DavidsonPartnersLtd

Structural Engineering
Civil Engineering
Building Design
Project Management

Practising in association with Ayson and Partners, Registered Surveyors

Our Ref: 5835

6 May 1997

SUBMISSION IN SUPPORT OF
A RESOURCE CONSENT APPLICATION
FOR A DISCHARGE PERMIT TO LAND

T & J GOULD
MOETAPU BAY ROAD
MAHAU SOUND

1. INTRODUCTION:

T & J Gould own a property in Moetapu Bay Road, Mahau Sound being Lot 3 D.P. 3403.

The existing bach has been there for about 24 years. During all of this time, the effluent disposal system has consisted of a long drop for the toilet facilities and a grease trap and disposal trench for the greywater.

It is now proposed to construct a more modern disposal system including a septic tank and disposal trenches. While there have been no adverse effects from the existing setup, the owners recognise that a more modern facility will be more efficient and pose less risk to health in the long term.

2. INVESTIGATION:

Our site investigation was carried out in accordance with N.Z.S./AS 1547 "On Site Domestic Wastewater Management". The site faces north west and has excellent exposure to the sun and prevailing winds. The topsoil depth is approximately 50 mm and the soils consist of light brown clayey gravels with a high pedal content. The existing grey water disposal trench shows no signs of distress. The soil category was assessed at 4 and the Long Term Acceptance Rate has been assessed at 15 mm per day.

/...

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Blenheim, New Zealand
Telephone 03 578 7029 Fax 03 578 7028

Principals
Ron Melton, BE, M.IPENZ, REGD
Stephen Sheat, BE, M.IPENZ, REGD
Leigh McGlynn, BE, M.IPENZ, REGD

3. PROPOSAL:

The design of the effluent system has been based on the following.

(a) Full occupancy of a three bedroom house (this includes for the proposed extension).

(b) A wastewater allowance of 140 litres per person per day.

(c) The provision of additional pretreatment in the form of a filter to the outlet of the septic tank.

(d) The construction of effluent drains as shallow as possible to take advantage of the root zone and evapotranspiration.

The total required length of disposal trenches for full occupation is 60 metres. We have broken this down to four 15 metre trenches to allow for periods of reduced occupancy and resting cycles.

4. MARLBOROUGH SOUNDS RESOURCE MANAGEMENT PLANS:

The site is contained on Planning Map Sheet 17. This shows that the site is zoned Sounds Residential with a Foreshore Reserve.

Ecology Map 4 shows the site is not within an ecology zone.

Landscape Map 4 shows the site is within a landscape zone.

Natural Hazard Map 4 shows the site is within a natural hazard zone.

5. DESCRIPTION OF EFFECTS ON ENVIRONMENT:

5.1 Landscape

The proposed location of the effluent disposal field is on a bench which has been formed many years ago. This area is surrounded by large mature native trees and bush and no further disturbance of the vegetation will be required. There will be no effect whatsoever on the landscape values in this area.

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REF: 5835

5.2 Natural Hazards

We have inspected the area both above and below the proposed effluent disposal field. The land above is gently sloping (approximately 10 degrees) and covered in mature kanuka and ferns. There are no signs of instability in this area.

The foreshore itself at Mean High Water Springs is effected by wave action and is slowly eroding in parts. Signs of movement were noticed up to ten metres from the High Water Mark. However, this is at least 25 metres from the proposed effluent disposal field and the presence of the field will not aggravate this movement.

No other signs or potential for instability exist at the location of the proposed effluent field.

5.3 Water Bodies

The effluent disposal field is approximately 35 metres from the High Water Mark. With the treatment proposed and the soakage characteristics available, we are of the firm opinion that there will be no discharge into, or other adverse environmental effect on, the sea.

5.4 Recreation

This flat area is currently used for a clothesline and a recreational area for the children. There is no reason why these activities cannot be continued.

