E78 .C2 C3632 EA-HQ 80-109 c. 1 FOX-B (MID-BAFFIN) DEW LINE STATION CONDITION REPORT SEPTEMBER 1980



Indian and Northern Affairs

Affaires indiennes et du Nord

Engineering and Architecture

Génie et

architecture

LIBRANY INDIAN AND NORTHERN AFFAIRS

FER

19 1991

AFFAIRES INDIENNES ET DU NORD CANADA REFE DE CUE



REPORT RAPPORT

Report No. EA-HQ-80-109

FOX-B (MID-BAFFIN) DEW LINE STATION CONDITION REPORT

September 1980

by D.E. Rodger Municipal Services Divison Technical Services and Contracts Branch Table of Contents

1.	Background	1
2.	Access	1
3.	Logistics	2
4.	Grounds	2
5.	Roads	4
6.	Airstrip	5
7.	Buildings	5
8.	Train Building	5
9.	Garage	8
10.	Warehouse	8
11.	NANR House	10
12.	Atwell Building	10
13.	Airstrip Emergency Shelter	10
14.	POL Tanks and Rump House	11
15.	Helium Shed	11

Map Sheet 37A - Foley Island

Photographs

As-built drawing	1AP-1 "FOX-B Site Development"
As-built drawing	lAP-2 "FOX-B Building Site"
As-built drawing	l-lA "Typical Building Train"
As-built drawing	lG-1 "Garage Plan and Sections"

1. Background

At the request of the Northern Social Research Division, Mr. Elliott Rodger of Technical Services and Contracts Branch in the company of Mr. George Lerchs of the Northern Social Research Division, visited FOX-B during the period July 31 -August 6, 1980. Access to and from the station was provided by Clive and Crystal Elliott of Calgary operating out of Igloolik using a single engine Maule aircraft. Both flights were by private arrangement. The planned two day visit was extended to a week due to delay in the return of the pick-up aircraft.

2. Access

FOX-B is one of the abandoned DEW Line stations acquired by Northern Affairs Program ten years ago. It is located in west central Baffin Island at coordinates 68°36'48" N, 73°11'54" W. See attached map sheet 37A - Foley Island - Military Grid Reference 18 WM 7313. Conventional access to FOX-B would be by chartered aircraft. From Igloolik, 360 km to the east, First Air would be the carrier using a Twin Otter at a one-way cost of \$2100 or \$4200 round trip. Flight charter availability is subject to scheduled flights and other charter or medivac commitments. Depending on weather, there are usually one or two days a week flight charters would be available.

Alternatively, charters could be arranged from Hall Beach or Frobisher Bay. Longstaff Bluff and Dewar Lakes DEW Line stations provide the closest weather information. It may be possible to obtain permission from the Geological Survey of Canada or the Department of National Defence to use their fuel caches at Longstaff Bluff for re-fueling.

Access could also be achieved by boat to the large unnamed bay on the east side of Straits Bay (see attached map sheet 37A -Foley Island - Military Grid Reference 18 WM 5417). While wet ground would be encountered, it should be possible to walk approximately eighteen kilometers straight line distance to FOX-B. It is also possible to walk between FOX-B and Dewar Lakes, straight line distance of approximately eighty kilometers.

Depending on water level, it may be possible to navigate up the Nadluardjuk River which flows south-west from Nadluardjuk Lake to Clarke Sound. While the River would not permit a sealift, from the airplane it appeared that access could be achieved using an aluminum (or equivalent) canoe which could be dragged over gravel bars where necessary.

3. Logistics

When planning a trip to FOX-B, allowance should be made in time, food and supplies for the possibility of an extended stay due to weather or aircraft delays. Visitors should bring in all their own food. The food which is at the station remains from a 1963 expedition and from the USAF occupancy and, except for some dry food, is not considered edible.

Depending on hunting and fishing regulations, some game food is available. Approximately twenty caribou were sighted during the first few days with none seen during the remainder of the week. Approximately thirty ptarmigan were seen in singles and in flocks. Nadluardjuk Lake and the Water Lake had char of a small size (1 kg.). One arctic wolf was seen. Numerous local tundra plants are edible and nourishing.

Numerous ponds in the vicinity of the station were used for drinking water with no ill effects.

Numerous tent pitching areas were available at the building site and the airstrip, including rocks for tie-down.

The NANR House was used for accommodation.

