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FERGUSON SIMEK CLARK
ENGINEERS AND ARCHITECTS

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IQALUIT, NT
NSLJ-1643

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Our File: 95 1191
October 20, 1997

Paul Smith
Water Resources Officer
DIAND Nunavut District
Box 100
Iqaluit, NT X0A 0H0

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OCT 1 1997

Re: Cape Dorset Sewage and Solid Waste
Your Information Request of September 17, 1997

As you requested, please find a copy of the Design and Operational Concepts Brief provided by FSC to the Hamlet of Cape Dorset in June of 1996.

I would like to provide you with some background information regarding the development of that brief and our subsequent discussions with the community.

When we arrived, the lagoon and solid waste site had already been chosen by the community and work had begun. The brief we provided outlined an annual retention lagoon based on the 10 year population, and a solid waste site operated with a trench method.

Since that brief we determined that the site was, in fact, too steep and too small in area to accommodate an annual retention lagoon. We were also concerned about the quality of the granular materials that may be used in the construction.

Instead, we suggested to the community a short detention sewage dumping site followed by overland flow (wetland) treatment. FSC also suggested that the land below the dumping site should be graded to maximize liquid coverage and minimize the potential for erosion. This type of system is being used successfully in several Keewatin communities, and is sanctioned by the Water Board.

Finally, following the construction of test pits during the summer of 1996, we determined that a trench method may not be an appropriate operating strategy and that an area method may be more appropriate.

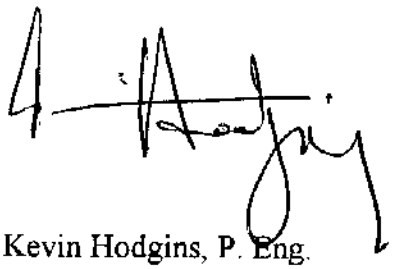
These recommendations were provided to the community during visits in September 1996 shown in the sketch included with the brief. Earlier in August 1996, FSC was invited to propose services for the relocation of the sewage lagoon and solid waste site; however, we were not awarded the job. Since that time, FSC has not been in the community to see what has been implemented. A telephone conversation with Jim Strickland in the early winter of 1996 determined that Cape Dorset was pleased with our earlier recommendations that some work had been undertaken, but details were limited.

- YELLOWKNIFE 4910 53 Street, P.O.Box 1777, Yellowknife, NT Canada X1A 2P4 Tel: (403) 920-2882, Fax: (403) 920-4319, email: fscyk@fsc.ca
- IQALUIT building 1052, P.O.Box 1779, Iqaluit, NT Canada X0A 0H0 Tel: (819) 979-0555, Fax: (819) 979-5711, email: fsc@nunanet.com
- INUVIK 1 - 3 Council Crescent, P.O.Box 2385, Inuvik, NT Canada X0E 0T0 Tel: (403) 979-2427, Fax: (403) 979-3025, email: fscinuvk@permafrost.com

We will contact the Hamlet directly to discuss the present situation and offer to assist them in the establishment of an acceptable waste disposal infrastructure.

I hope the brief and this letter provides you with the information you seek. Please contact me if you have questions.