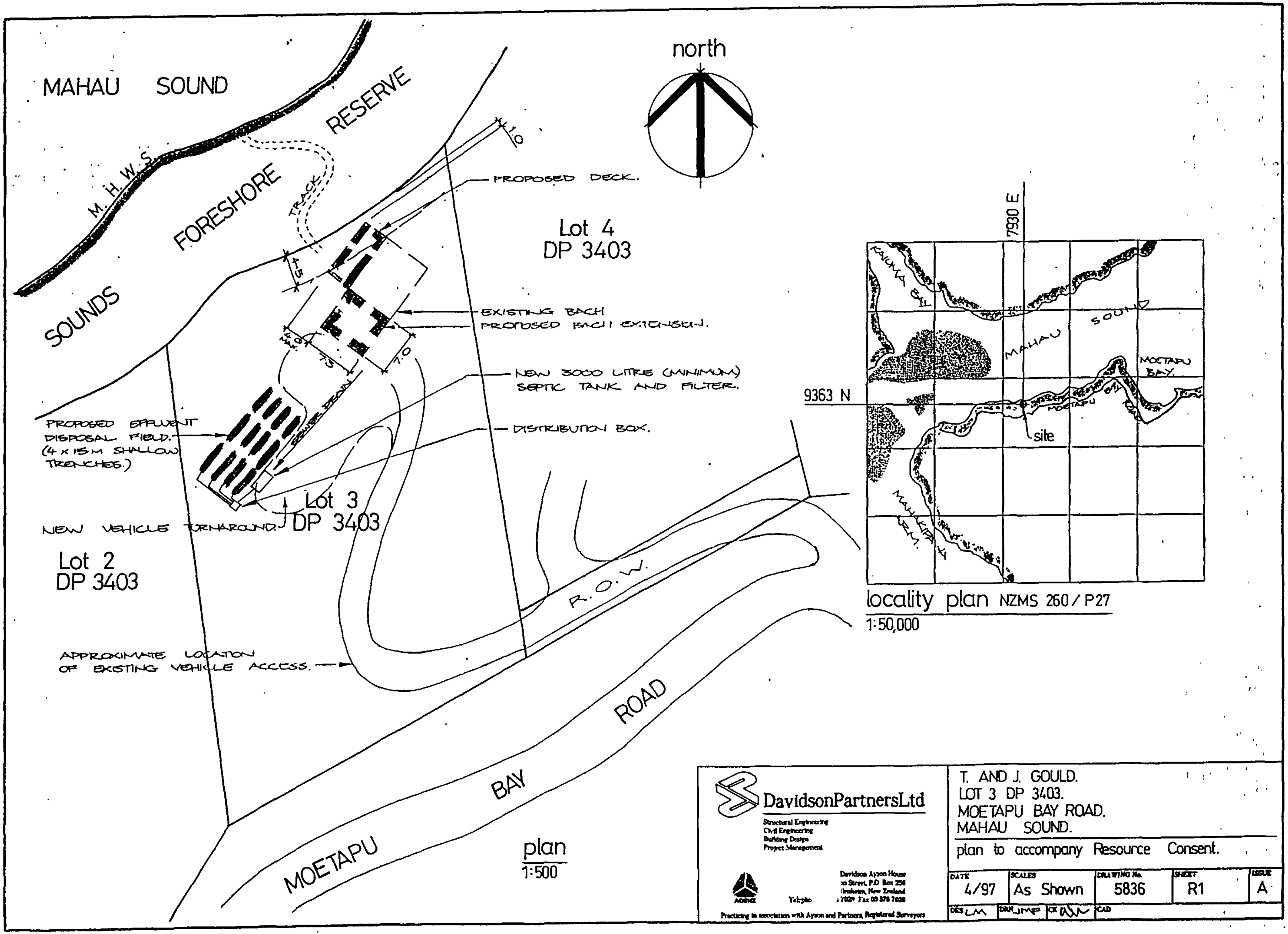
5.5 Tangata Whenua and Heritage Considerations

To our knowledge this area has no cultural significance.