Arrangement should be made for radio contact with the Eastern Arctic Scientific Resource Center or alternate. Radio antenna poles were located near the NANR House.

4. Grounds

FOX-B is situated on a very impressive location atop a hill (153 m ASL) from which a 360° view is available including Nadluardjuk Lake 1.2 km to the east (Photo 1). The surrounding country is a beautiful composite of gently rolling rocky hills, broad grassy valleys, wetlands and lakes (Photo 2). Numerous caribou were sighted from the air.

As-built drawing IAP-1 "FOX-B Site Development" (attached) shows the lay-out of the station (Photo 3). The train building, warehouse, garage and POL tanks are located on top of the hill. The NANR House is approximately 400 m down the road to the west. The 300 ft. AA antenna has been felled along a south-west alignment away from its base resulting in an unsightly wreck of twisted silver and orange metal and cable (Photo 4).

As-built drawing lAP-2 "FOX-B Building Site" (attached) provides site development details of the main building site (Photos 5, 6 and 7). Physically the site was in very good condition. Building foundation



pads and roads were of compacted gravel and were in tact with no significant erosion, gullying or slumping. The garage, however, had poorly designed drainage reportedly resulting in spring run-off flowing over the garage floor to an unknown extent. Minor gullying was occurring along the road between the warehouse and the POL tanks. The road between the garage and the POL tanks has been extended by the Elliotts as a make-shift airstrip. It was marked by oil drums but, with a length of approximately 270 m and a depressed center, its use cannot be recommended.

Other than the natural aesthetics of the location, the most notable characteristic of the grounds was the amount of garbage around. Scattered sometimes in piles and sometimes randomly at various locations were numerous fuel drums, fuel dumped on the ground, three piles of wrecked vehicles, a poorly developed landfill and large quantities of assorted lumber and broken equipment in various conditions (Photos 8-11). The one large and four small Atwell structures between the garage and the POL tanks may also be considered garbage. It should be noted however that some of this material is salvageable for re-use as building material.

The three vehicle piles represent extravagant waste. Someone, presumably DEW Line personnel closing the station, has bulldozed the vehicles into piles (two at the main site and one at the airstrip) and set fire to them. Some means of storage may have been preferable as some of the vehicles appear not to have had many hours of use on them.

The pile north of the building site (Photo 12) included:

- grader
- earth mover
- bulldozer (D8)
- fuel truck
- dump truck
- flatbed trailor
- crane
- misc. items (inc. Nicad batteries)

The adjacent pile north of the building site (Photo 13) included:

- bulldozer (D8)
- bulldozer (small)
- water trailor
- jeep
- misc. items



The pile at the airstrip included:

- bulldozer
- bombardier
- dump truck
- crew cab

The landfill (Photo 14) contained an enormous quantity of material including fuel drums, scrap steel, lumber, wrecked equipment, furniture, etc. bulldozed into a pile with some compaction and no earth cover. It is suspected that much of this would have been useable prior to disposal and some is still salvageable (e.g. new copper wire coils). Some of the landfilled material, especially fuel drums, has rolled down the slope below the dump and spread out on the tundra.

The two gravel pits shown on lAP-1 were examined. The eastern site was estimated to contain approximately 1000 m^3 and the western site 10,000 m³ of stone. No other gravel source was identified.

5. Roads

The main road from the building site to the water point and to the airstrip, (Photo 15) was generally in very good condition. Minor wash-outs were located at a distance of from 200-400 m east of the junction of the water point road and airstrip road. These wash-outs are small and could be repaired with wheel barrel and shovel. Midway along the airstrip road, there would be some spring run-off over the road from the adjacent slope. The road into the western gravel source was in poor condition due to the wetness and softness of the terrain. Some re-construction would be necessary if the gravel pit were to be re-activiated. All culverts were clear.

The road from the building site down to Nadluardjuk Lake was in poor condition at the upper part and almost completely washed out at the lower part. It would be difficult to re-establish this road due to the slope and the rocky terrain.

6. Airstrip

While no technical investigation of the airstrip (124' x 3990') was carried out, visual inspection indicated the runway to be in good condition (Photos 16 and 17). The Maule aircraft landed with no difficulty and there should be little problem for a Twin Otter. It is not known if the airstrip could support heavier aircraft. There was minor rutting in the surface from aircraft tires. A few slump lines existed on the south edge of airstrip. Ditching is required along the north side of the east end of the airstrip to divert spring run-off. The runway lights were unserviceable as many of the wires had been cut and the fixtures damaged. The wind sock was missing but replaced temporarily with reinforced plastic strips. There was a moderate quantity of scrap wood around which could be used for fire.

