

1. BACKGROUND INFORMATION

1.1 Proponent Identification Information

Defence Construction Canada
(on behalf of the Director General Environment, Department of National Defence)
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Contact regarding this submission for the DEW Line Clean Up Project are provided in Table 1-1.

Table 1-1 – List of Contacts

Defence Construction Canada		
Project Manager: LCol. Daniel Paquet	(T) 613-998-9523	(F) 613-998-0468
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UMA Engineering Ltd.		
Environmental Scientist: Eva Schulz	(T) 403-270-9220	(F) 403-270-0399

1.2 Lead Authorizing Agencies

The lead agency for this project is the Department of National Defence, represented by the Director General Environment. The management of this project is being provided by Defence Construction Canada. These agencies will be responsible for obtaining permits except in those cases where the clean up contractor is required to do so by legislation.

1.3 Environmental Assessment Process

The environmental assessment was completed under the Environmental Assessment and Review Process Guidelines Order (EARPGO) and updated in accordance with the requirements of the Canadian Environmental Assessment Agency (CEAA) and the Nunavut Impact Review Board (NIRB), in support of this project. The process used assessed potential environmental impacts based on the valued ecosystem components identified during the initial scoping exercise.

The following sections provide a summary of the activities that were undertaken during the completion of the environmental assessment.

1.3.1 Scoping

As a self-directed environmental assessment, the initial step was to conduct a series of social and ecological scoping exercises designed to:

- Determine the temporal and spatial boundaries of the assessment; and
- Focus the analysis on the environmental issues directly related to the clean up project itself (i.e., identification of valued ecosystem components).

In scoping the project, clean up activities to be assessed were identified. Possible additional activities were examined using the Canadian Environmental Assessment Agency's "Principal Project/Accessory" test, which is used to determine if other activities demonstrate an interdependence, linkage and/or geographical/ecological proximity with the primary clean up.

The assessment scope included a determination of the environmental effects to be assessed and the effects that are to be considered in making decisions regarding the project. The following is an outline of the scope of the project and of the assessment:

Project: Clean Up of the CAM-3, Shepherd Bay DEW Line Site

EA Trigger: Funding from Department of National Defence

Scope of the project – principal project: Physical clean up of the CAM-3 site, including: demolition of facilities, removal of waste materials (including hazardous), contaminated soil removal, debris disposal, and construction of landfills and hydrocarbon contaminated soil treatment facilities.

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Accessory physical works: mobilization and demobilization of contractor's equipment and personnel, and temporary construction camp set up.

Other undertakings in relation to the physical work: None.

Scope of the assessment: The environmental assessment is to consider the effects of all project related activities (i.e., those related to the clean up of the site) and associated physical works on both biophysical (terrestrial, aquatic) and socio-economic factors.

The following factors were identified for assessment:

- Evaluation of environmental effects of the project, including those relating to cumulative effects that are likely to result from carrying out this project.
- Project undertakings performed in conjunction with other off site projects/activities that have been or will be carried out.
- The relative levels of significance.
- Public comments.
- Mitigation measures deemed to be technically and economically feasible.

Interested parties were identified and consulted during the development of the project definition process including:

- 'Expert' federal departments (Environment Canada - EC, GNWT Natural Resources, GNWT Health, DIAND);
- 'Other' federal departments (DND, Defence Construction Canada - DCC, Parks Canada);

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- Aboriginal organizations (Nunavut Tunngavik Incorporated - NTI, Nunavut Planning Commission - NPC) and the Regional Inuit Association; and
- Community leadership of the various eastern Arctic hamlets, including residents of Taloyoak.

Since the initial project identification process, other departments have been consulted to ensure both the project and interested parties are kept up to date with the project and the processes. These parties include Environment Canada, Indian and Northern Affairs Canada, Fisheries and Oceans Canada, the Nunavut Water Board, the NTI, Public Works and Government Services Canada, the NPC and Transport Canada.

Section 4 of this Project Description provides a detailed outline of the Public Consultation process.

