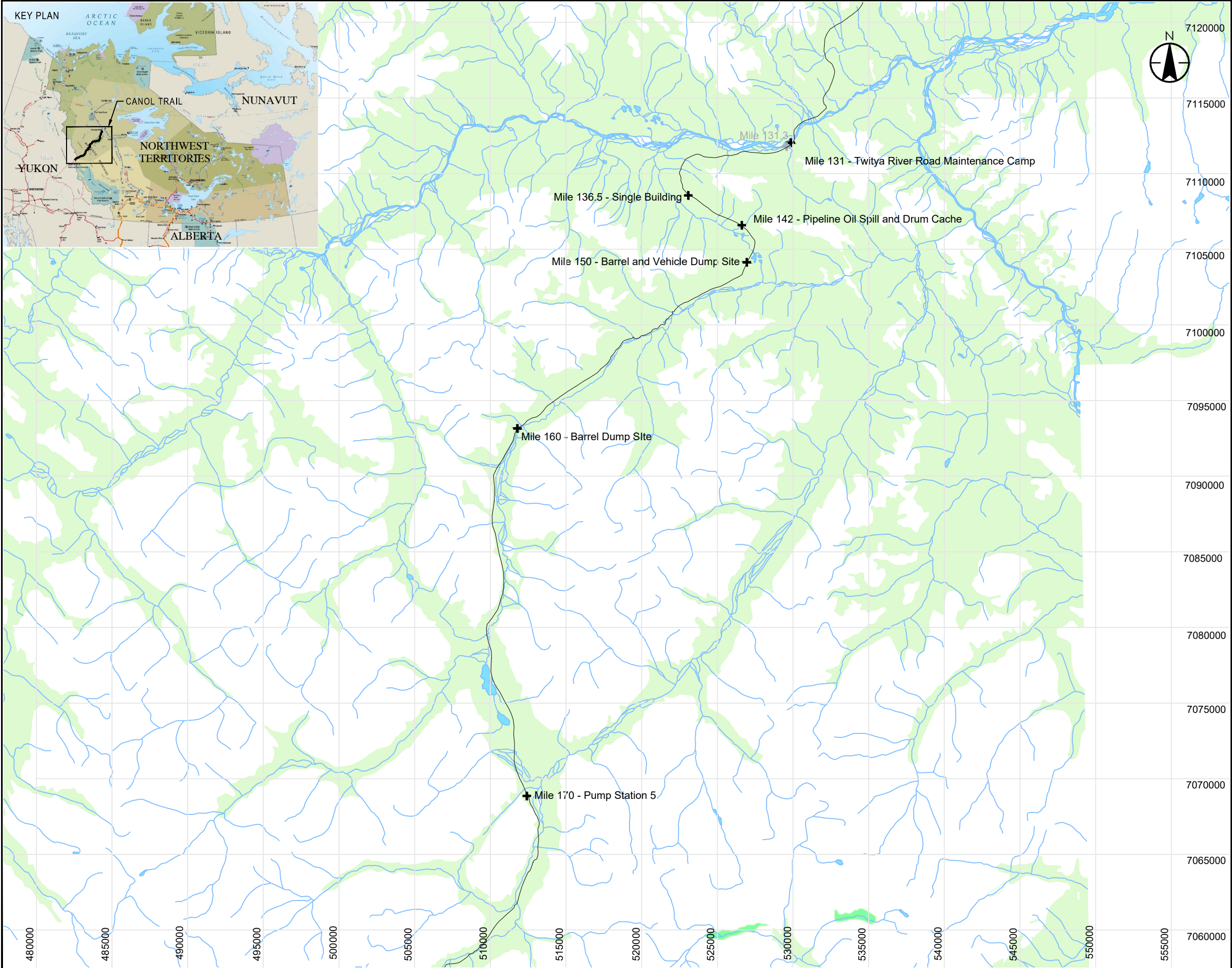
Address: _____

Telephone: _____

E-mail: _____



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300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision

Date

2020.02.13

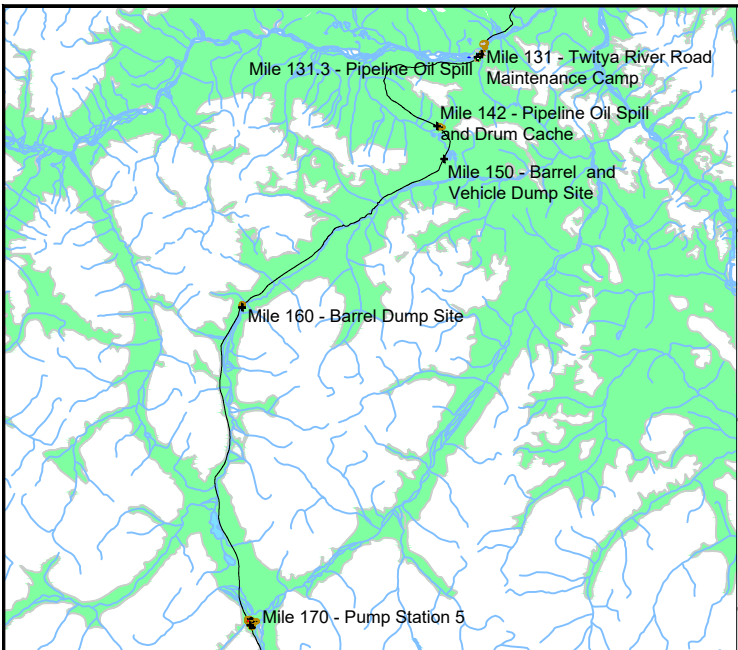
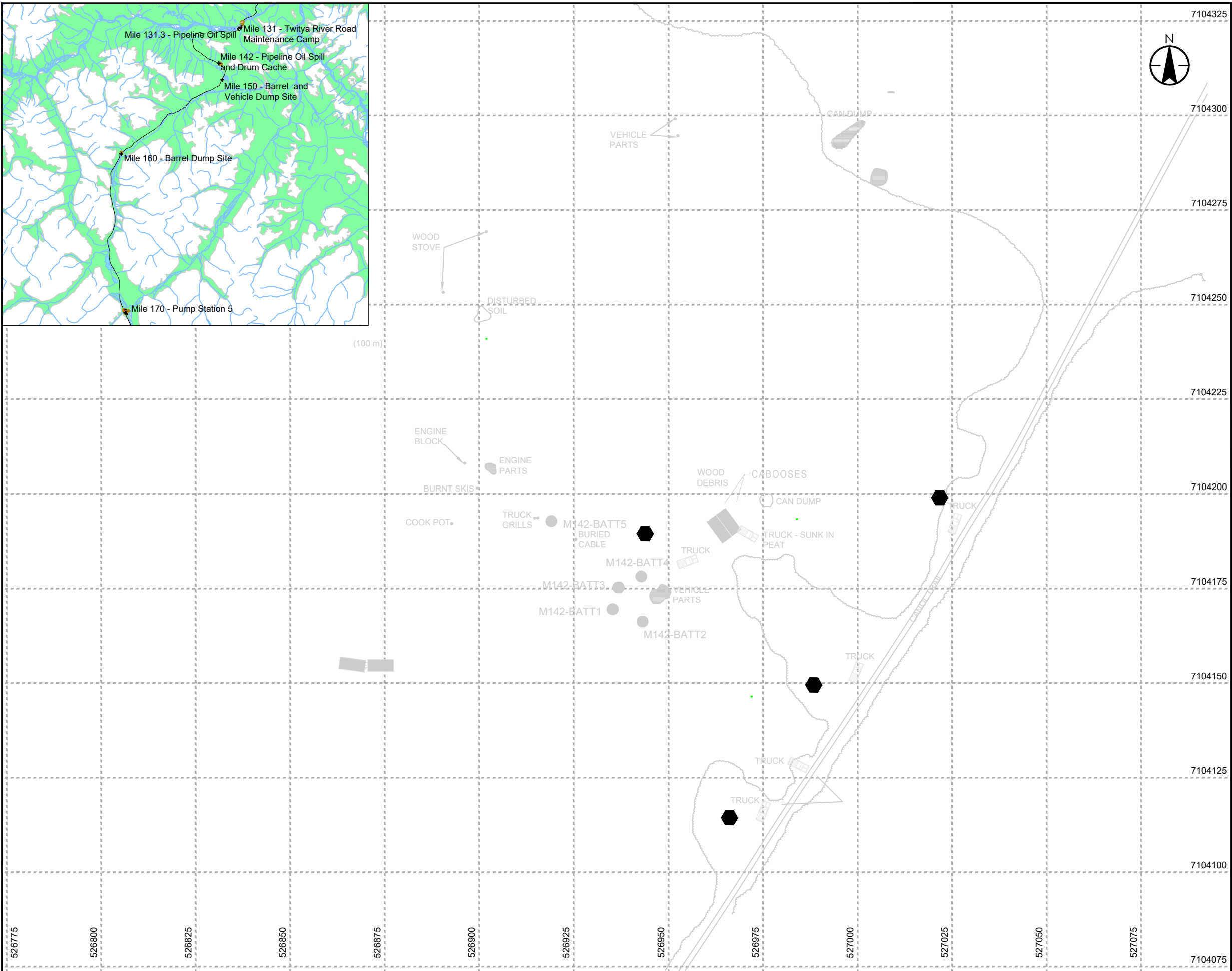
Project No.

121416600

Figure No.

05

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300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated

D e b r i s

- Wood
- Metal and Wood
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 4 MILE 142 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	29



Canol Trail – Mile Site 150 – Vehicle Boneyard Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 150 – Vehicle Boneyard** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into a cache at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 150 – Vehicle Boneyard.





Table 3 Monitoring and Surveillance Program for Mile Site 150 – Vehicle Boneyard

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches could not be located. Another attempt to locate the caches will be undertaken in Year 3 (2022).

Existing Signage:

- Signage could not be located. Another attempt to locate the signage will be undertaken in Year 3 (2022).

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.





c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 150 – Vehicle Boneyard.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

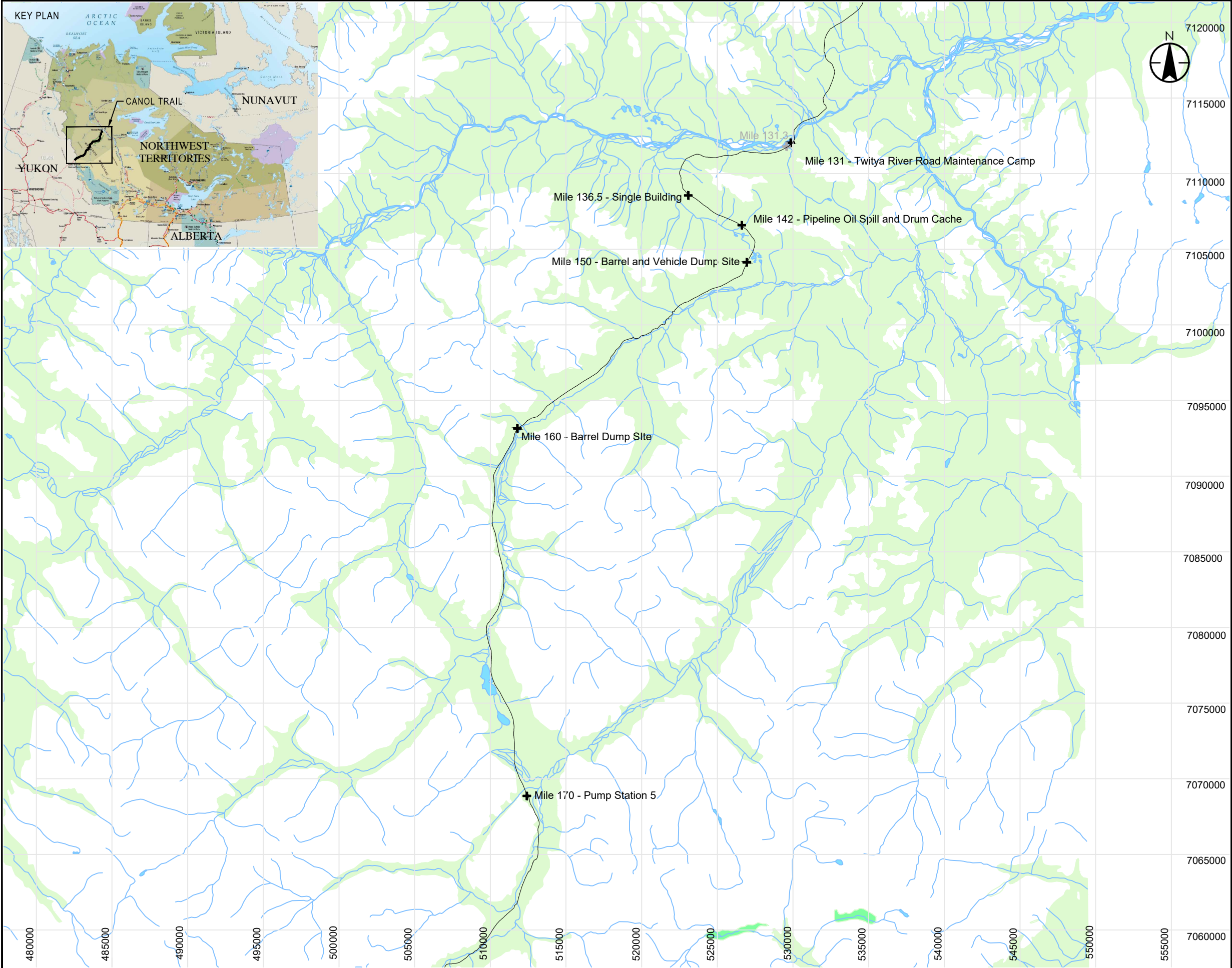
Address: _____

Telephone: _____

E-mail: _____



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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision

Date

2020.02.13

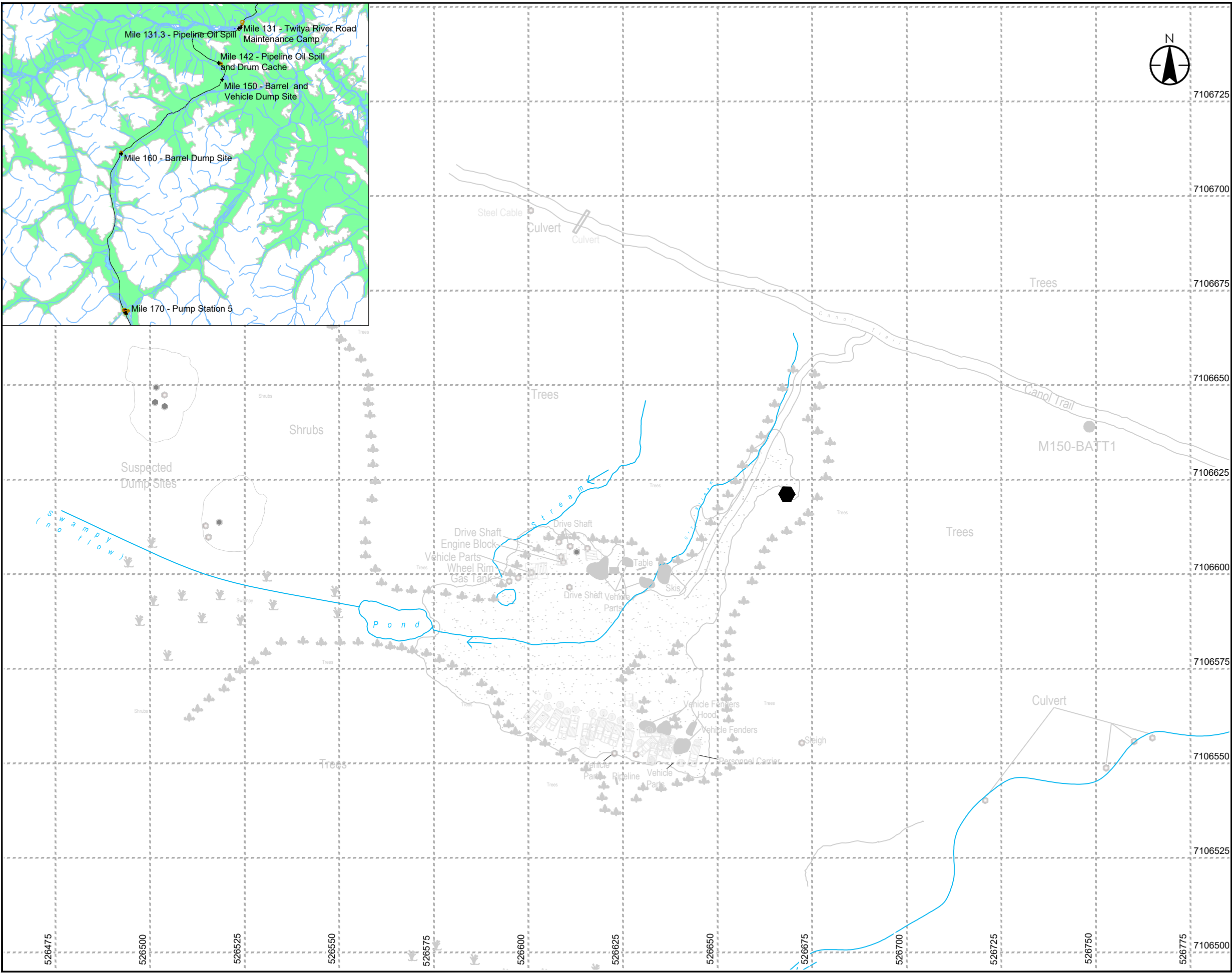
Project No.

121416600

Figure No.

05

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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe
 - Battery Location (Compliant)
 - Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 MILE 150
DETAIL MILE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	30



Canol Trail – Mile Site 160 – Drum Cache Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 160 – Drum Cache** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date:

2019

Remediation Project End Date:

2019 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: No telephone wire was located at the Mile Site.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 160 – Drum Cache.

Table 3 Monitoring and Surveillance Program for Mile Site 160 – Drum Cache

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.





- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage could not be located. Another attempt to locate signage will be undertaken in Year 3 (2022).
- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 160 – Drum Cache.