7. Buildings

A condition description of each of the buildings is provided below. These are not intended to be complete architectural and engineering descriptions which are already provided in the as-built drawings available from:

> Data Storage and Inventory Section Technical Data Services Division Technical Services and Contracts Branch Attn: Mrs. G. DeLamarre

8. Train Building

Reference should be made to the attached drawing 1-lA "Typical Building Train". In general, the building was in very good condition (Photos 18 and 19). The foundation pad of compacted granular material on bedrock was sound with no indication of settlement or erosion. A wood post on mudsill foundation structure transfers the building load to the ground. The 12" x 12" Douglas fir members were in durable condition although there was minor rot in some areas where the mudsills meet the ground. The members do not appear to have been treated with wood preservative. No building settlement was noted; the building floors were flat and the joints were flush. Some of the gray paint on the wood members was flaking or weathered off.

Exterior walls were of heavy gauge corrugated aluminum except for the plenum walls which were of gray painted galvanized steel. Except for a few minor dents, the aluminum siding was in excellent condition. There was some paint flaking on the galvanized steel. No holes, cracks or leaks were apparent. Aluminum windows and flashings were all in excellent condition. Minor re-caulking is required. On the south exterior wall the fire ladder and waste outfall pipe were in place and serviceable. Wires from the Equipment Room were cut from an outside conduit. Similarily on the north side, wires from the Equipment Room were cut though the ground wire from the Water Storage and Snow Melting Room was in place.

The stairs at each outside door were constructed of $8" \times 12"$ timber frames and $2" \times 4"$ steps and handrails. There were solid, sturdy and, except for gray paint flaking, were in very good condition.

The roof was of heavy gauge corrugated aluminum and was in very good condition with no apparent leaks. Ventilators and exhaust snorkels were all in tact.

The outside weather instruments shown on an as-built drawing to the west of the building were missing. These were to consist of a wind direction and speed indicator, a ceiling projector and an instrument shelter.

Generally, the interior of the building was in very good condition as well. Floors were all structurally sound and flat with no sign of sagging or uneveness due to excessive floor loading or foundation failure. The tile floor finish, however, has deteriorated. In all rooms there were some tile lifting and some tiles loose or missing. In the Water Storage and Snow Melting Room some fuel oil has been spilled on the floor. All floors required cleaning and sweeping. The Power and Heat Room had a concrete floor which required sweeping.

Interior walls were structurally sound and free of cracking, bulging or other indications that they could not support the design load. All wall sections, consisting of painted plywood sheeting, were tightly in place. There was no sign of weather penetration. The only noted problem was paint flaking in all of the rooms.

Doors were all in place and, except for paint flaking, were in very good condition. Hinges all operated well though some door handles were missing. All exterior doors shut securely. Some doors had overly tight fittings which could be corrected by planing.

Windows were all in place with panes in tact. Frames and sills were in very good condition.

Ceilings were all structurally sound and of original appearance. There was no sign of water penetration, staining or other deterioration.

Plumbing systems were non-operational but all installed equipment appeared to be in place and in tact. It is suspected that sewer and water systems were drained when closing down the facility, but not altered or damaged. In brief, the Water Storage and Snow Melting Room contained two 2500 gal. water storage tanks and one 2500 gal. snow melting tank, all with water meters and an alarm system, a chlorinator, a 30 gal. make-up tank, pumps, water boiler, and two 275 gal. fuel tanks (Photo 20). The room also contained four CO_2 cylinders for the fire protection system. It was estimated that one of these was full, one half full, and two empty. A clothes dryer was missing. The Tank Room contained a sewage tank, a waste water tank, sewage ejector, three 10 hp. motor/5 kw. generators, and other associated equipment (Photo 21). The Kitchen water system was in tact including a 100 gal./1500 w. hot water tank and one stainless steel sink (Photo 22). Bathroom fixtures were also in place including a porcelain sink and toilet and a stainless steel shower stall (Photo 23). To the extent that pipes were accessible, there was no indication of leaking or corroded pipes or of inadequate bracing or support.

Heating and ventilating systems also appeared to be in tact and, if power were available, would be serviceable. Inspection by a mechanical engineer would be required to determine if they meet the requirements of the Canadian Heating, Ventilation and Air Conditioning Code.

