

**UMA Engineering Ltd.**  
 2540 Kensington Road NW  
 Calgary, Alberta T2N 3S3  
 T 403.270.9200 F 403.270.0399 www.uma.aecom.com

January 31, 2007

File Name: FOX-M (3.6)

Phyllis Beaulieu  
 Manager of Licensing  
 Nunavut Impact Review Board  
 P.O. Box 119  
 Gjoa Haven NU, X0B 1J0

Dear Phyllis:

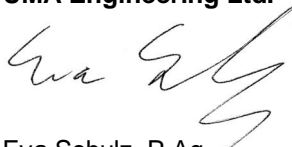
**Re: Amendment to Water Use License 1BR-HAL0308**

UMA Engineering Ltd. is submitting the following amendment for Water Use License 1BR-HAL0308 to include additional clean up work at the FOX-M, Hall Beach DEW Line site. The amendment request is being submitted on behalf of Defence Construction Canada and the Department of National Defence.

We trust the information provided is sufficient for you to process the amendment. Please feel free to contact the undersigned if you have any questions or comments.

Sincerely,

**UMA Engineering Ltd.**



Eva Schulz, P.Ag.  
 Environmental Scientist  
 Eva.Schulz@uma.aecom.com

EMS

Encl. Amendment Application Form and NIRB Summary

cc: Nahed Farah, DCC



P.O. Box 119  
GJOA HAVEN, NU X0B 1J0  
TEL: (867) 360-6338  
FAX: (867) 360-6369

kNK5 wmoEp5 vtmpq  
NUNAVUT IMALIRIYIN KATIMAYINGI  
NUNAVUT WATER BOARD  
OFFICE DES EAUX DU NUNAVUT

## WATER LICENCE APPLICATION FORM

Application for: (check one)

☐ New
 ☐ Renewal
 ☒ Amendment
 ☐ Assignment
 ☐ Cancellation

### LICENCE NO:

(for NWB use only)

<b>1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE</b>  Nahed Farah, P.Eng Associate Project Manager Defence Construction Canada Ltd. Constitution Square, Suite 1720 350 Albert Street Ottawa, Ontario K1A 0K3  Phone: 613-998-7917 Fax: 613-998-0468 e-mail: Nahed.Farah@dcc-cdc.gc.ca  as administered by: Eva Schulz, P.Ag., Environmental Scientist 2540 Kensington Road NW UMA Engineering Ltd. Calgary, Alberta T2N 3S3  Phone: 403-270-9220 Fax: 403-270-0399 e-mail: <a href="mailto:Eva.Schulz@uma.aecom.com">Eva.Schulz@uma.aecom.com</a>	<b>2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable)</b>  _____  Phone: _____ Fax: _____ e-mail: _____						
<b>3. LOCATION OF UNDERTAKING</b> (describe and attach a topographical map, indicating the main components of the Undertaking)  Latitude: (68°45' " N)      Longitude: (81°11' " W) NTS Map Sheet No. <u>47A</u> Scale: <u>1:50,000</u>							
<b>4. DESCRIPTION OF UNDERTAKING</b> (attach plans and drawings) The purpose of the project is to clean up additional buried debris identified at the FOX-M site.							
<b>5. TYPE OF PRIMARY UNDERTAKING</b> (A supplementary questionnaire <u>must</u> be submitted with the application for undertakings listed in " <b>bold</b> ") <table style="width: 100%; margin-top: 10px;"> <tr> <td><input type="checkbox"/> <b>Industrial</b></td> <td><input type="checkbox"/> Agricultural</td> </tr> <tr> <td><input type="checkbox"/> <b>Mining and Milling</b> (includes exploration/drilling)</td> <td><input type="checkbox"/> <b>Conservation</b></td> </tr> <tr> <td><input type="checkbox"/> <b>Municipal</b> (includes camps/lodges)</td> <td><input type="checkbox"/> Recreational</td> </tr> </table>		<input type="checkbox"/> <b>Industrial</b>	<input type="checkbox"/> Agricultural	<input type="checkbox"/> <b>Mining and Milling</b> (includes exploration/drilling)	<input type="checkbox"/> <b>Conservation</b>	<input type="checkbox"/> <b>Municipal</b> (includes camps/lodges)	<input type="checkbox"/> Recreational
<input type="checkbox"/> <b>Industrial</b>	<input type="checkbox"/> Agricultural						
<input type="checkbox"/> <b>Mining and Milling</b> (includes exploration/drilling)	<input type="checkbox"/> <b>Conservation</b>						
<input type="checkbox"/> <b>Municipal</b> (includes camps/lodges)	<input type="checkbox"/> Recreational						

☐ Power☒ **Miscellaneous** (describe below):

Additional buried debris clean up.

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings**6. WATER USE**☐ To obtain water☐ To cross a watercourse☐ To modify the bed or bank of a watercourse☐ Flood control☐ To divert a watercourse☐ To alter the flow of, or store, water☒ Other (describe): complete additional clean up work.**7. QUANTITY OF WATER INVOLVED** (cubic metres per day including both quantity to be used and quality to be returned to source)**Water use** ☐ 100m<sup>3</sup>/day or less☐ Greater than 100m<sup>3</sup>/day; if greater, indicate quantities to be used for each purpose (camp, drilling, etc.)

Same as current license.

**Water returned to source**0 m<sup>3</sup>/day**8. WASTE** (for each type of waste describe: composition, quantity (cubic metres per day), methods of treatment and disposal, etc.)☐ Sewage☐ Solid Waste☐ Hazardous☐ Bulky Items/Scrap Metal☐ Waste oil☐ Greywater☐ Sludges☐ Other describe):

Same as under current license.

**9. OTHER PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING** (give name, mailing address and location; attach if necessary)**Land Use Permit**

DIAND

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Regional Inuit Association

☐ Yes ☒ No If no, date expected \_\_\_\_\_

Commissioner

☐ Yes ☒ No If no, date expected \_\_\_\_\_**10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES** (direct, indirect, cumulative impacts, etc.)

