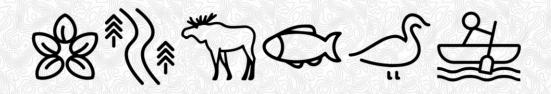




FINAL

Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

September 2021





Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

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Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

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Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

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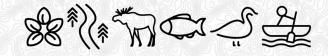
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Acronyms

Agency, the ... Impact Assessment Agency of Canada

CAR Community Access Road

EA..... Environmental Assessment

HaSEP Health and Safety and Environmental Protection Plan

IA Impact Assessment

IAA Impact Assessment Act

IS Impact Statement

JSEA..... Job Safety and Environmental Analysis

MECP Ontario Ministry of the Environment, Conservation and Parks

MFFN..... Marten Falls First Nation

SAR Species at Risk

VC...... Valued Component





Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

1. Introduction

The Proponent of the Community Access Road (CAR or the Project) is Marten Falls First Nation (MFFN), a remote First Nation community in northern Ontario located at the junction of the Albany and Ogoki rivers, approximately 430 kilometres from Thunder Bay, Ontario. The MFFN community is proposing an all-season CAR that will connect the MFFN community to Ontario's provincial highway network (Highway 643) to the south via the existing Painter Lake Road. MFFN, as the Proponent of the Project, has formed a MFFN CAR Project Team that includes MFFN CAR Community Member Advisors and MFFN CAR Project Consultants who act with input, guidance, and direction from the MFFN Chief and Council.

This document outlines the work plan to implement the field studies for the valued component (VC) wetland and riparian ecosystems, upland ecosystems, designated areas, traditional use plants and species at risk (SAR) plant populations, peatland ecosystems, and physiography, terrain and soils, recognizing the results of these field surveys will be used to support a coordinated Impact Assessment (IA) required for Project review by the Impact Assessment Agency of Canada (the Agency) under the federal *Impact Assessment Act* (IAA), and an Environmental Assessment (EA) required for Project review by the Ontario Ministry of the Environment, Conservation and Parks (MECP) under the Ontario *Environmental Assessment Act*. The Physiography, Terrain and Soils, and Vegetation and Peatlands Work Plans have been combined as these components are highly integrated throughout the Project, including both mapping and field inventory programs.

The Physiography, Terrain and Soils, and Vegetation and Peatlands Work Plan describes the proposed methods and schedule to complete the field programs and considers both the Agency's Tailored Impact Statement Guidelines for the Marten Falls Community Access Road Project (IAAC 2020), and the comments received on the Draft Terms of Reference (AECOM 2020).



Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

2. Overview and Approach

The approach and associated study areas for the Physiography, Terrain and Soils, and Vegetation and Peatlands field programs are defined in the respective Study Plans (MFFN CAR 2021a,b). These considerations were developed based on discussions with both federal and provincial regulators. A brief description of the proposed methodology and staffing plan to complete the Physiography, Terrain and Soils and Vegetation and Peatlands field programs are described below, with the understanding that the technical content is limited to supplementary information not previously included in the Physiography, Terrain and Soils and Vegetation and Peatlands Study Plans.

Additional soils fieldwork will likely be required after the EA has been submitted and a final preferred route has been selected. The soils fieldwork will be in support of soil salvage, management, and reclamation in the disturbance footprint.

2.1 Methodology

The proposed methodology for the Physiography, Terrain and Soils, and Vegetation and Peatlands field programs are described in **Table 2-1**, and the corresponding survey locations are shown in **Figure 2-1**.

Table 2-1: Methodology for Physiography, Terrain and Soils and Vegetation and Peatlands Field Studies

Physiography, Terrain and Soils			
Permits to Conduct Field Study ■ MECP Letter of Authorization to Conduct Research in a Provincial Park or Conservation Reserve; valid from June 1, 2021 to December 31, 2022 ■ MECP Letter of Authorization to Conduct Research in a Provincial Park or Conservation Reserve; valid from May 1, 2022 to December 31, 2023			
Field Study Methods	 Soil and terrain inventory Field survey locations were selected based on desktop pre-typing of vegetation ecosites, as well as review of stereoscopic air photos in gap areas where desktop pre-typing had not yet been completed Geological Hazard Assessment (where appropriate) Soil sample collection at 30 sites for soil quality and reclamation suitability Geochemistry sample collection at the 30 sites identified for soil sample collection 		
Lab Analysis Methods	 Details of analyses required listed in Study Plan Additional analyses potentially required to support soil salvage and reclamation include: Particle Size Distribution Saturation Percentage 		





