ANNEX D

CAM-M

CAMBRIDGE BAY, N.W.T.

ANNEX D

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PART 1

INTRODUCTION

1.1 CAM-Main DEW Line station is one of the original radar stations and has been in continuous operation for about 30 years. As a component of the NWS, CAM-Main will become a LRR and LSS.

1.2 The Cambridge Bay airport was originally established by and for the DEW Line but is now operated by the Canadian Ministry of Transport for all users, including the community of Cambridge Bay as well as the DEW Line.

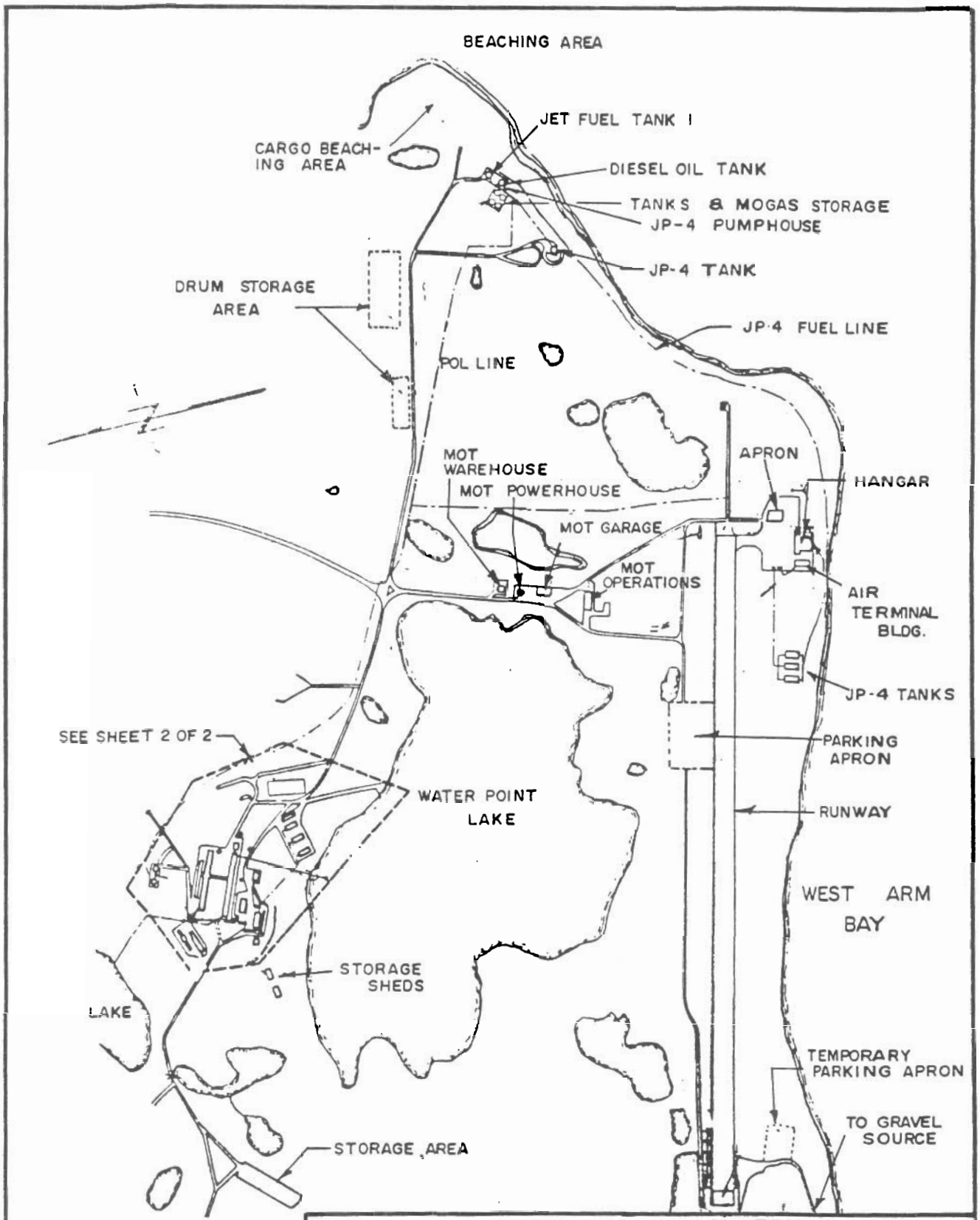
PART 2

PROJECT DESCRIPTION

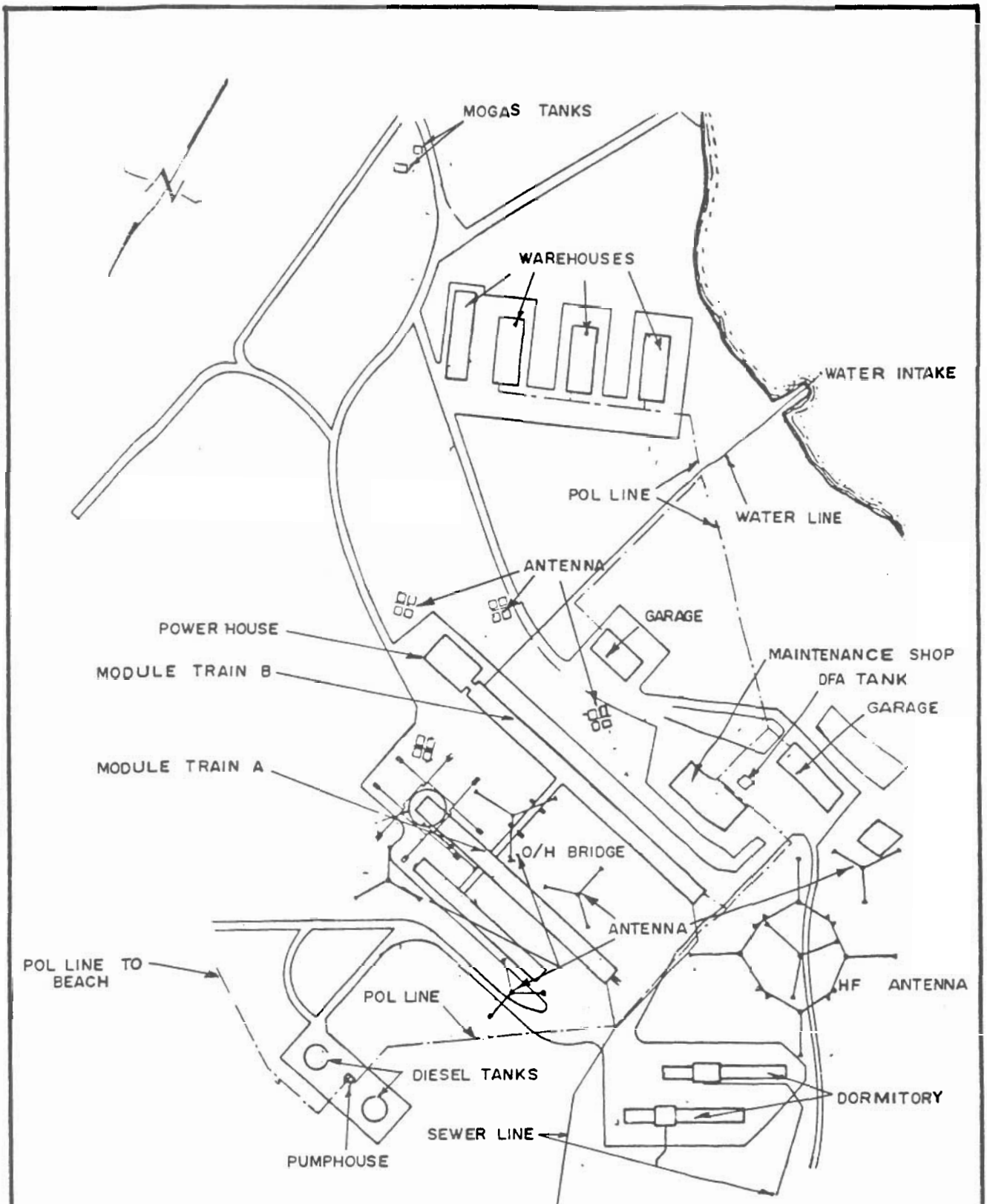
2.1 CAM-Main is located near the community of Cambridge Bay on the south shore of Victoria Island. It is the operational and administrative centre for the auxiliary stations in the 800 km sector to the east. It is also one of the two northern terminals for aircraft flights relaying persons and equipment north from Winnipeg, the southern Canada supply and administrative centre.