Yours truly,
FERGUSON SIMEK CLARK



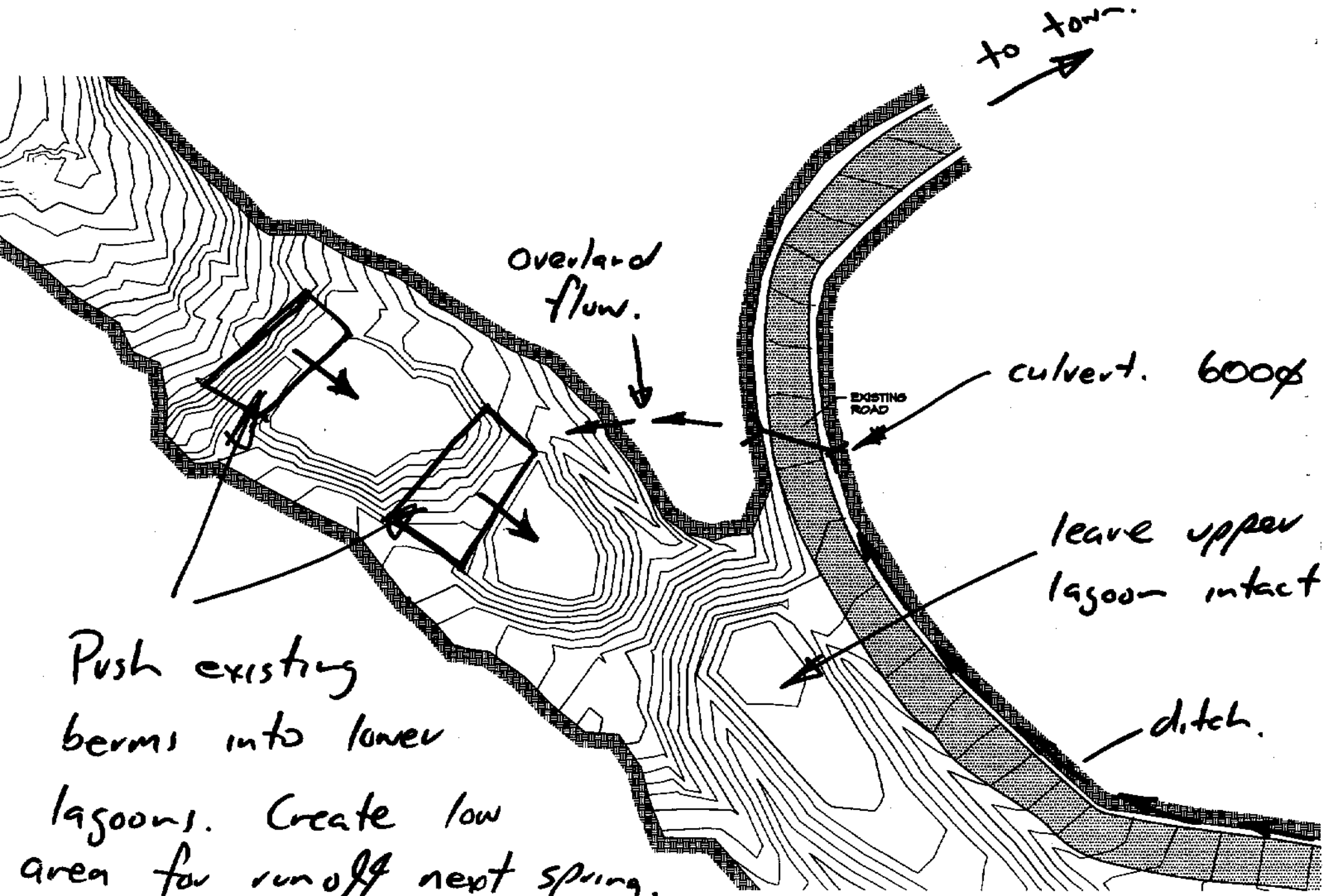
Kevin Hodgins, P. Eng.
Principal.

cc Timoon Toonoo, SAO Hamlet of Cape Dorset fax 819 897-8030
Terry Gray, FSC Iqaluit