Electrical equipment and wiring appeared to be in tact and serviceable. No operational tests were carried out. The Power and Heat Room contained two General Motors diesel driven 50 kw. generators with 4000 hours and 3097 hours of operation shown on each (Photo 24). Starting batteries were not in place, presumably among those in the landfill. The power switchboard was also in tact. Two fuel tanks contained 140 gal. and 75 gal. of diesel fuel according to gauges. All wiring and lighting (fluorescent) were in tact. The room also contained four CO_2 cylinders with unknown quantities. The fire alarm has been pulled. All other panels, wiring, lighting and alarm equipment in the building appeared untouched.

The communications equipment in the Equipment Room has been deliberately rendered unserviceable either by removal or destruction. High quality steel cabinets and some electrical components remained from the original transmitter/receivers, dehydrator, alarm system and controls (Photo 25).

The serviceability of the fire protection system would have to be verified. While the wiring of the alarm system was in tact, the alarms had been pulled, and the fire hoses in the hall were missing.

Other miscellaneous equipment noted includes:

- 1 step ladder Water Storage and Snow Melting Room
- 1 sheet plywood Transient Dorm
- 1 plywood bedstead Transient Dorm
- 1 shelf and coatrack Transient Dorm
- 1 waste basket Transient Dorm
- l electric heater Hall
- 1 bulletin board Hall
- 2 steel cupboards Kitchen
- 1 3" x 5" wood cupboard Kitchen
- 1 4" x 5" wood cupboard Kitchen
- 1 GE drinking fountain Kitchen
- 1 flour and sugar drawer Kitchen
- 1 key rack with 24 keys Kitchen
- 1 steel and wood workbench Equipment Room
- 1 parts cabinet empty Equipment Room
- misc. screws and bolts Equipment Room

9. Garage

Refer to attached drawing IG-1 "Garage Plan and Sections". The exterior and interior of the garage were in very good condition (Photos 26 and 27). The foundation pad was solid but drained poorly causing melt water to enter the garage floor area in spring. The exterior walls and roof were of corrugated aluminum in good condition except for minor dents. All ventilation and exhaust stacks were in tact. The two vehicle doors and the man door all operated well. Structurally the building was very sturdy with no sign of any deterioration or weakness.

The internal structure and walls were also sound with minor dents on the walls. The concrete floor was free of cracks. In the generator room, a Hercules 50 kw. diesel generator was in place. It appeared fully serviceable but lacked a push-pull throttle. There was also a 4-cycle portable gas generator (12 volt, 20 amp.).

The heater room contained a Dravo Paraflo Model 20-02 heater with an input of 250,000 BTU/hr. and an output of 200,000 BTU/hr. Operation and maintenance instructions were provided. There were two 275 gal. fuel tanks, one full and one with approximately 200 gal.

The garage area was empty except for:

- some personal gear belonging to the Elliotts
- a broken all-terrain vehicle (left by Pimlott)
- wheel barrel
- misc. tools (e.g. wrench, clamp, spike)
- grease gun
- 18 tins methyl hydrate
- 5 containers assorted nails
- 5 empty fuel drums
- hose
- work bench
- parts cabinet
- block and tackle chain hoist (serviceable)

The storage loft was empty. The garage requires only a minor clean-up.

10. Warehouse

The exterior of the warehouse was in very good condition with corrugated aluminum walls and roof (Photos 28 and 29). There were some minor dents around the unloading door. The concrete foundation, where exposed, appeared sound with minor cracking only. The window on the south side required re-caulking and the wooden doors needed re-painting. Both doors are tied shut as the handles are not serviceable. The stairs are sturdy but listing. Two 250 gal. fuel tanks were located at the east side of the building; one empty and one with 32 gal. according to the gauges.