1.3.2 Assessment of Environmental Effects

The initial step following the scoping exercise was to determine the possible environmental effects of the project. This assessment involves providing a detailed overview of the project, a description of the existing environment (including inventories and ecological processes) and, the identification of project-environment interactions.

The aim of describing the project was to clearly outline the constituent components and activities that were to occur at the CAM-3 site. Activities include mobilization, project layout and design, plans and scheduling, specifics related to each of the activities (i.e., how would contaminated soil be identified, excavated, transported and disposed of), operating procedures, control procedures and demobilization plans. Detailed data concerning each of the activities (i.e., material volumes) was included with this description.

During the scientific studies described above, the site teams collected the relevant information concerning the existing environmental components of the study area. This information included a description of the physical, biological and social characteristics of the study area.

Using the information that was obtained on the project and the existing environmental setting, the assessment study determined interactive links between these two components. Particular concern focused on the location, sensitivity, seasonal presence and abundance of these components.

Also included in the assessment of environmental effects were possible impacts relating to socio-economic factors (heritage, culture, archaeological, employment and business opportunities), land use and human health.

During the assessment stage, conclusions were made as to the type of impact (i.e. level of adversity) and its level of significance, based on scientific judgement and comments received during public consultation sessions.

1.3.3 Identification of Mitigation Options

The third stage of the assessment process was to undertake the identification of mitigation measures that would result in a reduction or elimination of likely environmental effects associated with the clean up of CAM-3. In the case of this project, all potential adverse effects were addressed and not simply those deemed to be significantly adverse, which is the minimum required by assessment legislation. Mitigative actions now form part of the overall project design and planning documentation, which resulted in the preparation of an Environmental Protection Plan (EPP) in Section 9. The requirement for on-site personnel to adhere to these mitigative measures is contractual in nature as the EPP forms part of the clean up contract.

1.3.4 Significance

The environmental assessment considers activities associated with project activities that could result in adverse environmental effects in consideration of their likelihood of occurring, and taking into account appropriate mitigation measures. In determining whether there are adverse environmental effects, the following factors are considered:

Negative effects on the health of biota:

- Loss of rare or endangered species;
- Reduction in biological diversity;
- Loss of critical/productive habitat;
- Fragmentation or interruption of movement corridors and migration routes;
- Transformation of natural landscapes;
- Discharge or presence of persistent and/or toxic chemicals;
- Toxicity effects on human health; and
- Effects on cultural issues.

1.4 Regulatory Overview

1.4.1 Introduction

The clean up will comply with all applicable environmental laws, regulations and requirements of Federal, Territorial, and other regional authorities, and any permits, approvals and authorizations that may be required under this contract. The contractor is subject to and must comply with those

permits and approvals obtained on behalf of and by DND to conduct this work. Through all project phases, the project will work in close cooperation with regulatory authorities and DND will enforce compliance.

1.4.2 Federal Acts, Regulations and Guidelines

Several Federal Acts, regulations and guidelines affect project activities across all Canadian jurisdictions. The most relevant to the DEW Line Clean Up are outlined below:

The **Canadian Environmental Protection Act** regulates toxic substances from their production or import, to consumption, storage and disposal. This Act also incorporates, amongst others, the Temporary PCB Storage Regulations.

The **Transportation of Dangerous Goods Act and Regulations** promote public safety in the transportation of dangerous goods. The Act applies to all handling, offering for transport and transporting of dangerous goods by any means of transport whether or not the goods originate from or are destined for any place or places in Canada.

The **Fisheries Act** protects fish and fish habitat from pollution, harmful alteration, disturbance and destruction, and impediments to fish movement.

The **Arctic Waters Pollution Prevention Act and Regulations** govern development and shipping activity in Arctic waters adjacent to the mainland and islands of the Canadian Arctic to ensure the continuing welfare of the residents of the areas, and to protect the ecological balance in water, ice and land areas.

The **Migratory Birds Convention Act** provides for the protection of designated migratory species, their habitats, and the regulated harvest of certain species.