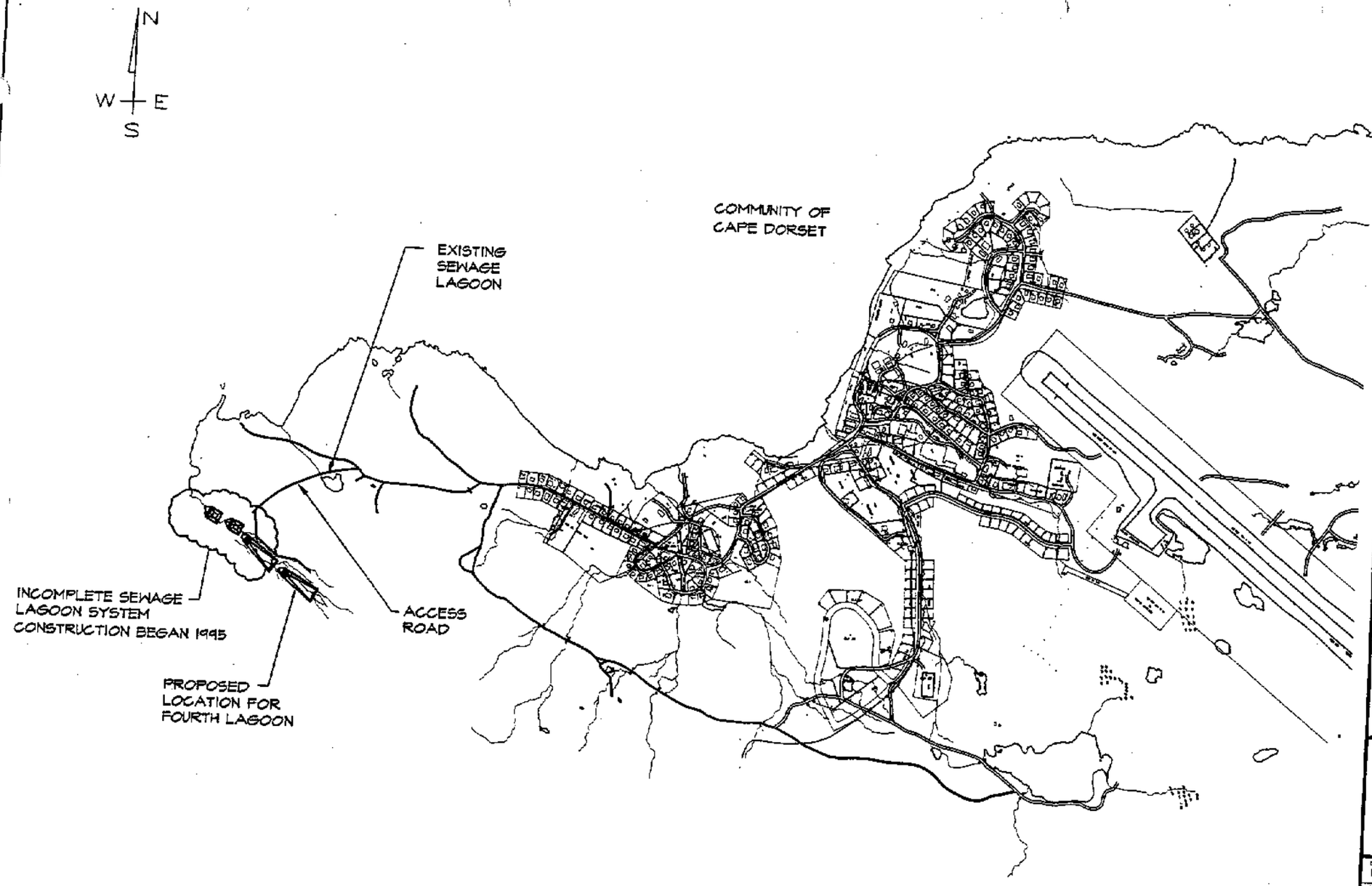
Cape Dorsett Sewage Lagoons.

95-1191

Sept 1[illegible] '96



Push existing berms into lower lagoons. Create low area for runoff next spring.