The interior of the warehouse had a concrete floor with galvanized steel walls supported by steel beams and a steel roof on steel trusses. There were eight fluorescent lights in tact. The fire alarm box required repairs. Stored on the floor were:

- 3 irregular pieces of plywood roughly 1 x 2 m
- 100 m 1 cm manila rope
- 5 l qt. containers outboard engine oil
- 1 large roll of parcel paper
- 8 empty cardboard boxes
- 1 qt. Baycrest floor enamel (shamrock green)
- 1 qt. Baycrest floor enamel (rich red)
- 1 roll 3' wide window screening

On the steel shelves at the back were:

- 8 boxes of cake mixes
- 40 (approx.) tins Campbell soup
- 6 cans corn oil
- 2 tins pumpkin pie filling
- 12 cans dry yeast
- 36 l lb. containers margarine
- 1 carton 12 oz. boxes dry mashed potatoes
- 12 10 oz. jars instant coffee
- 16 oz. jar coffee
- 2 tins molasses
- 5 tins pie filling
- 8 24 oz. jars raspberry jam
- 12 16 oz. bottles maple syrup
- 3 cartons egg powder
- 4 boxes Javex bleach
- 20 packages prunes
- 10 20 oz. tins yams
- 1 tin corn
- 1 tin peas
- 1 carton mousetraps
- 6 15 oz. tins peas
- 6 boxes Zero detergent
- 1 160 oz. container resin
- 1 tin grease
- 2 cartons specimen bottles
- 2 tins methyl hydrate
- 1 tube caulking compound
- 1 used rainsuit
- misc. dishes and plastic bottles
- 1 RCE TR8 radio (inoperative)
- 1 sledge head
- magazines

The crew quarters at the back of the warehouse included a front hall, washroom, two bedrooms and a furnace room. The front hall required re-painting, replacement of lifting floor tiles, and a general clean-up. The bathroom contained 1 sink, 1 urinal, 1 toilet, 1 towel dispenser and 1 light all in tact. A general clean-up was also required. The two bedrooms were in tact and required a general clean-up. The north bedroom contained 1 fluorescent light, 1 table lamp, 1 step ladder and 1 empty fuel drum. The south bedroom was empty, had a broken inner window pane and some stained ceiling tiles. The furnace in the furnace room was not serviceable. The electrical panel and wiring were in tact. The room also contained a CO_2 cylinder. An oil-fired space heater in the hall appeared serviceable.

11. NANR House

This house was in generally good condition (Photo 30). The wood post on sill foundation and gravel pad were satisfactory. There was no sign of instability or uneveness of floor. The ground however was quite messy with lumber and other debris. The painted aluminum siding and aluminum roof were all in tact.

The interior of the house was generally satisfactory. The tile floor was in tact but needed cleaning. The plywood walls were structurally sound but required painting. The panel ceilings were in good condition with no apparent leakage. All windows were in tact and tight. Power supply to the house was formerly by extension cord from the Train Building.

The living room contained an operative Findley Meteor diesel stove, three tables, six kitchen chairs, a sink in counter, double bed, shelving and cupboards for dishes and food storage, miscellaneous food, dishes, pots, pans, towels and books. The small bedroom contained two double bunk beds with four mattresses. The pantry contained a water tank and shelves with miscellaneous food. The honey bucket room was empty. The sink drains to the ground behind the house.

12. Atwell Buildings

The one large and four small Atwell buildings have been largely demolished (Photos 31 and 32). They can provide salvageable plywood and lumber. The canvas cover was largely rotten.

13. Airstrip Emergency Shelter

The airstrip emergency shelter was in somewhat derelict condition (Photo 33). It was uninsulated but with windows could provide rudimentary shelter. The electric heater inside was unserviceable. Re-wiring for interior lights and the runway light switch is necessary. The outside fuel tank contained approximately 60 gal. of diesel fuel.

14. POL Tanks and Pump House

The two POL tanks at the main building site were in excellent condition (Photo 34). Each has a 20,000 gal. capacity. It was estimated that combined they contained approximately 300 gal. at the time of the visit. The pump house between the tanks including the interior equipment was in tact.

15. Helium Shed

A small plywood shed to the north of the Train Building contained one helium cylinder.