- d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

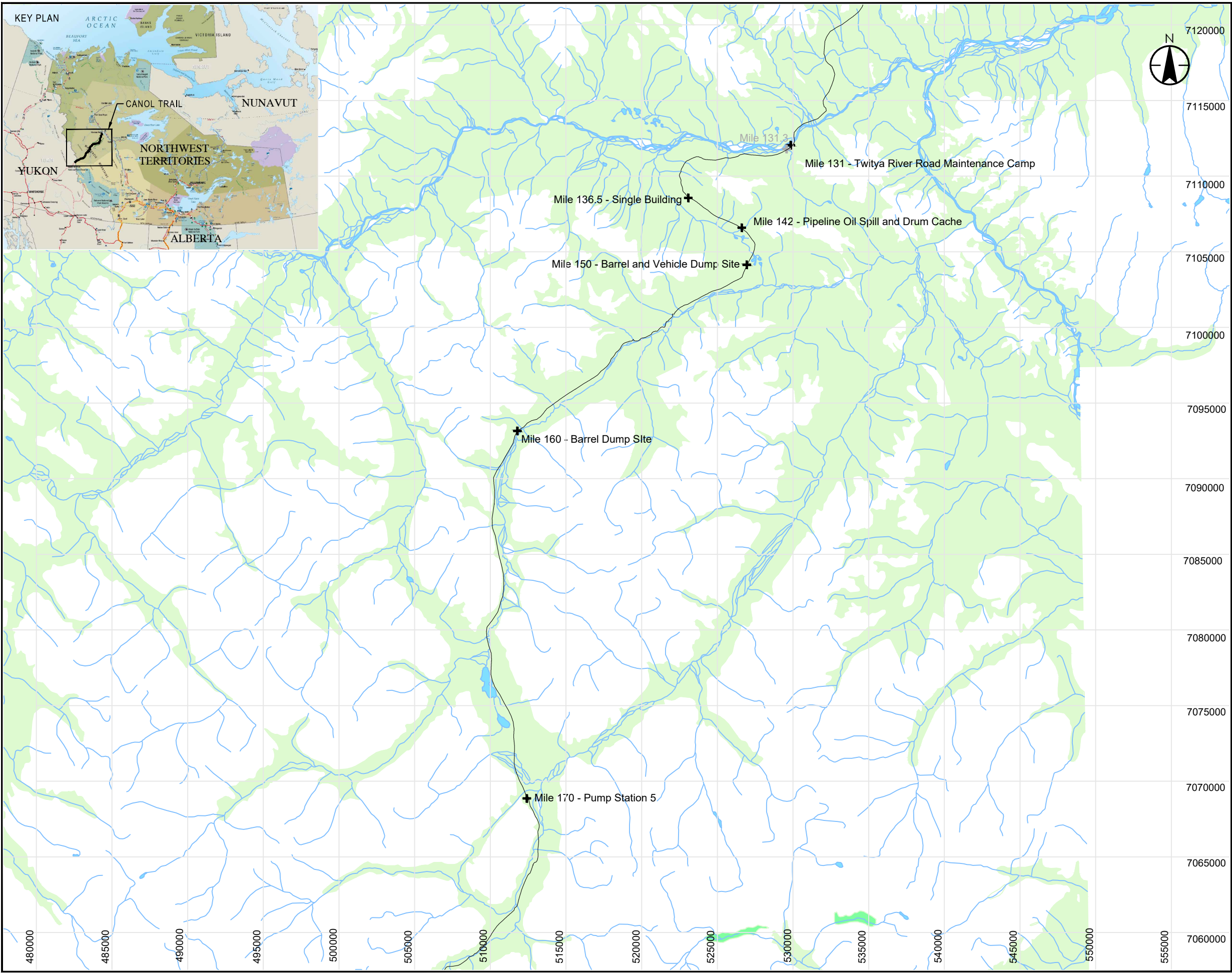
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

05



Canol Trail – Mile Site 160-170

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 160-170** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

Remediation Project Start Date: 2019

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into a cache at the Mile Site.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 160-170.

Table 3 Monitoring and Surveillance Program for Mile Site 160-170

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.





To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- The drum cache could not be located. Another attempt to locate the cache will be undertaken in Year 3 (2022).

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 160-170.

d) Are there any site use restrictions?

There are no restrictions on site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

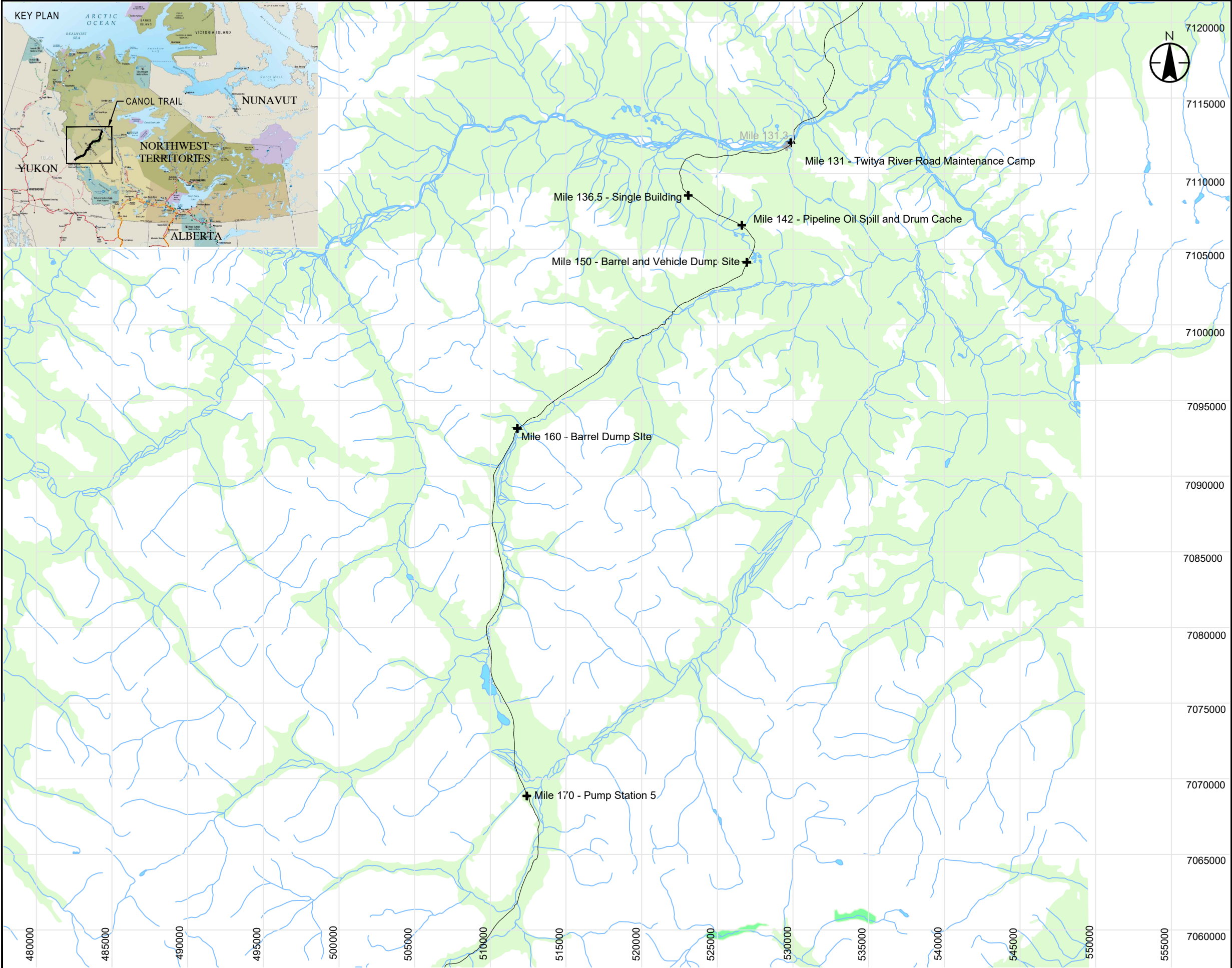
Company: _____

Address: _____

Telephone: _____ E-mail: _____



\\ca0213-pfss01\work_group\1214\active\121416600\03_data\gis_cad\markup_v3_cad_files nov 2020\121416600 _ canol_c01-c06



Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
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www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

05



Canol Trail – Mile Site 170 – Pump Station 5 Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 170 – Pump Station 5** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Petroleum Hydrocarbon (PHC) Impacted Soils	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Vehicles and Equipment	Remove chemical risk from residual fuels and / or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.



**Table 1** Summary of Hazard Categories and Objectives

Category	Objective
Moderate and Large Aboveground Storage Tanks (ASTs)	Remove chemical hazards of residual products. Mitigate physical hazards by proper closure.
Underground Storage Tank (UST) - Water	Mitigate physical hazards by proper closure.
UST - PHC	Remove chemical hazards of residual products. Remove physical hazards by UST removal.
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small ASTs	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2019

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0





Table 2 **Name and Address of All Stakeholders**

Stakeholder	Name	Address
<i>Indigenous Organization(s)</i>	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- Risk Assessment for Six Mile Sites Along the Canol Trail with Historical Petroleum Hydrocarbon Spills. Letter prepared by Stantec for PSPC on behalf of CIRNAC dated March 6, 2020.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Telephone Wire and Poles: Telephone wire was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - PHC Impacted Soils: Soil with PHC concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Moderate and Large ASTs: AST was cleaned and sealed and left on-site.
 - Underground storage tanks (USTs): A water UST was left in place and backfilled with locally sourced material. A PHC UST was removed and disposed of off-site; the excavation was backfilled.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.





- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 170 – Pump Station 5.

Table 3 Monitoring and Surveillance Program for Mile Site 170 – Pump Station 5

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
PHC Impacted Soils	CIRNAC	Confirm excavation/trenching activities have not occurred/are not occurring in the impacted soil area without appropriate health and safety measures in place. While not an MSP activity, confirm land-use has not changed to a more intensive land use.
Moderate and Large ASTs	CIRNAC	Confirm that access to the insides of the ASTs remains sealed.
UST - Water	CIRNAC	Confirm that the backfilled area remains intact and level.
UST - PHC	CIRNAC	Confirm that the backfilled area remains intact and level.
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

PHC Impacted Soils:

- No excavation or trenching activities, historical or current, were observed and no change in land use was evident.

Moderate and Large ASTs:

- Moderate and large ASTs were visually inspected. No concerns were noted.





USTs:

- Former UST locations were visually inspected. Minor subsidence was noted but did not appear to pose a physical hazard to wildlife or trail users.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 170 – Pump Station 5.

d) Are there any site use restrictions?

At the time of writing, there are proposed restrictions to site use related to environmental site conditions following completion of the remediation project.

Excavation/trenching activities should not occur without a health and safety plan in place due to the presence of residual PHC impacted soil that poses potential vapour inhalation risks to workers.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

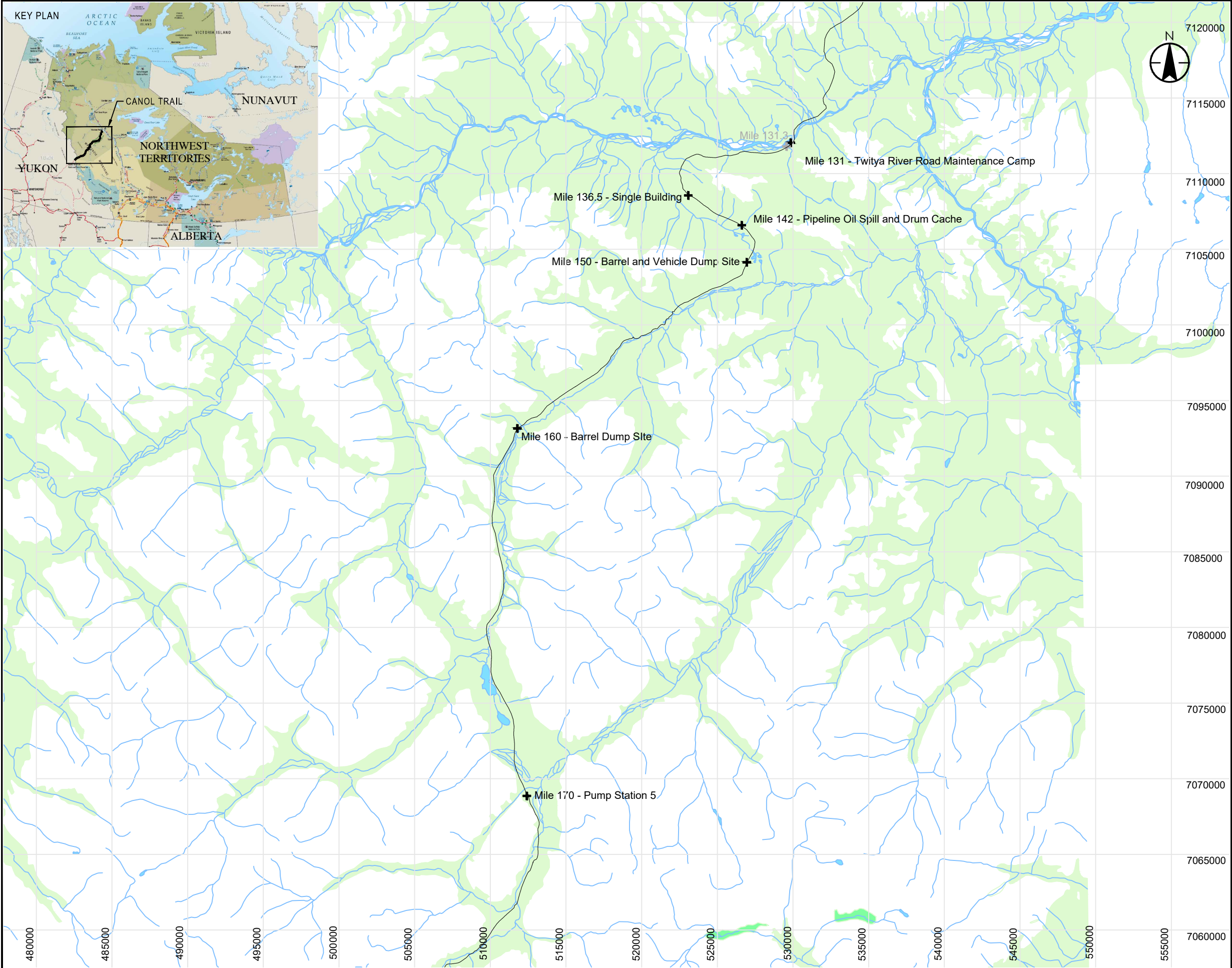
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 SITE PLAN

Revision

Date

2020.02.13

Project No.

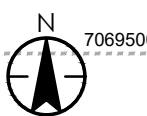
121416600

Figure No.

05

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Area 1 - North Camp
SEE DRAWING 33



Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Building Standing (Boarded)
- AST
- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Berm
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe
 - Battery Location (Compliant)
 - Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

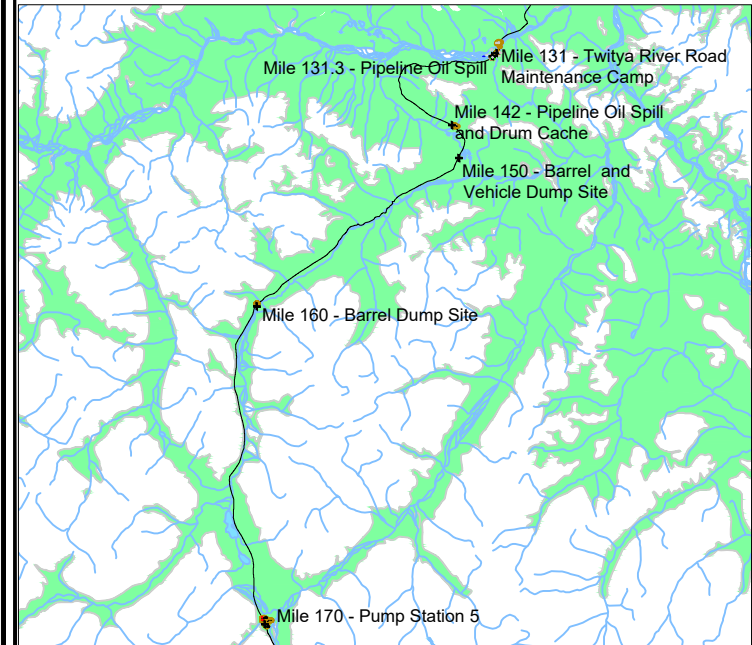
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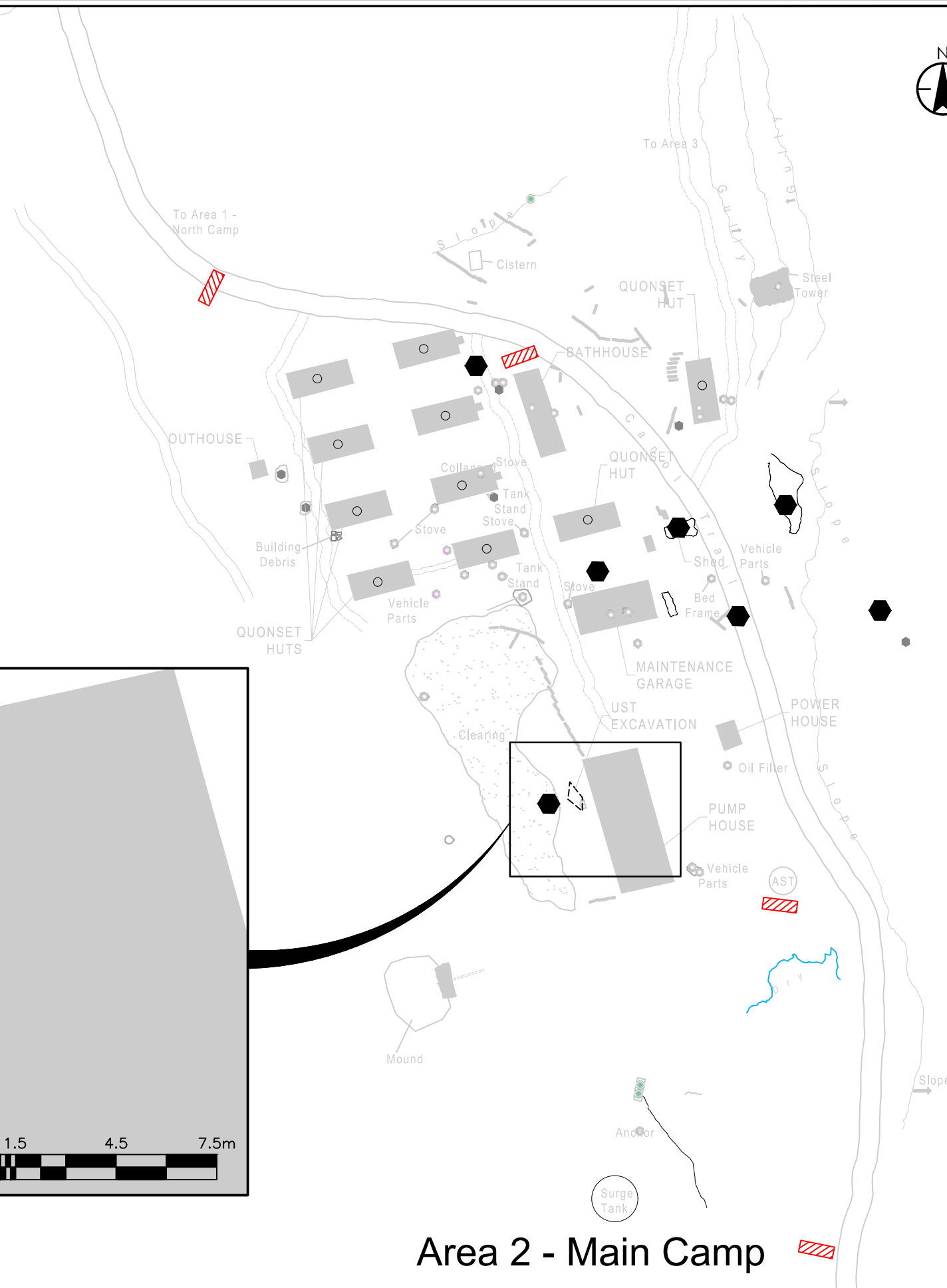
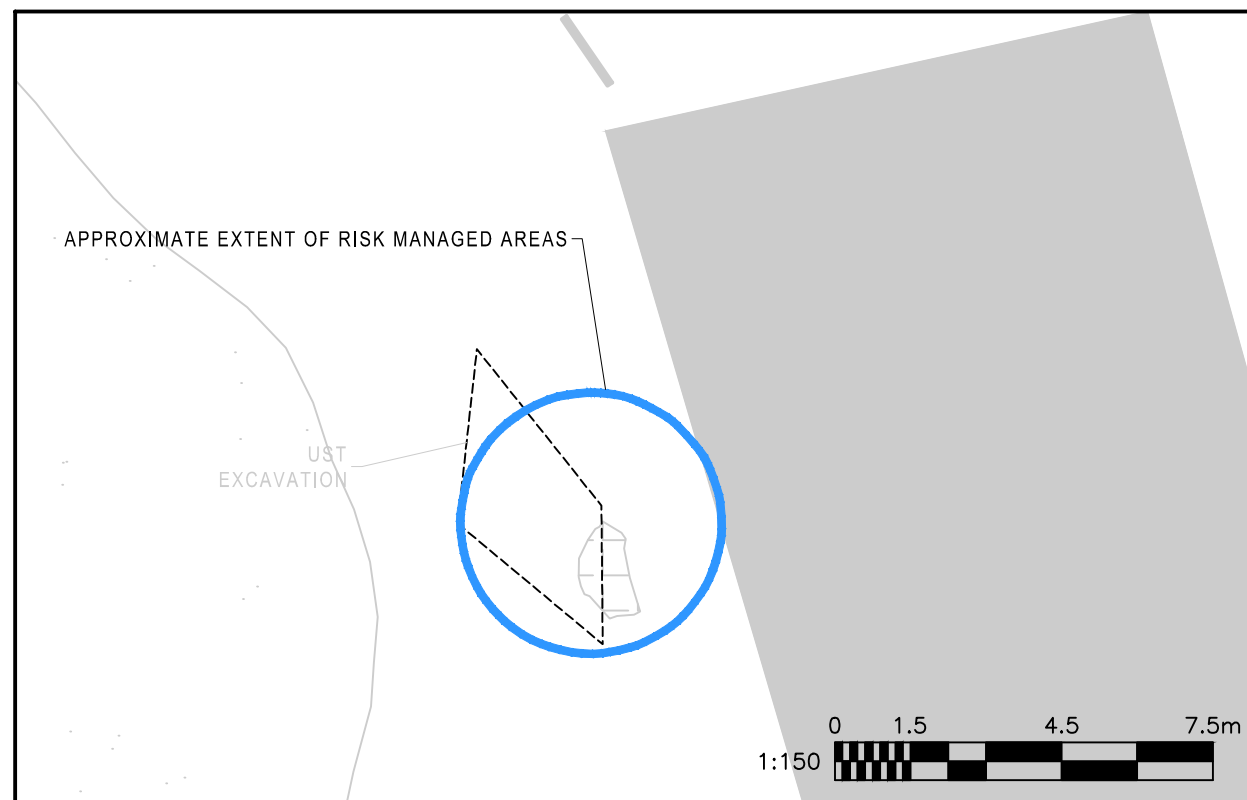
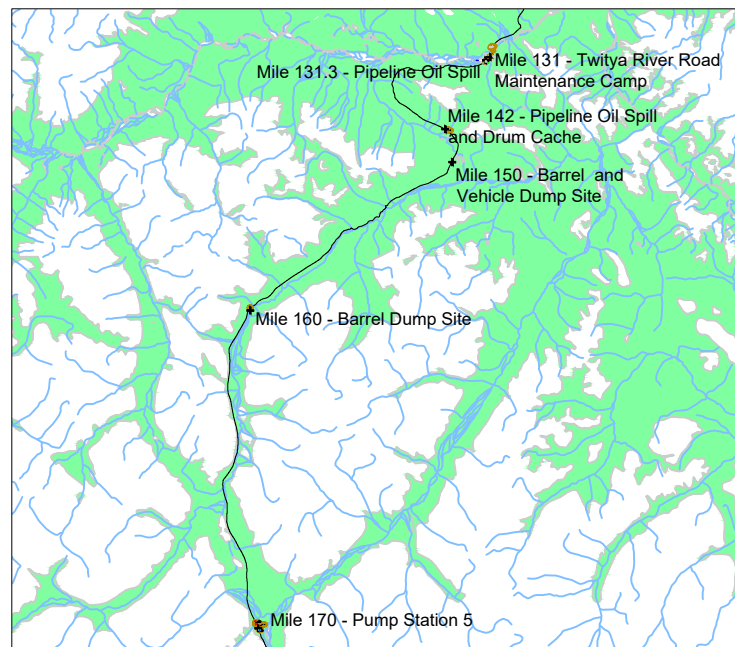
ZONE 4 MILE 170
OVERVIEW MILE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	32

