

APPENDIX E.5

Management Plans

APPENDIX E.5.1

Snow Management Plan


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Baffinland Iron Mines Corporation


Snow Management Plan

BAF-PH1-830-P16-0002



Rev. 4

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Department: Environment
Title: Environmental Superintendent
Date: March 26, 2021
Signature: 

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Date: March 26, 2021
Signature: 

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DOCUMENT REVISION RECORD

Issue Date MM/DD/YY	Revision	Prepared By	Approved By	Issue Purpose
11/17/16	0	JM	SP	For Use.
03/09/17	1	KB	LT	For Use.
11/02/17	2	BL/DR/BW	BB	For Use.
12/21/18	3	AV	FG	For Use.
03/26/21	4	AM 	FG 	For Use.

Index of Major Changes/Modifications in Revision 4

Item No.	Description of Change	Relevant Section
1	Updated figures of snow stockpile locations.	Figures
2	Modified Appendix E.	Appendix E


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1 INTRODUCTION


The Snow Management Plan (the Plan) outlines the management practices and procedures employed at the Mary River Project (Project) to effectively manage snow accumulation. The practices and procedures outlined in this Plan have been developed to ensure the safety of Project Personnel and maintain compliance with Baffinland's environmental permits, licenses, and approvals, including, but not limited to, the following:

- Project Certificate No. 005, Amendment No. 1 (Project Certificate);
- Type 'A' Water Licence – 2AM-MRY1325, Amend. No. 1 (Type 'A' Water Licence); and,
- Commercial Lease No. Q13C301 (Commercial Lease).

1.1 RELATIONSHIP TO OTHER MANAGEMENT PLANS

The management of snow at the Project has the potential to affect site water quality and other environmental components. Therefore, this Plan must be viewed in consideration with the following Environmental Management and Monitoring Plans (EMMPs) developed for the Project.

- Environmental Protection Plan (BAF-PH1-830-P16-0008)
- Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026)
- Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010)
- Aquatic Effects Monitoring Plan (BAF-PH1-830-P16-0039)
- Freshet Management and Preparation Plan (BAF-PH1-830-P16-0049)
- Roads Management Plan (BAF-PH1-830-P16-0023)
- Emergency Response Plan (BAF-PH1-830-P16-0007)
- Spill Contingency Plan (BAF-PH1-830-P16-0036)
- Waste Management Plan (BAF-PH1-830-P16-0028)
- Hazardous Waste and Hazardous Materials (BAF-PH1-830-P16-0011)

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2 BAFFINLAND POLICIES

2.1 HEALTH, SAFETY AND ENVIRONMENT POLICY

This Baffinland Iron Mines Corporation Policy on Health, Safety and Environment is a statement of our commitment to achieving a safe, healthy and environmentally responsible workplace. We will not compromise this policy for the achievement of any other organizational goals.

We implement this Policy through the following commitments:

- Continual improvement of safety, occupational health and environmental performance.
- Meeting or exceeding the requirements of regulations and company policies.
- Integrating sustainable development principles into our decision-making processes.
- Maintaining an effective Health, Safety and Environmental Management System.
- Sharing and adopting improved technologies and best practices to prevent injuries, occupational illnesses and environmental impacts.
- Engaging stakeholders through open and transparent communication.
- Efficiently using resources, and practicing responsible minimization, reuse, recycling and disposal of waste.
- Reclamation of lands to a condition acceptable to stakeholders.

Our commitment to provide the leadership and action necessary to accomplish this policy is exemplified by the following principles:


- As evidenced by our motto “Safety First, Always” and our actions Health and Safety of personnel and protection of the environment are values not priorities.
- All injuries, occupational illnesses and environmental impacts can be prevented.
- Employee involvement and active contribution through courageous leadership is essential for preventing injuries, occupational illnesses and environmental impacts.
- Working in a manner that is healthy, safe and environmentally sound is a condition of employment.
- All operating exposures can be safeguarded.
- Training employees to work in a manner that is healthy, safe and environmentally sound is essential.
- Prevention of personal injuries, occupational illnesses and environmental impacts is good business.
- Respect for the communities in which we operate is the basis for productive relationships.

We have a responsibility to provide a safe workplace and utilize systems of work to meet this goal. All employees must be clear in understanding the personal responsibilities and accountabilities in relation to the tasks we undertake.

The health and safety of all people working at our operation and responsible management of the environment are core values to Baffinland. In ensuring our overall profitability and business success every Baffinland and business partner employee working at our work sites is required to adhere to this Policy.



Brian Penney
Chief Executive Officer
April 2018

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2.2 BAFFINLAND SUSTAINABLE DEVELOPMENT POLICY

At Baffinland Iron Mines Corporation (Baffinland), we are committed to conducting all aspects of our business in accordance with the principles of sustainable development & corporate responsibility and always with the needs of future generations in mind. Baffinland conducts its business in accordance with the Universal Declaration of Human Rights and ArcelorMittal's Human Rights Policy which applies to all employees and affiliates globally.

Everything we do is underpinned by our responsibility to protect the environment, to operate safely and fiscally responsibly and with utmost respect for the cultural values and legal rights of Inuit. We expect each and every employee, contractor, and visitor to demonstrate courageous leadership in personally committing to this policy through their actions. The Sustainable Development and Human Rights Policy is communicated to the public, all employees and contractors and it will be reviewed and revised as necessary on a regular basis. These four pillars form the foundation of our corporate responsibility strategy:

1. Health and Safety
2. Environment
3. Upholding Human Rights of Stakeholders
4. Transparent Governance

1.0 HEALTH AND SAFETY


- We strive to achieve the safest workplace for our employees and contractors; free from occupational injury and illness, where everyone goes home safe everyday of their working life. Why? Because our people are our greatest asset. Nothing is as important as their health and safety. Our motto is "Safety First, Always".
- We report, manage and learn from injuries, illnesses and high potential incidents to foster a workplace culture focused on safety and the prevention of incidents.
- We foster and maintain a positive culture of shared responsibility based on participation, behaviour, awareness and promoting active courageous leadership. We allow our employees and contractors the right to stop any work if and when they see something that is not safe.

2.0 ENVIRONMENT

- Baffinland employs a balance of the best scientific and traditional Inuit knowledge to safeguard the environment.
- Baffinland applies the principles of pollution prevention, waste reduction and continuous improvement to minimize ecosystem impacts, and facilitate biodiversity conservation.
- We continuously seek to use energy, raw materials and natural resources more efficiently and effectively. We strive to develop more sustainable practices.
- Baffinland ensures that an effective closure strategy is in place at all stages of project development to ensure reclamation objectives are met.