NIRB Screening

☒ Yes ☐ No If no, date expected \_\_\_\_\_

**11. INUIT WATER RIGHTS**

Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement?

N/A

If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration. If no compensation agreement has been made, how will compensation be determined?

N/A

**12. CONTRACTORS AND SUB-CONTRACTORS** (name, address and functions)

The contract for the next phase of this work has not yet been tendered or awarded. Therefore, the names, addresses and functions of the contractors and sub-contractors are not available at this time.

**13. STUDIES UNDERTAKEN TO DATE** (list and attach copies of studies, reports, research, etc.)

This is an on-going environmental clean up, which was started in . No further studies have been completed.

**14. THE FOLLOWING DOCUMENTS MUST BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN**

Supplementary Questionnaire (where applicable: see section 5) ☐ Yes ☒ No If no, date expected \_\_\_\_\_

Inuktitut and/or Inuinnaqtun/English Summary of Project ☒ Yes ☐ No If no, date expected \_\_\_\_\_

Application fee of \$30.00 (Payee Receiver General for Canada) ☐ Yes ☒ No If no, date expected \_\_\_\_\_

Water Use fee of \$30.00 (unless otherwise indicated in Section 9 of the *NWT Waters Regulations*; Payee Receiver General for Canada)

☐ Yes ☒ No If no, date expected \_\_\_\_\_

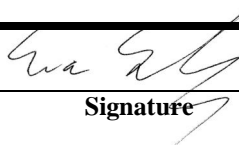
**15. PROPOSED TIME SCHEDULE** (unless otherwise indicated, the NWB will consider the application for a five (5) year term)

☒ one year or less (or) ☐ Multi Year

Start Date: June 1, 2007 Completion Date: September 30, 2007

Eva Schulz

Environmental Scientist



January 31,  
2007

Name (Print)

Title (Print)

Signature

Date

**For Nunavut Water Board office use only**

APPLICATION FEE Amount: \$ \_\_\_\_\_ Pay ID No.: \_\_\_\_\_

WATER USE DEPOSIT Amount: \$ \_\_\_\_\_ Pay ID No.: \_\_\_\_\_



## SCREENING PART 1 FORM PROJECT PROPOSAL SUMMARY

For more information about the Nunavut Impact Review Board (NIRB) please visit our web site <http://nirb.nunavut.ca/> or to access NIRB documents, project screenings, and project reviews please visit the Nunavut Impact Review Board ftp site <http://ftp.nunavut.ca/nirb/>.

### IMPORTANT

Please be advised that your application will not be processed until the following sections 1 - 6 are completed in full in English and Inuktitut (+ Inuinnaqtun, if in the Kitikmeot). Translated versions of this form in Inuktitut and Inuinnaqtun are available from NIRB's ftp site at <http://ftp.nunavut.ca/nirb/>

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### SECTION 1: APPLICANT INFORMATION

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#### 1. a) Project Number

Please indicate if applicant has submitted any previous application(s) to NIRB Yes ☒ No ☐

If yes, please indicate the previous NIRB project number(s): #03DN013. This is an amendment request regarding an on-going project.

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#### 1. b) Project Name Additional Clean Up at the FOX-M, Hall Beach DEW Line Site

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#### 2. Applicant's full name and mailing address:

Nahed Farah, P.Eng..  
Constitution Square, Suite 1720  
350 Albert Street  
Ottawa, ON K1A 0K3

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Fax: 613-998-0468  
 Phone: 613-998-7917  
 Email: Nahed.Farah@dcc-cdc.gc.ca

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#### 3. Primary contact's full name and mailing address:

Eva Schulz, P.Ag.  
2540 Kensington Road NW  
Calgary, AB T2N 3S3

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Fax: 403-270-0399  
 Phone: 403-270-9200  
 Email: [eva.schulz@uma.aecom.com](mailto:eva.schulz@uma.aecom.com)

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- Development of the landfill survey grid.
- Excavation of all waste materials from the landfill area.
- Development, operation and removal of a materials processing area (MPA).

Once excavated, the materials are transported to the MPA for sorting into hazardous and non-hazardous components. Excavated soils are sorted into the contaminated soil classifications (Section 3.4 in the 2003 Project Description), based on the results of sampling and analysis.

The MPA will be developed for the processing of excavated soils. The processing area shall be located a minimum of 30 metres away from any archaeological site or water body, on ice-poor, well-drained soil and as close to the location of work as is practical. Movement of vehicles and equipment between the processing area and the work site is to be minimized to prevent the spread of potentially contaminated materials along the road.

Once the debris and contaminated soils have been removed and all confirmatory samples have been collected and analysed, the area is to be regraded with clean soil/gravel and restored to natural drainage patterns and topography, as much as practical. Drainage controls such as diversion ditches and sediment filters are to be provided, as required, to prevent runoff from reaching water bodies during closure, remediation and construction of landfills. The debris will be collected, sorted into hazardous and non-hazardous materials and disposed of accordingly.

During the excavation, the slope stability is to be inspected and maintained. When excavating in the vicinity of a drainage course or a body of water, silt fences, floating silt curtains and/or containment berms are to be constructed to prevent the release of sediment or deleterious substances into the water.

Any ponded water in the excavation will be dewatered. Prior to dewatering, a sample will be collected and analysed to ensure it meets the discharge criteria (see **Contact Water** below). Any meltwater/groundwater/leachate will be collected at the low point of the excavation. The water will be allowed to settle prior to sampling and testing of the water.

During excavation, a volatile organic compound (VOC) instrument capable of measuring in parts per million (ppm) and Lower Explosive Limit (% LEL) will be used to continuously measure the concentrations of VOC during landfill excavation operations, and prior to the removal of debris from the landfill.

A full range of clean up and protective equipment will be maintained at the site in the event of a spill. The clean up equipment is to include booms (sorber and containment), sorbents for clean up, fire extinguishers for A-B-C files, overpacks for barrels and contaminated soils, pumps, hand shovels, picks, and containment barriers, such as liner material. Personal protective equipment is to include clothing protective suits, respirators, etc. to comply with potential emergency conditions and in accordance with NIOSH guidelines.