DAVIDSON PARTNERS LTD

W L McGlynn

LM:BMM



MAHAU SOUND
M. H. W. S.
SOUNDS FORESHORE RESERVE
TRACK
north
1.0
4.5
PROPOSED DECK.
Lot 4
DP 3403
EXISTING BACH
PROPOSED BACH EXTENSION.
7.5
7.0
NEW 3000 LITRE (MINIMUM) SEPTIC TANK AND FILTER.
PROPOSED EFFLUENT DISPOSAL FIELD. (4 x 15M SHALLOW TRENCHES.)
DISTRIBUTION BOX.
Lot 3
DP 3403
NEW VEHICLE TURNAROUND.
Lot 2
DP 3403
R. O. W.
APPROXIMATE LOCATION OF EXISTING VEHICLE ACCESS.
MOETAPU BAY ROAD
plan
1:500
7930 E
9363 N
MAHAU SOUND
MOETAPU BAY
site
locality plan NZMS 260 / P27
1:50,000
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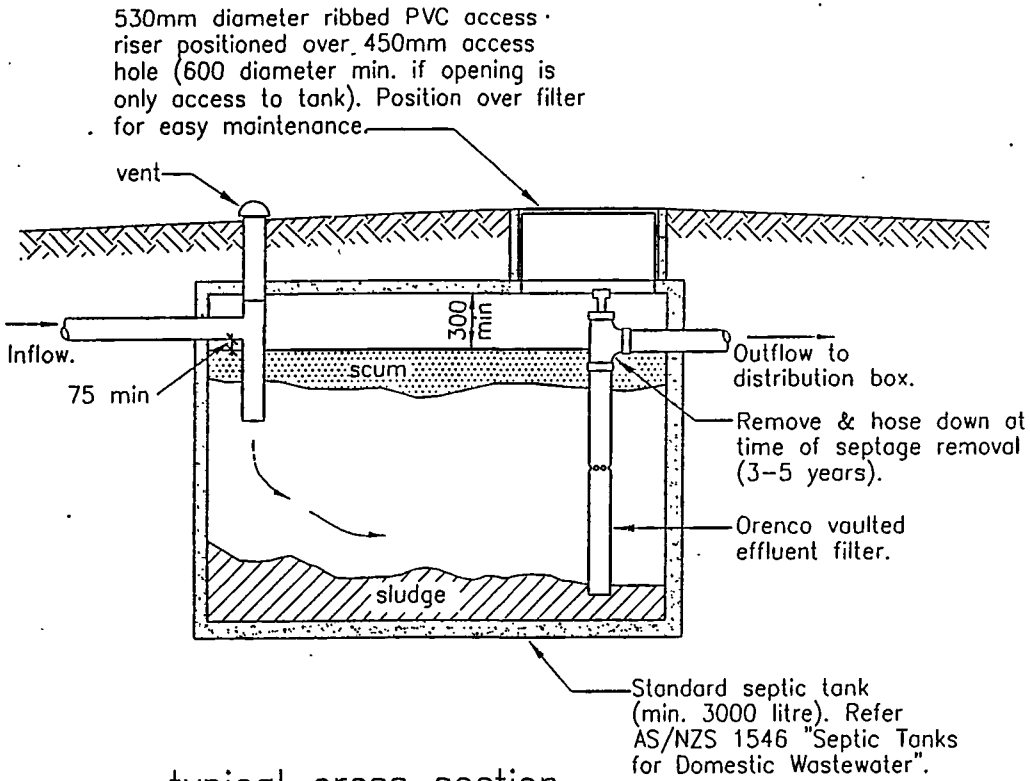
T. AND J. GOULD.
LOT 3 DP 3403.
MOETAPU BAY ROAD.
MAHAU SOUND.
plan to accompany Resource Consent.
DATE 4/97
SCALES As Shown
DRAWING No. 5836
SHEET R1
ISSUE A



typical cross section

1:25

Suggested Operation and Maintenance Septic Tank

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2. Prohibited discharges to the septic tank include:-
   Oil/grease from e.g. a deep fryer.
   Stormwater and any drainage other than sewage generated in the house.
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   Household, garden, garage, and workshop chemicals (e.g. pesticides paint cleaners, photographic chemicals, motor oil and trade waste).
   Disposable nappies and sanitary napkins.