3.0 UPHOLDING HUMAN RIGHTS OF STAKEHOLDERS

- We respect human rights, the dignity of others and the diversity in our workforce. Baffinland honours and respects the unique cultural values and traditions of Inuit.
- Baffinland does not tolerate discrimination against individuals on the basis of race, colour, gender, religion, political opinion, nationality or social origin, or harassment of individuals freely employed.
- Baffinland contributes to the social, cultural and economic development of sustainable communities in the North Baffin Region.
- We honour our commitments by being sensitive to local needs and priorities through engagement with local communities, governments, employees and the public. We work in active partnership to create a

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shared understanding of relevant social, economic and environmental issues, and take their views into consideration when making decisions.

- We expect our employees and contractors, as well as community members, to bring human rights concerns to our attention through our external grievance mechanism and internal human resources channels. Baffinland is committed to engaging with our communities of interest on our human rights impacts and to reporting on our performance.

4.0 TRANSPARENT GOVERNANCE

- Baffinland will take steps to understand, evaluate and manage risks on a continuing basis, including those that may affect the environment, employees, contractors, local communities, customers and shareholders.
- Baffinland endeavours to ensure that adequate resources are available and that systems are in place to implement risk-based management systems, including defined standards and objectives for continuous improvement.
- We measure and review performance with respect to our safety, health, environmental, socio-economic commitments and set annual targets and objectives.
- Baffinland conducts all activities in compliance with the highest applicable legal & regulatory requirements and internal standards.
- We strive to employ our shareholder's capital effectively and efficiently and demonstrate honesty and integrity by applying the highest standards of ethical conduct.

4.1 FURTHER INFORMATION


Please refer to the following policies and documents for more information on Baffinland's commitment to operating in an environmentally and socially responsible manner:

Health, Safety and Environment Policy
 Workplace Conduct Policy
 Inuktitut in the Workplace Policy
 Site Access Policy
 Hunting and Fishing (Harvesting) Policy
 Annual Report to Nunavut Impact Review Board

If you have questions about Baffinland's commitment to upholding human rights, please direct them to contact@baffinland.com.



Brian Penney
 Chief Executive Officer
 March 2016

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3 SNOW MANAGEMENT PROTOCOL

3.1 AREA-SPECIFIC SNOW MANAGEMENT GUIDELINES

Area-specific snow management guidelines have been developed for each area of the Project to ensure the safety of Project Personnel and compliance with Baffinland's environmental permits, licenses, and approvals. Table 1 outlines the area-specific snow management guidelines that have been developed for the Project; the area-specific guidelines are provided as appendices to this Plan.

TABLE 3-1 – AREA-SPECIFIC SNOW MANAGEMENT GUIDELINES

Appendix¹	Project Area	Responsible Department
B	Camp and General Infrastructure (Mine Site and Milne Port)	Site Services
C	Milne Port Ore Stockpile Facility	Stockpiling & Shiploading
D	Tote Road	Road Maintenance
E	Mine Site Crushing Facility	Crushing
F	Mine Haul Road and Deposit 1	Mine Operations

Notes:

¹Appendix A provides the general inspection form that will be used to inspect snow management practices at the Project.

In addition to area-specific guidelines, general snow management practices and environmental mitigation measures implemented at the Project are further outlined in Section 3.2 below.

3.2 GENERAL ENVIRONMENTAL MITIGATION MEASURES

The management of snow at the Project has the potential to affect site water quality and other environmental components. Table 3-2 outlines the environmental concerns, proposed mitigation measures and the responsible parties for snow management activities at the Project. Refer to Sections 4.0 and 5.0 of this Plan for additional details on the roles and responsibilities of Project Personnel and the monitoring and reporting schedule for snow management activities at the Project.

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TABLE 3-2 – ENVIRONMENTAL CONCERNS AND MITIGATION MEASURES

Environmental Concern	Proposed Mitigation Measures	Responsible Department
Release of sediment from snowmelt during freshet into nearby water bodies.	a) Implement sedimentation mitigation measures (i.e. silt fences, rip-rap) informed by water quality monitoring and routine inspections. b) Maintain a 31 meter setback of stockpile limits from the ordinary High Water Mark of nearby water bodies.	a) Operational Departments and Environment Department b) Operational Departments
Release of debris and contaminants from snow stockpiles during freshet.	a) Inspect and confirm the absence of contaminants in snow accumulation by equipment operators prior to stockpiling and management activities. b) Segregate and properly dispose of contaminated snow and/or debris from snow stockpiles as per Project's EMMPs. c) Routinely inspect melting stockpiles during freshet.	a) Operational Departments b) Operational Departments c) Operational Departments and Environment Department
Hindrance/blockage of meltwater flow during freshet due to snow stockpiling and management activities.	a) Maintain a 31 meter setback of stockpile limits from nearby water bodies and culverts. b) Apply area-specific guidelines detailed in Appendices B - F.	a) Operational Departments b) Operational Departments

3.3 SNOW STOCKPILE LOCATIONS

Snow stockpile locations have been identified for the Project to manage snow accumulation during winter months. Approved stockpile locations are shown in Figures 1 - 10. The stockpile locations have been selected based on field observations and are compliant with the criteria outlined in Table 3-3.


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TABLE 3-3 – SNOW STOCKPILE SITING CRITERIA

Parameter	Reference
Stockpile limits will be within the limits defined in the Commercial Lease and will allow for the maintenance of a 50 metre undisturbed buffer between Project infrastructure / activities and the Commercial Lease limits.	Commercial Lease (Section 2.5)
Stockpile limits will be at least 31 metres away from the ordinary High Water Mark of nearby waterbodies.	Type 'A' Water Licence (Part D, Item 25; Part E, Item 17)

Relocating existing stockpiles and establishing new stockpile locations may be required depending on meteorological conditions and the overall performance of existing stockpile locations. In the event that new stockpiles need to be established or existing stockpiles need to be relocated to meet operation requirements, locations of new or relocated stockpiles will be compliant with the criteria presented in Table 3-3. All snow stockpile locations will be approved by the Environmental Superintendent prior to implementation.

Best efforts will be made to follow this Plan and utilize the identified snow stockpile locations to manage snow accumulation at the Project to the greatest extent possible. However, during extreme winter storm events, Project operations may be required to temporarily deposit snow at locations that do not meet the criteria listed in Table 3-3 in order to maintain site access for essential and emergency response vehicles, and to ensure the health and safety of Project Personnel. Following such weather events, Baffinland will endeavour to transport snow from temporary locations to the identified snow stockpile locations within a period of less than ten (10) days.

Where snow stockpiles are within close proximity to the Commercial Lease limits, markers will be installed in the field to delineate stockpile limits.

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4 ROLES AND RESPONSIBILITIES

Responsibilities for the operation, maintenance and management of the Project road network are as follows.