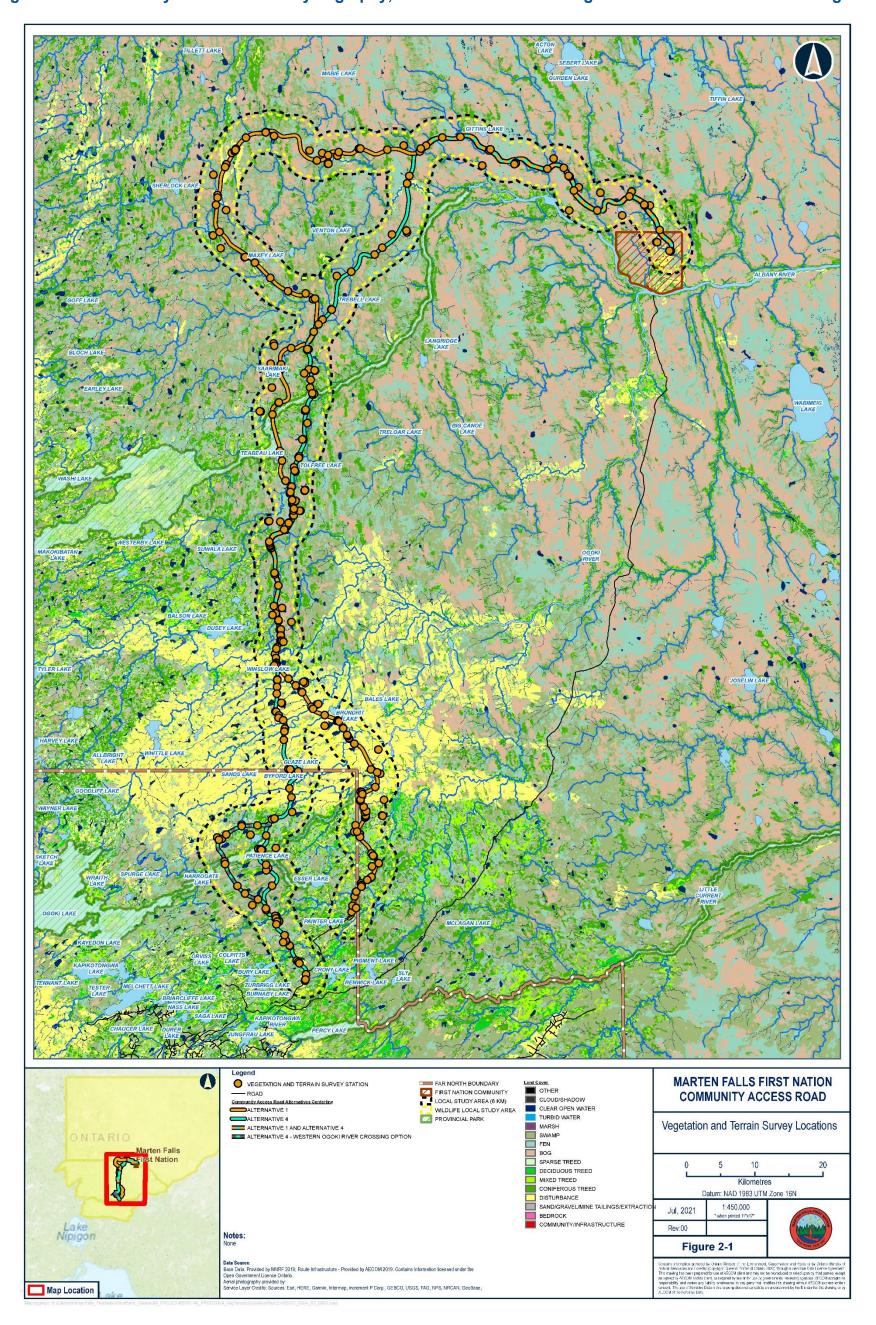
Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

	Physiography, Terrain and Soils	
	 Electrical Conductivity Soluble Cations *Based on guidelines from Soil Quality Criteria Relative to Disturbance and Reclamation (AAFRD 1987) Samples assumed to be submitted to SGS Laboratories A list of analyses required for the geochemistry portion of the program is found in the Geochemistry Study Plan. 	
	Vegetation and Peatlands	
Permits to Conduct Field Study	■ MECP Letter of Authorization to Conduct Research in a Provincial Park or Conservation Reserve; valid from June 01, 2021 to December 31, 2022	
Field Study Methods	 Vegetation Community Surveys-ground based and aerial Field survey locations were selected based on desktop pre-typing of vegetation ecosites, as well as provincial landcover mapping in gap areas where desktop pre-typing had not yet been completed Up to 75 stations will overlap with wildlife field study survey locations and be assessed through photo interpretation at the desktop level. Detailed survey locations are described in the Wildlife Work Plan and Bird Work Plan Peatland Composition Survey – ground based Functional Assessments (for peatland, wetland and riparian ecosystems) Botanical Inventory Traditional Use Plants and Species at Risk Plant Surveys Invasive Plant Survey 	
Lab Analysis Methods	■ Taxonomic identification of Sphagnum mosses (where required)	