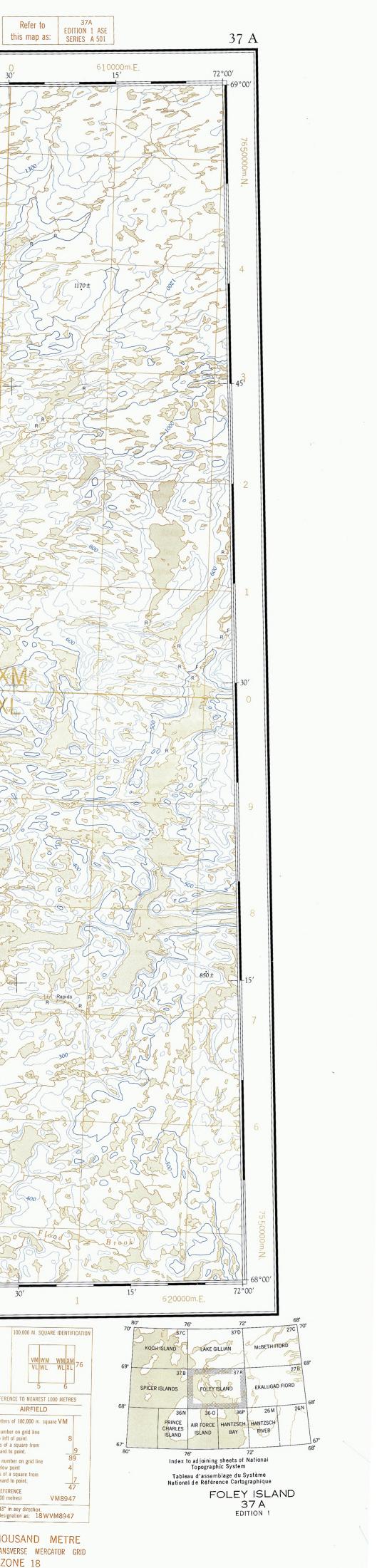




Photo 1 - FOX-B Intermediate Station



Photo 2 - Nadluardjuk Lake

FOX-B

*

1

Photographs

.



Photo 3 - Layout of Station



Photo 4 - 300' AA Antenna



Photo 5 - Building Site (part of panorama)



Photo 6 - Building Site (part of panorama)



Photo 7 - Building Site (part of panorama)



Photo 8 - Oil drums near Garage



Photo 9 - Oil drums near NANR House



Photo 10 - Oil drums near Landfill



Photo 11 - Oil drums near Nadluardjuk Lake



Photo 12 - Vehicle pile near building site



Photo 13 - Vehicle pile close-up



Photo 14 - Landfill



Photo 15 - Road to airstrip

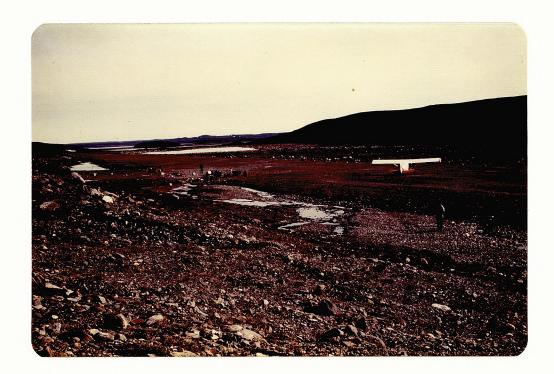


Photo 16 - Airstrip



Photo 17 - Airstrip



Photo 18 - Building Train (south side)



Photo 19 - Building Train (north side)



Photo 20 - Water Storage and Snow Melting Room



Photo 21 - Tank Room



Photo 22 - Kitchen



Photo 23 - Bathroom

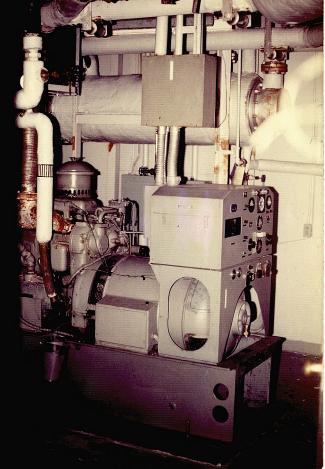


Photo 24 - Power and Heat

Room



Photo 25 - Equipment Room



Photo 26 - Garage (south side)



Photo 27 - Garage (north side)



Photo 28 - Warehouse (south and east sides)



Photo 29 - Warehouse (north and west sides)