At the conclusion of the excavation, all sediment, erosion and drainage control measures will be removed from the worksite.



**Demolition:** Demolition includes the removal and disposal of 20 concrete tower foundations in the Non-Hazardous Waste Landfill. Demolition is to be completed as per Section 4.6 of the 2003 Project Description.

**Borrow Pit Development:** In order to fulfill the backfill and grading requirements for the clean up of the WCA, additional borrow material is required. It is estimated 5000 cubic metres of gravel will be extracted from the existing, permitted borrow area.

Environmental protection measures will be implemented for the purpose of minimizing the impact of borrowing activities on surface patterns, water quality, soil erosion, and in some cases, fish or wildlife. All terms and conditions of the Quarry Permit are to be complied with, including the recontouring/reclamation of the borrow area and site clean up prior to site abandonment.

The borrow areas will be located at least 30 metres from the nearest water body providing potential fish habitat and other sensitive resources. In consultation with the DCC Contract Coordinator, a 30 m buffer zone is to be marked out prior to commencement of gravel quarrying operations. Organic overburden, if present, shall be stripped and stockpiled separately for use in restoring the borrow area. Following excavation, the area is to be recontoured to restore natural drainage patterns and overburden is to be worked into the recontoured area to prevent erosion. Contour the area to blend into the surrounding topography as much as practical. Drainage and runoff control is to be provided using diversion ditches and sediment filters, as required, to prevent sediment laden runoff from reaching water bodies.

During aggregate extraction, vehicle and equipment operations will be controlled in areas adjacent to the borrow pit to minimize the extent of the disturbance. Aggregate is to be stockpiled on-ice-poor, well drained ground such that surface drainage is not impeded. The stockpile is to be located in an area that is a minimum of 30 m from archaeological resources, water bodies, and other sensitive resources. If archaeological features or artifacts are encountered during borrow pit operations, the DCC Contract Coordinator is to be notified, the area of the find avoided, and activities in other areas of the pit restricted until further instruction is received.

**Road Construction and Maintenance:** There is an existing road to the WCA, however, it will require upgrading such as fill placement and regrading. Emphasis on the preservation of the permafrost regime, vegetation patterns, existing surface drainage patterns, water quality and stream flows shall be maintained. Establishment of new roads off-site is subject to the terms of the land use permit and the approval of the DCC Contract Coordinator. Roads shall not be sited within 30 m of any ecologically sensitive areas. Ice-rich soils, especially peatlands, are also to be avoided during road maintenance. The road-bed shall be prepared with a sufficient thickness of fill to prevent terrain damage. Culverts, if required, shall be installed to maintain natural cross-drainage and prevent ponding. Any culverts installed shall be removed from the roads and drainage restored at the end of the clean up operations. Access roads shall be monitored for signs of erosion and remedial action is to be taken only where necessary. Dust suppression, if required, is to be maintained with water or calcium chloride only.

**Potential Environmental Impacts:** The WCA is located approximately 300 metres west of the water supply lake and water reservoir for the Hamlet of Hall Beach. The following outlines the potential environmental impacts to the water quality which are identified in association with the clean up of the WCA.






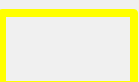
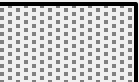

Activity	Description of Impact	Significance
Landfill Closure	<ul style="list-style-type: none"> <li>• Potential migration of leachate, release of contaminated soils during closure of the landfills may degrade water quality, if not completed according to the specifications.</li> <li>• Closure of the WCA landfills will reduce the risk of negative impact on water quality.</li> <li>• The closure of the landfills may potentially disrupt drainage at the site.</li> </ul>	<p>Not Significant if work is completed according to design.</p> <p>High - positive</p> <p>Low – temporary.</p>
Contaminated Soil Disposal/Hazardous Materials Removal	<ul style="list-style-type: none"> <li>• The removal of contaminated soil and hazardous materials from the environment will reduce the risk of contamination of surface water.</li> </ul>	High - positive
Removal and Transport of Hazardous Material, Fuel and Contaminated Soil	<ul style="list-style-type: none"> <li>• The potential exists for accidental release of hazardous materials, contaminated soil, and/or fuels. An accidental release could impact water quality.</li> </ul>	Not Significant if work is completed according to design and in compliance with spill response plan.

**Contact Water:** The FOX-M site has little elevation, and as such, seepage of water into excavations is often a common occurrence. Because of the presence of contaminated soils in the excavations, there is potential for the contact water to be impacted. In order to reduce and/or prevent the accumulation of contact water from the excavations, the excavations are to be left open as minimal amount of time as possible. All contact water is to be tested prior to being released to the ground surface at a location that is a minimum of 30 metres from natural drainage courses and 100 metres from fish bearing waters. The criteria for the wastewater are provided in the following table:

Parameter	Monitoring Plan Criteria	NWT Guidelines (1992)	Nunavut Effluent Guidelines (2000)	Chlorobiphenyls Regulations (CEPA 1991)
pH	6-9 pH units	N.G.	N.G.	N.G.
Oil & Grease	5	None Visible	N.G.	N.G.
Arsenic (total)	0.05	0.05	0.5	N.G.
Cadmium (dissolved)	0.005	0.005	0.0017	N.G.
Chromium (total)	0.1	0.1	0.89 (trivalent)	N.G.
Cobalt (dissolved)	0.1	0.1	N.G.	N.G.
Copper (dissolved)	0.2	0.2	N.G.	N.G.