The **Canada Wildlife Act** provides for the involvement of the Government of Canada in cooperative research and management programs involving wildlife species normally the responsibility of provinces or territories. This is particularly relevant to rare and endangered species or species such as the Peary caribou, which seasonally move across various regulatory boundaries.

The **Species at Risk Act** aims to protect wildlife from becoming extinct or lost from the wild, with the objectives of helping the numbers recover. The act covers all wildlife species listed as being at risk nationally and their critical habitats.

The **Canada Shipping Act** regulates shipping activities under the jurisdiction of Canada. Regulations cover technical standards of operation safety and pollution aspects related to shipping activities in Canadian waters.

The **Navigable Waters Protection Act** pertains to the erection of structures or facilities used to support or impede navigation in waters under the jurisdiction of Canada.

The **Territorial Lands Act** provides the authority for administering and protecting lands under the direct control of the Minister of Indian and Northern Affairs Canada (INAC). The following regulations are pursuant to this Act:

- The **Territorial Land Use Regulations** provide regulatory control for maintaining sound environmental practises for any land use activities on Territorial lands. These regulations require that land use permits be issued for such operations as work involving the use of heavy equipment, establishment of camps, use of explosives, and clearing of lines, trails and rights-of-way, including construction of access roads.
- The **Territorial Quarrying Regulations** establish the procedures for extracting Crown-owned limestone, granite, slate, marble, gypsum, loam, marl, gravel, sand, clay or stone from

Territorial lands. The regulations specify permits, applications, staking and dimensions of quarries.

The **Nunavut Land Claim Agreement Act** provides for the use, management and conservation of land, water and resources of Nunavut.

The **Nunavut Waters and Nunavut Surface Rights Tribunal Act** provides the Nunavut Water Board with the power to issue water use licenses. The Water Board evaluates the potential of detrimental effects occurring because of the use of water or a deposit of waste in water on other users.

Canada Labour Act and Regulations contains the Labour Code for all Federal employees or activities on Federal owned or controlled land. Private Provincial or Territorial employees are governed by the Provincial/Territorial Labour Acts, even when working on Federal lands or facilities. The Labour Acts control such things as statutory holidays, maximum work hours and minimum wages.

Atomic Energy Control Act and Regulations describe the packaging requirements and approvals needed for the transportation of radioactive materials.

Explosives Act and Regulations define explosives, the permitting requirements needed to use explosive substances, packaging, handling and transporting requirements, and safety requirements.

National Fire Code (NFC) established the standard for fire prevention, fire fighting and life safety in buildings in use, including standards for the conduct of activities causing fire hazards, maintenance of fire safety equipment and egress facilities, standards for fire extinguishers, etc. In addition, the NFC establishes the standard for prevention, containment and fighting of fires originating outside buildings which may present a hazard to a nearby community, and sets the

standards for the storage and handling of dangerous goods, flammable liquids and sets the standards for the storage and handling of dangerous goods, flammable liquids and combustible liquids.

The following guidelines were used as a reference in the development of the DEW Line Clean Up Protocol and contract specifications. These guidelines are identified as reference materials only.

The document, **An Approach for Assessing and Managing Wastewater Effluent Quality at Federal Facilities – Final Report June 1, 2000**, indicates the degree of treatment and effluent quality that will be applicable to all wastewater discharged from existing and proposed Federal installations.

Freshwater Intake End-of-Pipe Fish Screen Guidelines provide instructions for the protection of anadromous and resident fish where freshwater is extracted from fish-bearing waters.

National Guidelines for the Landfilling of Hazardous Waste are to be used by regulators, designers, owners, and operators of hazardous waste facilities. They cover site selection, design, construction, closure and post-closure care, monitoring, and operation. They are intended for new, not existing facilities.

Guidelines for Preparation of Hazardous Material Spill Contingency Plans identify factors that should be considered in the development of hazardous material spill contingency plans and the information that should be incorporated into a comprehensive contingency plan.

Code of Good Practise on Dump Closing or Conversion to Sanitary Landfill at Federal Establishments outlines the guidelines to improve operation and properly close existing dumps. It is intended to promote a consistent approach to the clean up of existing dumps to prevent contamination of water, air and land and to ensure that the best particular control technology is used.