Figure 2-1: VC Survey Locations for Physiography, Terrain and Soils and Vegetation and Peatlands Field Programs



Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

2.2 Program Staffing

The proposed staff participating in the Physiography, Terrain and Soils and Vegetation and Peatlands field programs are outlined in **Table 2-2**.

Table 2-2: Personnel Qualifications

Name	Title	Project Role	Credentials	Years of Experience*
Anne Sommerville	Senior Terrain Scientist	Physiography, Terrain and Soils Component Lead	Ph.D, P.Ag.	20
Christiane Brouwer	Soil/Terrain Scientist	Soil / Terrain Field Lead	B.Sc., P.Ag	16
Joe Fitzpatrick	Soil/Terrain Scientist	Soil / Terrain Field Crew Member	B.Sc., P.Ag	25
Claire Kisko	Soil Scientist	Soil / Terrain Field Crew Member	B.Sc., AIT	5
David Brown	Soil Scientist	Soil / Terrain Field Crew Member	B.Sc.	10
Amber Sabourin	Ecologist	Vegetation Component Lead	H.B.Sc (Env)	11
Andrew Stewart	Ecologist	Peatlands Component Lead	B.Sc.	11
Erin Greenaway	Senior Ecologist	Natural Sciences Lead, Senior Adviser, Vegetation Senior Reviewer	B.Sc.	23
Heather Melcher	Senior Ecologist	Principal, Vegetation Senior Reviewer	M.Sc.	25
Luke Owens	Wildlife Biologist	Vegetation and Peatlands Field Lead	B.A.	15
Judah Berkan	Junior Biologist	Vegetation and Peatlands Field Crew Member	B. Sc.	2
Jessica Tratnik	Junior Biologist	Vegetation and Peatlands Field Crew Member	B.A.Sc.	4

Note: * Experience as of March 2021

Please note that the staffing for the Physiography, Terrain and Soils and Vegetation and Peatlands field programs may also rely on additional members from the MFFN CAR Project Consultant Team and / or members from local Indigenous communities. It is anticipated that one Indigenous individual will be teamed with each soil / terrain scientist in the field.



Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

3. Discipline Specific-Schedule

The proposed schedule for the Physiography, Terrain and Soils and Vegetation and Peatlands field programs are presented below in **Table 3-1**.

Table 3-1: Program Schedule

Task / Program	Start Date (MM/YR)	Approximate Duration	Targeted VC Interaction
Physiography, Terrain and Soils	■ Spring/summer 2022	■ 8 days (plus travel to and from site)	■ Physiography, Terrain and Soils
■ Vegetation ■ Peatlands	■ September 2021 (round 1) ■ May/June 2022 (round 2)		 Wetland and Riparian Ecosystems Upland Ecosystems Traditional Use Plants and SAR Plant Populations Designated Areas Peatland Ecosystems

Prior to field programs commencing, the following groups from the Project Contact List will be notified:

- Indigenous Community Key Contacts
- Tribal Councils, Provincial Territorial Organizations and Métis Nation of Ontario
- Other Indigenous Persons Identified for Consultation (including MFFN community members)
- Businesses
- Tourism Operators
- Community and Interest Groups and Non-Governmental Organizations
- Interested Parties / Potential Stakeholders Unaffiliated
- Government Review Team
- Non-Government Review Team agency representatives
- Forest Management Companies
- Mining Claim Holders
- Emergency Medical Services and Law Enforcement
- Neighbouring Projects and their Contacts
- Other Agency Representatives (elected Members of Parliament and Provincial Parliament of Ontario)





Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

4. Health and Safety

4.1 General

Golder is committed to the health and safety of employees, clients, contractors and the public, with the understanding that all work performed by Golder is subject to strict health and safety policies and applicable federal, provincial, and municipal acts and regulations. Golder has internal Work Safe Practices for aerial work, remote work, cold weather work, and working around water. All field crew members will be expected to review these protocols prior to commencing surveys. In addition, the Golder survey teams will develop a project specific Health and Safety and Environmental Protection Plan (HaSEP) prior to conducting field work. The Project's HaSEP will be reviewed and discussed with all field crew members (including pilot and Indigenous crew members) prior to the survey's commencement.