# FOX-M HALL BEACH FINAL

-  Lot 1
-  Lot 1000
-  Lot 1001
-  Lot 1002
-  Gravel site/  
Site de gravier
-  Proposed site/  
Site proposé

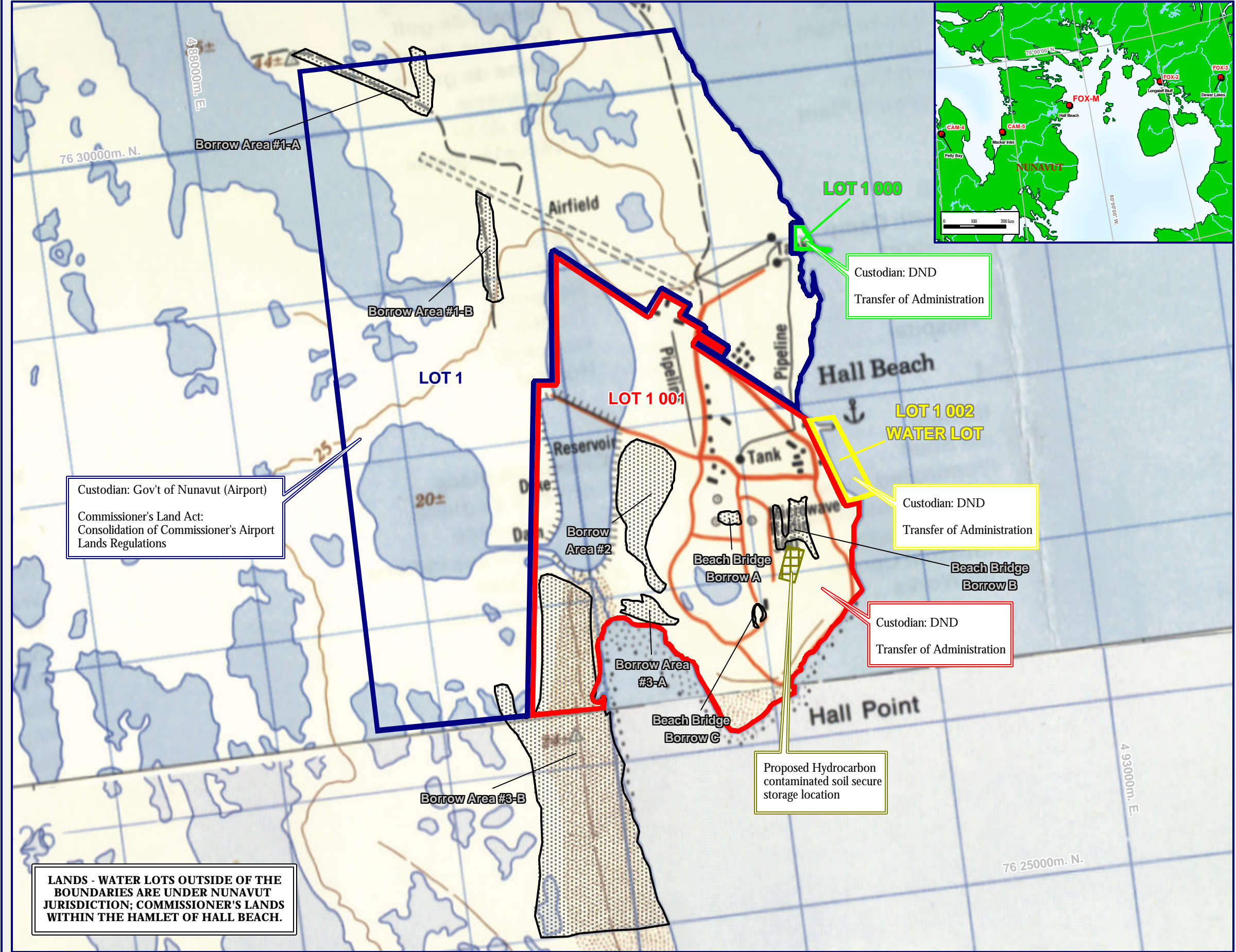
Background information : Topographic maps 47 A/10 & 47 A/15 (Scale: 1: 50 000). UTM Zone 17.  
Produced by Mapping and Charting Establishment, Department of National Defence, 1971.  
Carte de base : cartes topographiques 47 A/10 et 47 A/15 (Échelle 1 : 50 000). Zone UTM 17.  
Publié par le Service de la cartographie, ministère de la Défense nationale, 1971.



Scale / Échelle : 1 : 23 500

0 0,5 1 km

This map is to be used for presentation purposes only.  
This map is not a legal survey document.  
Cette carte devrait être utilisée à des fins de présentation seulement.  
Cette carte n'est pas un document d'arpentage légal.





# Défense nationale.

DRAWING INDEX			
DRAWING No.	TITLE	DRAWING No.	TITLE
SITING		SITING	
H-H11/1-9101-101	OVERALL SITE PLAN	H-H11/1-9101-118	EAST BEACH LANDFILL CROSS - SECTIONS
H-H11/1-9101-102	PROJECT LAYOUT	H-H11/1-9101-119	MISCELLANEOUS DETAILS
H-H11/1-9101-103	STATION AREA NORTH SITE PLAN	H-H11/1-9101-120	MISCELLANEOUS DETAILS
H-H11/1-9101-104	STATION AREA EAST SITE PLAN	H-H11/1-9101-121	WEST COMMUNICATIONS AREA SITE PLAN
H-H11/1-9101-105	STATION AREA WEST SITE PLAN	H-H11/1-9101-122	WEST COMMUNICATIONS AREA CROSS SECTIONS
H-H11/1-9101-106	EAST BEACH AREA SITE PLAN	STRUCTURAL	
H-H11/1-9101-107	SEWAGE LAGOON AREA SITE PLAN	H-H11/1-9101-201	MAIN CAMP AREA DEMOLITION SITE PLAN
H-H11/1-9101-108	WEST BEACH LANDFILL AREA SITE PLAN	H-H11/1-9101-202	AIRSTRIIP, NORTH BEACH AND COMMUNICATIONS AREAS DEMOLITION SITE PLANS
H-H11/1-9101-109	WEST BEACH BORROW AREA SITE PLAN	H-H11/1-9101-203	ARMCO DORMITORY PLAN, SECTIONS AND ELEVATION
HH11/1-9101-110	NORTH BEACH AREA SITE PLAN	H-H11/1-9101-204	WAREHOUSE B13A PLAN AND SECTION
H-H11/1-9101-111	AIRSTRIIP AREA SITE PLAN	H-H11/1-9101-205	WAREHOUSE B13B PLAN AND SECTION
H-H11/1-9101-112	SURFACE AND SUBMERGED DEBRIS AREAS	H-H11/1-9101-206	CURLING RINK PLAN AND ELEVATION
H-H11/1-9101-113	LANDFILL AREAS OVERALL LAYOUT	H-H11/1-9101-207	FUEL TANKS PLAN AND ELEVATIONS
H-H11/1-9101-114	NON-HAZARDOUS WASTE LANDFILL CROSS - SECTIONS AND DETAIL	H-H11/1-9101-208	POL PUMPHOUSE PLANS AND ELEVATIONS
H-H11/1-9101-115	TIER II LANDFILL CROSS - SECTIONS	© COPYRIGHT HER MAJESTY THE QUEEN IN RIGHT OF CANADA 2006, AS REPRESENTED BY THE MINISTER OF NATIONAL DEFENCE.	
H-H11/1-9101-116	EAST BEACH LANDFILL OVERALL LAYOUT		
H-H11/1-9101-117	EAST BEACH LANDFILL EXCAVATION		