Photo 30 - NANR House

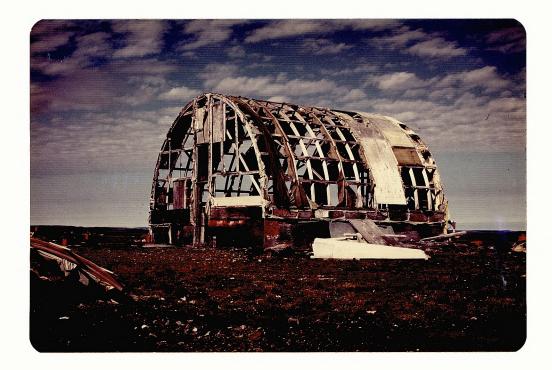


Photo 31 - Large Atwell building



Photo 32 - Small Atwell buildings



Photo 33 - Airstrip Emergency Shelter

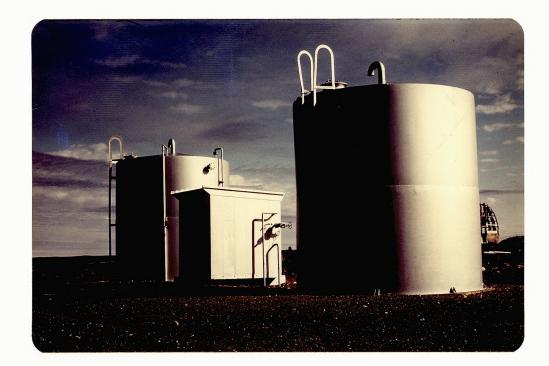
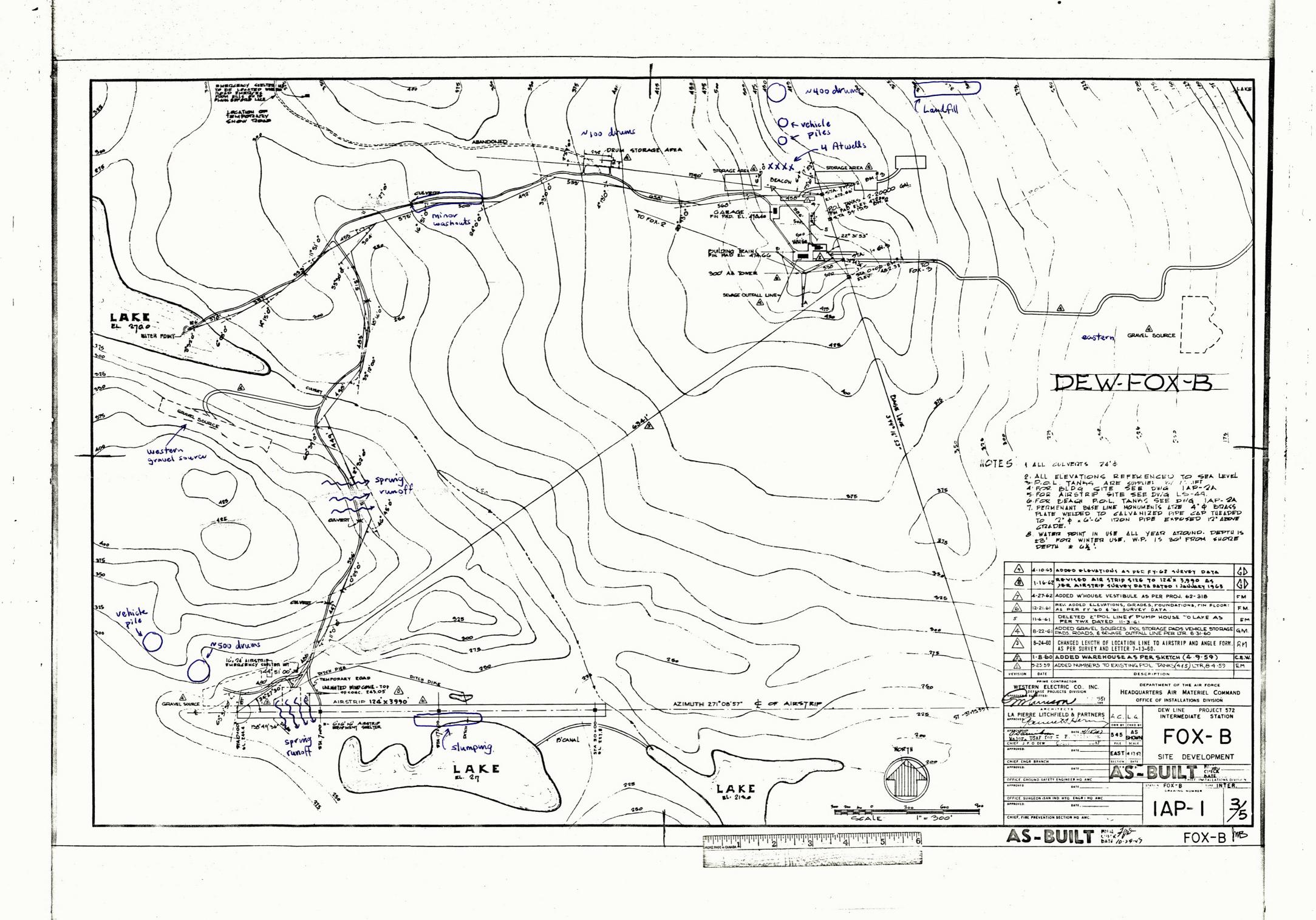
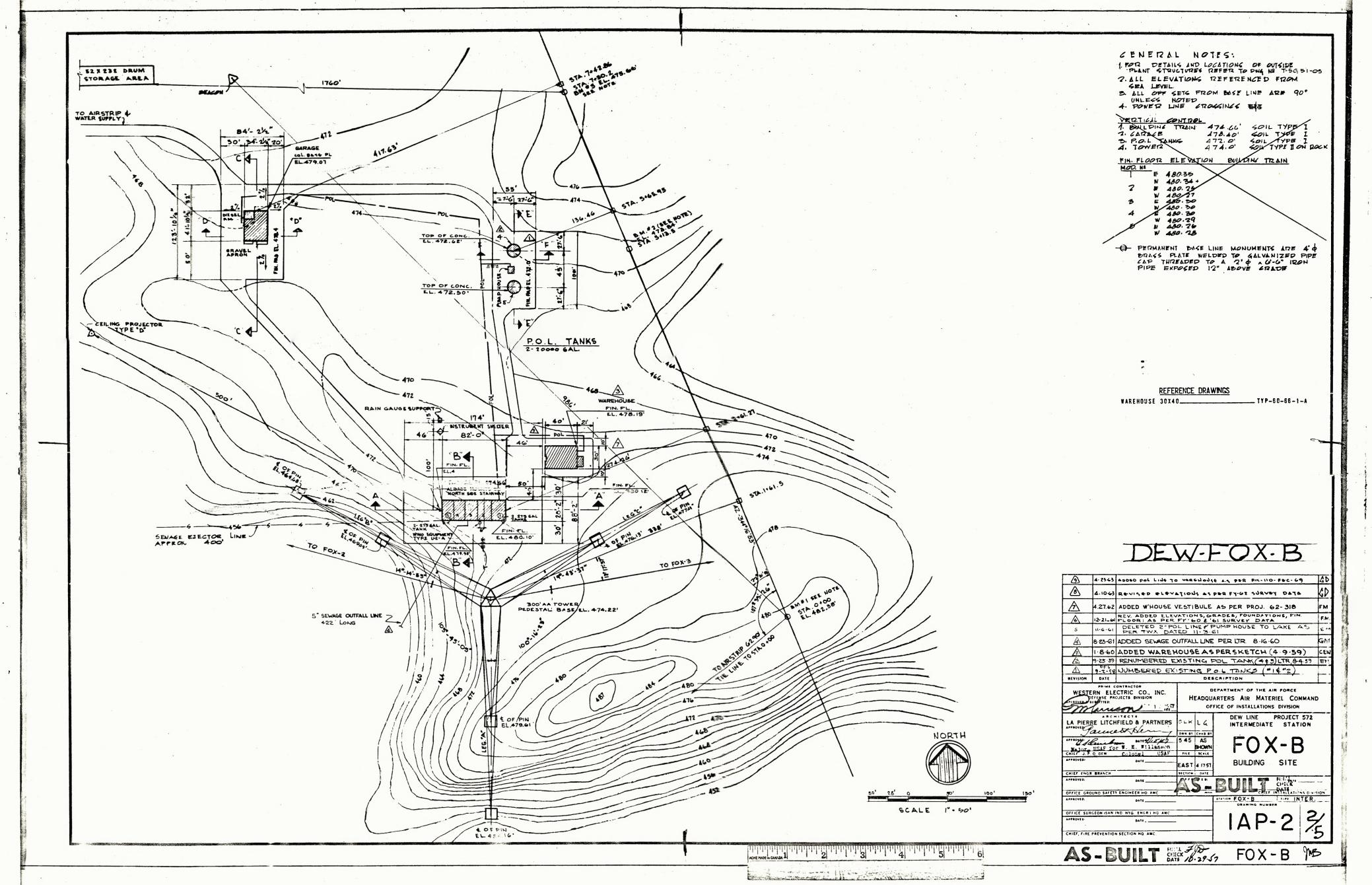


Photo 34 - POL Tanks and Pump House





-

· ·

• .