2.2 CAM-Main consists of two 25 module building trains with an enclosed passenger bridge between them. There are two other accommodation trains. The trains comprise accommodation, kitchen and dining facilities, all utility and services and the C&E modules. The radome stands astride one of the building trains. The station also has numerous service/maintenance garages, offices and storage buildings, 18 buildings in total (Figure D-1).

2.3 CAM-Main will be modernized. This will include upgrading the power generators, communications, radar and electronics to become functional as a LRR. CAM-Main is also designated to become one of the five LSSs in the Canadian section of the NWS.



NORTH WARNING SYSTEM
INITIAL ENVIRONMENTAL EVALUATION
FIGURE: D-1
CAM - MAIN SITE PLAN
(SHEET 1 OF 2)



NORTH WARNING SYSTEM
INITIAL ENVIRONMENTAL EVALUATION
FIGURE : D – 1
CAM - MAIN SITE PLAN
(SHEET 2 OF 2)

2.4 In comparison to the level of activity presently occurring at CAM-Main the renovations to a LRR will not result in any appreciable environmental disturbance. The net effect of the modifications should be to provide continued economic opportunity for some residents of Cambridge Bay.

2.5 The construction personnel on site are expected to number ten to twenty. It is expected that other personnel will be on site for limited lay-overs while enroute to other radar stations along the DEW Line.

2.6 The exact location of the CAM-Main is 69°-06'-52" N and 105°-07'-114" W. The station occupies 141,500 ha.

2.7 Cambridge Bay and CAM-Main are serviced by sea-lift from the Mackenzie River and by direct scheduled jet aircraft service to Winnipeg, Edmonton and Yellowknife.

2.8 The closest community to CAM-Main station is the Inuit community of Cambridge Bay located 2.5 km east on the north shore of the main inlet of Cambridge Bay. With a population of 815, the community of Cambridge Bay is very much larger than the DEW Line site which, on an annual average, requires an O&M staff of 64. As a LRR and LSS in the NWS, CAM-Main is expected to operate with a staff of about 16 to 18.

PART 3

EXISTING ENVIRONMENT

3.1 Biophysical Resources

3.1.1 CAM-Main is located on a gravel ridge having fresh water ponds to the west, east and north. The ridge is about 1 km wide and located north of the west arm of Cambridge Bay inlet. The station is about 1.6 km north of both the beach and the airport which is along the shore of the west arm.

3.1.2 The site is about 35 m above sea level on a gently rising coastal plateau which has numerous lakes and ponds. The airport elevation is about 27.5 m above sea level. To the west lie the Augustus Hills which peak at about 78 m. About 17 km north east of the site is Mount Pelly, the highest mountain in the region at 210 m above sea level.

3.1.3 CAM-Main is situated on the southern shore of Victoria Island which is one of the largest islands in the Arctic. Dease Strait and Queen Maud Gulf to the south separate Victoria Island and Cambridge Bay from mainland Canada, a distance of about 33 km.

3.1.4 Cambridge Bay inlet is a deep natural harbour (greater than 20 m deep offshore the CAM-Main landing beach) but there are many shoals leading into the inlet from Queen Maud Gulf.

3.1.5 Average annual precipitation totals about 14 cm, including 74 cm of snow. The area is a polar desert. The vegetation is typically sparse lichens and grasses. The maximum and minimum recorded temperatures at the station are 25°C and -52°C, respectively.

3.1.6 In the immediate vicinity of the station, wildlife is scarce because of Inuit subsistence hunting pressure and general human disturbance with only the occasional arctic hare, ermine, ptarmigan, or raven seen. Beyond the immediate vicinity of the developed areas, wildlife is abundant with caribou, arctic fox, and seal being common. About 50 bird species nest in this region of the Arctic. Musk-oxen are seen on the tundra to the east of Cambridge Bay.

3.2 Socio-economic Setting

3.2.1 The community of Cambridge Bay, 2.5 km east of the CAM-Main station is an important transportation and communications centre in the central Arctic. The government headquarters for the Kitikmeot Region are in Cambridge Bay. The present population is about 815.

3.2.2 Cambridge Bay is serviced by direct aircraft flights from Winnipeg, Edmonton and Yellowknife and consequently serves as the staging area for travel to the more remote communities of the central arctic. Business, hunting, fishing and site-seeing tours to the region originate out of Cambridge Bay.