Area 3 - Dump Area

Area 2 - Main Camp
SEE DRAWING 34





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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring LTM

-  Building Standing (Boarded)
-  AST
-  Drum Cache
-  Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

-  Building Demolished and/or Consolidated
 Berm
 Water
 Tree Line
D e b r i s
 Wood
 Metal and Wood
 Metal
 Wood
 Pipe

- Excavation Line
 Approximate Extent of Risk Managed areas



Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 4 MILE 170
DETAIL MILE PLAN SHEET 2

Revision

Date	2020.02.13
------	------------

Project No.

No.
121416600

Figure No.

34

Area 2 - Main Camp



Canol Trail – Mile Sites 177 and 177.5

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Sites 177 and 177.5** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed / Collapsed Buildings - Mile Site 177.5	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Drums and Small Aboveground Storage Tanks (ASTs) - Mile Site 177	Improve site aesthetics, reduce physical hazard.

Remediation Project Start Date: 2019

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Partially Collapsed/Collapsed Buildings (Mile Site 177.5): Partially collapsed or collapsed buildings were demolished and/or consolidated.
- Drums and Small ASTs (Mile Site 177): Drums and/or small ASTs were consolidated into a cache at Mile Site 177.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Mile Site 177.5 is not included in the MS program. Table 3 below outlines the MS program for Mile Site 177.

Table 2 Monitoring and Surveillance Program for Mile Site 177

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.





- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- The drum cache could not be located. Another attempt to locate the cache will be undertaken in Year 3 (2022).

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. For Mile Site 177, the initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 177 or 177.5.

- d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

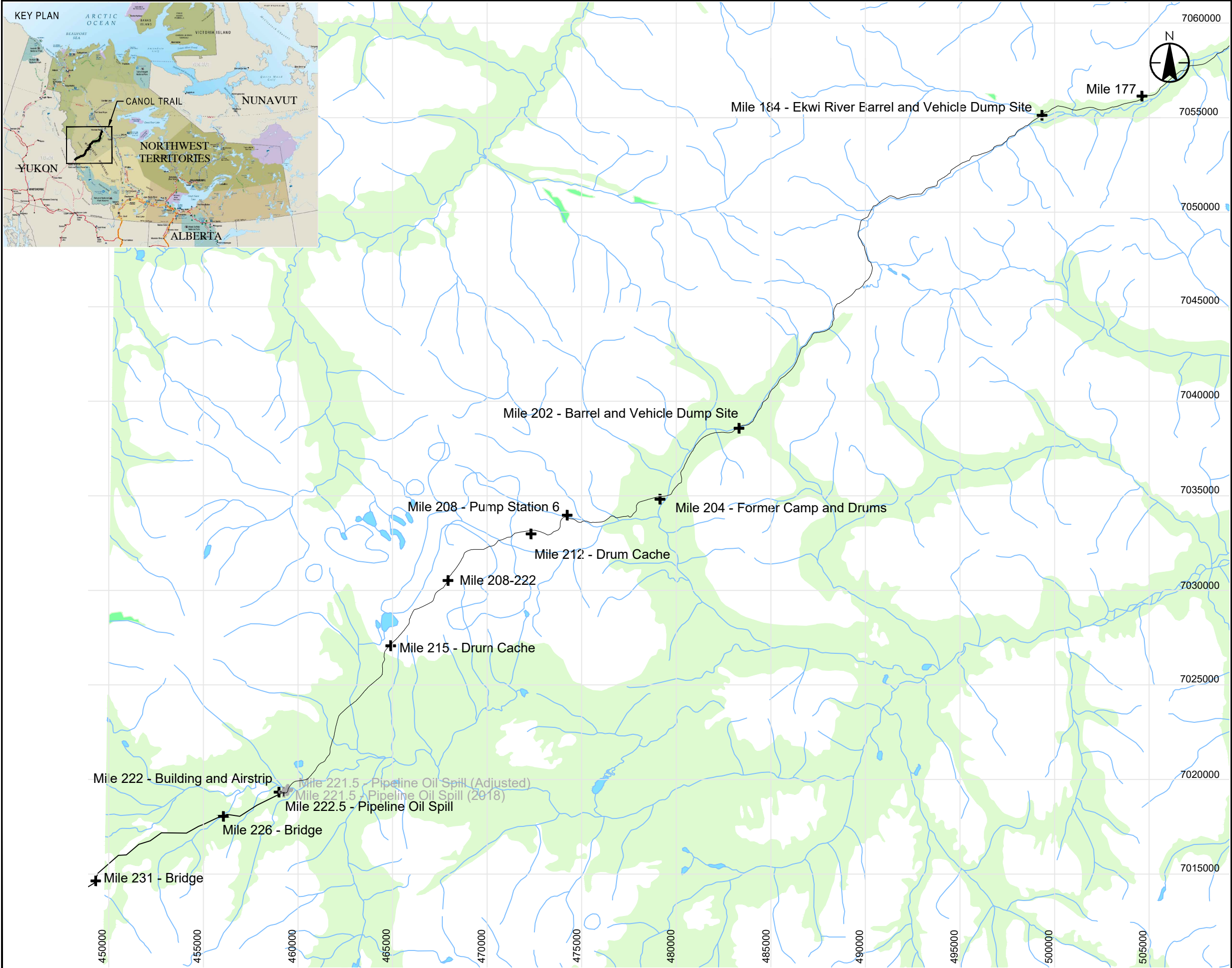
Address: _____

Telephone: _____

E-mail: _____



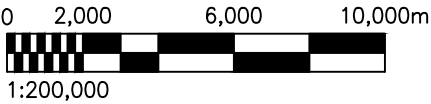
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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

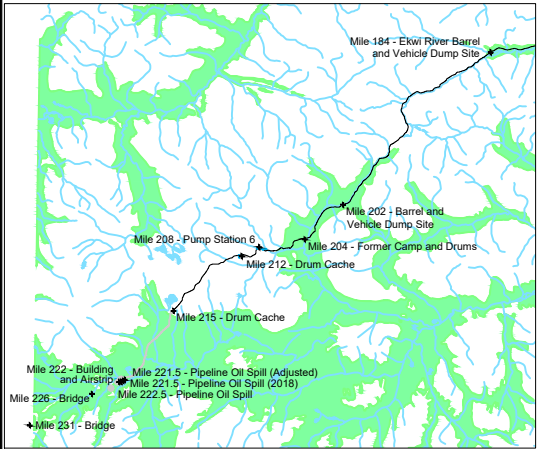


Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date 2020.02.13
Project No. 121416600	Figure No. 06

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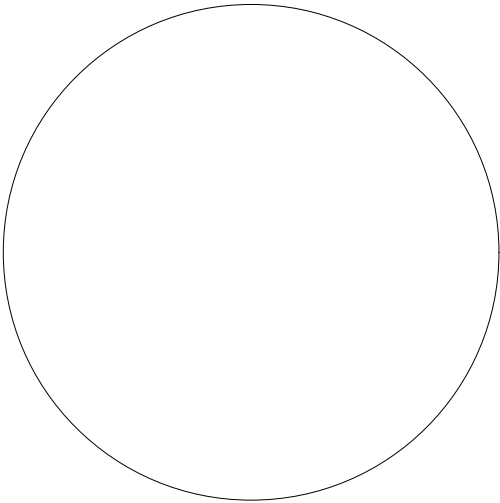
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Markham ON L3R 0B8
Tel: 905.944.7777
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Legend



Site Location from GPS coordinates

NOTE: SITE FEATURES TO BE RECORDED (GPS)
DURING FIRST SITE VISIT AND FIGURE TO BE
UPDATED.



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 5 MILE 177 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	35



Canol Trail – Mile Site 184 – Ekwi River Vehicle Boneyard

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 184 – Ekwi River Vehicle Boneyard** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Remediation Project Start Date: 2019

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: No telephone wire was located at the Mile Site.
- Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
- ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 184 – Ekwi River Vehicle Boneyard.

Table 3 Monitoring Program for Mile Site 184 – Ekwi River Vehicle Boneyard

Monitoring Category	Responsible Organisation	Task Summary
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.





Table 3 Monitoring Program for Mile Site 184 – Ekwi River Vehicle Boneyard

Monitoring Category	Responsible Organisation	Task Summary
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 184 – Ekwi River Vehicle Boneyard.





d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

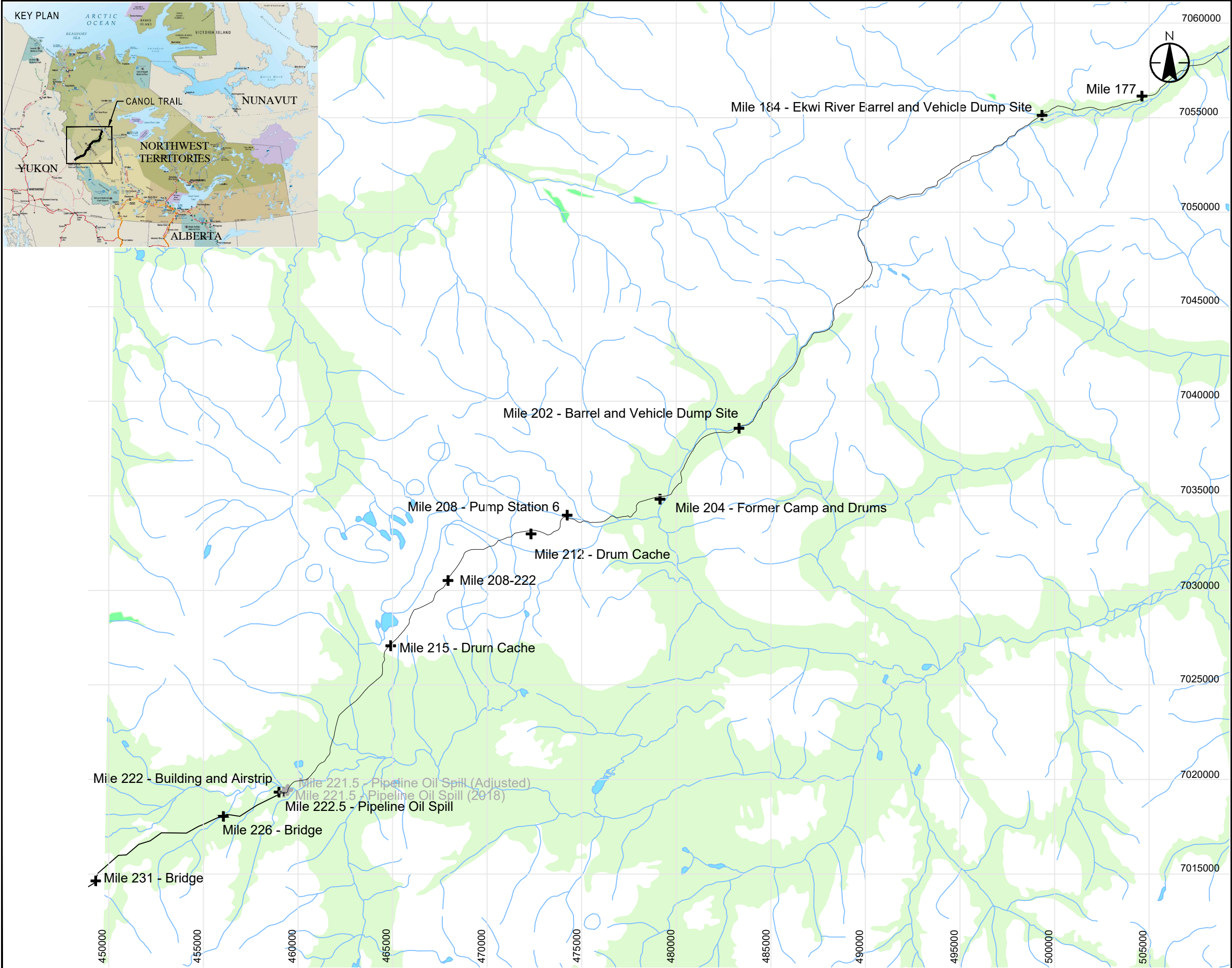
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Telephone: _____

E-mail: _____



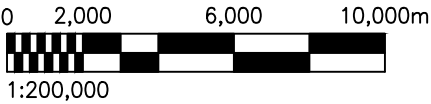
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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

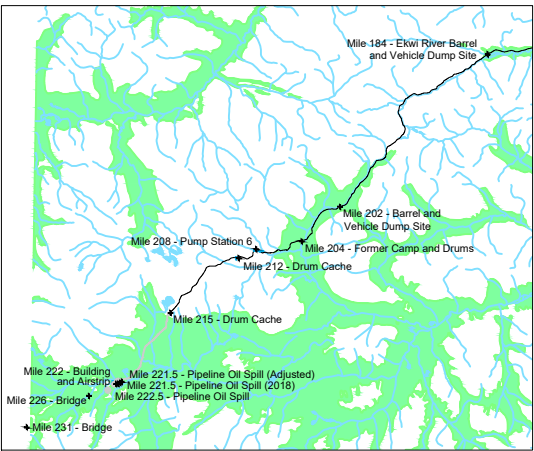
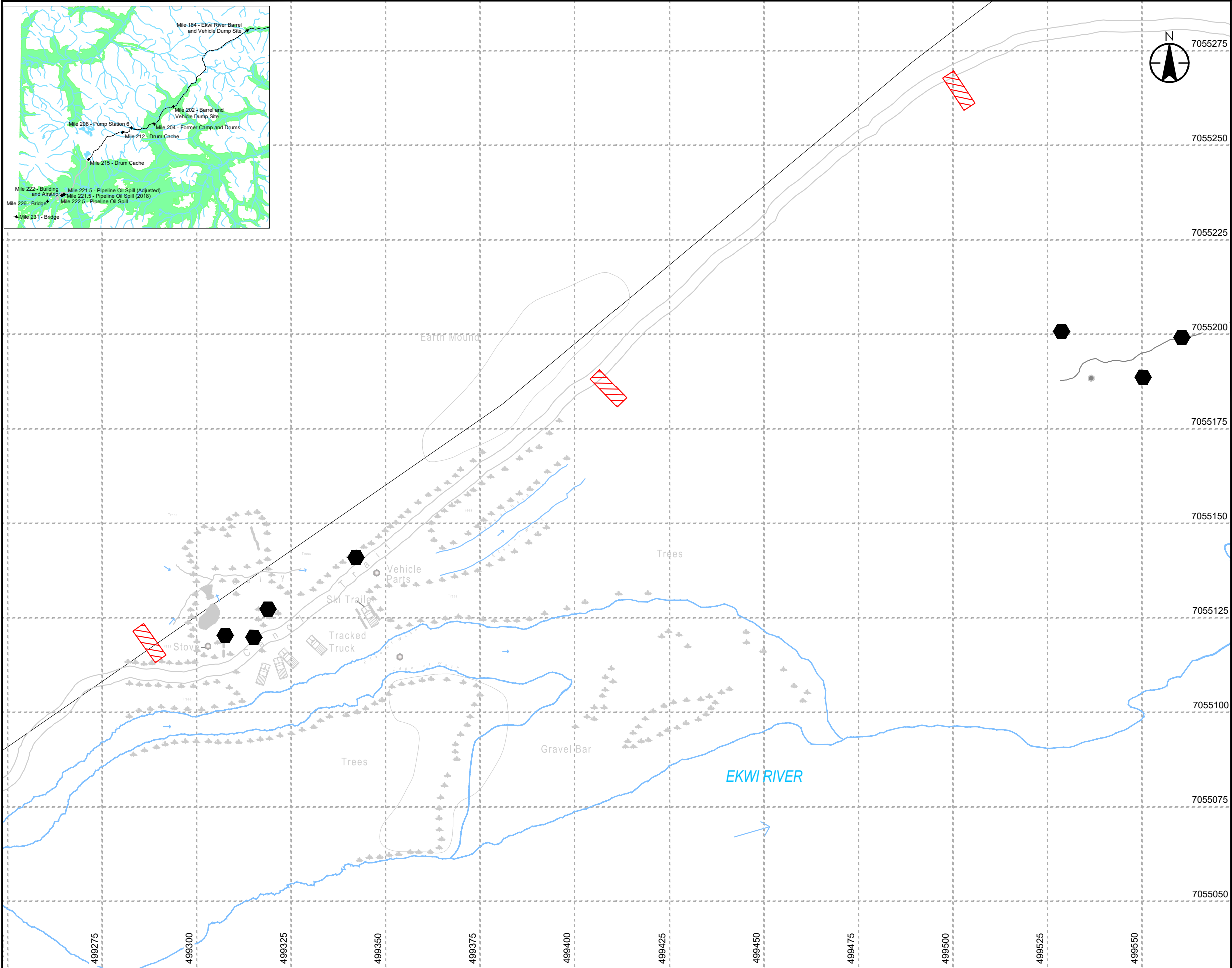


Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	06

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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Berm
- Water
- Tree Line
- Debris
- Wood
- Metal and Wood
- Metal
- Wood
- Pipe



Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 MILE 184
DETAIL MILE PLAN

Revision

Date
2020.02.13

Project No.
121416600
Figure No.
36



Canol Trail – Mile Site 202 – Vehicle Boneyard Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 202 – Vehicle Boneyard** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce small physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 202.