4.1.1 CHIEF OPERATIONS OFFICER (COO) / GENERAL MANAGER

- Reports to the Chief Executive Officer; and,
- Responsible for providing oversight for all Project operations and allocating the necessary resources for Project operations and the management of snow accumulation.

4.1.2 DEPARTMENT SUPERINTENDENT / MANAGER

- Reports to the COO / General Manager
- Responsible for reading and understanding this Plan and implementing it within their department and areas of operation including:
 - Implementing a routine inspection schedule for areas of operation to ensure compliance with this Plan;
 - Promptly addressing non-conformances or issues of concern identified during inspections; and,
 - Submitting requests to the Environmental Department to modify snow management strategies or locations within the department's areas of operation.


Note: Modifications to snow management strategies and/or locations must be approved by the Environment Department prior to implementation.

4.1.3 DEPARTMENT SUPERVISORS

- Reports to the Department Superintendent / Manager
- Responsible for reading and understanding this Plan and implementing it within their areas of operation including:
 - Conducting routine inspections for areas of operation to ensure compliance with this Plan; and,
 - Directing corrective actions required to address non-conformances or issues of concern identified during inspections.

4.1.4 EQUIPMENT OPERATORS


- Reports to Department Supervisor; and,
- Responsible for reading and understanding this Plan and implementing it within their areas of operation.

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4.1.5 HEALTH, SAFETY AND ENVIRONMENT DEPARTMENT

The Health, Safety and Environment Department will be responsible for the following:

- Revising and approving this Plan to reflect modifications to snow management strategies and/or locations requested by operations;
- Conducting inspections of Project snow management practices and locations to ensure compliance with this Plan, using the inspection form provided in Appendix A; and,
- Completing the required water quality monitoring and reporting.

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5 MONITORING AND REPORTING

5.1 INSPECTIONS

5.1.1 OPERATIONAL INSPECTIONS

Departments will conduct routine checks of their areas to ensure snow is being managed in accordance with the guidelines outlined in this Plan. Non-conformances or issues of concern identified will be promptly addressed under the direction of the Department Supervisor.

5.1.2 ENVIRONMENTAL INSPECTIONS

Snow management practices and stockpile locations will be inspected by the Environment Department on a monthly basis during winter months when there is snow accumulation in the snow stockpiles (typically October to April) and on a weekly basis during freshet. Monthly inspections during winter will begin when snow placement in the snow stockpiles begins, which may not occur until November or December. Weekly inspections during freshet will begin when snowmelt conditions begin, which typically occurs between May and June.

Inspections and compliance with this Plan will be documented using the Snow Management Inspection Form provided in Appendix A. Non-conformances or issues of concern identified will be forwarded to the appropriate Operations Department to be addressed.

5.2 WATER QUALITY MONITORING


Monitoring of snowmelt and surface water runoff at the Mine Site and Milne Port will be monitored via the Surveillance Network Program (SNP) stipulated by the Project's Type 'A' Water Licence.

Monitoring of snowmelt and surface water runoff along the Tote Road will be monitored via the Tote Road Monitoring Program (TRMP).

Temporary monitoring locations may be established during freshet to support the SNP and TRMP monitoring locations for areas down gradient of snow stockpile locations. Water quality monitoring stations used for monitoring snowmelt and surface water runoff for snow stockpiles on the Mine Site and Milne Port are presented in Figures 1 - 3.

Frequency of water quality monitoring will be consistent with existing monitoring programs (i.e. weekly for SNP, etc.). Refer to the Project's Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026) for additional details on how surface water quality will be managed and monitored at Project sites.

5.3 WATER QUALITY REPORTING


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Monitoring results of the SNP, TRMP and temporary freshet monitoring stations will be reported annually in the QIA & NWB Annual Report for Operations. Results of the SNP will also be reported monthly as required by the Project's Type 'A' Water Licence.

6 ADAPTIVE MANAGEMENT STRATEGIES

Baffinland is committed to continuous improvement of its work activities with the aim of reducing risks to the environment and improving operational safety and efficiency. The strategy employed at Baffinland is regular monitoring supported by operational change and adoption of additional mitigation measures when warranted. Examples of adaptive management strategies that will be used for snow management activities at the Project include the potential relocation of snow stockpile locations based on operational, health, safety and environmental monitoring results.

As per the requirements of Baffinland's EHS Management Framework (BAF-PH1-830-STD-0001), Baffinland will conduct regular management reviews of its Snow Management Plan. Such reviews will ensure monitoring results for the Snow Management Plan are integrated with other aspects of the Project and that necessary adjustments are implemented as required. These reviews also provide a formal mechanism to assess effectiveness of management in achieving company objectives and maintaining ongoing compliance with Project permits, authorizations and approvals.

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Figures



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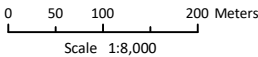
- SNP Monitoring Location
- Water Crossing
- Foreshore Lease Boundary
- Project Development Area
- Snow Stockpile
- Commercial Lease Undisturbed Buffer Boundary
- Commercial Lease Boundary