3. Septic tanks need to be pumped (septage removed when the scum layer comes to within 75mm of the bottom of the outlet tee or when sludge and scum have accumulated to the extent that the clear space (between scum and sludge) has a volume less than 1000 litres). Septage removal may need to be done as often as every three years but at no longer than five year intervals.

"Orenco" vaulted filter

1. The septic tank should be pumped prior to removal of the filter to prevent any solids from escaping to the trenches when the cartridge is removed.

2. The Orenco filter shall be cleaned at the same time as normal septic tank servicing (3-5 years).

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T. AND J. GOULD.
LOT 3 DP 3403.
MOETAPU BAY ROAD.
MAHAU SOUND.

effluent disposal field
typical septic tank details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	1:25	5836	R2	A

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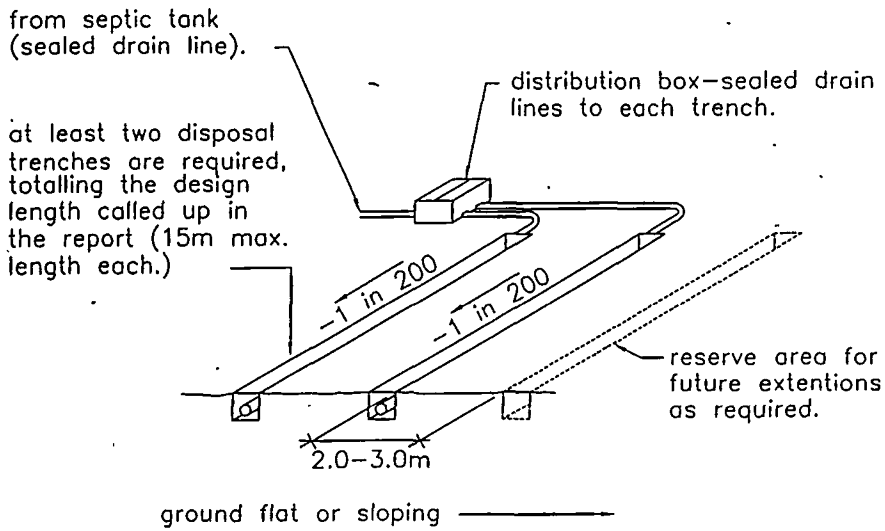
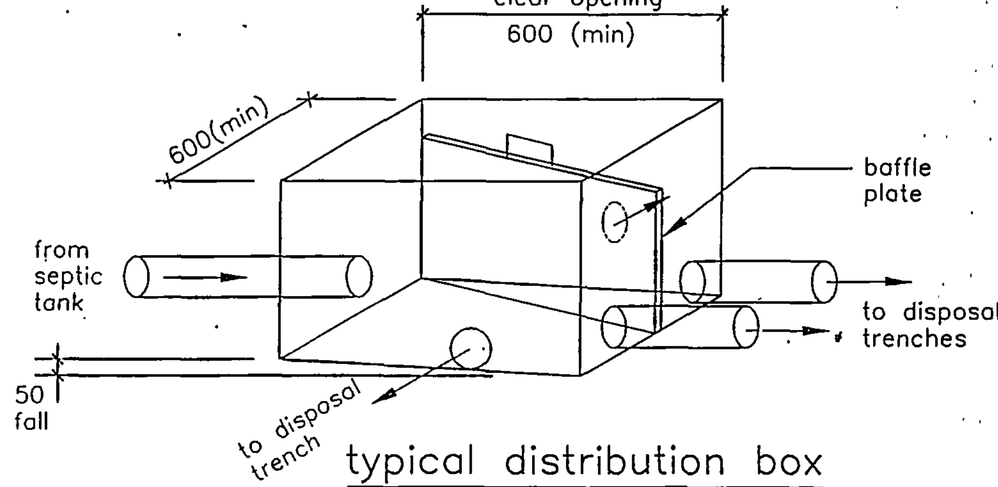