Table 3 Monitoring and Surveillance Program for Mile Site 202 – Vehicle Boneyard

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. One sign was in good condition and one sign was upright, but loose.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 202 – Vehicle Boneyard.





d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

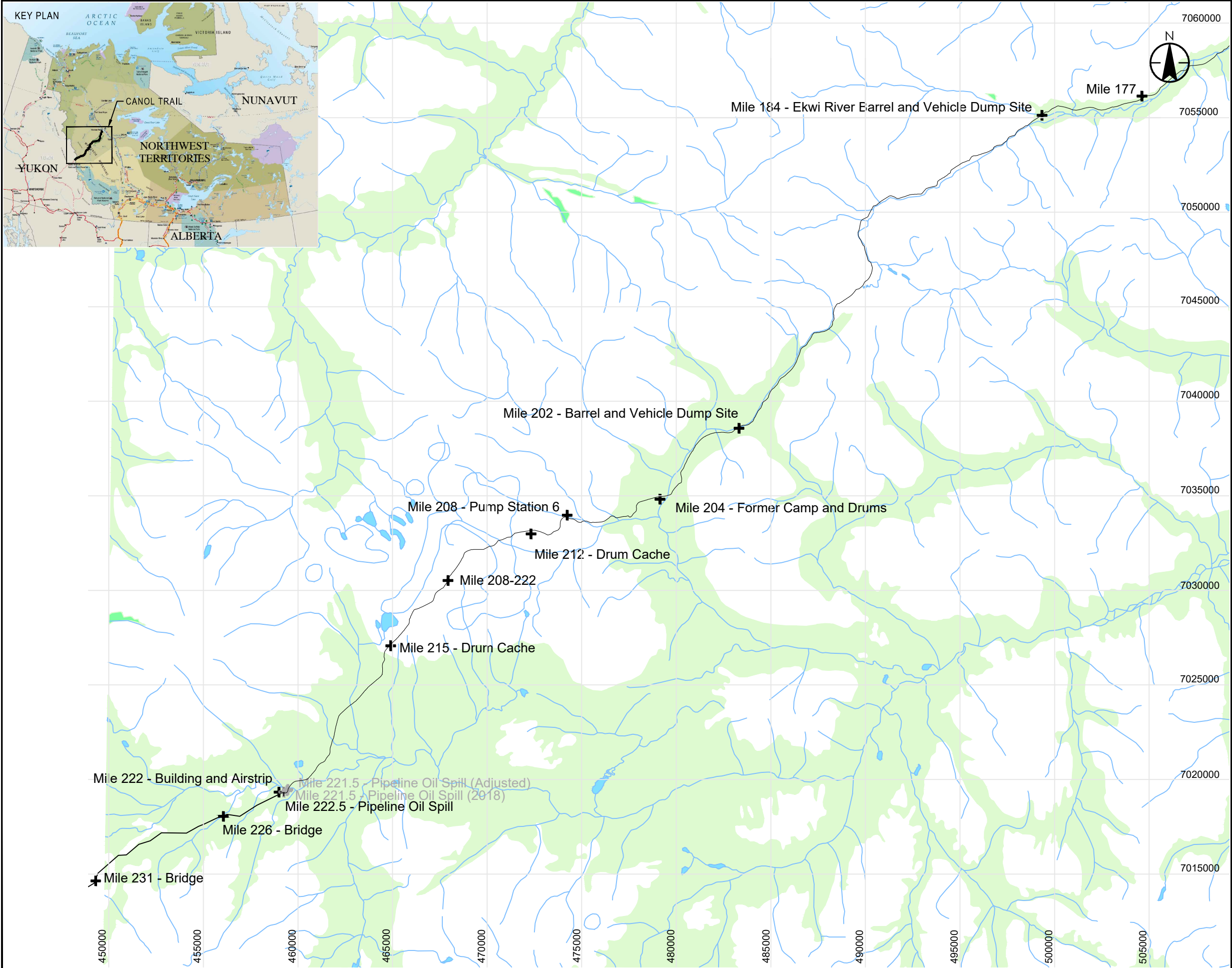
Address: _____

Telephone: _____

E-mail: _____



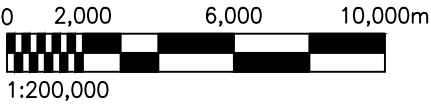
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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

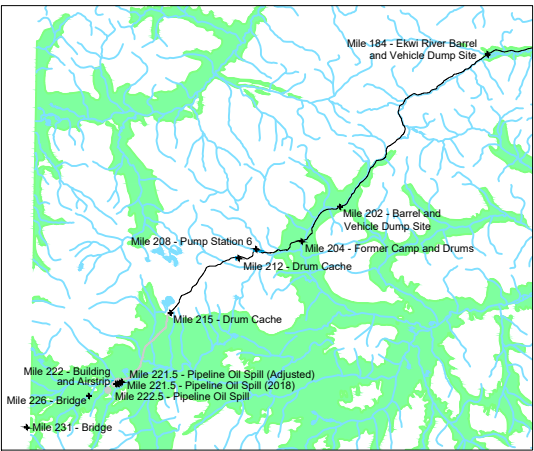
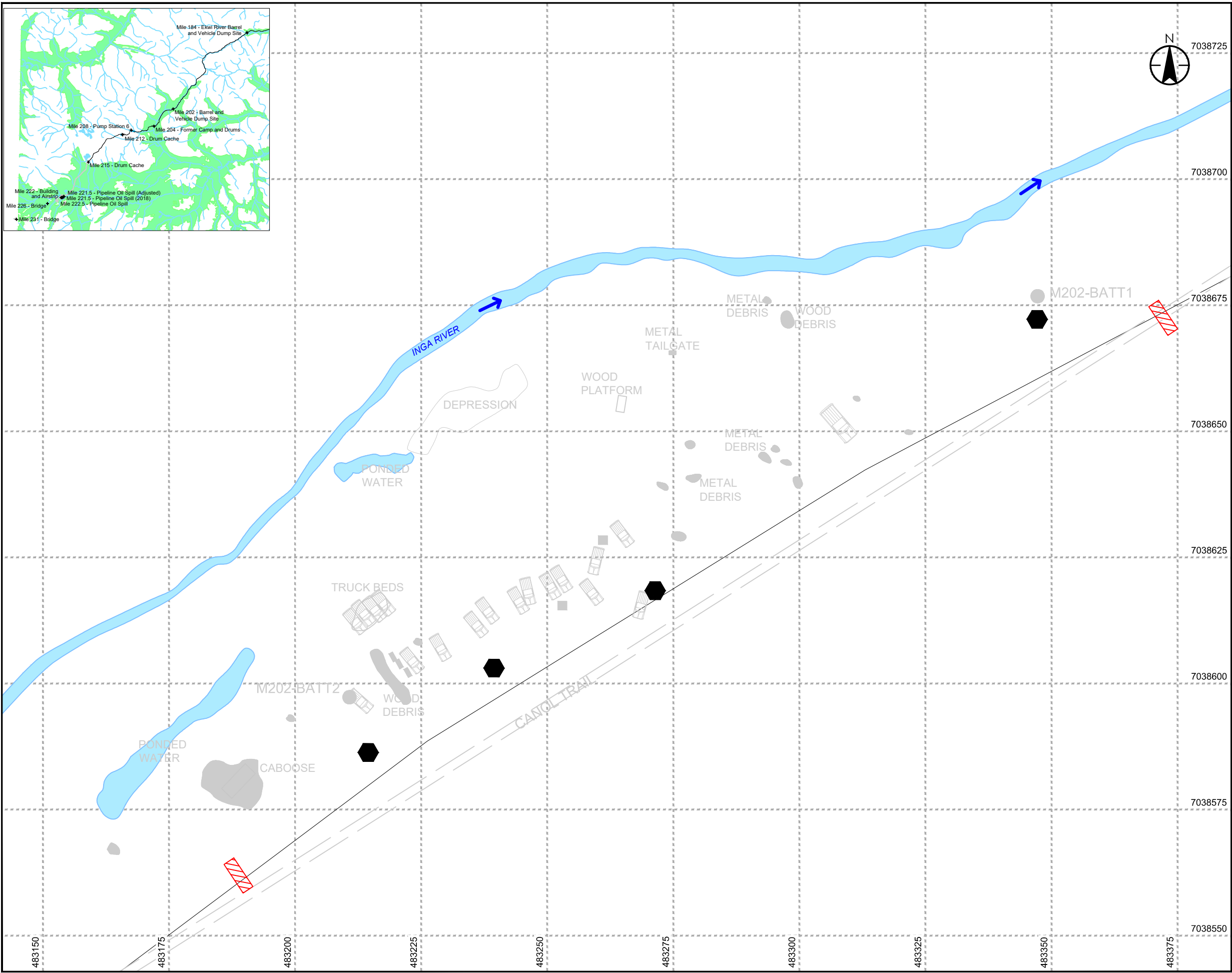


Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date 2020.02.13
Project No. 121416600	Figure No. 06

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Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Building Demolished and/or Consolidated
- Berm
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe
 - Battery Location (Compliant)
 - Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 MILE 202
DETAIL MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

37



Canol Trail – Mile Site 204 – Former Camp and Drums Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 204 – Former Camp and Drums** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Residual Fuels	Remove chemical risk from ongoing spill potential.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date:

2019

Remediation Project End Date:

2019 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk assessment measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 204 – Former Camp and Drums.

Table 3 Monitoring and Surveillance Program for Mile Site 204 – Former Camp and Drums

Monitoring Component	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.





- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 204 – Former Camp and Drums.

- d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

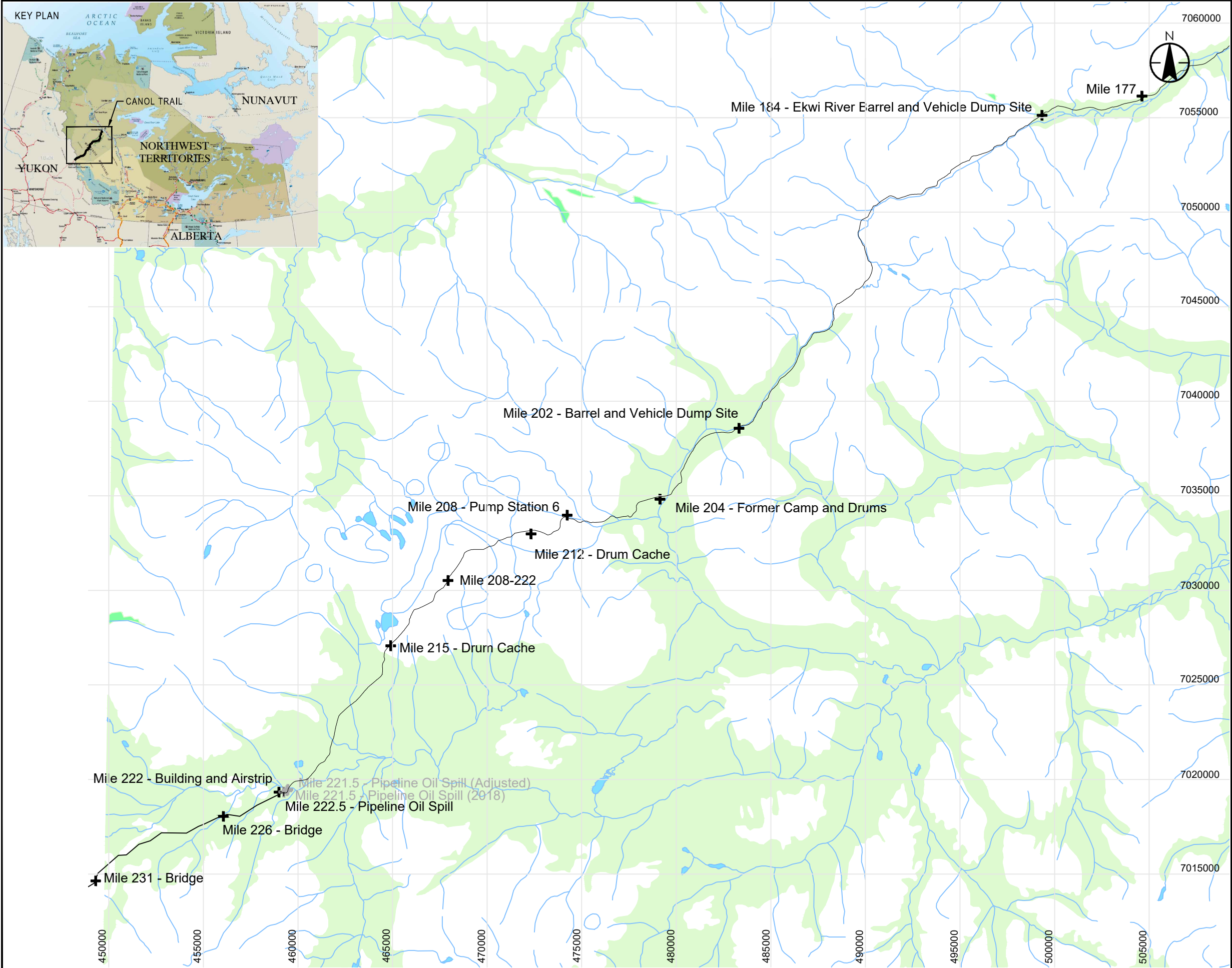
Address: _____

Telephone: _____

E-mail: _____



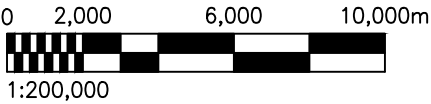
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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

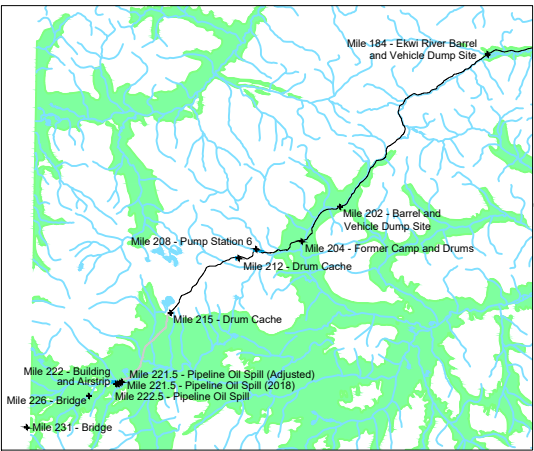
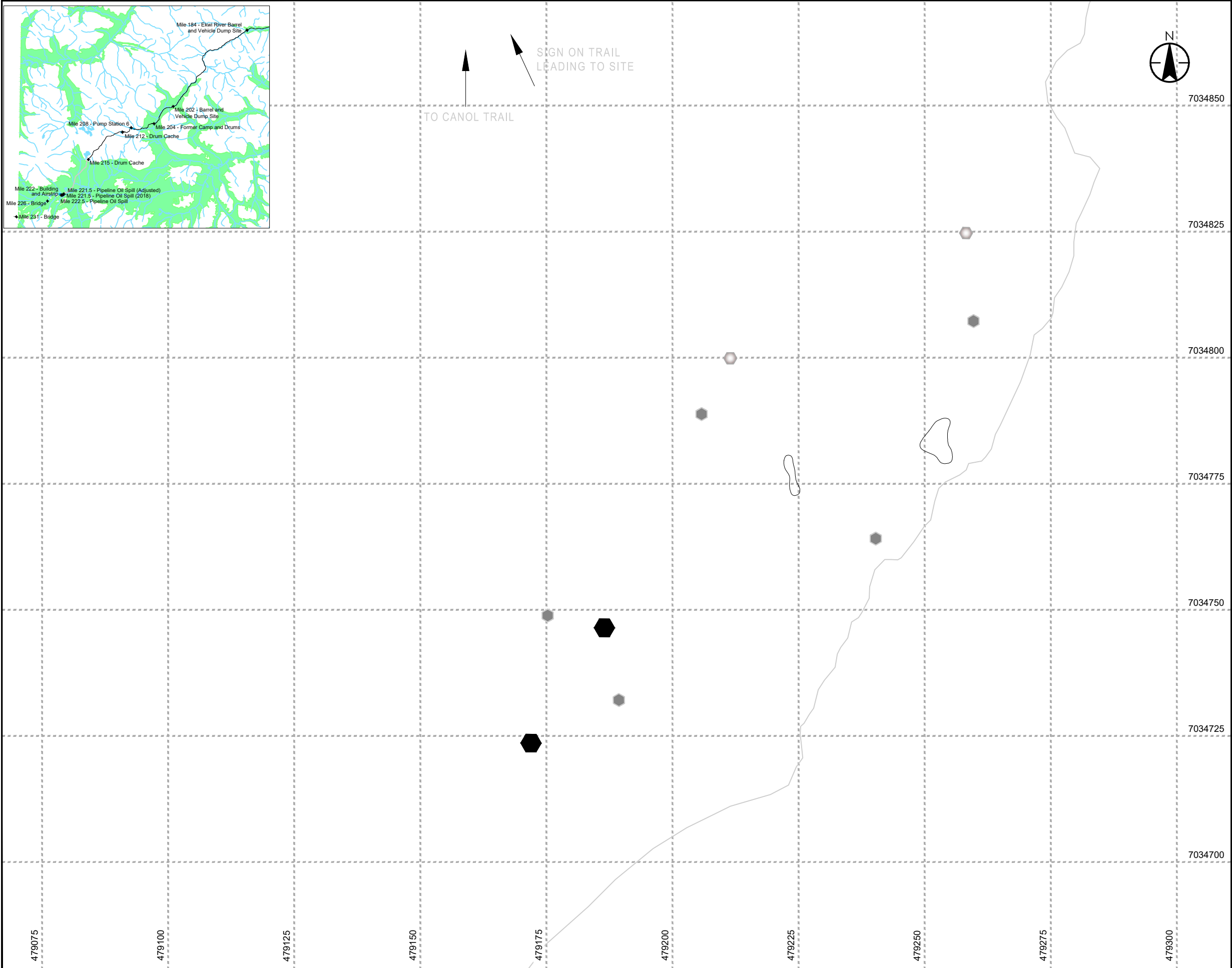


Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date 2020.02.13
Project No. 121416600	Figure No. 06

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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring MS

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No MS

- Berm
- Water
- Tree Line
- D e b r i s
- Wood
- Metal and Wood
- Metal
- Wood
- Pipe



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 MILE 204
DETAIL MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

38



Canol Trail – Mile Site 208-222

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 208-222** are listed in Table 1.