# FOX-M HALL BEACH CHANGE REQUEST No. XX



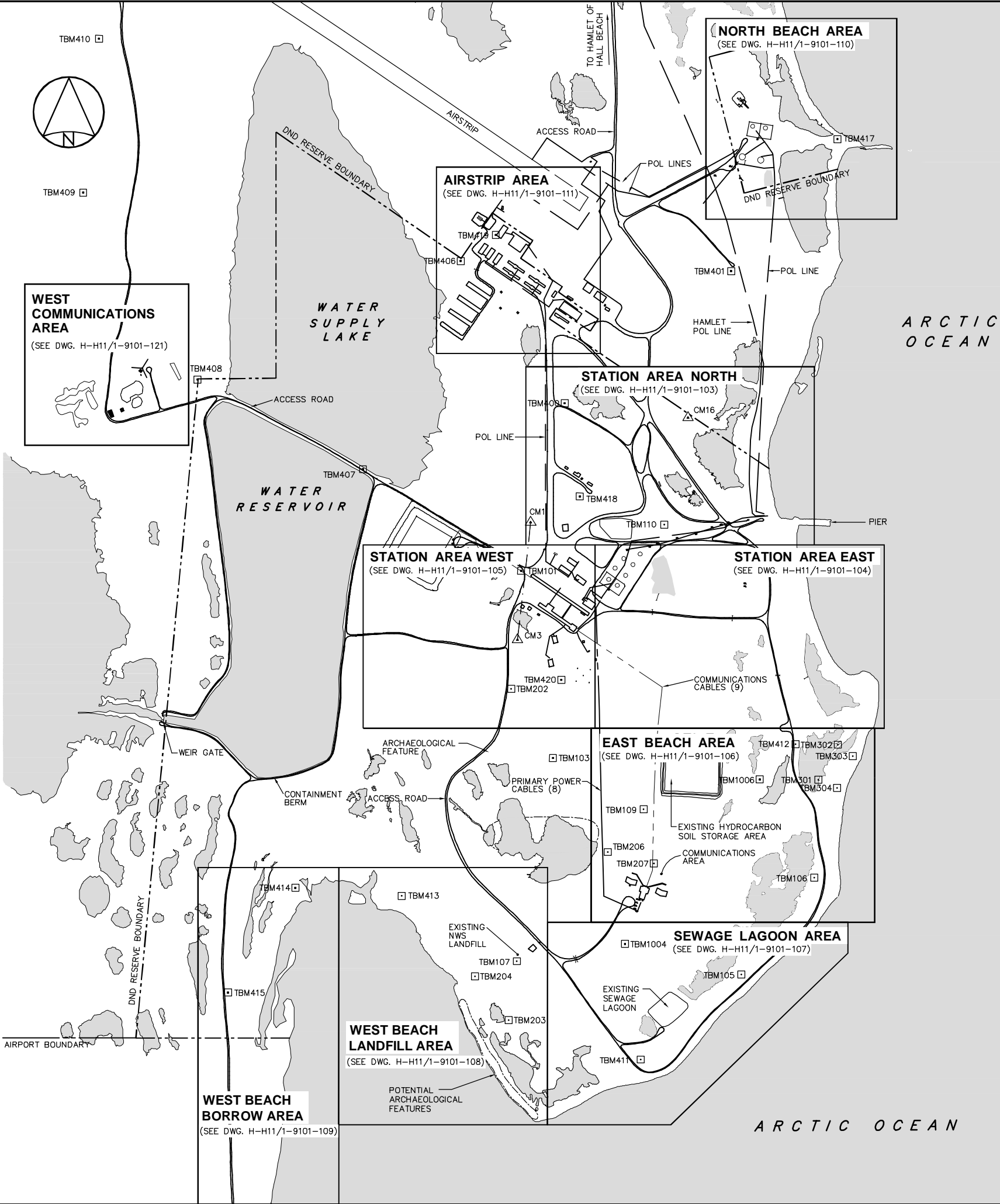
**DRAFT**

# MAY, 2006

SURVEY CONTROL MONUMENTS				
NO.	UTM COORDINATES		ELEV.	DESCRIPTION
	NORTHING	EASTING		
CM1	7 628 008.274	490 743.723	3.577	FOX-M BASELINE STA. 36+00
CM3	7 627 675.453	490 706.281	5.291	FOX-M BASELINE STA. 47+00
CM16	7 628 305.218	491 189.319	1.190	C.L.S. MONUMENT

NOTE: BASELINE STATIONS SHOWN ARE IN IMPERIAL UNITS.