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MARY RIVER PROJECT

Milne Port
Current Snow Stockpile Locations

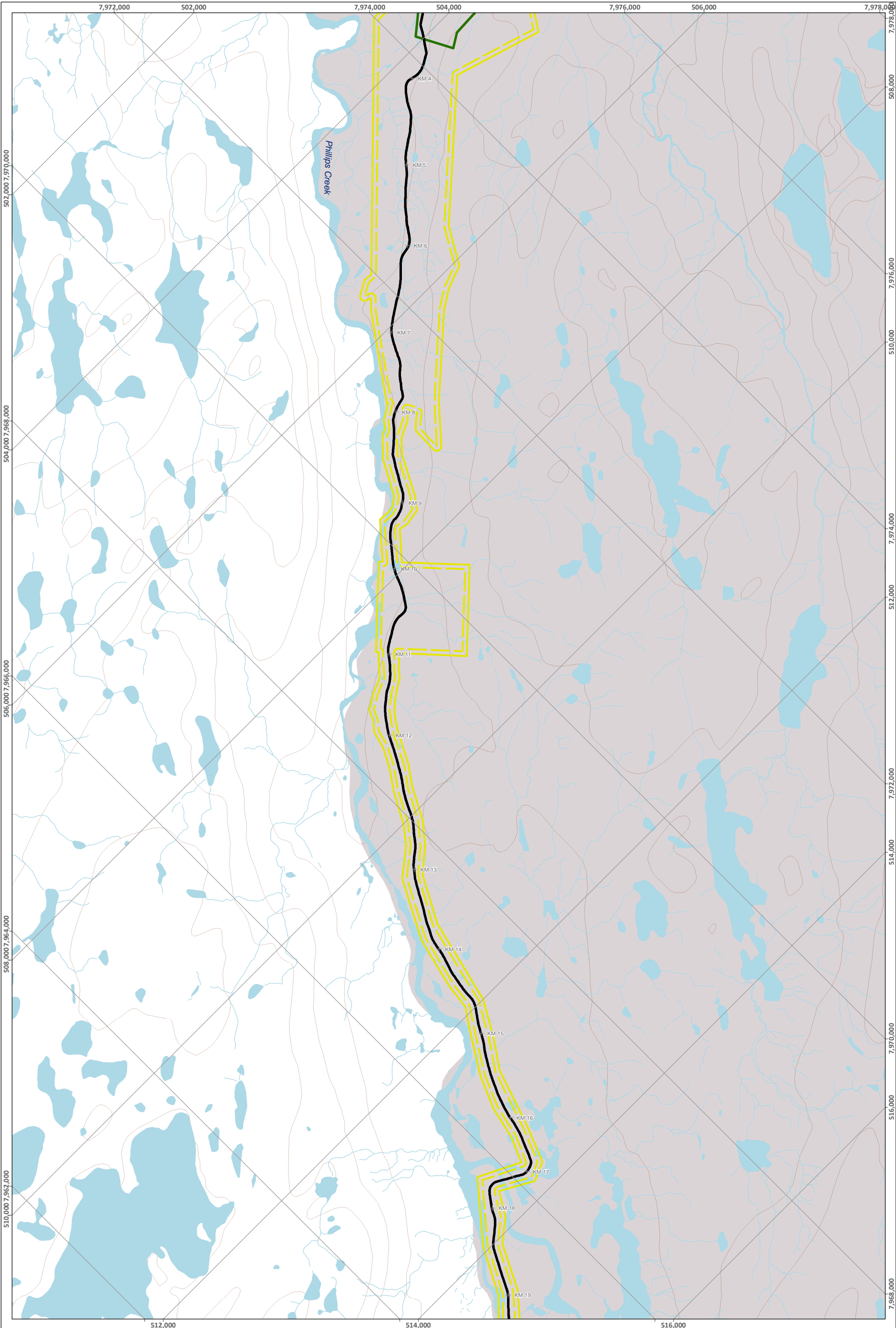
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Base Map: © 2020 Digital Globe, Inc.
Imagery is representative as of August 2020.



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FIGURE

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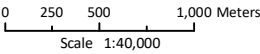
 Milne Inlet Tote Road Km Marking
- Contour (20 m Interval)
- Snow to be Directed to the West Side of the Road
- Snow Stockpile
- IOL Surface Only
- IOL Surface and Subsurface
- Project Development Area
- Commercial Lease Undisturbed Buffer Boundary
- Commercial Lease Boundary

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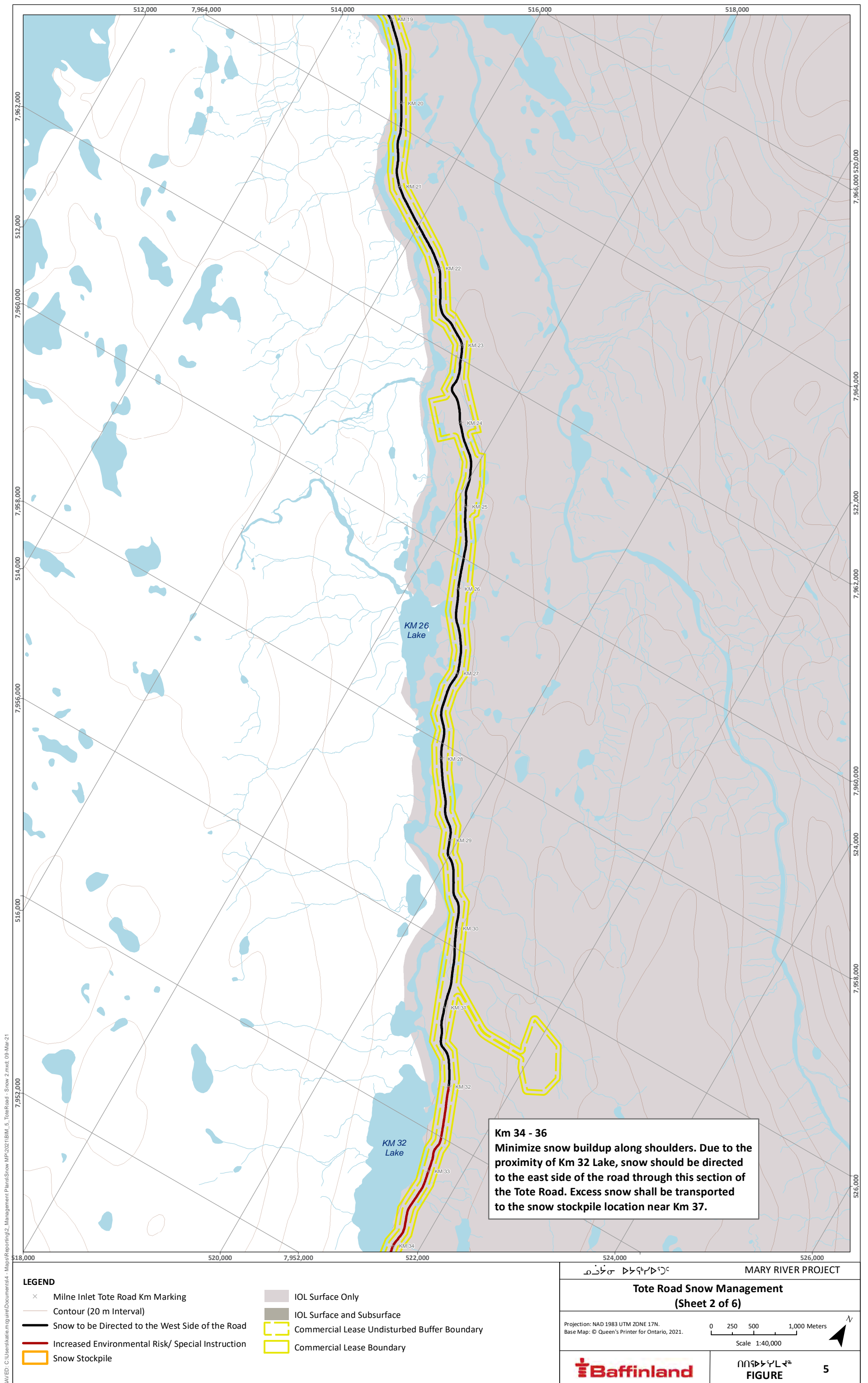
MARY RIVER PROJECT