Table 1 Summary of Categories and Objectives

Category	Objective
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

Remediation Project Start Date: 2019

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Drums and Small ASTs: Drums and/or small ASTs were consolidated into a cache.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 208-222.

Table 3 Monitoring and Surveillance Program for Mile Site 208-222

Monitoring Category	Responsible Organisation	Task Summary
Drums and Small ASTs	CIRNAC	Confirm that the drum cache remains stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.

d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.





Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.
- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural
The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable
There is no groundwater used for drinking water at the Mile Site.
2. Impacts to nearby surface water resources
Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 208-222.

d) Are there any site use restrictions?

There are no restrictions on site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

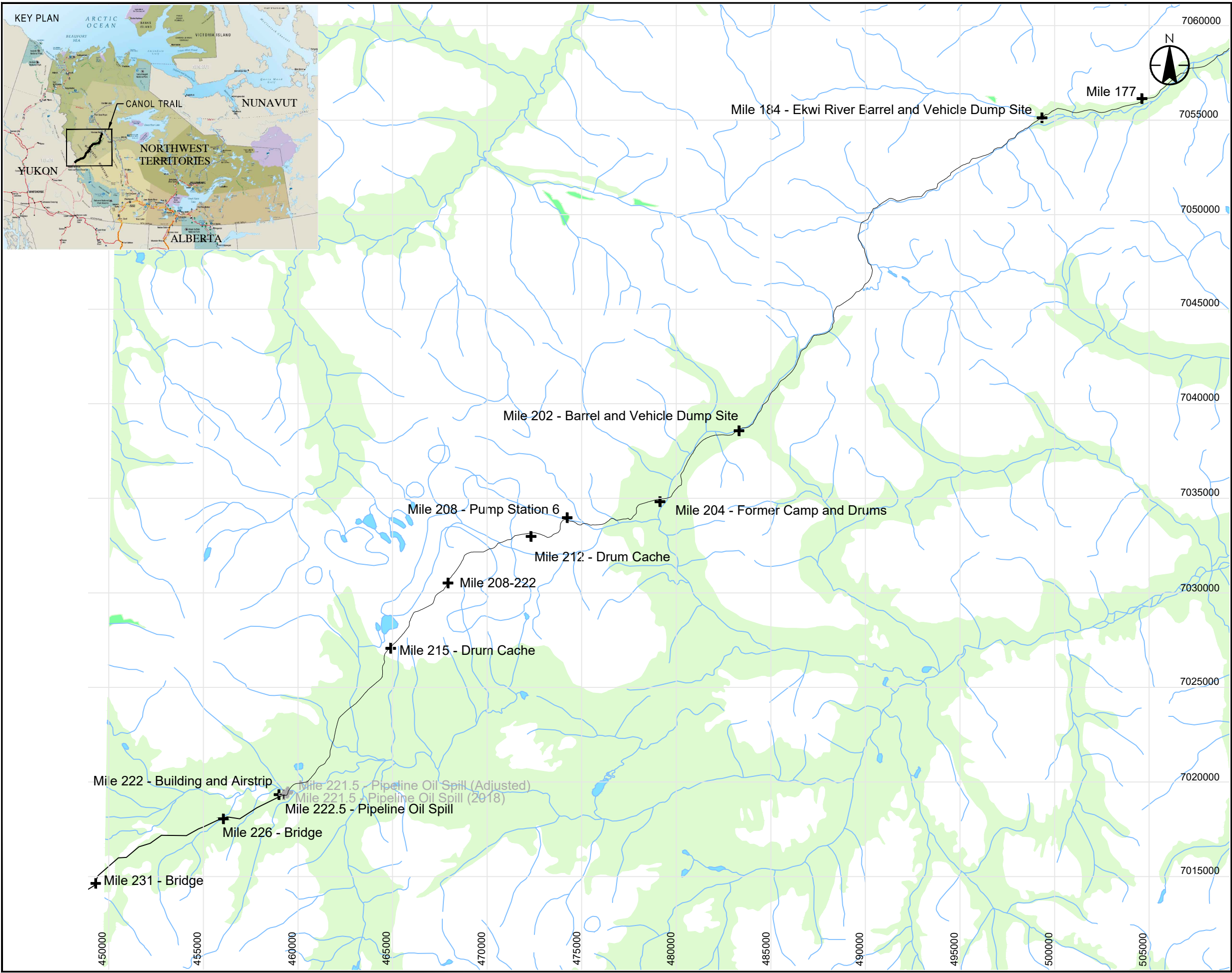
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Telephone: _____

E-mail: _____



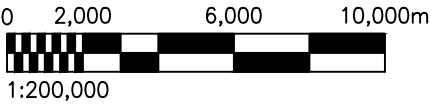
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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 SITE PLAN

Revision

Date

2020.02.13

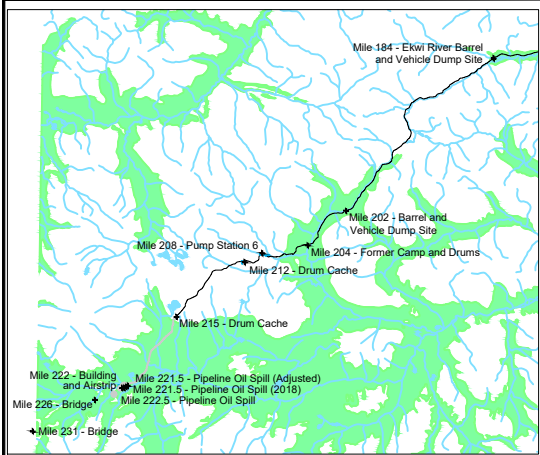
Project No.

121416600

Figure No.

06

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Legend



Site Location from GPS
coordinates

NOTE: ON FIRST SITE VISIT, SITE
FEATURES TO BE RECORDED (GPS)
AND FIGURE TO BE UPDATED.



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 5 MILE 208-220 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	44



Canol Trail – Mile Site 208 – Pump Station 6

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 208 – Pump Station 6** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Petroleum Hydrocarbon (PHC) Impacted Soils	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).
Underground Storage Tank (UST) - PHC	Remove chemical hazards of residual products. Remove physical hazards by UST removal.

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Moderate and Large Aboveground Storage Tanks (ASTs)	Remove chemical hazards of residual products. Mitigate physical hazards by proper closure.
Standing Structures	Mitigate physical hazards of unmaintained standing buildings through administrative controls (barricades and signage).
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small ASTs	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Indigenous Organization(s)</i>	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0

Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- Risk Assessment for Six Mile Sites Along the Canol Trail with Historical Petroleum Hydrocarbon Spills. Letter prepared by Stantec for PSPC on behalf of CIRNAC dated March 6, 2020.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - PHC Impacted Soils: Soil with PHC concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Moderate and Large ASTs: Moderate and large ASTs were cleaned and sealed and left on-site.
 - UST (PHC): UST was cleaned and removed; excavation was backfilled.
 - Standing Structures: Standing structures were boarded up and remain standing.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.





- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk assessment measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 208 – Pump Station 6.

Table 3 Monitoring and Surveillance Program for Mile Site 208 – Pump Station 6

Monitoring Component	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
PHC Impacted Soils	CIRNAC	Confirm excavation/trenching activities have not occurred/are not occurring in the impacted soil area without appropriate health and safety measures in place. While not an MSP activity, confirm land-use has not changed to a more intensive land use.
Moderate and Large ASTs	CIRNAC	Confirm that access to the insides of the ASTs remains sealed.
UST - PHC	CIRNAC	Confirm the backfilled area remains intact and level.
Standing Structures	CIRNAC	Confirm the standing structures remain structurally stable and that barricades are effective at deterring access to the inside of the structures.
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

PHC Impacted Soils:

- No excavation or trenching activities, historical or current, were observed and no change in land use was evident.

Moderate and Large ASTs:

- AST was visually inspected. No concerns were noted.





UST:

- The former UST location was visually inspected. Marginal subsidence was noted (approximately 10 to 15 cm). No change in land use was evident.

Standing Structures:

- Standing structures were visually inspected. Structures appeared structurally stable, but barricades had been removed from one of the structures.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.





c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

Standing Structures:

- Remaining structures were monitored in Year 1 (2020), and will be monitored in Year 3 (2022) and Year 5 (2024), of MS.

d) Are there any site use restrictions?

At the time of writing, there are proposed restrictions to site use related to environmental site conditions following completion of the remediation project.

Excavation/trenching activities should not occur without a health and safety plan in place due to the presence of residual PHC impacted soil that poses potential vapour inhalation risks to workers.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

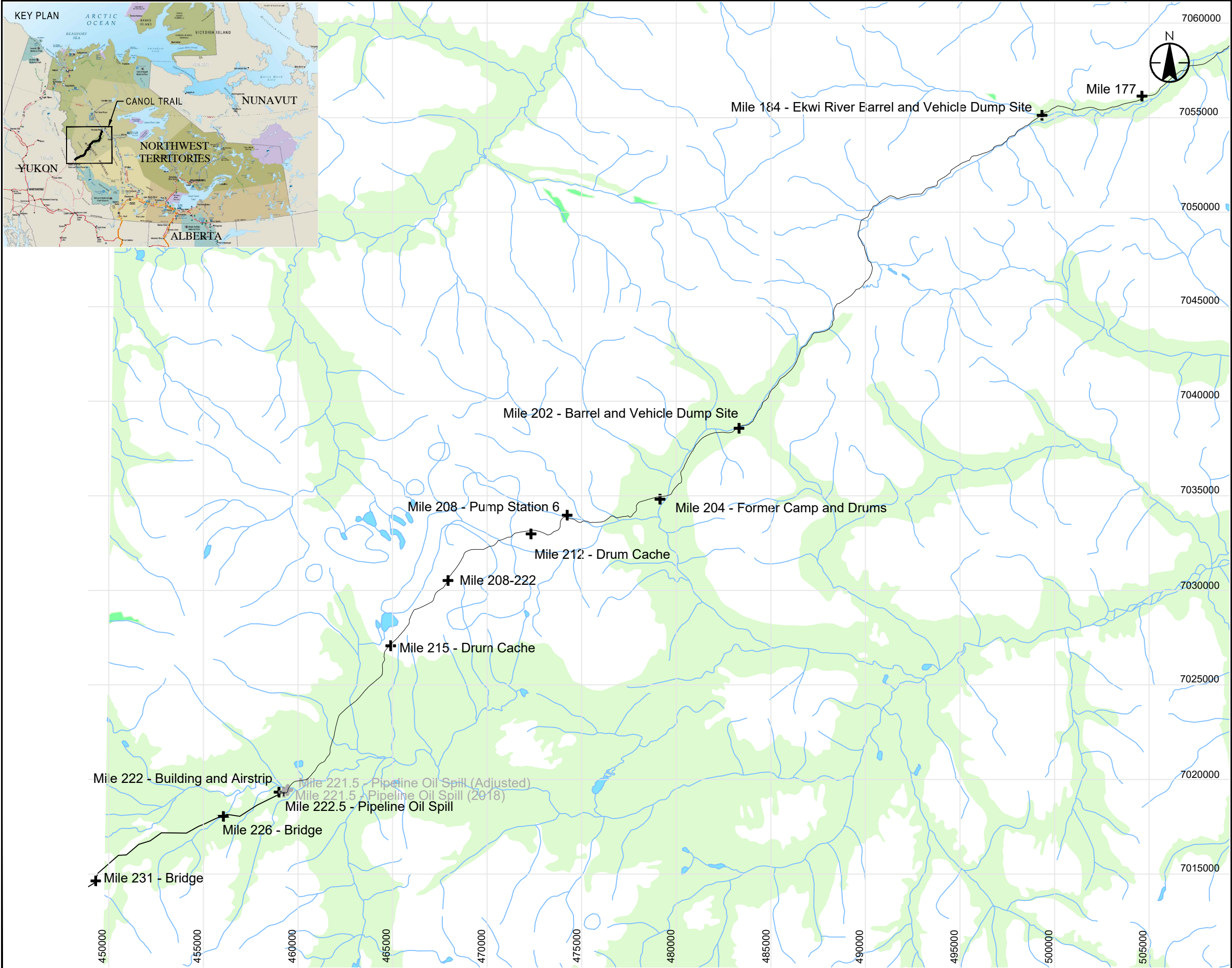
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Telephone: _____

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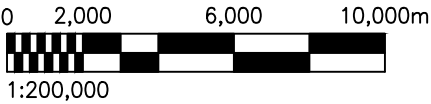
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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

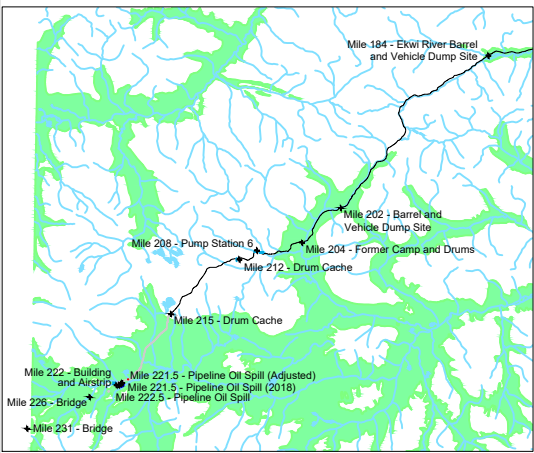
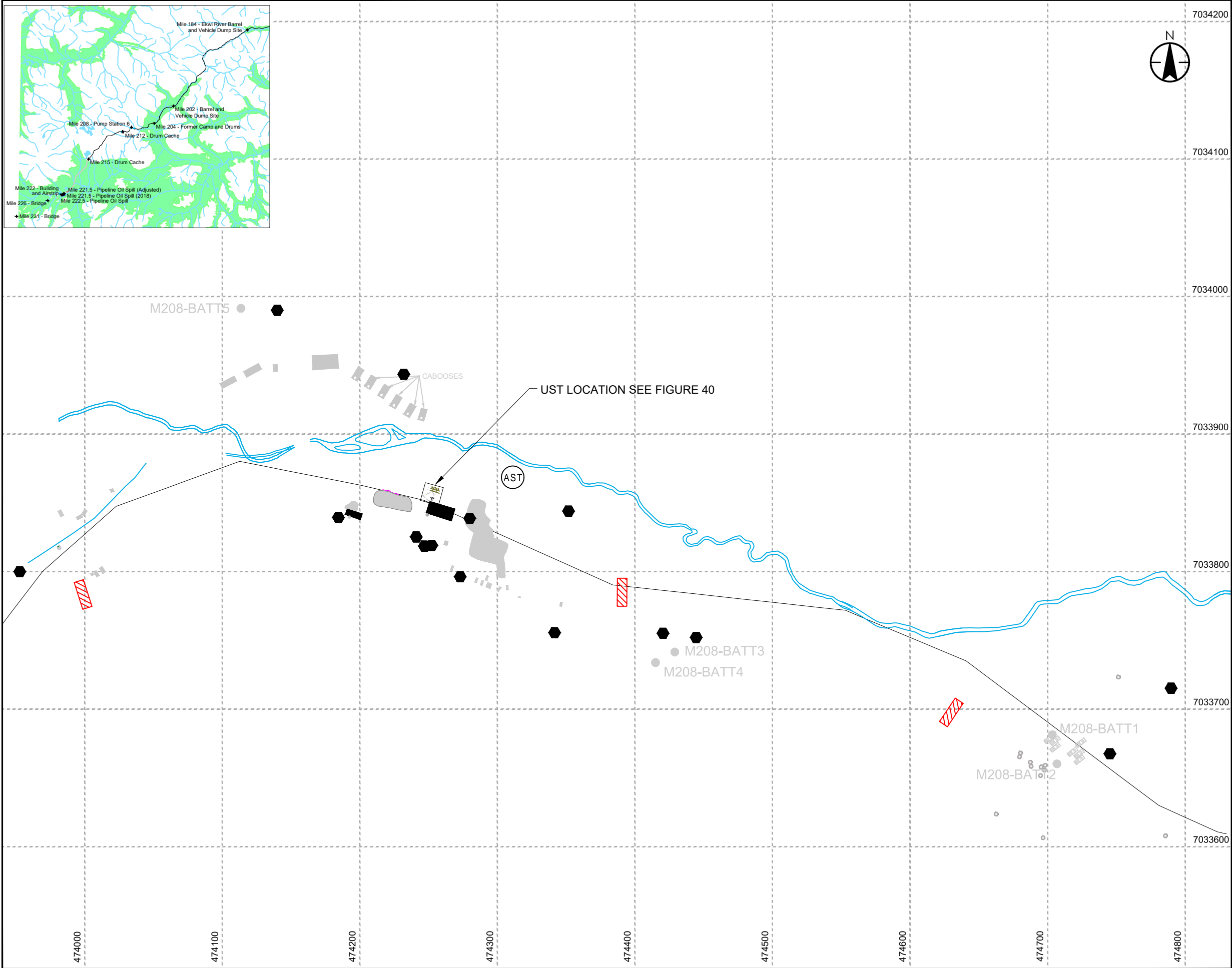


Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date 2020.02.13
Project No. 121416600	Figure No. 06

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Legend

Features Requiring LTM

- Building Standing (Boarded)
- AST
- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

- Building Demolished and/or Consolidated
- Berm
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe
- Battery Location (Compliant)
- Battery Location (Conforms with DQRA Conclusions, SENES, 2014)



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 MILE 208
OVERVIEW MILE PLAN

Revision

Date

2020.02.13

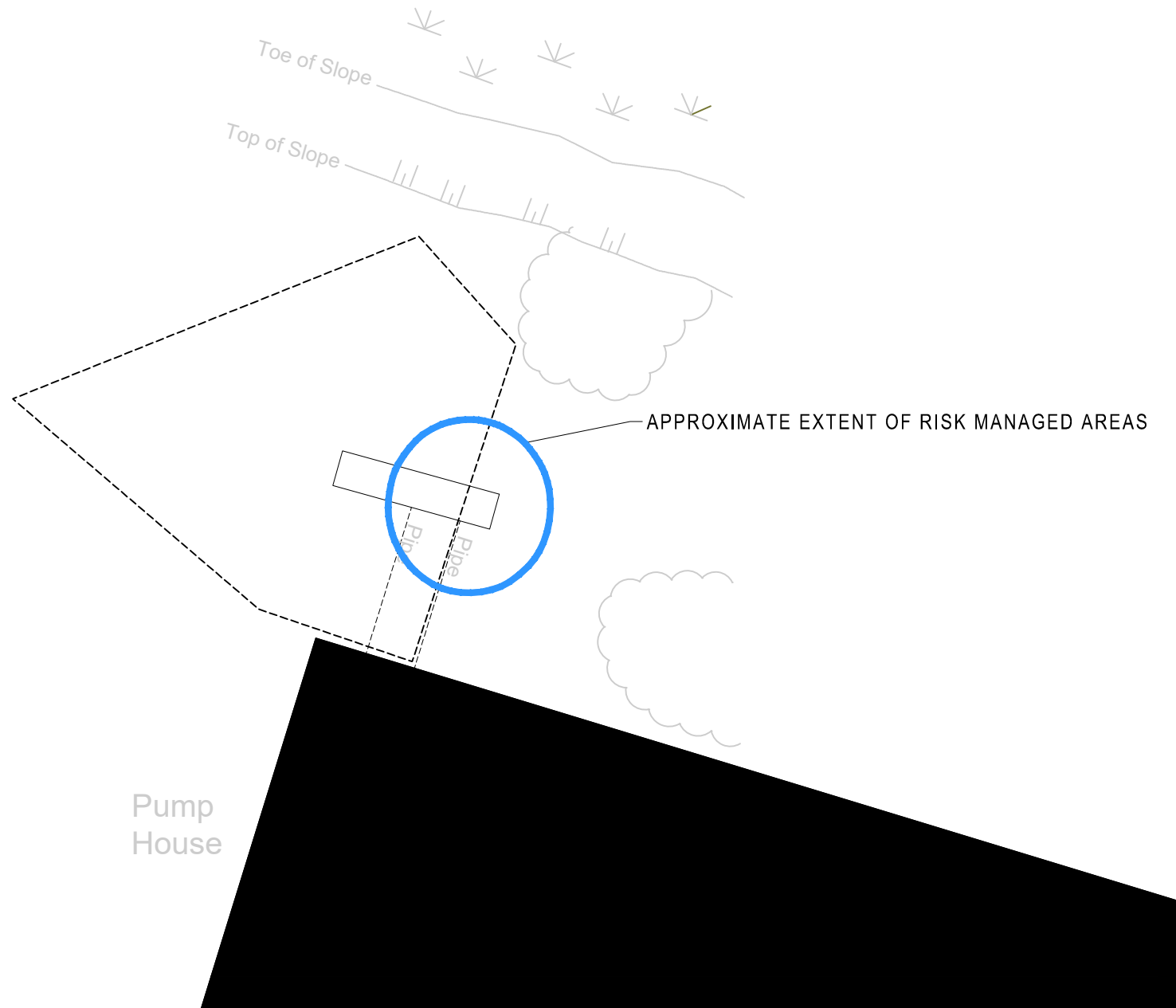
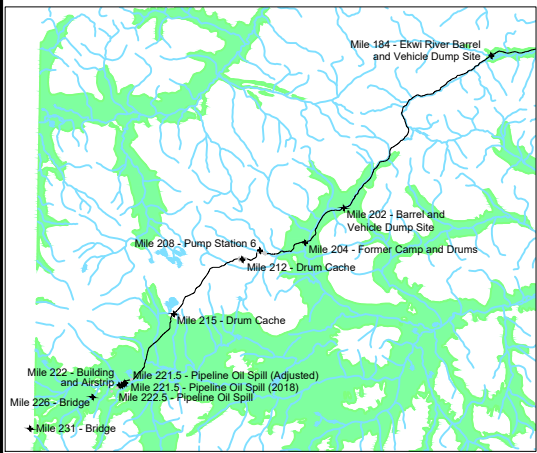
Project No.