FSC GROUP

FERGUSON SIMEK CLARK
ENGINEERS + ARCHITECTS

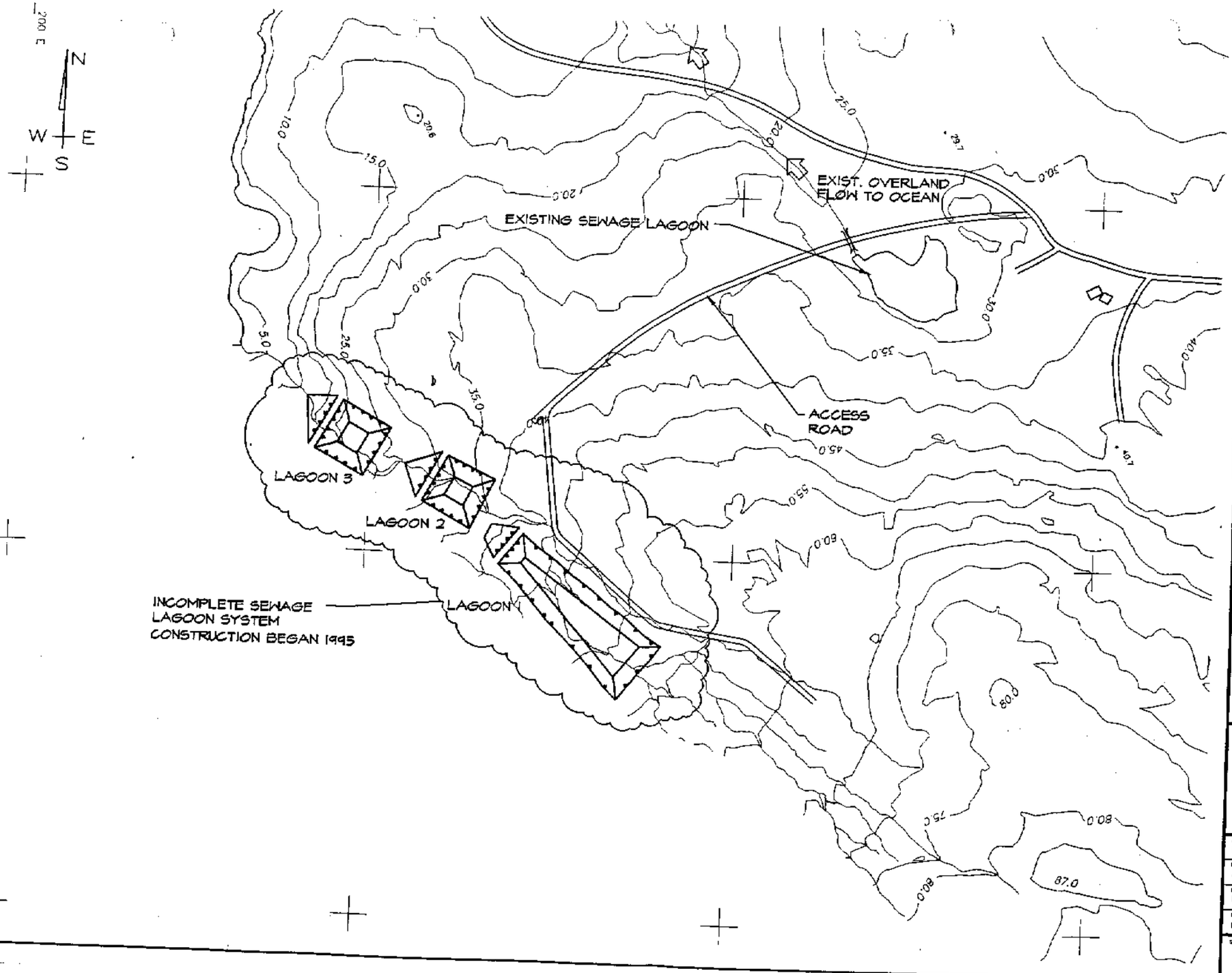
NO. REVISION DATE BY CHKD

JOB TITLE
CAPE DORSET
SEWAGE LAGOON
RELOCATION

CAPE DORSET, NT

DRAWING TITLE
LOCATION PLAN

DESIGNED BY K.H.	SCALE 1:2000
DRAWN BY J.P.W.	DATE JUNE 20, 1996
CHECKED BY K.H.	CLIENT PROJECT NO.
F.S.C. FILE NO. C196.DWG	F.S.C. JOB NO. 95-1190
SHEET 1 of 5	DRAWING NO. FIG. 1