TEMPORARY BENCHMARKS			
NO.	UTM COORDINATES		ELEV.
	NORTHING	EASTING	
TBM101	7 627 870.922	490 716.700	5.546
TBM103	7 627 340.587	490 806.813	5.279
TBM105	7 626 726.544	491 340.829	-0.279
TBM106	7 627 001.134	491 547.332	-1.054
TBM107	7 626 784.025	490 704.156	2.123
TBM109	7 627 194.665	491 063.587	5.078
TBM110	7 628 002.026	491 122.279	3.374
TBM202	7 627 536.239	490 688.266	4.032
TBM203	7 626 597.111	490 681.163	-0.810
TBM204	7 626 721.348	490 585.708	-0.380
TBM206	7 627 073.668	490 961.909	3.494
TBM207	7 627 040.990	491 092.969	3.263
TBM301	7 627 278.353	491 558.971	-0.925
TBM302	7 627 377.783	491 614.115	-1.473
TBM303	7 627 345.7141	491 656.398	-0.705
TBM304	7 627 255.400	491 612.301	-0.409
TBM400	7 628 346.073	490 840.095	3.239
TBM401	7 628 720.567	491 311.749	-0.053
TBM402	7 629 228.179	491 288.892	2.059
TBM406	7 628 748.903	490 545.530	0.906
TBM407	7 628 159.014	490 268.286	2.430
TBM408	7 628 412.983	489 799.394	1.635
TBM409	7 628 943.311	489 475.210	5.844
TBM410	7 629 379.210	489 519.972	6.090
TBM411	7 626 485.282	491 055.174	-0.112
TBM412	7 627 379.535	491 494.186	1.384
TBM413	7 626 949.470	490 377.891	-0.465
TBM414	7 626 972.504	490 076.649	-0.118
TBM415	7 626 675.859	489 885.983	2.901
TBM417	7 629 094.857	491 613.037	-0.874
TBM418	7 628 081.738	490 882.902	3.277
TBM419	7 628 822.926	490 644.673	4.288
TBM420	7 627 562.060	490 830.450	6.578
TBM1004	7 626 813.376	491 010.970	1.525
TBM1006	7 627 279.849	491 392.894	2.199



National  
Defence

Défense  
nationale

Headquarters  
Quartier général

General Notes:

1. ALL ELEVATIONS ARE REFERENCED TO CONTROL MONUMENTS.

2. ARCHAEOLOGICAL FEATURES LOCATED AS PER ENVIRONMENTAL CLEAN UP STUDY OF 21 DEW LINE SITES IN CANADA, VOL. 18, UMA 1991.

3. HORIZONTAL CONTROL REFERENCED TO SURVEY CONTROL MONUMENTS.

4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.

5. ALL LONG RANGE RADAR (LRR) FACILITIES ARE CURRENTLY OPERATIONAL AND ARE NOT TO BE DISTURBED. SEE DWGS. H-H11/1-9101-201 AND 202 FOR ADDITIONAL DETAILS.

Legend:

△ CMX

SURVEY CONTROL MONUMENT

□ TBMXX

TEMPORARY BENCHMARK

○

BODY OF WATER

---

PROPERTY LINE

1

06-05-01

CHANGE REQUEST No. XX

GRH

No.

DATE

REVISION

REVISION

APPR.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF THE NORTHWEST TERRITORIES

PERMIT NUMBER  
P 151

SGE ACRES LIMITED

uma

SGE Acres Ltd.

SCALE - ECHELLE

100 50 0 100 200 300m

PROJECT - PROJET

FOX-M HALL BEACH

DEW LINE CLEAN UP

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TRADE - METIER

SITING

DATE  
2003-04-28

SUBJECT - SUJET

PROJECT LAYOUT

PRODUCTION

CONCURRENCE - ASSENTIMENT

DESIGNED  
ETUDIE  
RAW/GRH

DES OFF  
AGENT CONCEPT

DRAWN  
DESSINE  
OPB/RGM

SECT HD  
CHEF SECT

CHECKED  
VERIFIE  
RRM

DES MGR  
GEST CONCEPT

COORDINATION  
SMS

REVIEWED - REVU

DWG. NO. - DESSIN NO.  
H-H11/1-9101-102

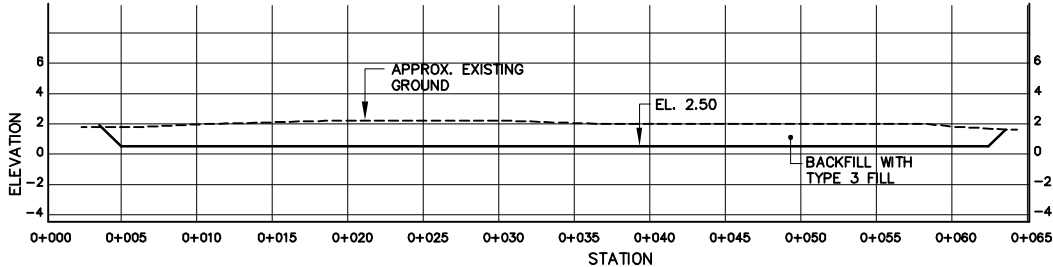
Canada

- General Notes:
- SIDE SLOPES ON ALL PRIMARY LANDFILL EXCAVATION AREAS ARE TO BE NO STEEPER THAN 1H:1V.
  - AVERAGE DEPTH OF PRIMARY LANDFILL EXCAVATION = 1.5m.

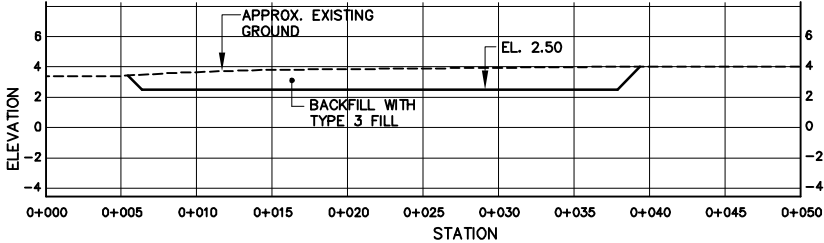
Legend:

DRAFT

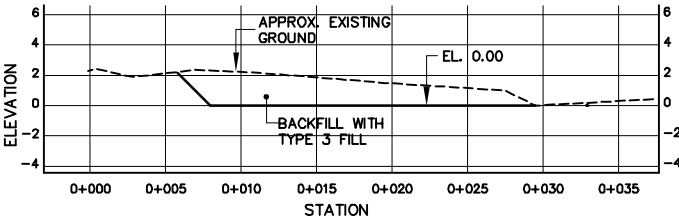
1	06-05-01	CHANGE REQUEST No. XX		GRH																				
No.	DATE	REVISION	REVISION	APPR.																				
		<div><div>THE ASSOCIATION OF PROFESSIONAL ENGINEERS GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES</div><div>PERMIT NUMBER P 151 SGE ACRES LIMITED</div></div>																						
<div><div>uma</div><div>SGE Acres Ltd.</div><div>SCALE - ECHELLE</div><div>20100204060m</div><div>PROJECT - PROJET</div><div>FOX-M HALL BEACH</div><div>DEW LINE CLEAN UP</div><div>© COPYRIGHT HER MAJESTY THE QUEEN IN RIGHT OF CANADA 2006, AS REPRESENTED BY THE MINISTER OF NATIONAL DEFENCE.</div><div>TRADE - METIER</div><div>SITING</div><div>DATE</div><div>2006-05-01</div><div>SUBJECT - SUJET</div><div>WEST COMMUNICATIONS AREA CROSS - SECTIONS</div><div><table><tr><td>PRODUCTION</td><td colspan="3">CONCURRENCE - ASSENTIMENT</td></tr><tr><td>DESIGNED ETUDIE RAW/GRH</td><td></td><td colspan="2">DES OFF AGENT CONCEPT</td></tr><tr><td>DRAWN DESSINE OPB/RGM</td><td></td><td colspan="2">SECT HD CHEF SECT</td></tr><tr><td>CHECKED VERIFIE RRM</td><td></td><td colspan="2">DES MGR GEST CONCEPT</td></tr><tr><td>COORDINATION SMS</td><td colspan="3">REVIEWED - REVU</td></tr></table></div><div>DWG. NO. - DESSIN NO. H-H11/1-9101-122</div></div>					PRODUCTION	CONCURRENCE - ASSENTIMENT			DESIGNED ETUDIE RAW/GRH		DES OFF AGENT CONCEPT		DRAWN DESSINE OPB/RGM		SECT HD CHEF SECT		CHECKED VERIFIE RRM		DES MGR GEST CONCEPT		COORDINATION SMS	REVIEWED - REVU		
PRODUCTION	CONCURRENCE - ASSENTIMENT																							
DESIGNED ETUDIE RAW/GRH		DES OFF AGENT CONCEPT																						
DRAWN DESSINE OPB/RGM		SECT HD CHEF SECT																						
CHECKED VERIFIE RRM		DES MGR GEST CONCEPT																						
COORDINATION SMS	REVIEWED - REVU																							



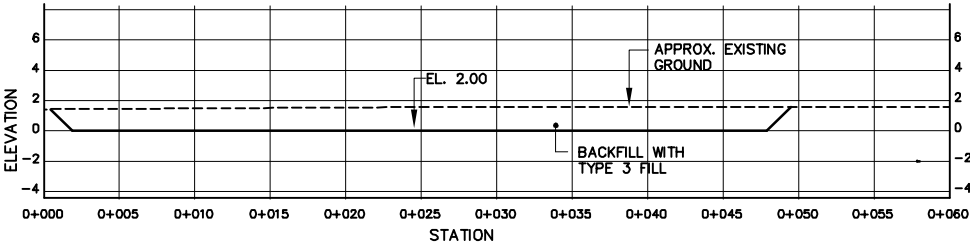
SECTION A-A  
(FM-WCA-C01)



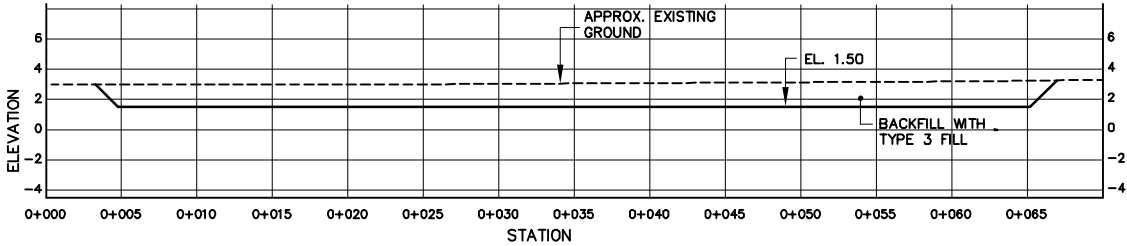
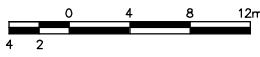
SECTION B-B  
(FM-WCA-C01)



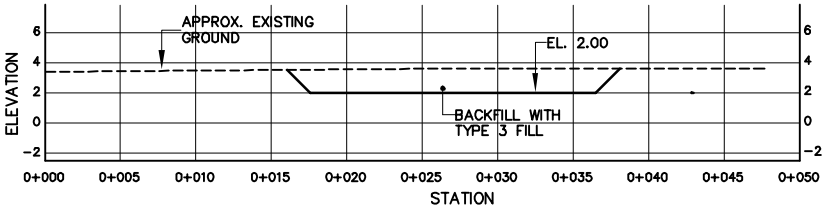
SECTION C-C  
(FM-WCA-C02)



SECTION D-D  
(FM-WCA-C03)