121416600

Figure No.

39

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Legend

Features Requiring LTM

 Building Standing (Boarded)

 Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

 Tree Line

 Excavation Line

 Approximate Extent of Risk Managed areas

1:100 

Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 5 MILE 208 DETAIL MILE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	40



Canol Trail – Mile Site 212 – Drum Cache Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 212 – Drum Cache** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Residual Fuels	Remove chemical risk from ongoing spill potential.
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 212 – Drum Cache.





Table 3 Monitoring and Surveillance Program for Mile Site 212 – Drum Cache

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 212 – Drum Cache.





d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

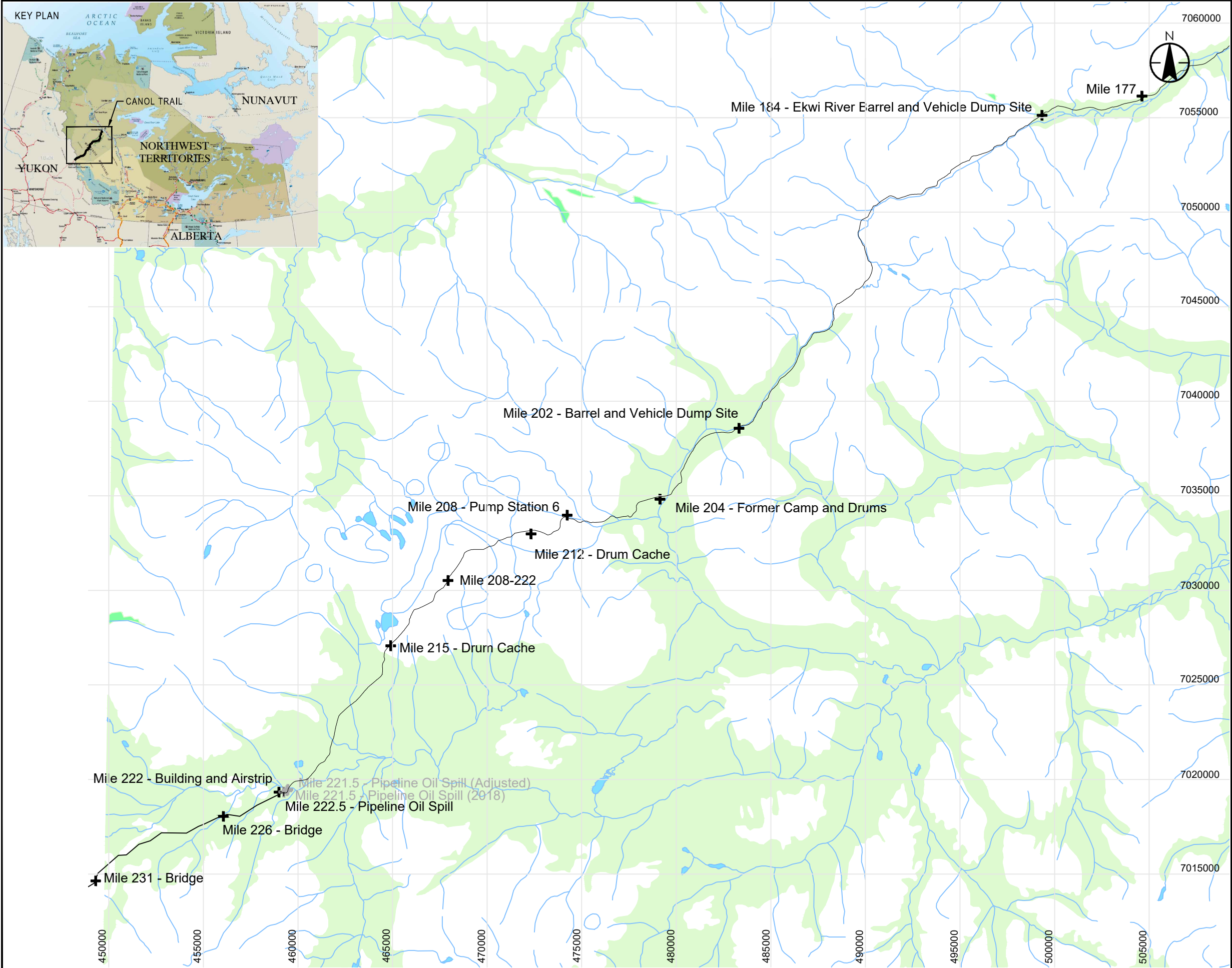
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



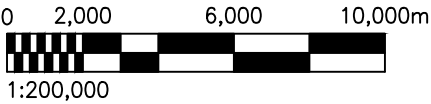
\\ca0213-pfss01\work_group\1214\active\121416600\03_data\gis_cad\markup_v3_cad_files nov 2020\121416600 _ canol_c01-c06



Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

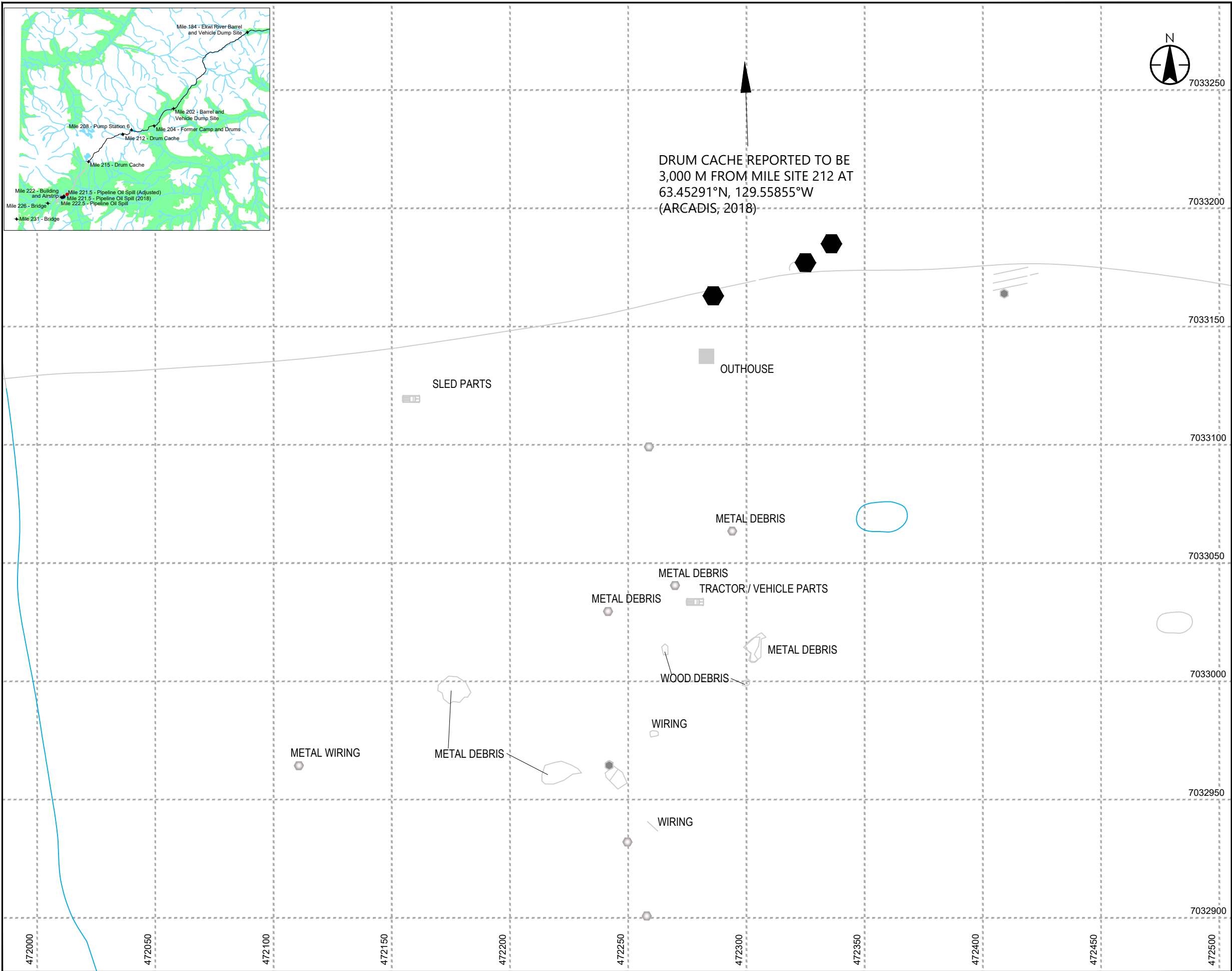


Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	06

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Legend

Features Requiring LTM



Drum Cache



Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM



Building Demolished and/or Consolidated



Berm



Water



Tree Line



Wood



Metal and Wood



Metal



Wood



Pipe



1:1000

Project/Client

CANOL TRAIL MSP

PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 MILE 212
DETAIL MILE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

41



Canol Trail – Mile Site 215 – Drum Cache in Pond Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 215 – Drum Cache in Pond** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
 - Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
 - Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
 - Signage: Signage was installed where appropriate, as per the Contract Specifications.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 215 – Drum Cache in Pond.





Table 3 Monitoring and Surveillance Program for Mile Site 215 – Drum Cache in Pond

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum caches were visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.





Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 215 – Drum Cache in Pond.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

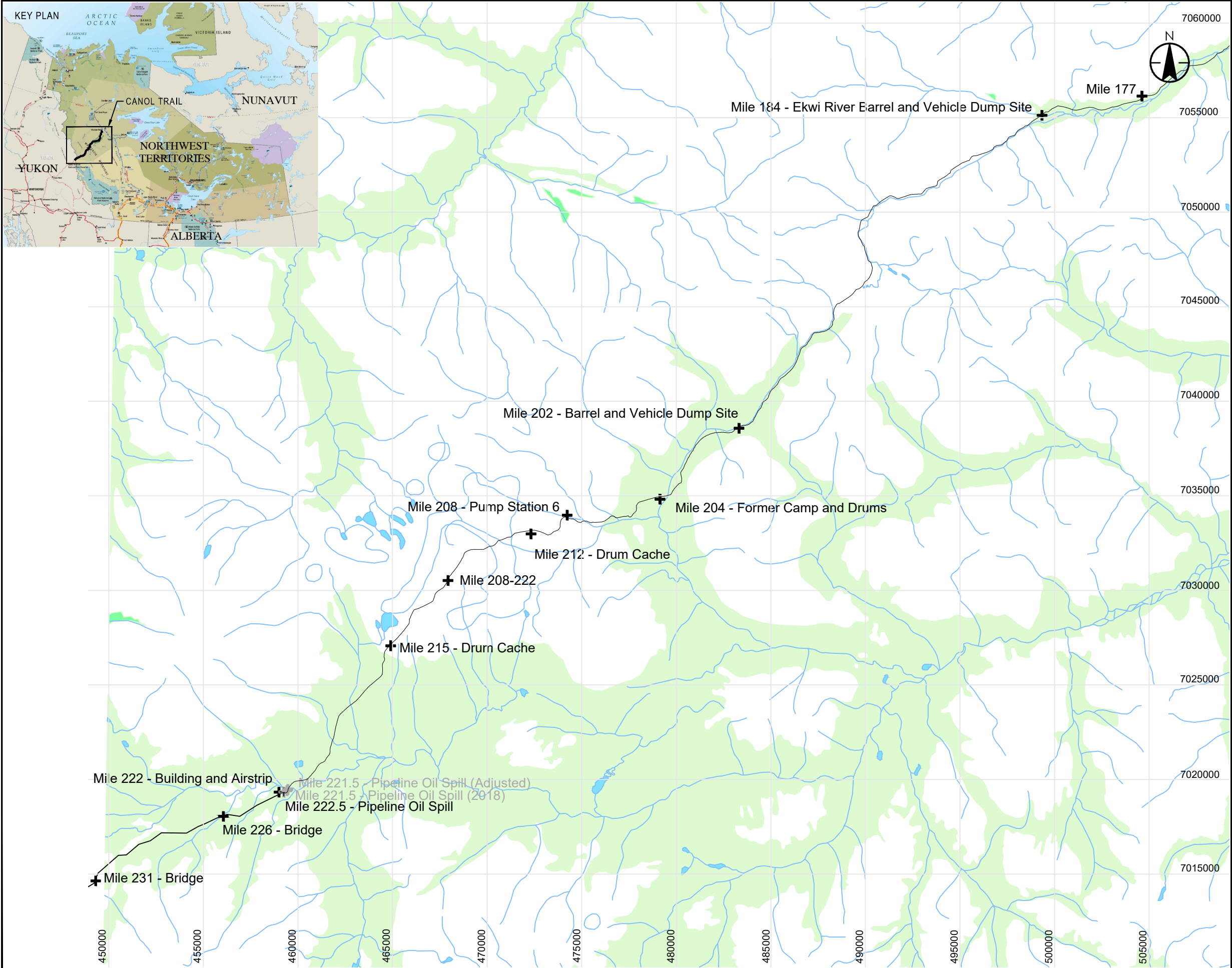
Address: _____

Telephone: _____

E-mail: _____



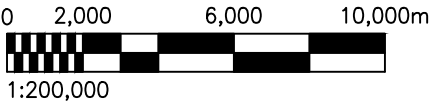
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Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION

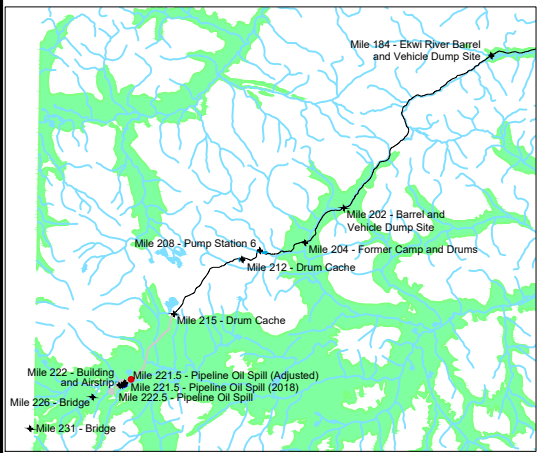


Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

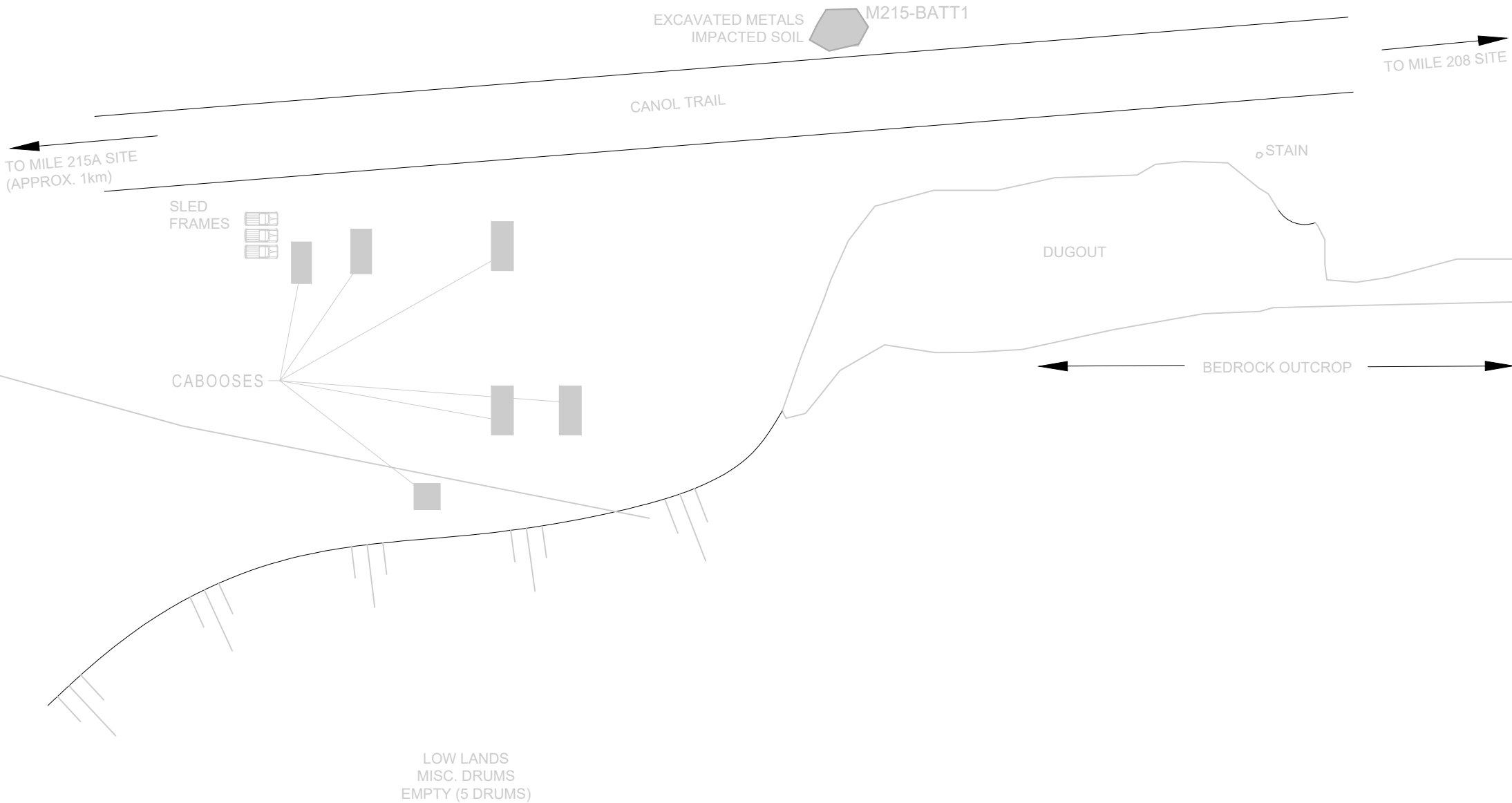
Revision	Date 2020.02.13
Project No. 121416600	Figure No. 06

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NATIVE FIGURES PROVIDED TO STANTEC FOR MILE SITE 215 WERE NOT GEOREFERENCED, AS SUCH THE DRUM CACHES (CACHED IN 2018) CANNOT BE ILLUSTRATED. DRUM CACHES ARE PRESENT AT:

63.36370°N	129.70801°W
63.36375°N	129.70811°W
63.37119°N	129.70175°W
63.37070°N	129.70230°W
63.37114°N	129.70175°W



Stantec Consulting Ltd.
300-675 Cochrane Drive, West Tower
Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring LTM

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

- Building Demolished and/or Consolidated
- Berm
- Water
- Tree Line
- Debris
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe
 - Battery Location (Compliant)
 - Battery Location (Conforms with DQRA Conclusions)



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 MILE 215
DETAIL MILE PLAN SHEET 1

Revision

Date

2020.02.13

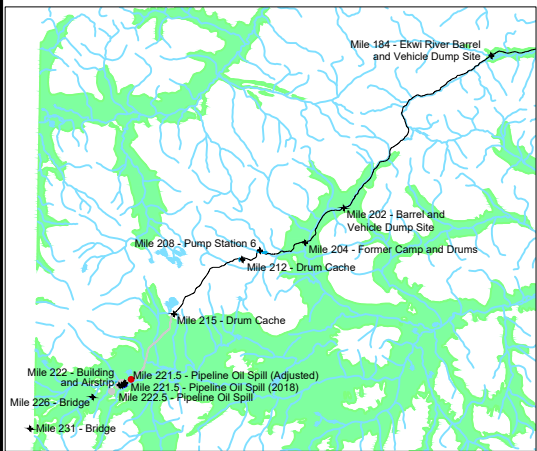
Project No.