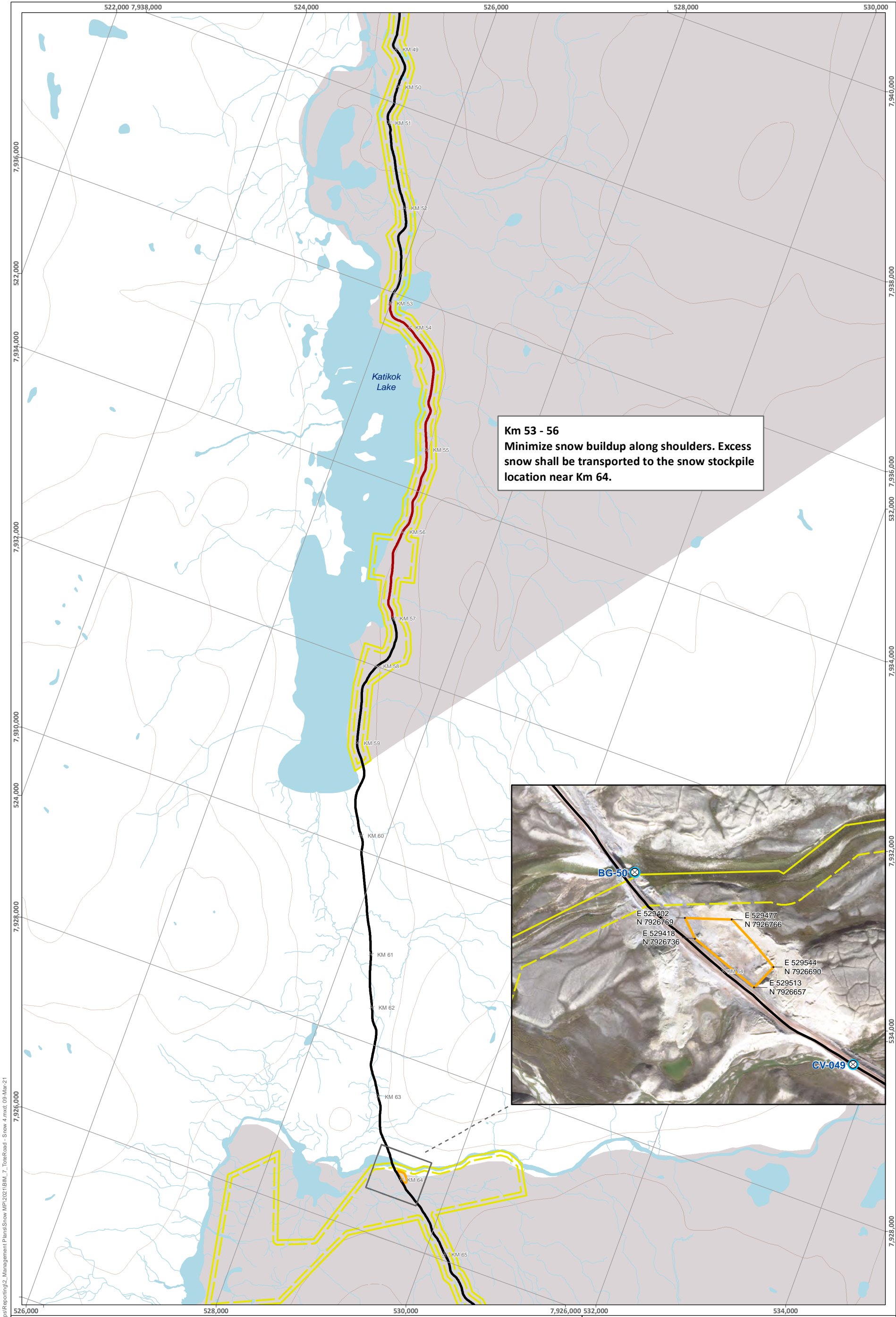
Tote Road Snow Management
(Sheet 1 of 6)

Projection: NAD 1983 UTM ZONE 17N.
Base Map: © Queen's Printer for Ontario, 2021.



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FIGURE





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 Milne Inlet Tote Road Km Marking
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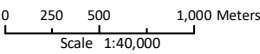
 Water Crossing Monitored under Tote Road Monitoring Program
- Contour (20 m Interval)
- Snow to be Directed to the West Side of the Road
- Increased Environmental Risk/ Special Instruction
- Snow Stockpile
- IOL Surface Only
- IOL Surface and Subsurface
- Commercial Lease Undisturbed Buffer Boundary
- Commercial Lease Boundary

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MARY RIVER PROJECT

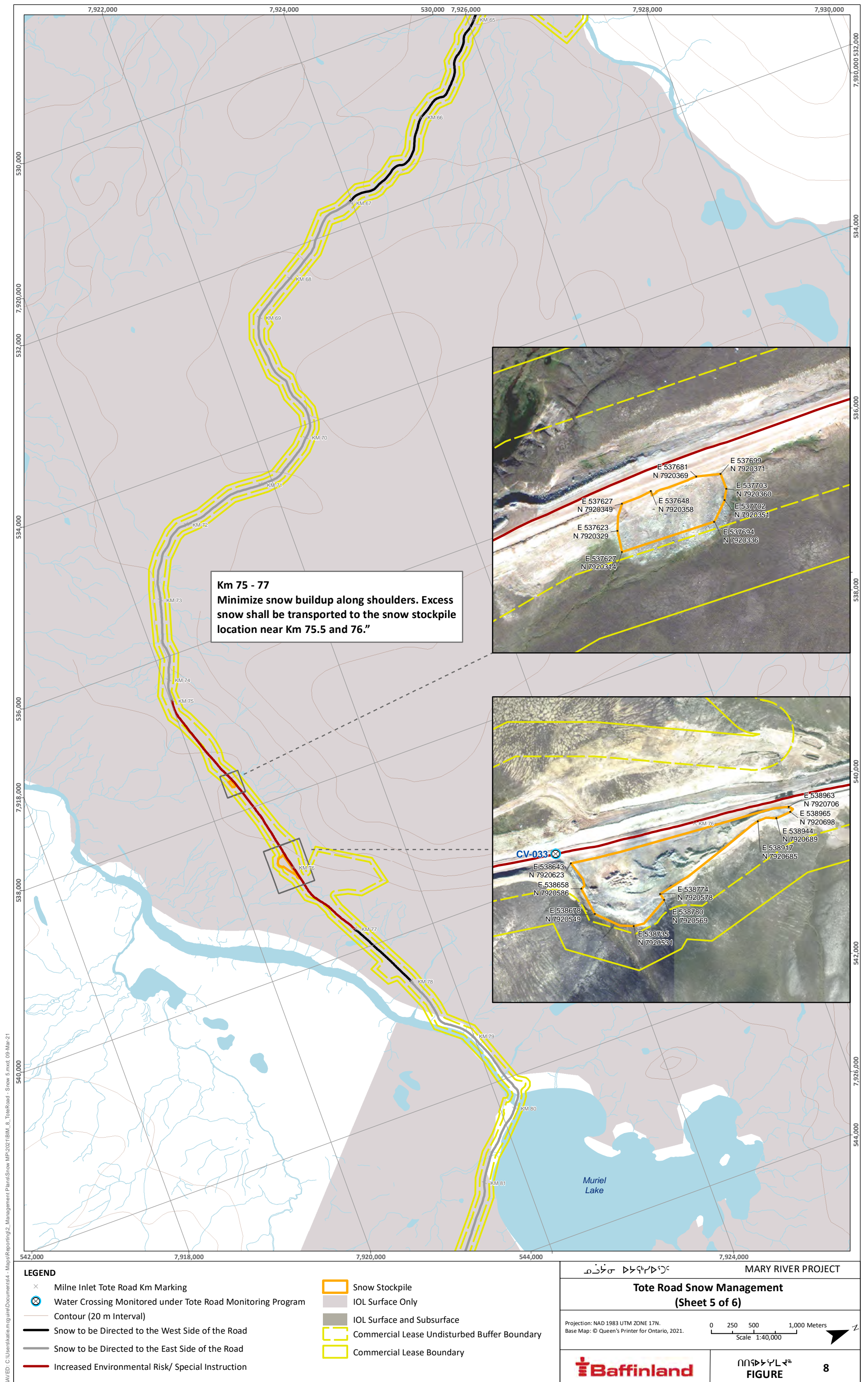
Tote Road Snow Management
(Sheet 4 of 6)