Code of Good Practise for Used Oil Management in Canada describes environmentally sound options for the handling, storage, collection, transportation, recycling, reuse and disposal of used oils in Canada. It is intended to provide guidance for used oil generators and to regulatory authorities in the formulation of provincial or regional used oil management strategies.

Canadian Environmental Quality Criteria for Contaminated Sites, compiled by the Canadian Council of Ministers of the Environment (CCME) provide numerical limits for contaminants in soil and water intended to maintain, improve, or protect environmental quality and human health at contaminated sites. The criteria are intended to provide general technical and scientific guidance to provincial, federal, territorial and non-governmental agencies in the assessment and remediation of contaminated sites across Canada. They serve as benchmarks against which to assess the degree of contamination at a site.

Canadian Drinking Water Guidelines are also compiled by CCME for Canadian Drinking Water Quality and provide criteria for water that are protective of human health and also meet aesthetic objectives.

Technical Guidance on the Land Treatment of Petroleum Hydrocarbon Contaminated Soils at Federal Government Facilities or on Federal Crown Land provide information on the required design parameters for landfarms at federal facilities.

1.4.3 Nunavut and Northwest Territory Acts, Regulations and Guidelines

In addition to the Federal and Territorial Acts and Regulations identified in Section 1.4.2, the clean up of the CAM-3 site in Nunavut is governed by the following:

Guidelines for the Discharge of Domestic Wastewater in Nunavut, by the Nunavut Water Board, outline requirements for water quality effluent from facilities in Nunavut.

The **Explosives Use Act** provides controls for surface blasting other than for mining purposes.

The **Nunavut Wildlife Act** provides for the protection of wildlife and wildlife habitats as well as regulated harvest of selected species.

The **Nunavut Environmental Protection Act** provides for protection of the environment from the discharge of contaminants, clean up of contaminants and unsightly premises. In addition, the powers of inspectors as well as offences and penalties are defined. The Act applies only to situations not authorized by other Canadian Acts in the Nunavut. The following guidelines under the Nunavut Environmental Protection Act may be applicable to the clean up of the CAM-3 site:

- Contingency Planning and Spill Reporting
- Disposal Guidelines for Fluorescent Light Tubes
- Guideline: Dust Suppression
- Guideline for the Management of Waste Asbestos
- Guideline for the Management of Waste Antifreeze
- Guideline for the Management of Waste Batteries
- Guideline for the Management of Waste Paint
- Guideline for the Management of Waste Solvents
- Guidelines for the General Management of Hazardous Waste in Nunavut

The **Nunavut Environmental Rights Act** provides the people of Nunavut the right to access information concerning the release or potential release of contaminants into the environment; and also the right to prevent the release or potential release of contaminants into the environment.

The **Spill Contingency Planning and Reporting Regulations** outline requirements for filing of a contingency plan and for reporting of spills.

The **Nunavut Fire Prevention Act and Regulations** provides for regulation of the decommissioning of fuel lines and fuel tanks.

The **Pesticides Act and Regulations** specified the requirements for use, storage, handling and disposal of pesticides.

The **Nunavut Territorial Archaeological Sites Regulations**, pursuant to the **Nunavut Act**, protects archaeological sites in Nunavut from disturbance and prohibits the removal of archaeological specimens, except under permit.

The **Safety Act: Occupational Health Regulations** outline the health and safety standards to be maintained at workplaces to ensure the health and safety of persons.

Guidelines for Removal of Materials Containing Friable Asbestos outline the procedures for the removal of friable asbestos.

1.4.4 List of Approvals, Permits and Licences Required

The following is a list of permits required for the clean up of the CAM-3 site:

Land Use Permit: As per the Territorial Land Use Act and Territorial Land Use Regulations, a Class A permit, issued by the Department of Indian and Northern Affairs Canada (INAC) is required for the activities associated with the clean up of CAM-3. Contact: INAC, Land Administration, Iqaluit, NU, (867) 975-4283.