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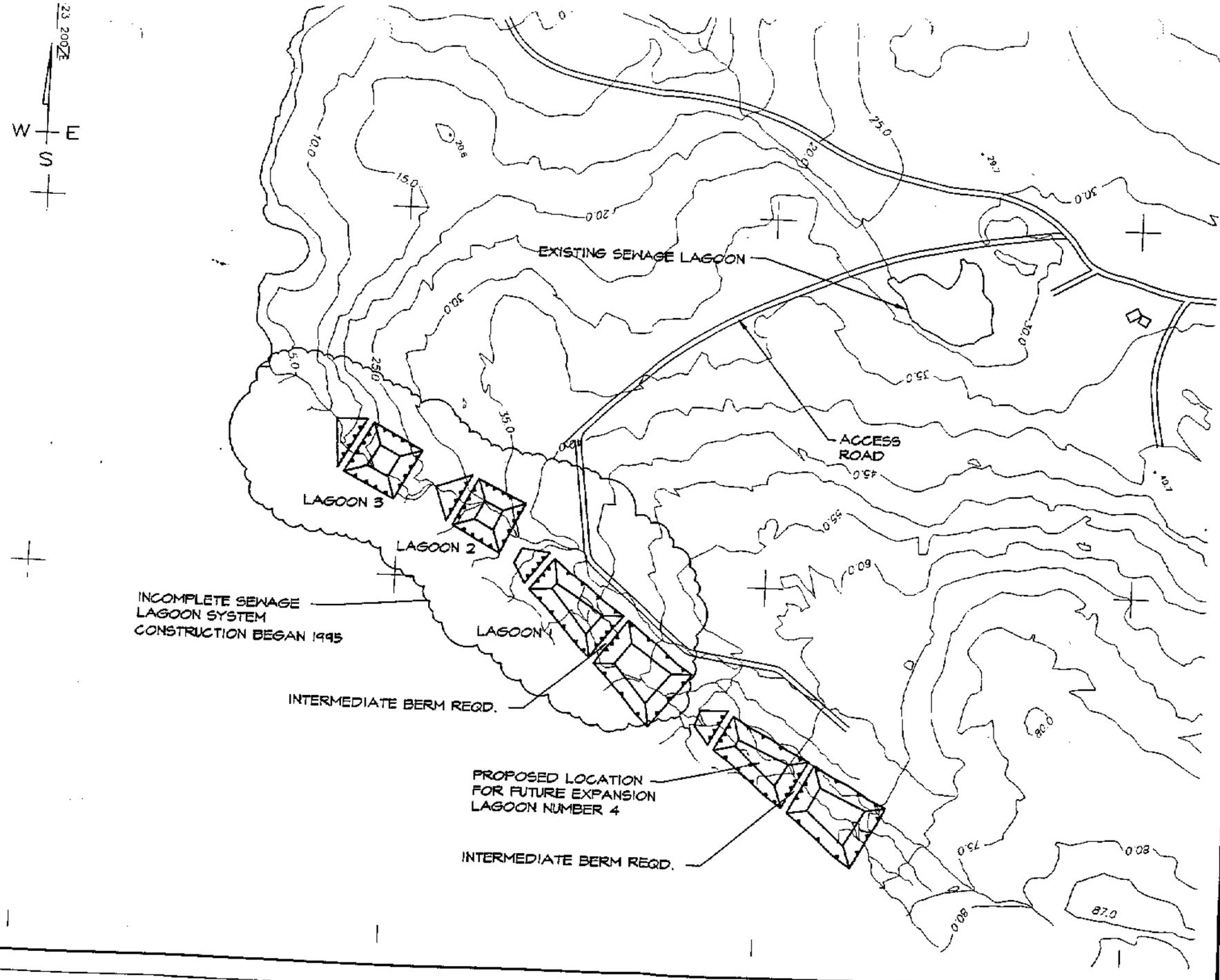
NO	REVISION	DATE	BY	APP'D