typical trench layout

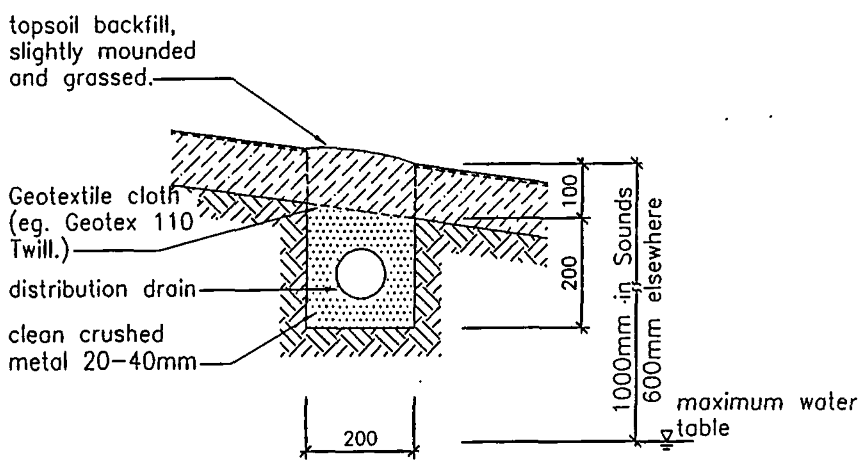
NOTES–

(1) Inlet and outlet pipes 90–100mm diameter.
(2) *Lid to be made up flush with ground level.*
(3) Construction to be of approved materials.
(4) Baffle plate to be used for alternation of loading and resting cycles. It should be removed when system is fully loaded.

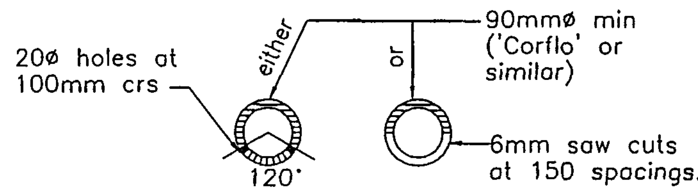
(5) Distribution pipes to be 90mm diameter min.
(6) Distribution pipes to be laid flat or at gradient not greater than 1 in 200.



typical distribution box



shallow disposal trench



distribution drains

(for gravity feeding only.)

DavidsonPartnersLtd Structural Engineering Civil Engineering Building Design Project Management Davidson Ayson House ... Street, P.O. Box 256 ...nheim, New Zealand ... Telephon ... Fax 03 578 7928 Practicing in association with Ayson ...artners, Registered Surveyors	T. AND J. GOULD. LOT 3 DP 3403. MOETAPU BAY ROAD. MAHAU SOUND. effluent disposal field typical details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	N.T.S	5836	R3	A
DES L.M.	DRN D.M.	CK [illegible]	CAD C:\ACLTWIN\4029\STD_A3	

MAHAU SOUND

RESERVE

M.H.W.S.

FORESHORE

SOUNDS

TRACK

north

1.0

PROPOSED DECK.

Lot 4
DP 3403

4.5

EXISTING BACH

PROPOSED BACH EXTENSION.

4.0

7.5

7.0

NEW 3000 LITRE (MINIMUM) SEPTIC TANK AND FILTER.

DISTRIBUTION BOX.

PROPOSED EFFLUENT DISPOSAL FIELD. (4 x 15M SHALLOW TRENCHES.)

SEWER BEAM

Lot 3
DP 3403

NEW VEHICLE TURNAROUND.

Lot 2
DP 3403

APPROXIMATE LOCATION OF EXISTING VEHICLE ACCESS.

R.O.W.