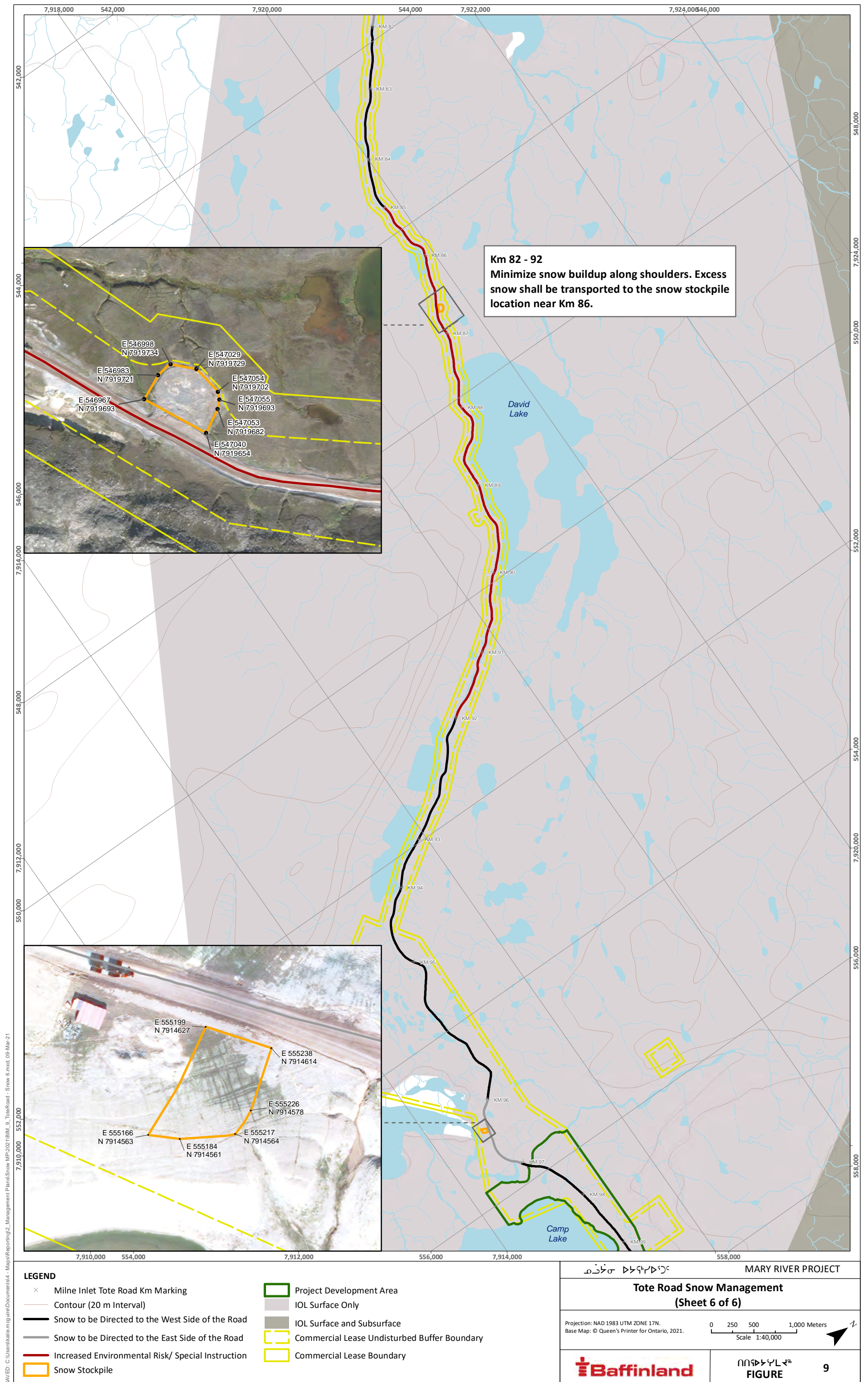
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Base Map: © Queen's Printer for Ontario, 2021.