JOB TITLE
CAPE DORSET SEWAGE LAGOON RELOCATION

CAPE DORSET, NT

DRAWING TITLE
EXISTING CONDITIONS

DESIGNED BY: K.H.	SCALE: 1:2000
DRAWN BY: J.P.W.	DATE: JUNE 20, 1996
CHECKED BY: K.H.	CLIENT PROJECT NO.
F.S.C. FILE NO. C2-C396.DWG	F.S.C. JOB NO. 95-1190
SHEET 2 OF 5	DRAWING NO. FIG. 2



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P.O. BOX 2777, YELLOWKNIFE, N.W.T., CANADA X1A 2P4

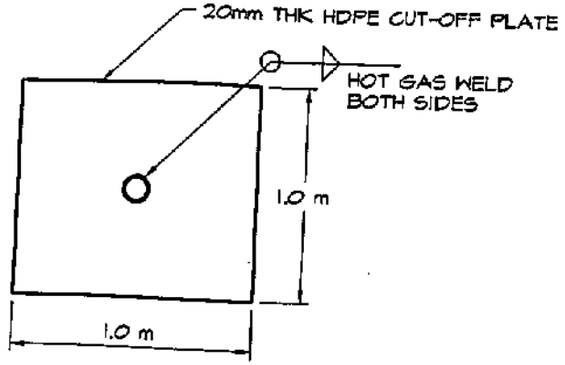
NO.	REVISION	DATE	BY

JOB TITLE
CAPE DORSET SEWAGE LAGOON RELOCATION

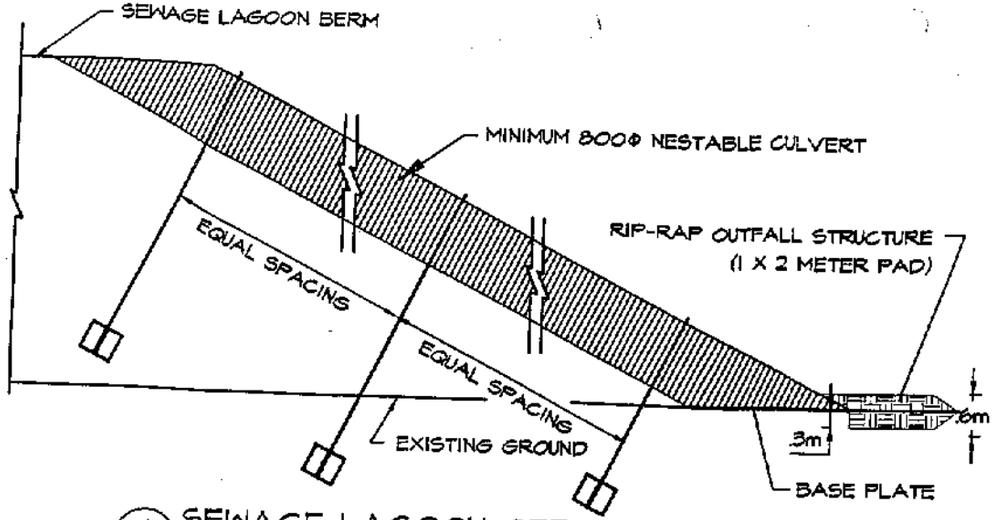
CAPE DORSET, NT

DRAWING TITLE
PROPOSED LOCATION OF FOURTH LAGOON + PROPOSED DUMPING SEQUENCE