MOETAPU BAY ROAD

plan
1:500

7930 E

9363 N

KAIUKA BAY

MAHAU SOUND

MOETAPU BAY

MOETAPU RD

site

MAHAU R.M.

locality plan NZMS 260 / P27
1:50,000

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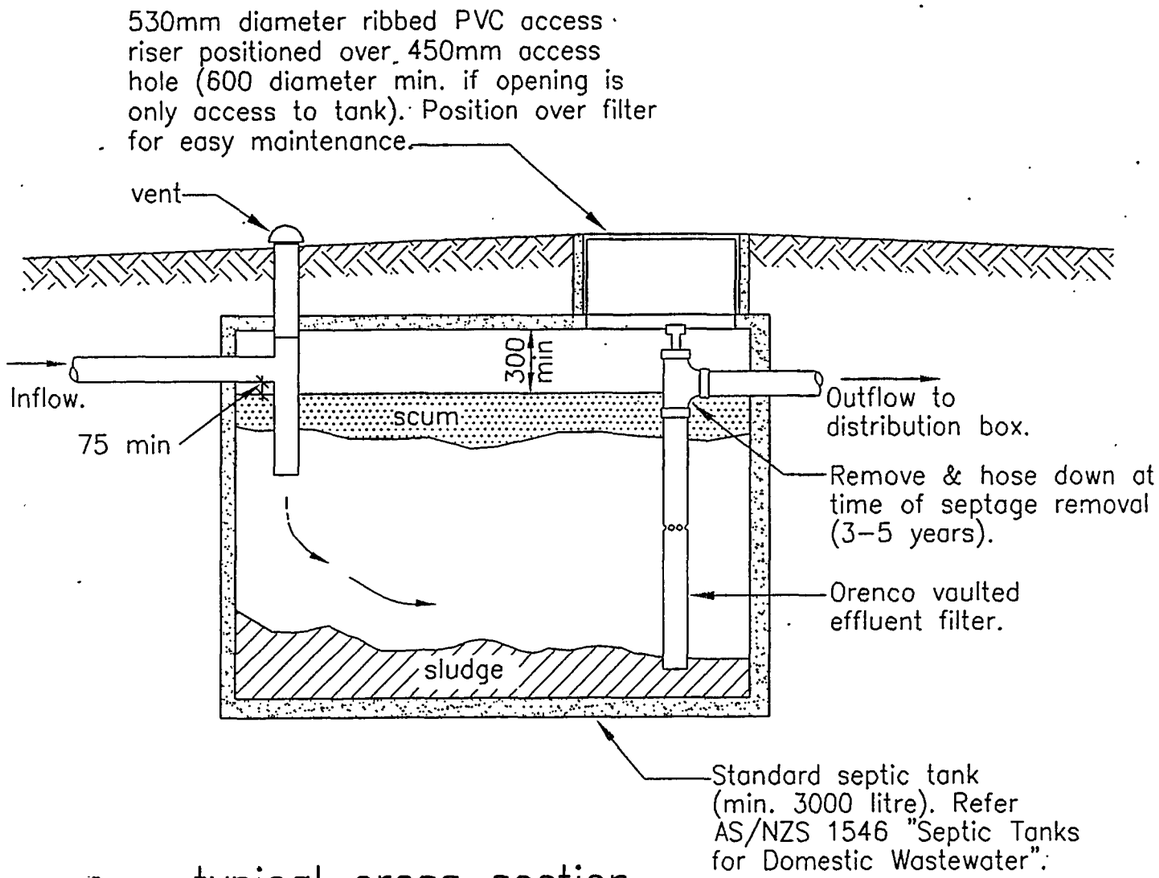
T. AND J. GOULD.
LOT 3 DP 3403.
MOETAPU BAY ROAD.
MAHAU SOUND.

plan to accompany Resource Consent.