121416600

Figure No.

42

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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

Features Requiring LTM

- Drum Cache
- Signage

NOTE: ON FIRST SITE VISIT, SINAGE LOCATIONS TO BE RECORDED (GPS) AND FIGURE TO BE UPDATED SHOWING LOCATIONS.

Features With No LTM

- Building Demolished and/or Consolidated
- Berm
- Water
- Tree Line
- D e b r i s
 - Wood
 - Metal and Wood
 - Metal
 - Wood
 - Pipe



NATIVE FIGURES PROVIDED TO STANTEC FOR MILE SITE 215 WERE NOT GEOREFERENCED, AS SUCH THE DRUM CACHES (CACHED IN 2018) CANNOT BE ILLUSTRATED. DRUM CACHES ARE PRESENT AT:

63.36370°N	129.70801°W
63.36375°N	129.70811°W
63.37119°N	129.70175°W
63.37070°N	129.70230°W
63.37114°N	129.70175°W

Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 MILE 215A
DETAIL MILE PLAN SHEET 2

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

43



Canol Trail – Mile Site 221.5

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 221.5**² are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Petroleum Hydrocarbon (PHC) Impacted Soils	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.

Remediation Project Start Date: 2018

Remediation Project End Date: 2019

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.

² Referred to as Mile Site 221.5-Adjusted in *2018-2019 Canol Trail Remediation Summary Report, Final Report* [Stantec 2020]).





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
 - PHC Impacted Soil: Soil with PHC concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

Mile Site 221.5 is not included in the initial MS program for the Project.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. Mile Site 221.5 is not included in the MS Program.





Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no crown resources at Mile Site 221.5.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 3 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

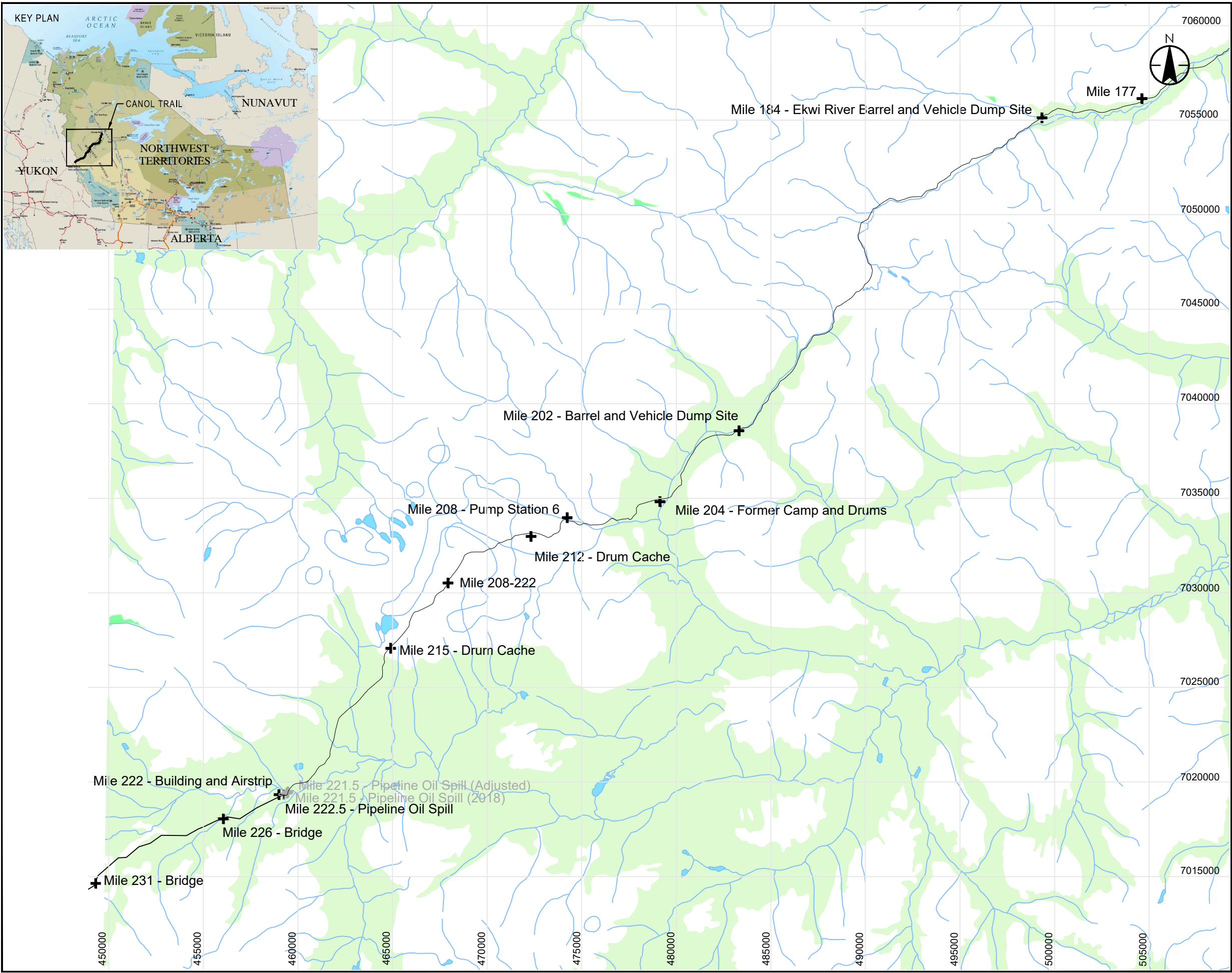
Address: _____

Telephone: _____

E-mail: _____



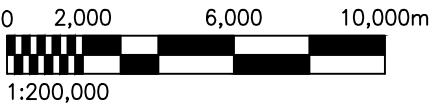
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Stantec Consulting Ltd.
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www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client	
CANOL TRAIL MSP	
PUBLIC SERVICES AND PROCUREMENT CANADA	
Title	
ZONE 5 SITE PLAN	
Revision	Date
	2020.02.13
Project No.	Figure No.
121416600	06



Canol Trail – Mile Site 222.5

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 222.5** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Petroleum Hydrocarbon (PHC) Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- Risk Assessment for Six Mile Sites Along the Canol Trail with Historical Petroleum Hydrocarbon Spills. Letter prepared by Stantec for PSPC on behalf of CIRNAC, dated March 6, 2020.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- PHC Impacted Soil: Soil with PHC concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 222.5.

Table 3 Monitoring and Surveillance Program for Mile Site 222.5

Monitoring Component	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
PHC Impacted Soil	CIRNAC	Confirm excavation/trenching activities have not occurred/are not occurring in the impacted soil area without appropriate health and safety measures in place. While not an MSP activity, confirm land-use has not changed to a more intensive land use.





- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

PHC Impacted Soil

- PHC impacted soil areas were visually inspected. No excavation or trenching activities, historical or current, were observed, and no change in land use was evident.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no crown resources at Mile Site 222.5.

- d) Are there any site use restrictions?

At the time of writing, there are proposed restrictions to site use related to environmental site conditions following completion of the remediation project.

Excavation/trenching activities should not occur without a health and safety plan in place due to the presence of residual PHC impacted soil that poses potential vapour inhalation risks to workers.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

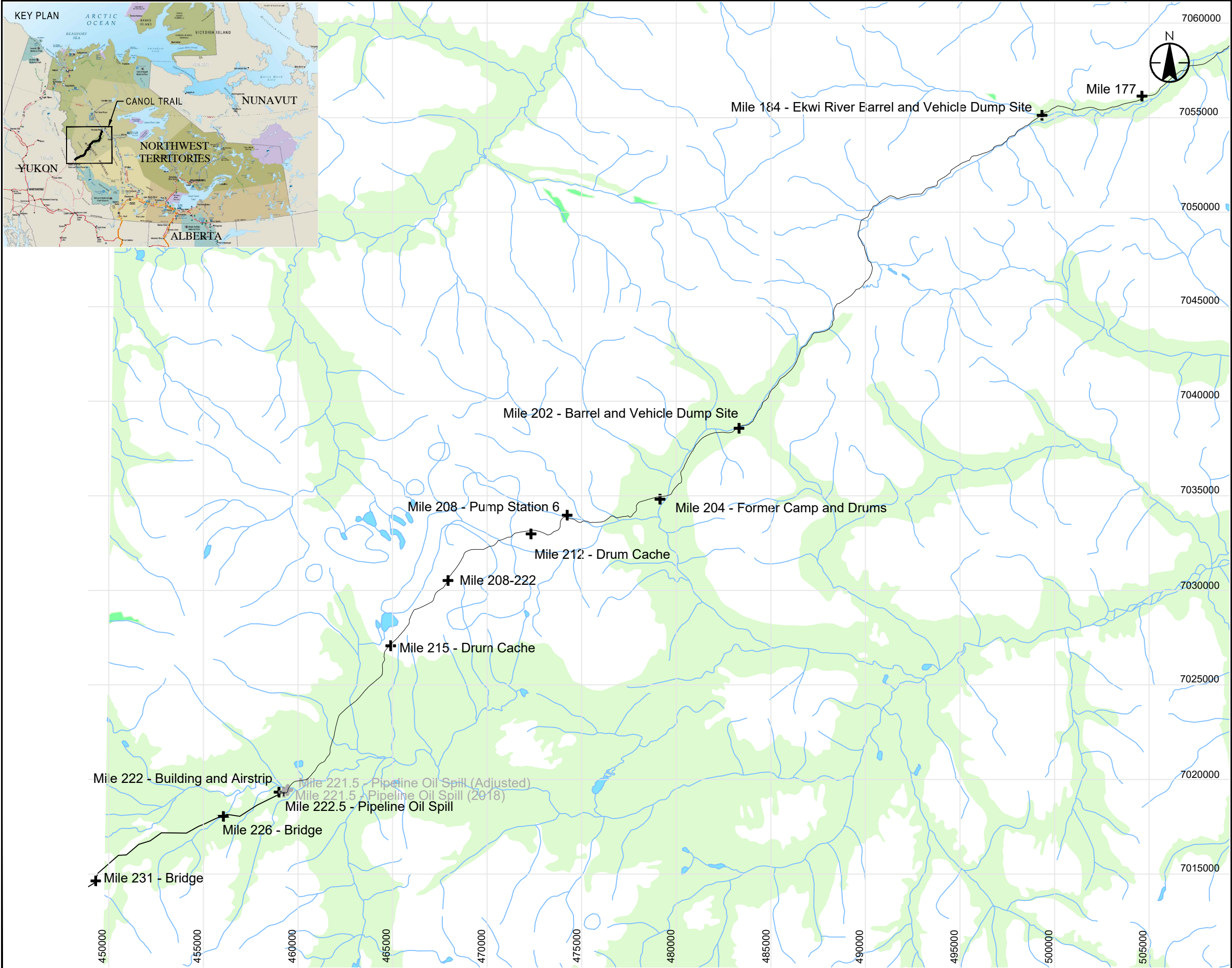
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



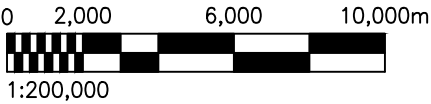
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Stantec Consulting Ltd.
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Markham ON L3R 0B8
Tel: 905.944.7777
www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 SITE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

06



Canol Trail – Mile Site 222 – Camp and Vehicle Cache Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 222 – Camp and Vehicle Cache** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Telephone Wire and Poles	Remove physical hazard from wire or unstable poles (where near trail).
Batteries	Remove chemical risk from ongoing metal leaching.
Metals Impacted Soil	Remove soils with residual concentrations that exceed applicable guidelines and/or that are causing unacceptable risks to potential human and ecological receptors.
Residual Fuels	Remove chemical risk from ongoing spill potential.
Vehicles and Equipment	Remove chemical risk from residual fuels and /or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Asbestos-Containing Materials (ACMs)	Remove potential exposure hazards from ACMs.
Drums and Small ASTs	Improve site aesthetics, reduce physical hazard.
Other (Signage)	Signage warning of physical hazards to be installed at Mile Sites with remaining infrastructure (former structures, vehicles, ASTs, etc.).

Remediation Project Start Date: 2018

Remediation Project End Date: 2019 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- Risk Assessment for Two Sites Along the Canol Trail with Lead Impacts. Letter prepared by Stantec for PSPC on behalf of CIRNAC, dated March 6, 2020.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Telephone Wire and Poles: No telephone wire was located at the Mile Site.
- Batteries: Batteries were collected and transported to an appropriate off-site waste disposal facility.
- Metals Impacted Soils: Soil with lead concentrations that exceeded applicable guidelines and/or that could cause potential unacceptable risk to potential human or ecological receptors was removed from beneath battery locations and transported to an appropriate off-site waste disposal facility.
- Residual Fuels: Residual fuels were removed from the Mile Site and transported to an appropriate off-site waste disposal facility.
- Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
- Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
- ACMs: ACMs were removed and transported to an appropriate off-site waste disposal facility.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at the Mile Site.
- Signage: Signage was installed where appropriate, as per the Contract Specifications.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.





MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 222 – Camp and Vehicle Cache.

Table 3 Monitoring and Surveillance Program for Mile Site 222 – Camp and Vehicle Cache

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Drums and Small ASTs	CIRNAC	Confirm that the drum caches remain stable, that there are no signs of staining or sheen from potential residual drum contents, and that the drums have not been redistributed across the Mile Site.
Existing Signage	CIRNAC	Confirm that the signage remains intact, is still legible, and that there are no obstructions preventing site users from seeing it.

- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MS program has been completed (2020); results are summarized below for each category. The same MS program activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Drums and Small ASTs:

- Drum cache was visually inspected. No concerns were noted.

Existing Signage:

- Signage was visually inspected. No concerns were noted.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.





b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 222 – Camp and Vehicle Cache.

d) Are there any site use restrictions?

There are no restrictions to site use.

Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022





Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____

Signature: _____

Date: _____

Professional Affiliation: _____

Membership No.: _____

Company: _____

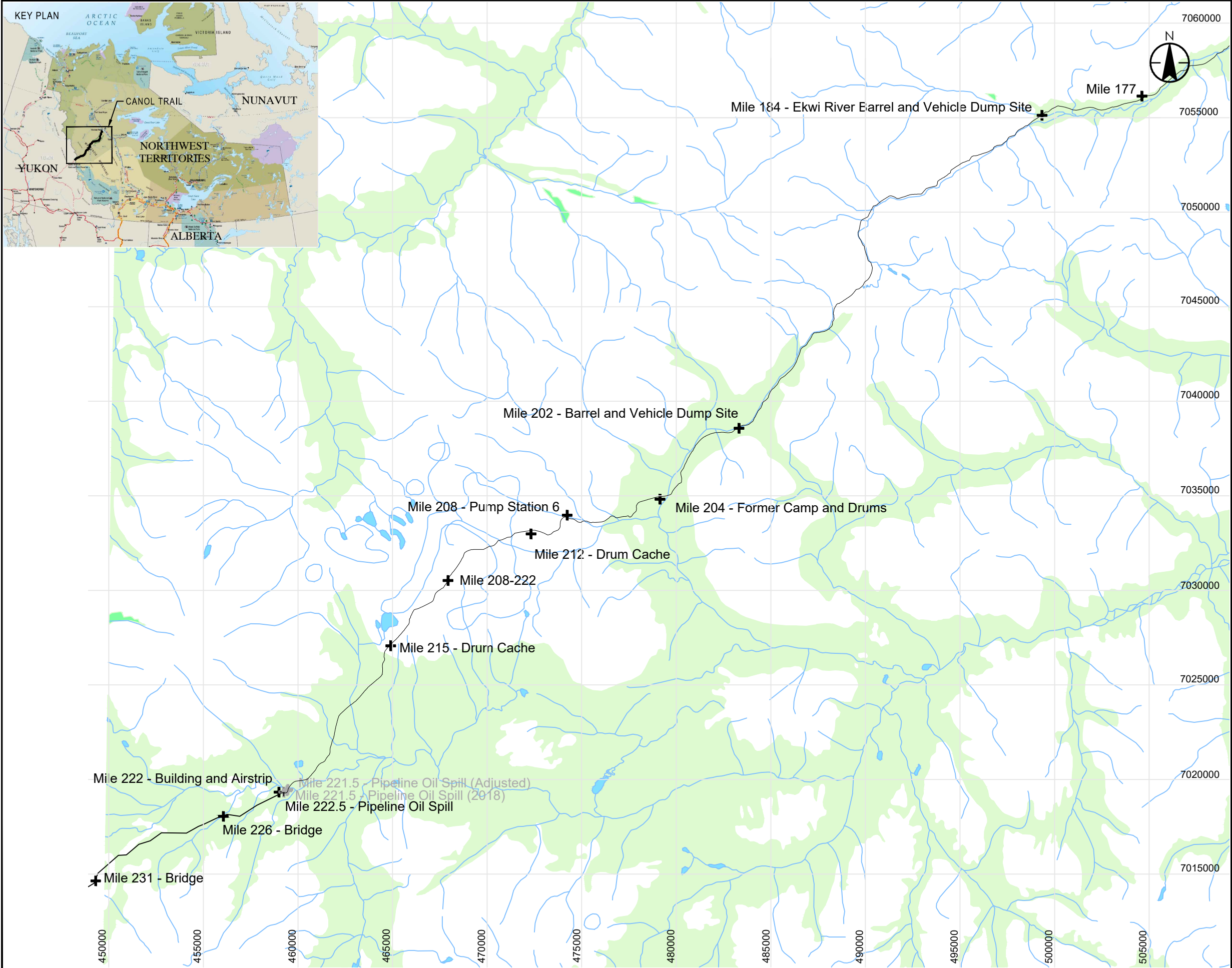
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E-mail: _____



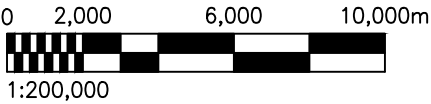
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www.stantec.com

Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client

CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title

ZONE 5 SITE PLAN

Revision

Date

2020.02.13

Project No.