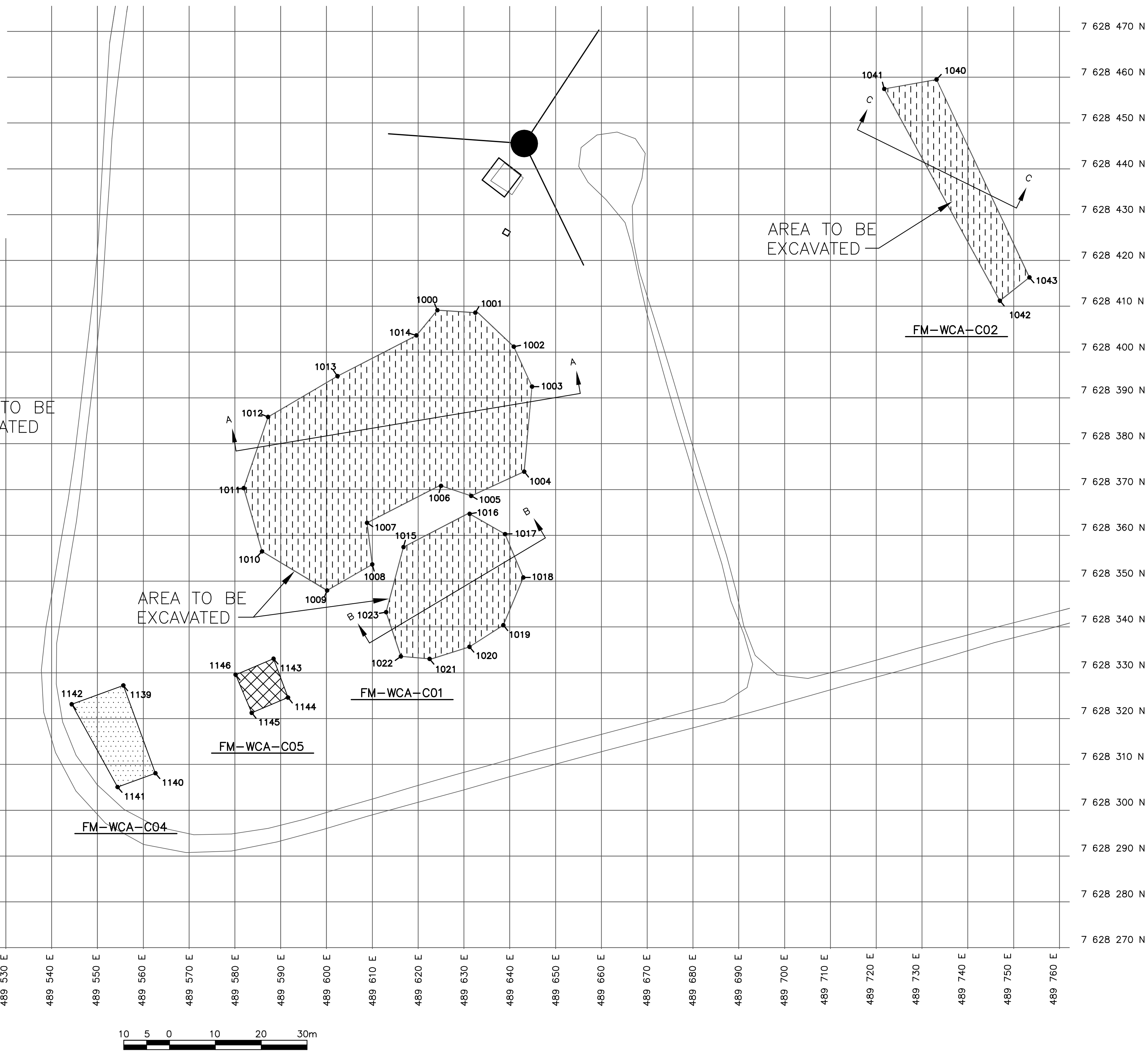


SECTION E-E  
(FM-WCA-C03)



SECTION F-F  
(FM-WCA-C03)



[illegible]

<b>Headquarters Quartier général</b>			
<b>NOTES:</b>			
1. SIDE SLOPES ON ALL PRIMARY LANDFILL EXCAVATION AREAS ARE TO BE NO STEEPER THAN 1H:1V. 2. AVERAGE DEPTH OF PRIMARY LANDFILL EXCAVATION = 1.5m. 3. AVERAGE DEPTH OF FM-WCA-C04 & FM-WCA-C05 IS ANTICIPATED TO BE 0.3 m. FINAL EXCAVATION DEPTH WILL BE CONFIRMED IN FIELD BY ANALYTICAL RESULTS.			
<b>LEGEND:</b>			
		PRIMARY LANDFILL BURIED DEBRIS	
		HYDROCARBON - TYPE A CONTAMINATED SOIL	
		DCC TIER I CONTAMINATED SOIL	
		COORDINATE POINT	
<div style="font-size: 48px; opacity: 0.3; transform: rotate(-15deg); position: absolute; top: 50%; left: 50%;">DRAFT</div>			
2	JUNE 13-06	CHANGE REQUEST NO. WEST COMMUNICATIONS AREA	G.R.H.
1	MAY 1-06	CHANGE REQUEST NO. WEST COMMUNICATIONS AREA	G.R.H.
No.	DATE	REVISION	APPR.
		<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="font-size: 0.8em; margin: 0;">THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES</p> <p style="font-weight: bold; margin: 5px 0;">PERMIT NUMBER</p> <p style="margin: 0;">P 151</p> <p style="margin: 0;">SGE ACRES LIMITED</p> </div>	
SCALE - ECHELLE    10    5    0    10    20    30			
PROJECT - PROJET <div style="text-align: center; font-weight: bold; font-size: 1.2em;">FOX-M HALL BEACH</div>			
<div style="text-align: center; font-weight: bold; font-size: 1.2em;">DEW LINE CLEAN UP</div> <div style="text-align: center; font-size: 0.8em;">       © COPYRIGHT        HER MAJESTY THE QUEEN IN RIGHT OF        CANADA 2003, AS REPRESENTED BY THE        MINISTER OF NATIONAL DEFENCE.     </div>			
TRADE - METIER		SITING	DATE 2006-05-02
SUBJECT - SUJET			
<div style="font-weight: bold; font-size: 1.1em;">WEST COMMUNICATIONS AREA SITE PLAN</div>			
PRODUCTION		CONCURRENCE - ASSENTIMENT	
DESIGNED ETUDE <b>RAW/GRH</b>			DES OFF AGENT CONCEPT
DRAWN DESSIN <b>OPB/RGM</b>			SECT HD CHEF SECT
CHECKED VERIFIE <b>RRM</b>			DES MGR GEST CONCEPT
COORDINATION <b>SMS</b>		REVIEWED - REVU	
DWG. NO. - DESSIN NO. <b>H-H11/1-9101-121</b>			