3.2.3 Limited hotel and dining facilities are available in Cambridge Bay. The community is renowned for its local artists.

3.2.4 Because of its geographic location, Cambridge Bay is utilized by aircraft companies and other industries as a centre of operations. Ships enroute through the southern Northwest Passage stop here. Tug and barge traffic originating from the Mackenzie River services Cambridge Bay and Spence Bay on Boothia Peninsula to the east.

3.2.5 The airport is owned and operated by the Canadian Ministry of Transport. CAM-Main therefore interacts with both the community and other local industry through use of this common facility. CAM-Main has its own hangar and refuelling facilities at the airport.

3.3 Land Use

3.3.1 The land area designated for CAM-Main is approximately 141,500 ha. This area represents one of the largest DEW Line site areas but is consistent with the administrative, logistics and maintenance functions of the station.

3.3.2 Because of the proximity of suitable freshwater lakes, the ocean and the tundra, residents of Cambridge Bay have adequate resources available for fishing and hunting. This

results in minimal resource or land-use conflicts due to the presence of the station.

3.4 Heritage Resources

3.4.1 Cambridge Bay, like many Inuit communities, was originally a traditional summer camp and served as a natural location to hunt, fish and live on the land during the summer months.

3.4.2 There are no known archaeological sites within or near CAM-Main.

3.4.3 South of Cambridge Bay on the mainland of Canada lies the Queen Maud Gulf Bird Sanctuary. Over 50 species of birds have been recorded in this almost 300 km square sanctuary. The western edge of the sanctuary lies 80 km south of Cambridge Bay.

PART 4

PROJECT IMPACTS AND MITIGATIVE MEASURES

4.1 Potential Impacts

4.1.1 CAM-Main is one of the largest and most active of the DEW Line stations because of its administrative, logistics and maintenance functions. Consequently, the modifications to modernize and upgrade it to a LRR and LSS will not represent any appreciable change to the existing environment or level of activities at CAM-Main. It is expected that the level of activity at the airport will increase and increased staging activities will occur as a result of ongoing construction at adjacent SRRs for the new NWS.

4.1.2 The following discussion of potential impacts is predicated upon the assumption that CAM-Main is presently operated in an environmentally acceptable manner. Thus the evaluation addresses the incremental effects of construction activities required to convert the existing DEW Line station to a NWS LRR and LSS and the effects of subsequent O&M over the expected 20- year lifespan.

4.1.3 CAM-Main is one of the more active stations on the DEW Line because of its logistical function for other stations. Consequently, because the modifications to transform it to a LRR are so minimal it is not anticipated that any appreciable

Consequently, because the modifications to transform it to a LRR are so minimal it is not anticipated that any appreciable environmental disturbance shall occur. Any changes will be to the station operations themselves. No issues relative to the Valued Ecosystem Components in Table 3-1 have been identified for these activities.

4.1.4 Any potential sources of environmental impacts at CAM-Main will result from the presence of additional construction equipment, the seasonal presence of more personnel on site and increased levels of daily, summer activities. Construction activity will be limited to the extent that existing modular buildings will be modified and two SGTs will be added. All activities and new facilities are within the area presently occupied by the station.

4.1.5 Any environmental change then would originate from the incremental changes introduced to the site and normal O&M activities as a result of modification to the existing station.

4.1.6 In the future, the site size is expected to remain constant: the numbers of personnel on site are expected to be reduced from 64 to about 16 or 18 and the activities should remain consistent with what has occurred over the past 30 years. Consequently, the O&M and decommissioning and abandonment activities for CAM-Main do not represent significant sources of environmental concern.