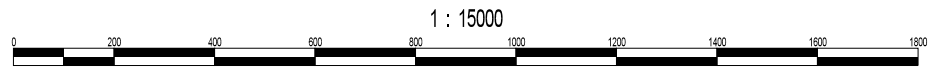
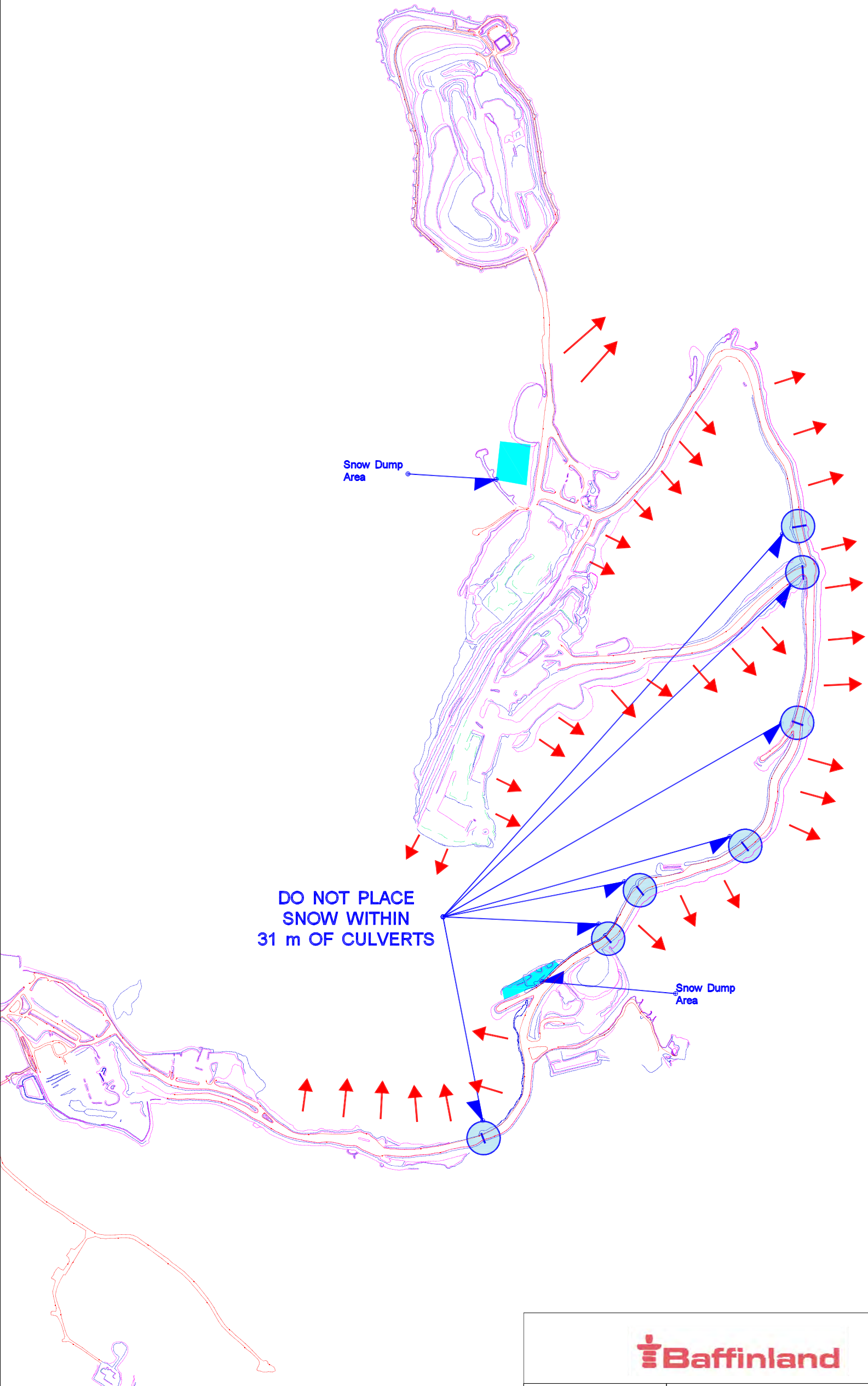
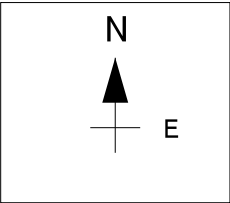


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FIGURE


7







<div></div>		Materials	
PROJECT:		Snow Removal Plan	
DATE:		2021/01/28	
			Crest
			Toe
			Road
			Contour Lines
			Culverts

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Appendix A

Snow Management Inspection Form



Approved Snow Stockpile Audit Form

Date:

Inspecting Personnel:

Camera ID:


Stockpile Location:

GPS ID:

	Condition	Y/N or NA	Item of Concern	Corrective Action
1	Is the stockpile currently in use?		If so, what is the current % full:	
2	Are there any vehicles/heavy equipment working in the area?			
3	Is the stockpile boundary clearly marked?			
4	Is the snow being stockpiled within the boundary area?			
5	Is the snow clear of contamination? (i.e. coolant, oil, sewage, gravel, etc.)		List type and volume of contamination found:	
6	Are the natural drainage patterns of the area still intact?			
7	Is there any refuse within the stockpiled snow? (i.e. metal, wood, garbage, etc.)			
8	If refuse is present, was it removed?			
9	Photos taken?		Photo #:	

Additional Notes:


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Appendix B

Camp and General Infrastructure Snow Management Guidelines


(Site Services Department)

	Snow Management Plan	Issue Date: March 23, 2021 Revision: 4	
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Camp and General Infrastructure Snow Management Guidelines

To effectively manage snow around camps and general infrastructure at the Mine Site and Milne Port, the following guidelines shall be followed by the Site Services Department to ensure compliance with Baffinland's Snow Management Plan:

- To minimize the amount of debris collected and mixed with stockpiled snow, Project Personnel shall remove debris from the area prior to snow management activities. This may include measures such as avoiding heavily littered areas until the debris can be sufficiently removed.
- Snow managed near the camps and general infrastructure at the Mine Site and Milne Port shall only be stockpiled at the approved locations identified in Figures 1 - 3.
- Where practical, snow should be removed or cleared in the same direction as the prevailing winds of the area and/or to the downhill side. This will minimize the amount of drifting that occurs across laydowns and roads during winter months and reduce the amount of meltwater that will come in contact with Project infrastructure (i.e. roads, culverts, etc.) during freshet.
- When removing snow in the same direction as the wind, snow should be carried from one side of the road to the other and not split down the middle and pushed to both sides. This will reduce the amount of drifting that occurs across roads and the amount of passes required by equipment to effectively clear snow accumulation.
- When removing snow with graders near culverts, rotate the moldboard to carry the snow past and away from culverts before moving snow to the edge of the road.
- To avoid debris from being released and windblown during freshet, Site Services personnel are required to monitor melting snow stockpiles and collect debris as it becomes available. Depending upon the rate of snowmelt and the amount of debris within the stockpiled snow, collection of debris may be necessary on a daily basis throughout freshet until the stockpiled snow has completely melted.
- The Site Services Department will be responsible for managing the snow stockpile locations for the general and camp areas at the Mine Site and Milne Port. The Site Services Department will be notified if snow stockpile locations under their management are required to be used by other operational departments due to excess snow accumulation in other areas of the Project.
- The Site Services Department must notify and receive approval from the Environment Department prior to using overflow stockpile locations at the Mine Site.