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	As Shown	5836	R1	A

DES LM | DRN JMF | CK MW | CAD



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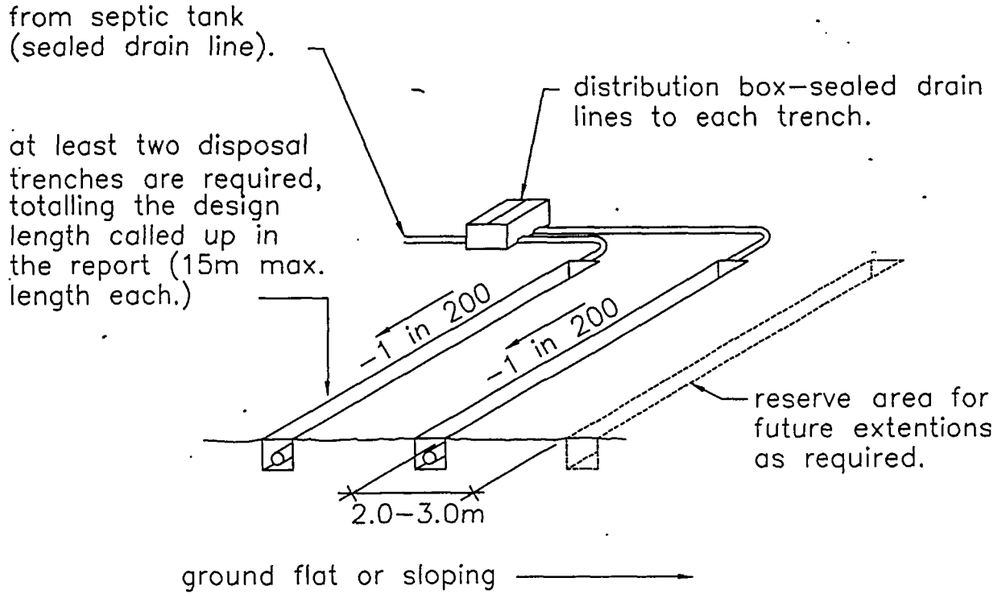
T. AND J. GOULD.
LOT 3 DP 3403.
MOETAPU BAY ROAD.
MAHAU SOUND.

effluent disposal field
typical septic tank details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	1:25	5836	R2	A