4.1.7 The following table lists the site alterations which will be required to upgrade CAM-Main to a LRR and LSS.

Site: CAMBRIDGE BAY		CAM-MAIN
EXISTING SITE COMPONENTS	EXPECTED ALTERATIONS	NET CHANGES
1. TERRAIN		
General Features Prominent Features	. No change	. None
Roads/Culverts Surface Drainage	. No change	. None
2. AIRPORT/RUNWAY		
Buildings Landing Strip Cut & Fill Refuelling Facility	. No change	. None
3. CAMP SYSTEMS		
General Site Buildings	. Modification to communications, electronics and power modules	. Internal renovations to C&E module, increase generating capacity
Construction Buildings	. Construction crew accommodated in existing quarters	. None
Water Supply/Source Water Treatment	. No change - source and treatment adequate	. Increased use rate during construction
Sewage Disposal Sewage Treatment Garbage/Waste Disposal	. No change - adequate as is	. Increased use rate during construction

Site: CAMBRIDGE BAY — CAM-MAIN

EXISTING SITE COMPONENTS	EXPECTED ALTERATIONS	NET CHANGES
Heating System Power Systems	. New larger power plant	. Install additional generators in power plant
4. STORAGE Fuel Tanks/Berms Drums/Pipelines Other Liquids	. Existing capacity is adequate	. None
5. SCRAP Materials/Vehicles	. Dispose of construction debris	. Disposal of debris by landfill or sea-lift
6. HARBOUR/BEACH Shoreline Dock/Landing Area Staging Area Boats, Other Vessels	. No change	. None
7. QUARRIES/GRAVEL SOURCE Land Use Stock Pile	. No change	. None
8. NOISE SOURCES Machinery/Buildings Vehicles/Aircraft Activities	. Construction activity	. Minor increase in site noise and activity
9. WILDLIFE Animals/Habitat Birds/Habitat Marine Animals	. No habitat loss or disturbance	. None: little or no wildlife at CAM-Main
10. VEGETATION General Features Plants etc.	. No change	. None
11. ASTHETIC/VISUAL Towers Lights	. No change	. None
12. COMMUNITY Village Resource Use Activities Other	. No local hiring for construction . Continued local hiring for O&M possible	. None or reduced employment opportunities for residents

Site: CAMBRIDGE BAY		CAM-MAIN
EXISTING SITE COMPONENTS	EXPECTED ALTERATIONS	NET CHANGES
13. PEOPLE NWS Others	. Construction staff 10-20 during construction . O&M staff will be reduced	. Net increase during construction of 10-20 . Net decrease during O&M from 64 to about 16 or 18
14. HISTORICAL RESOURCES Archaeological Sites Artifacts	. No sites will be affected	. None
15. PROTECTED AREAS Parks etc.	. No change	. None
16. ENVIR./SOCIO-ECONOMIC ISSUES Type	. No change	. None
17. OTHER Department of Transport Airport	. No change	. None

4.1.1 Biophysical Resources

4.1.1.1 The wildlife of southern Victoria Island is recognized as an important resource to the residents of the community of Cambridge Bay, particularly the caribou. None of these come near the DEW site or community without risk of being hunted by the resident Inuit. No V.E.C. or serious issue has been identified.

4.1.1.2 It is therefore anticipated, given the level of normal activities and the size of the existing station at CAM-Main that any biophysical impacts can be characterized as being negligible.

4.1.2 Socio-economics

4.1.2.1 There will be no direct socio-economic impacts as a result of the CAM-Main LRR construction. Most construction staff are skilled tradesmen brought to site by the contractors responsible for the radar installation because of their specialized knowledge, skills, equipment and security clearances.

4.1.2.2 Operation of the LRR and LSS, with a reduced staff of 16 to 18 should have little incremental socio-economic impact on local economics or subsistence activities. There many be an increase in employment opportunities for local residents during the O&M phase, but staffing has not been quantified and, in any case, would be the responsibility of the O&M contractor.

4.1.3 Heritage Resources

4.1.3.1 There are no known archaeological sites at or near CAM-Main. Construction activities have been and will be restricted to the existing site area so there is no potential for disturbance of the known sites.

4.2 Residual Effects

4.2.1 It is not anticipated that there will be any incremental residual impacts from the CAM-Main LRR construction or O&M because, except for a reduction in staff, there will be little discernible change in the size, layout, or level of activities of the site.

4.3 Monitoring Programs

4.3.1 As part of current ongoing site O&M activities equipment is maintained at a high level of reliability. No monitoring programs are anticipated at this time but, as required by future circumstances, appropriate programs could be implemented to define unanticipated environmental changes or monitor the success of some mitigative efforts.

4.4 Trade-offs and Alternatives

4.4.1 Site location and standard operating practices will be maintained consequently there are no relevant alternatives to the proposed facility modifications at Cambridge Bay.