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Appendix C

Milne Port Ore Stockpile Facility

Snow Management Guidelines


(Stockpiling & Shiploading Department)

	Snow Management Plan	Issue Date: March 23, 2021 Revision: 4	
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Milne Port Ore Stockpile Facility Snow Management Guidelines


To effectively manage snow at the Milne Port Ore Stockpile Facility, the following guidelines will be followed by the Stockpiling & Shiploading Department to ensure compliance with Baffinland's Snow Management Plan:

- No ore impacted snow shall leave the Milne Port Ore Stockpile Facility (the Facility).
- Snow shall be stockpiled at the approved locations identified in Figure 3.
- To minimize the amount of debris collected and mixed with stockpiled snow, Project Personnel shall remove debris from the area prior to snow removal. This may include measures such as avoiding heavily littered areas until the debris can be sufficiently removed.
- Following winter storm events, snow may be stockpiled at temporary locations within the Facility until the snow can be transported to the approved stockpile locations identified in Figure 3.
- The Stockpiling & Shiploading Department will conduct routine monitoring of stockpiled snow to ensure that minimal amounts of ore and debris are being mixed in during snow management activities.
- To minimize the amount of ore (lump/fines) mixed in with snow and transported during snow management activities, the following guidelines shall be followed by equipment operators:
 - Maintain a loader bucket/grader blade lift of two (2) inches when clearing snow.
 - Exercise caution when clearing snow around the base of stockpiles, making sure not to remove ore at the toe of ore stockpiles.
 - Exercise caution when removing snow/drifts near the face of ore stockpiles, making sure not to remove ore along the face of ore stockpiles.
 - When possible, select a loader that is best suited for the area where snow removal is required. For example, the use of a 950 loader is more suitable for stockpile faces whereas a 988 loader is better suited for removing snow from the pad floor. This may require equipment preplanning.
- The Stockpiling & Shiploading Department will be responsible for managing the snow stockpile locations for the Facility. The Stockpiling & Shiploading Department will be notified if snow stockpile locations under their management are required to be used by other operational departments due to excess snow accumulation in other areas of the Project.

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Appendix D


Tote Road Snow Management Guidelines (Road Maintenance Department)

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Tote Road Snow Management Guidelines

To effectively manage snow along the Tote Road, the following guidelines will be followed by the Road Maintenance Department to ensure compliance with Baffinland's Snow Management Plan:

- Snow will be managed and stockpiled as outlined in Figures 4 - 9.
- Snow will not be stockpiled within 31 meters of the High Water Mark of nearby water bodies (i.e. streams, lakes, and rivers).
- Where practical, snow should be removed or cleared in the same direction as the prevailing winds of the area and/or to the downhill side. This will minimize the amount of drifting that occurs across Tote Road infrastructure during winter months and reduce the amount of meltwater that contacts Tote Road infrastructure (i.e. roads, culverts, and bridge abutments) during freshet.
- When clearing snow, snow should be carried from one side of the road to the other and not split down the middle and pushed to both sides. This will reduce the amount of drifting that occurs across Tote Road infrastructure and the amount of equipment passes required to effectively clear accumulated snow.
- When removing snow near culverts using a grader, rotate the moldboard to carry the snow past and away from culverts before moving snow to the edge of the road.
- When pushing snow away from the Tote Road, equipment operators should maintain a low, flat angle and take special care not to disturb the tundra underneath the snow and not deviate from the centre line of the Tote Road by more than 50 metres.
- The Road Maintenance Department will be responsible for managing the snow stockpile locations along the Tote Road. The Road Maintenance Department will be notified if snow stockpile locations under their management are required to be used by other operational departments due to excess snow accumulation in other areas of the Project.
- When using equipment to position snow to be managed by trailing snow blowers, berm up snow in a manner that is accessible by snow blowers.
- Minimize snow buildup along shoulders of the Tote Road.


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Appendix E

Mine Site Crushing Facility

Snow Management Guidelines

(Crushing Department)


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Mine Site Crushing Facility

Snow Management Guidelines

To effectively manage snow at the Mine Site Crushing Facility, the following guidelines will be followed by the Crushing Department to ensure compliance with Baffinland's Snow Management Plan:

- No ore impacted snow shall leave the Mine Site Crushing Facility (the Facility).
- Snow shall not be stockpiled within 3 metres of the Facility's perimeter ditches.
- To minimize the amount of debris collected and mixed with stockpiled snow, Project Personnel shall remove debris from the area prior to snow removal. This may include measures such as avoiding heavily littered areas until the debris can be sufficiently removed.
- The Crushing Department will conduct routine monitoring of stockpiled snow to ensure that minimal amounts of ore and debris are being mixed in during snow management activities.
- To minimize the amount of ore (lump/fines) mixed in with snow and transported during snow management activities, the following guidelines shall be followed by equipment operators:
 - Maintain a loader bucket/grader blade lift of two (2) inches when clearing snow.
 - Exercise caution when clearing snow around the base of stockpiles, making sure not to remove ore at the toe of the ore stockpiles with the snow.
 - Exercise caution when removing snow/drifts near the face of ore stockpiles, making sure not to remove ore with the snow.
 - When possible, select a loader that is best suited for the area where snow removal is required. For example, the use of a 950 loader is more suitable for stockpile faces whereas a 988 loader is better suited for removing snow from the pad floor. This may require equipment preplanning.
- The Crushing Department will be responsible for managing the snow stockpile locations for the Facility. The Crushing Department will be notified if snow stockpile locations under their management are required to be used by other operational departments due to excess snow accumulation in other areas of the Project.


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Appendix F

Mine Haul Road and Deposit No. 1

Snow Management Guidelines

(Mine Operations Department)

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Mine Haul Road and Deposit 1

Snow Management Guidelines

To effectively manage snow along the Mine Haul Road and Deposit 1, the following guidelines will be followed by the Mine Operations Department to ensure compliance with Baffinland's Snow Management Plan:

- Snow will be managed and stockpiled as shown in Figure 10.
- Snow will not be stockpiled within 31 meters of culverts on the Mine Haul Road.
- Where practical, snow should be removed or cleared in the same direction as the prevailing winds of the area and/or to the downhill side. This will minimize the amount of drifting that occurs across Project infrastructure during winter months and reduce the amount of meltwater that comes in contact with Project infrastructure (i.e. roads and culverts) during freshet.
- When clearing snow, snow should be carried from one side of the road to the other and not split down the middle and pushed to both sides. This will reduce the amount of drifting that occurs across Project infrastructure and the amount of passes required by equipment to effectively clear snow accumulation.
- When removing snow near culverts using a grader, rotate the moldboard to carry the snow past and away from culverts before moving the snow to the edge of the road.
- When pushing snow away from Project infrastructure, equipment operators should maintain a low, flat angle and take special care not to disturb the tundra underneath the snow.
- The Mine Operations Department will be responsible for managing the snow stockpile locations along the Mine Haul Road. The Mine Operations Department will be notified if snow stockpile locations under their management are required to be used by other operational departments due to excess snow accumulation in other areas of the Project.
- When using equipment to position snow to be managed by trailing snow blowers, berm up snow in a manner that is accessible by snow blowers.