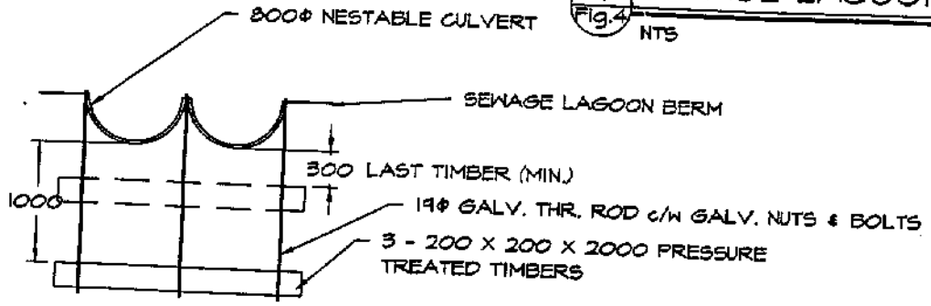
DESIGNED BY: K.H.	SCALE: 1:2000
DRAWN BY: J.P.W.	DATE: JUNE 20, 1996
CHECKED BY: K.H.	CLIENT PROJECT NO.
F.S.C. FILE NO.: C2-C396.DWG	F.S.C. JOB NO.: 95-1190
SHEET: 3 OF 5	DRAWING NO.: FIG. 3



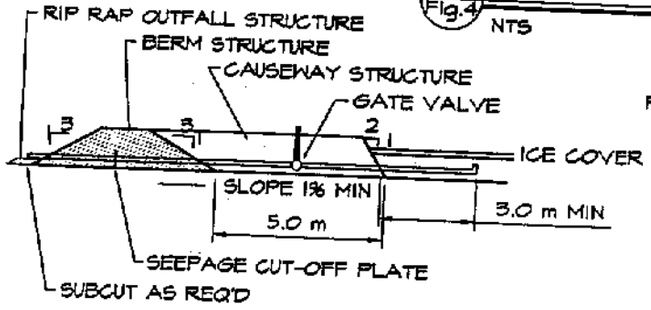
2 Fig.4 SEEPAGE CUT-OFF PLATE
NTS



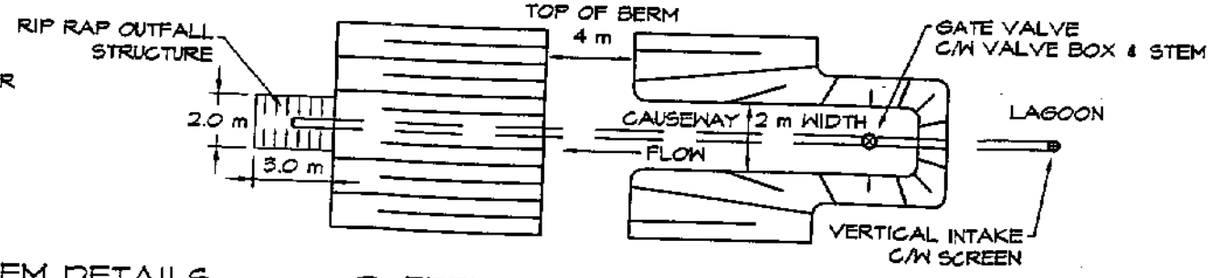
4 Fig.4 SEWAGE LAGOON OFF-LOAD CHUTE
NTS



3 Fig.4 EFFLUENT DISCHARGE SYSTEM DETAILS
NTS



3 Fig.4 EFFLUENT DISCHARGE SYSTEM DETAILS
NTS



3 Fig.4 EFFLUENT DISCHARGE SYSTEM DETAILS
NTS

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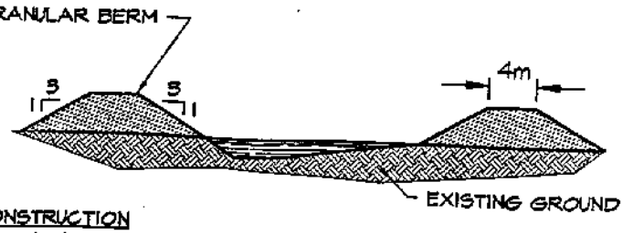
NO.	REVISION	DATE	BY