121416600

Figure No.

06



Canol Trail – Mile Site 226

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 226** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Bridge	Remove risks to aquatic habitat as identified by DFO.
Partially Collapsed / Collapsed Buildings	Mitigate physical hazards and improve site aesthetics (demolish and/or consolidate building debris).
Vehicles and Equipment	Remove chemical risk from residual fuels and/or batteries. Remove physical risk from broken glass. Mitigate physical risks through administrative controls (signage).
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
	- Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

- a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.
- Bridge: Bridge was demolished, and associated bridge debris was removed from the Mile Site.
 - Partially Collapsed/Collapsed Buildings: Partially collapsed or collapsed buildings were demolished and/or consolidated.
 - Vehicles and Equipment: Glass, residual fluids and/or batteries were removed from vehicles at the Mile Site, where applicable, and transported to an appropriate off-site waste disposal facility.
 - Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at Mile Site 222.
- b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

- c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 226.

Table 3 Monitoring and Surveillance Program for Mile Site 226

Monitoring Category	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Bridge	CIRNAC	Confirm that the bridge removal has not caused changes to the riverbanks which could potentially affect fish passage.





- d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.

To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Bridge

- Former bridge location was visually inspected. Conditions with the potential to inhibit fish passage as a result of bridge removal were not observed.

- e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

- a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

- b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

- c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 226.

- d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

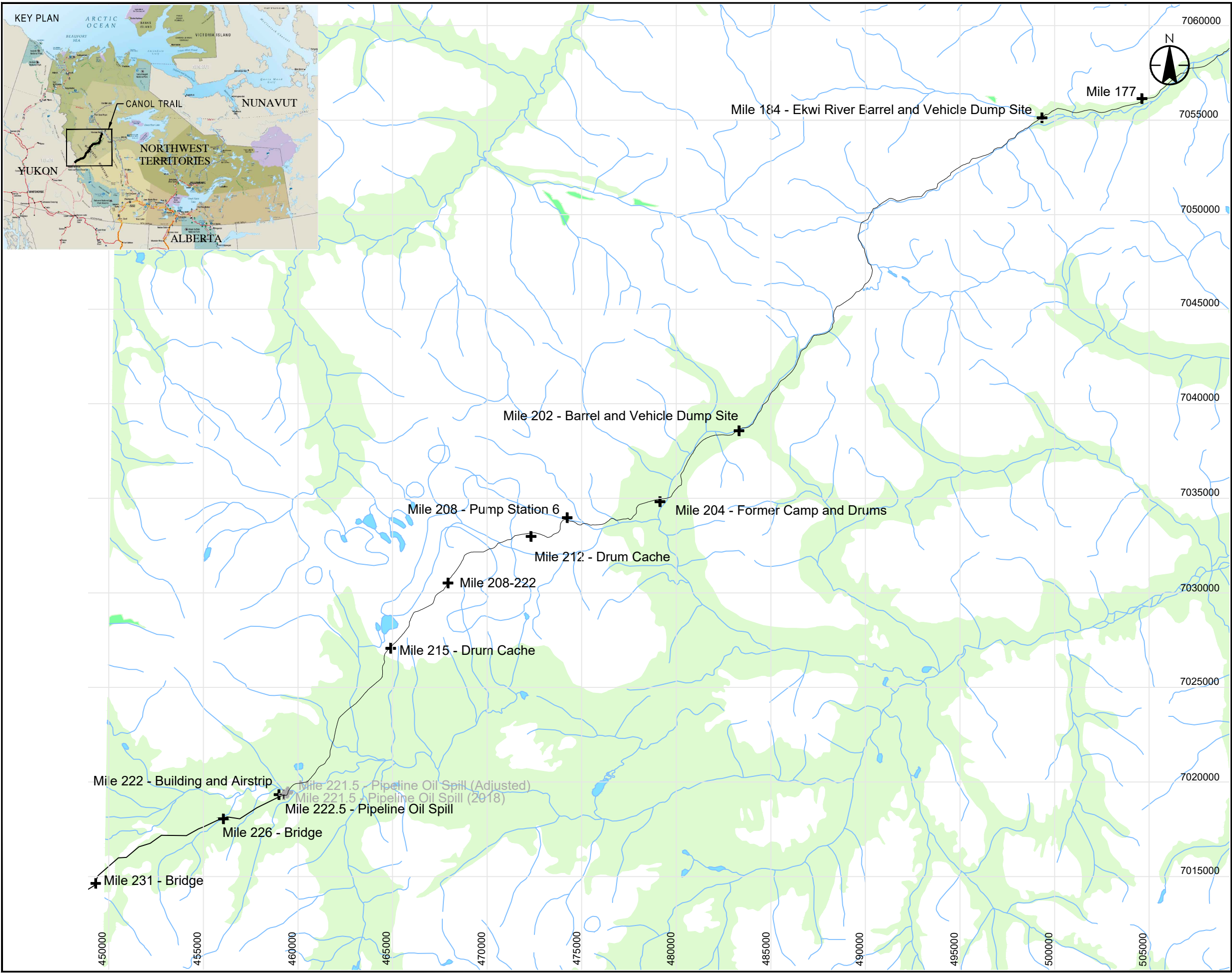
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



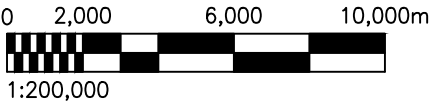
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Legend

- CANOL TRAIL
- MILE SITES REQUIRING MS
- MILE SITES WITH NO MS REQUIREMENTS
- WATERCOURSE
- WATER BODIES
- VEGETATION



Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date 2020.02.13
Project No. 121416600	Figure No. 06



Canol Trail – Mile Site 231

Record of Post Remediation Site Conditions

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)

Part 1: Property Ownership and Administration

Official Site Name (the site as a whole):	Canol Trail - Mile 76 - Pump Station 3
Integrated Environmental Management System (IEMS) Number:	NM243
FCSI Number Post-2016:	00025577
Contaminated Site Manager:	Contaminants and Remediation Division (CARD) Sarah-Lacey McMillan
Phone Number:	1-867-446-3082
Project Location:	Canol Trail, Northwest Territories (NT)
NTS Map Sheet Numbers:	106A8
Note: In 2016, individual mile sites were combined into one site with one tracking number (#8865) under the Federal Contaminated Sites Action Plan (FCSAP) – Interdepartmental Data Exchange Application (IDEA)	

Description of Project Activities and Scope:

The Canol Trail Remediation Project (the Project) involved the remediation of the NT portion of the Canol Trail (the Trail) under federal jurisdiction. This includes areas within 1,000 metres (m) from the centreline of the Trail, not including privately owned land or lands part of the *Sahtu Land Claims Agreement*, from approximately Mile 10¹ in the Mackenzie River Lowlands, to Mile 231 at MacMillan Pass at the Yukon Territory border (a ground distance of approximately 357 kilometres [km]).

The remedial objectives for the hazard categories identified at **Mile Site 231** are listed in Table 1.

Table 1 Summary of Hazard Categories and Objectives

Category	Objective
Bridges	Remove risks to aquatic habitat as identified by DFO.
Drums and Small Aboveground Storage Tanks (ASTs)	Improve site aesthetics, reduce physical hazard.

Remediation Project Start Date: 2018

Remediation Project End Date: 2018 (Monitoring and Surveillance [MS] is ongoing)

¹ Mile markers indicate the ground distance along the Canol Trail from Mile 1 on the southern shore of the Mackenzie River near Norman Wells, NT. Note that historical reports may have used alternate mile marker reference points such as pipeline or telephone line mile markers.





Table 2 Name and Address of All Stakeholders

Stakeholder	Name	Address
<i>Contaminated Site Remediation Project Managers (current and previous)</i>	Public Services and Procurement Canada (PSPC) on behalf of CIRNAC - Sarah-Lacey McMillan, CIRNAC - Candace DeCoste, CIRNAC - Julie Ward, CIRNAC - Caitlin Moore, PSPC - Jessie Hoyt, PSPC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4 PSPC - Suite 1000, 9700 Jasper Avenue, Edmonton, AB T5J 4C3
<i>Site Professional / Environmental Consultant / Departmental Representative (DR)</i>	Arcadis Canada Inc. (Arcadis) – August 2017 to March 2019	Suite 201, 1050 Morrison Drive Ottawa, ON K2H 8K7
	Stantec Consulting Ltd. (Stantec) – May 2019 to present	102-40 Highfield Park Drive, Dartmouth, NS B3A 0A3
<i>Prime Remediation Contractor</i>	Englobe Corp. (Englobe)	505 boul. du Parc Technologique Blvd., Bureau/Suite 200, Quebec, QC G1P 4S9
<i>Regional Senior Manager – Northern Contaminated Sites Program (NCSP)</i>	Rasal Hossain, CIRNAC (previously Carey Ogilvie)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Regional Director General</i>	Matthew Spence, CIRNAC (previously Mohan Denetto)	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Resource Management Officer</i>	Tim Morton, CIRNAC	CIRNAC - PO Box 1500, 4923 - 52nd Street Yellowknife, NT X1A 3Z4
<i>Senior Director</i>	Lou Spagnuolo, CIRNAC (previously Joanna Ankersmit)	CIRNAC - 15 Eddy Street, Gatineau, QC K1A 0H4
<i>Land and Water Board</i>	Sahtu Land and Water Board	PO Box 1, Fort Good Hope, NT X0E 0H0
<i>Indigenous Organization(s)</i>	Sahtu Secretariat Inc.	PO Box 155, Deline, NT X0E 0G0
	Tulita Dene Band	Tulita, NT X0E 0K0
	Tulita Land Corporation	PO Box 63, Tulita, NT X0E 0K0
	Tulita Renewable Resource Council	PO Box 27, Tulita, NT X0E 0K0
	Fort Norman Metis Land Corporation	PO Box 36, Tulita, NT X0E 0K0
	Norman Wells Land Corporation	PO Box 69, Norman Wells, NT X0E 0V0
	Norman Wells Renewable Resource Council	PO Box 520, Norman Wells, NT X0E 0V0
	Doi T'oh Territorial Park Corporation	PO Box 420, Norman Wells, NT X0E 0V0





Part 2: List of Reports

Key report documentation related to the property cited in Part 1 are listed below:

- Final Project Summary Report, Canol Trail, NT. Report prepared by SENES Consultants and Franz Environmental Inc. (SENES/Franz) for PSPC on behalf of CIRNAC, dated March 2015.
- Final Risk Management and Remedial Action Plan for the Canol Trail, NT. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2016.
- Canol Trail Remediation 2018 - Final Annual Site Activities Report. Report prepared by Arcadis for PSPC on behalf of CIRNAC, dated March 2019.
- 2018-2019 Canol Trail Remediation Summary Report, Final Report. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated August 5, 2020.
- Monitoring and Surveillance Plan. Report prepared by Stantec for PSPC on behalf of CIRNAC, dated February 2021.

Part 3: Summary of Remediation/Risk Management Plan Close Out

a) Describe the objectives and elements of the Remediation/Risk Management Plan implemented at the property.

- Bridge: A bridge was demolished, and associated bridge debris was removed from the Mile Site.
- Drums and Small ASTs: Drums and/or small ASTs were consolidated into caches at Mile Site 222.

b) List and describe the risk management control measures that were implemented at the property.

Risks to human health and the environment were mitigated through implementation of the remediation program and risk management measures as outlined in Table 1 and Part 3a.

c) List any active or passive site monitoring that was completed at the property.

During remedial activities, relevant sampling/monitoring was completed in accordance with monitoring / management plans that were prepared for the Project.

MS started in Year 1 post-remediation (2020) and will be conducted biennially until Year 5 post-remediation (2024). Results of MS will be evaluated and ongoing MS (i.e., Year 6 and beyond) will be considered if deemed necessary. Table 3 below outlines the MS program for Mile Site 231.

Table 3 Monitoring and Surveillance Program for Mile Site 231

Monitoring Component	Responsible Organisation	Monitoring and Surveillance Plan (MSP) Objectives
Bridge	CIRNAC	Confirm that the bridge removal has not caused changes to the riverbanks which could potentially affect fish passage.

d) Describe the results of the site monitoring that verify the effectiveness of the control measures and the Remediation/Risk Management Plan.





To date, Year 1 of the MSP has been completed (2020); results are summarized below for each category. The same MSP activities are scheduled for Year 3 (2022) and Year 5 (2024), pending changes related to implementation of any recommendations.

Bridge

- Former bridge location was visually inspected. Conditions with the potential to inhibit fish passage as a result of bridge removal were not observed.

e) The monitoring requirements were terminated based on the following criteria.

Construction-related monitoring concluded upon construction completion. The initial MS program will continue until 2024.

Part 4: Property Status

Based on the work completed and the results of the Remediation/Risk Management Plan, the property cited in Part 1 is suitable for the following land use(s):

a) For which use(s) is the site now suitable?

1. Agricultural

The Canol Trail was evaluated in environmental site assessment and risk assessment activities as agricultural land, as this land use has the most conservative environmental guidelines of the other federal land use categories. This therefore makes it suitable for the intended future land use as parkland/recreational.

b) Is the groundwater on site Potable or Non-Potable?

1. Non-Potable

There is no groundwater used for drinking water at the Mile Site.

2. Impacts to nearby surface water resources

Historical investigations concluded that impacts to surface water from physical and chemical parameters were not a concern.

c) Are there any Crown investments constructed during remediation that will remain and require protection/maintenance?

There are no Crown investments at Mile Site 231.

d) Are there any site use restrictions?

There are no restrictions to site use.





Part 5: Inspector's Summary

Table 4 Regulatory Authorizations for the Canol Trail Mile Sites

Regulatory Authorization	During Original Operation	During Remediation Work	During Post-Remediation Monitoring	Date Issued / Date of Expiry
Land Use Permit (Wire Clean-up)		S15J-002		July 24, 2015 / June 18, 2020
Land Use Permit (Remediation Program)		S17J-001	S17J-001	April 19, 2017 / April 18, 2022

Part 6: Summary Statement of the Site Professional

The statements must be checked by the Site Professional (e.g., Engineer of Record, Departmental Representative, the author of the Closure Report, etc.). The signature of the Site Professional indicates the fulfillment of the requirements of all the checked statements.

Please check appropriate statements:

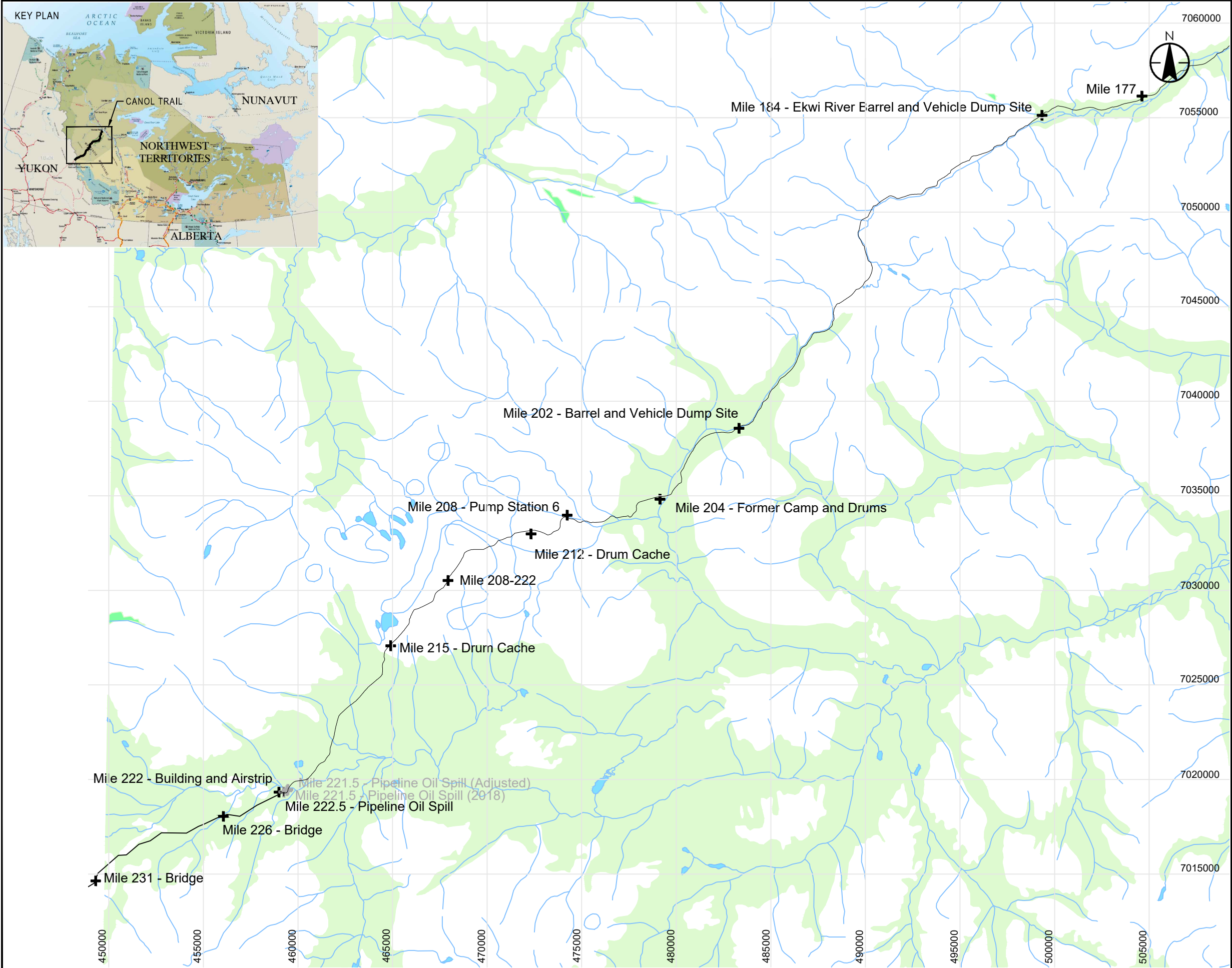
- ☒ All work on which this Record of Post Remediation Site Conditions is based was prepared, overseen and/or reviewed by the Site Professional.
- ☒ The site was managed in accordance with the current CIRNAC and CCME contaminated site best practices and procedures.
- ☒ All reports cited in Part 2 and other related documents that have been prepared by the Site Professional have been delivered to the Contaminated Site Manager.
- ☒ The remediation/risk management criteria and objectives as defined by the Site Professional and cited in Part 3 have been achieved for the current or reasonably foreseeable future activities as cited in Part 4.
- ☒ The Remediation/Risk Management Plan was peer reviewed by a qualified independent Site Professional.
- ☐ Based on the results of the site monitoring activities, remedial action and/or any ongoing site management is not required for the current or reasonably foreseeable future site activities.

Site Professional

Name: _____ Signature: _____
Date: _____
Professional Affiliation: _____ Membership No.: _____
Company: _____
Address: _____
Telephone: _____ E-mail: _____



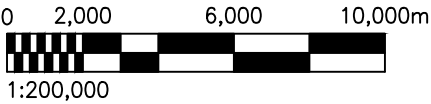
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Project/Client
CANOL TRAIL MSP
PUBLIC SERVICES AND
PROCUREMENT CANADA

Title
ZONE 5 SITE PLAN

Revision	Date 2020.02.13
Project No. 121416600	Figure No. 06