Quarry Permit: As per the Territorial Land Use Act and Territorial Quarrying Regulations, a Quarry Permit(s), issued by INAC is required for the extraction of granular material required for the clean up. Please contact: INAC, Land Administration, Iqaluit, NU, (867) 975-4283

Water Use License: As per the Nunavut Land Claims Agreement Act, a water use license, issued by the Nunavut Water Board, is required for camp operations and construction activities associated with the clean up of the CAM-3 site. Contact: Nunavut Water Board, Gjoa Haven, NU, (867) 360-6338.

In addition, the successful contractor may require a number of other permits or licences. These permits or licences pertain to the operation and maintenance of the contractor's camp or relate to his/her status as an employer. Examples of these permits include those related to the possession of firearms, day-to-day camp operation and federal/territorial labour codes. We have obtained professional archaeology services and thus any requirement for permits will be completed by the contractor. A partial list of these and other requirements is presented in Table 1-2.

Table 1-2: Authorizations

Authorization	Authority	Activity to Which Authorization Applies	Contact Number	Minimum Turnaround Time*
Land Use Permit (Crown Lands)	Indian and Northern Affairs Canada	All land use activities on Crown land	867-975-4283	3 months
Quarry Permit (Crown Lands)	Indian and Northern Affairs Canada	Granular material extraction activities on Crown land	867-975-4283	3 months
Water Use License	Nunavut Water Board	All water use activities	867-360-6338	4 months
Archaeological Research Permit	Nunavut Land Claims Agreement Act	Investigation of archaeological sites, mitigation, monitoring	867-979-0731	3 months
Transportation Permits	Transportation of Dangerous Goods Act	Shipping		Advance notification 30 days
Transportation Permits	International Air Transport Association Dangerous Goods Regulations	Air transport		Advance notification 30 days

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Authorization	Authority	Activity to Which Authorization Applies	Contact Number	Minimum Turnaround Time*
Fishing Licenses	Department of Sustainable Development	Recreational fishing		None
Firearms Acquisition Certificates/Firearms License (course required)	RCMP	Use and storage of firearms		6 weeks

* Minimum turnaround time is defined as the normal time required to process an application following receipt by the issuing authority.

1.5 Previous Environmental Assessments

As a federal proponent, the Department of National Defence is required to conduct an environmental assessment for the clean up of each DEW Line site. As a planning tool, these assessments were drafted in 1994 by the Department of National Defence under the auspices of the Environmental Review Process Guidelines Order. These assessments were preceded by extensive on-site environmental and engineering investigations completed by the Environmental Sciences Group (ESG) at Royal Military College and UMA Engineering Limited (UMA). The initial investigations, which took place from 1989 to 1994, were used to provide a baseline study of the existing environment (both biological and physical) and ecological pathways and possible transport mechanisms that will exist during the clean up. As well, studies of socio-economic aspects, in particular a detailed archaeological survey of the sites, were completed during this time.

Subsequent changes to overall project planning have been assessed over time and the assessment document updated. The Environmental Screening Report was updated for 14 of the 15 DEW Line sites in Nunavut (Project Management Office DEW Line Clean Up, 1998). This report was submitted with the Project Description of the 15 DEW Line sites in the Nunavut Settlement Area to the Nunavut Impact Review Board (NIRB) in June 1998 (PMO DEW Line Clean Up, 1998b).

In 2000 and 2001 further investigations were conducted to delineate contaminated areas and obtain environmental and engineering information required to finalize the clean up plans. This information has been reviewed and the environmental screening report updated to include relevant new information.

1.6 Contract Award Procedures

The following steps outline the contract award procedures:

- A tender package is produced which includes ALL of the work to be completed at the site. The tender package includes instructions for the Contractor to attain Minimum Inuit Content (MIC) in the workforce, as well as Minimum Inuit Employment Content (MIEC), as specified in the DND/NTI Economic Agreement.
- The tender award goes to the most competitive bidder, who fulfills all of the requirements as stated in the tender package.
- Once the contract is awarded, the successful contractor can begin plans to start the clean up work.