JOB TITLE
CAPE DORSET SEWAGE LAGOON RELOCATION

CAPE DORSET, NT

DRAWING TITLE
OFFLOAD CHUTE + EFFLUENT DISCHARGE SYSTEM DETAILS

DESIGNED BY K.H.	SCALE NTS
DRAWN BY J.P.W.	DATE JUNE 20, 1996
CHECKED BY K.H.	CLIENT PROJECT NO.
F.S.C. FILE NO. C496.DWG	F.S.C. JOB NO. 95-1190
SHEET 4 OF 5	DRAWING NO. FIG. 4



BERM CONSTRUCTION

- Berms to be constructed of acceptable granular fill.
- Borrow source to be determined by the engineer.

DISPOSAL PROCESS

- Waste to be dumped from the truck directly into the sewage retaining lagoon
- Effluent to be discharged annually in the fall through the well-vegetated drainage course to the ocean.

1 Fig.5 SEWAGE LAGOON

NTS

PAD CONSTRUCTION

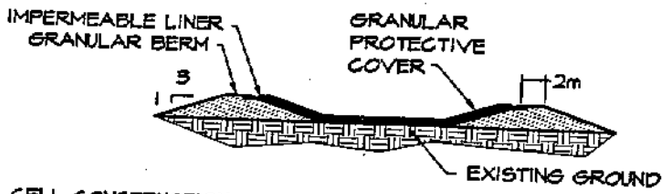
- Pad to be constructed of acceptable granular fill
- Pad dimensions to be 300 mm in height
  backslopes not to be steeper than 3:1
  top to be graded for drainage at 1% (minimum)

DISPOSAL PROCESS

Existing Bulky Waste to be relocated and disposed of at the new bulky waste disposal pad.
Waste to be disposed of on the pad in a neat and orderly manner

3 Fig.5 BULK WASTE DISPOSAL PAD

NTS



CELL CONSTRUCTION

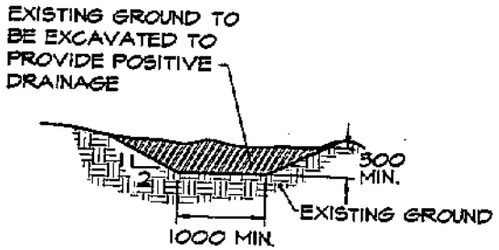
- Berms to be constructed of acceptable granular fill
- Berm dimensions to be 2 metres in height with a 2 metres top width
  backslopes not to be steeper than 3:1
- Impermeable liner to be placed within berm and keyed to top
- Granular protective cover to be provided over liner

DISPOSAL PROCESS

- Waste oil currently stored within sealed containers to be collected and relocated to the new retention cell for disposal.
- Waste oil to be stored within sealed containers and disposed of within the retention cell.

2 Fig.5 WASTE OIL RETENTION CELL

NTS



4 Fig.5 DRAINAGE DITCH SECTION (TYP.)

NTS

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NO	REVISION	DATE	BY

JOB TITLE
CAPE DORSET
SEWAGE LAGOON
RELOCATION

CAPE DORSET, NT

DRAWING TITLE
LAGOON DETAILS

DESIGNED BY K.H.	SCALE NTS
DRAWN BY J.P.W.	DATE JUNE 20, 1996
CHECKED BY K.H.	CLIENT PROJECT NO.
F.S.C. FILE NO. C595.DWG	F.S.C. JOB NO. 95-1190
SHEET 5 OF 5	DRAWING NO FIG. 5