The aerial / helicopter support for the Project will be designed and scheduled according to Golder's and the client's health and safety policies, procedures, and training. Restrictions on aircraft type and pilot proficiency will apply. Prior to daily take-off, the pilot will provide an aircraft orientation and safety briefing to all members of the survey team. The briefing will include identifying hazards, emergency response plans and procedures, and general helicopter protocol (including how to exit and enter an aircraft). As part of these briefings, hazards specific to the day's task will also be identified, discussed, and documented on a job safety and environmental analysis (JSEA) form, with a plan for all crew members to sign the JSEA. Field surveys will only occur when weather conditions allow safe aircraft operations, recognizing that (1) field crew members have the right to refuse substandard actions or conditions if the worker feels that these actions / conditions are imminently dangerous to their safety or to the safety of others and (2) field crew members should rely on pilot judgement as well as their own experienced and comfort level to determine if flights should occur or be prematurely terminated.

As part of each field day, field crew members will pack extra food, water, and clothing in case of aircraft mechanical trouble and unexpected delays. In addition, each field crews will carry a survival and first aid kit for emergency situations (supplementary to the aircraft emergency survival kit). Daily check-in times with a designated contact will be pre-determined as part of the HaSEP, noting that satellite phones or satellite communication devices (e.g., Garmin inReach) will be used in areas where cell phone coverage is not reliable.





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4.2 COVID-19

All COVID-19 related risk mitigation and recovery measures have been established in line with government protocols and AECOM corporate measures. Field crews will employ preventative COVID-19 actions including daily screening questionnaires and the use of Personal Protective Equipment such as gloves, masks, regular disinfection and social distancing.

Members of the field crews are not to attend site, or must remove themselves from site, if they fit any of the following criteria:

- They have symptoms associated with COVID-19 (e.g., fever, cough, sore throat, shortness of breath, sneezing / running nose or loss of sense of smell);
- They have been confirmed for COVID-19 or are awaiting the results from being tested for COVID-19;
- They have been in close-contact with a known or suspected case of COVID-19 in the past 14 days; and / or
- They have returned, or been in contact with someone who has returned, from overseas in the past 14 days.

When working in the community, field crews will strictly adhere to the COVID-19 preventative measures as described above. Where community access is required to facilitate a field survey, entry will be discussed with the community in advance. As needed, a negative COVID-19 test will be presented prior to entering Indigenous communities.

Field crews will have access to an adequate supply of sanitizer, and, as part of this, the crew members will regularly sanitize their hands. Further to this: field crews will minimize use of shared tools and equipment, as practical (including the use of hand tools, electronic devices, pens, clipboards, and notepads); all work surfaces and equipment used in the course of work will be adequately cleaned and disinfected at the end of the work shift or more frequently when visibly soiled or used repeatedly; and cloth or surgical masks (as a minimum) will be worn by field crews at all times during the course of work and in transit to the work site in line with government direction.

For all workers, regardless of specific exposure risks, it is always a good practice to:

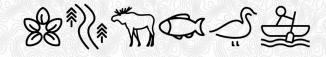
 Frequently wash your hands with soap and water for at least 20 seconds, noting that, when soap and running water are unavailable, use of an alcohol-based hand rub with at least 60% alcohol is suggested.





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- Avoid touching your eyes, nose, or mouth with unwashed hands.
- Avoid close contact with people who are sick.
- Cover your mouth and nose with your bent elbow or tissue when you cough or sneeze, and immediately dispose of the used tissue.
- Stay home if you are sick.





Physiography, Terrain and Soils and Vegetation and Peatlands Field Logistics Work Plan

5. References

AAFRD (Alberta Agriculture, Food and Rural Development). 1987. Soil Quality Criteria Relative to Disturbance. Alberta Agriculture, Food and Rural Development Conservation and Development Branch, Edmonton, AB.

AECOM Canada Ltd., 2020:

Marten Falls First Nation Proposed Terms of Reference Marten Falls Community Access Road – Environmental Assessment, Appendix B: Consultation & Engagement Plan to Support the Environmental Assessment / Impact Statement.

Impact Assessment Agency of Canada, 2020:

Tailored Impact Statement Guidelines for the Marten Falls Community Access Road Project. https://iaac-aeic.gc.ca/050/documents/p80184/133937E.pdf

Marten Falls First Nation Community Access Road Project (MFFN CAR), 2021a: Physiography, Terrain and Soils Study Plan

Marten Falls First Nation Community Access Road Project (MFFN CAR), 2021b: Vegetation Study Plan





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