DES L.M. | DRN L.R. | CK | CAD C:\ACLTWIN\4029\STD_A3



typical trench layout

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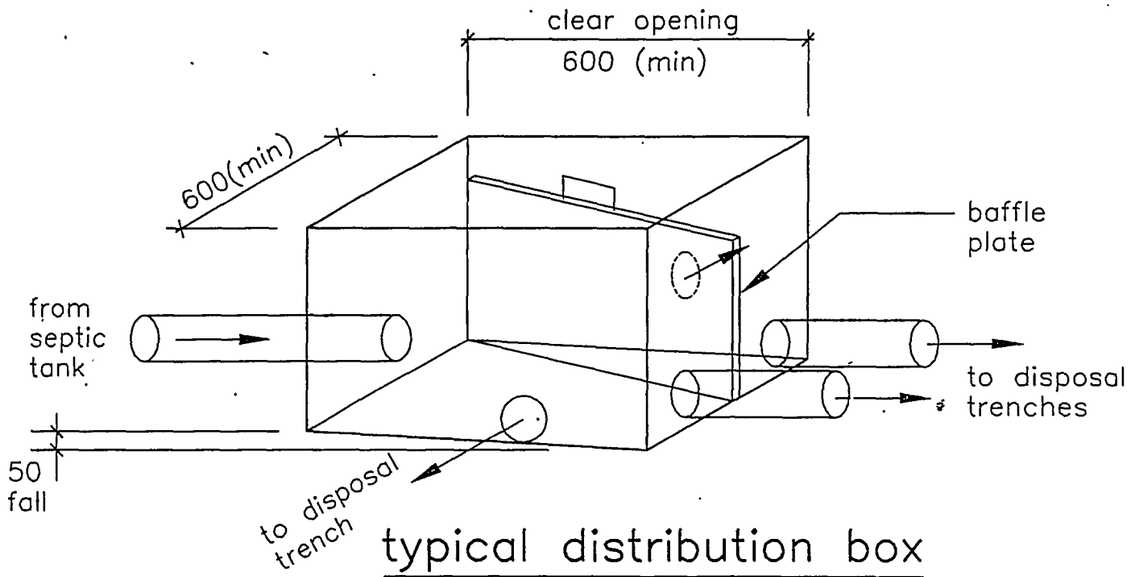
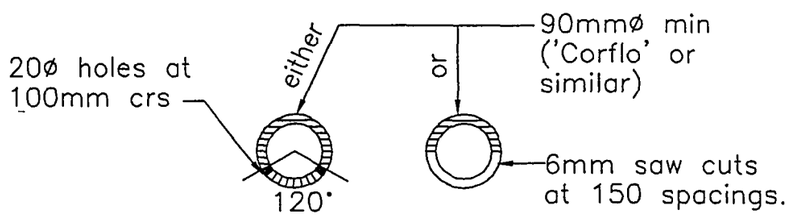
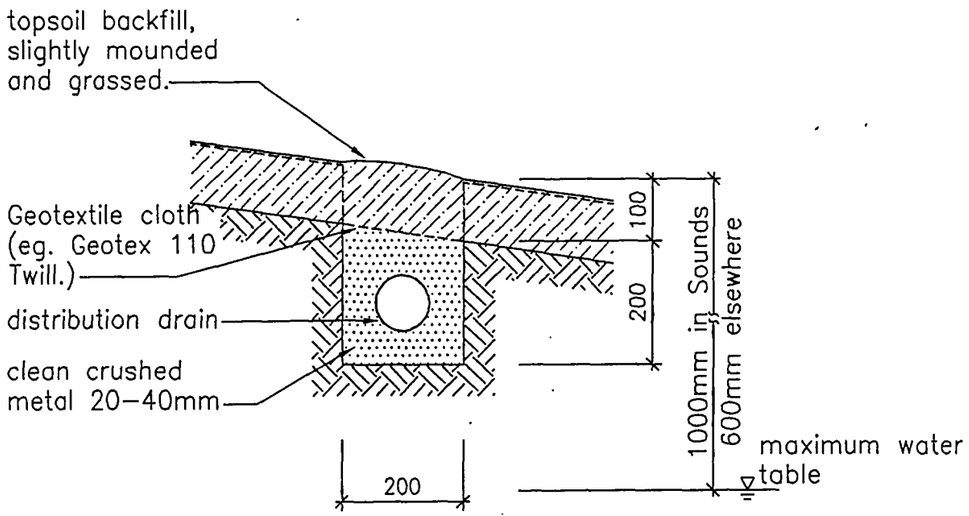


typical distribution box



distribution drains

(for gravity feeding only.)



shallow disposal trench

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T. AND J. GOULD.
LOT 3 DP 3403.
MOETAPU BAY ROAD.
MAHAU SOUND.

effluent disposal field
typical details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	N.T.S	5836	R3	A

DES L.M. DRN D.M. CK [illegible] CAD C:\ACLTWIN\4029\STD_A3

MAHAU SOUND

RESERVE

M.H.W.S.

FORESHORE

TRACK

SOUNDS

north

1.0

PROPOSED DECK.

Lot 4
DP 3403

4.5

EXISTING BACH

PROPOSED BACH EXTENSION.

4.0 MAX.

7.3

7.0

NEW 3000 LITRE (MINIMUM) SEPTIC TANK AND FILTER.

DISTRIBUTION BOX.

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SEWER MAIN

Lot 3
DP 3403

NEW VEHICLE TURNAROUND.

Lot 2
DP 3403

R.O.W.

APPROXIMATE LOCATION OF EXISTING VEHICLE ACCESS.

MOETAPU BAY ROAD

plan
1:500

7930 E

9363 N

KAIUMA BAY

MAHAU SOUND

MOETAPU BAY

MOETAPU BAY ROAD

site

MAHAUKIPAWA ARM

locality plan NZMS 260 / P27
1:50,000

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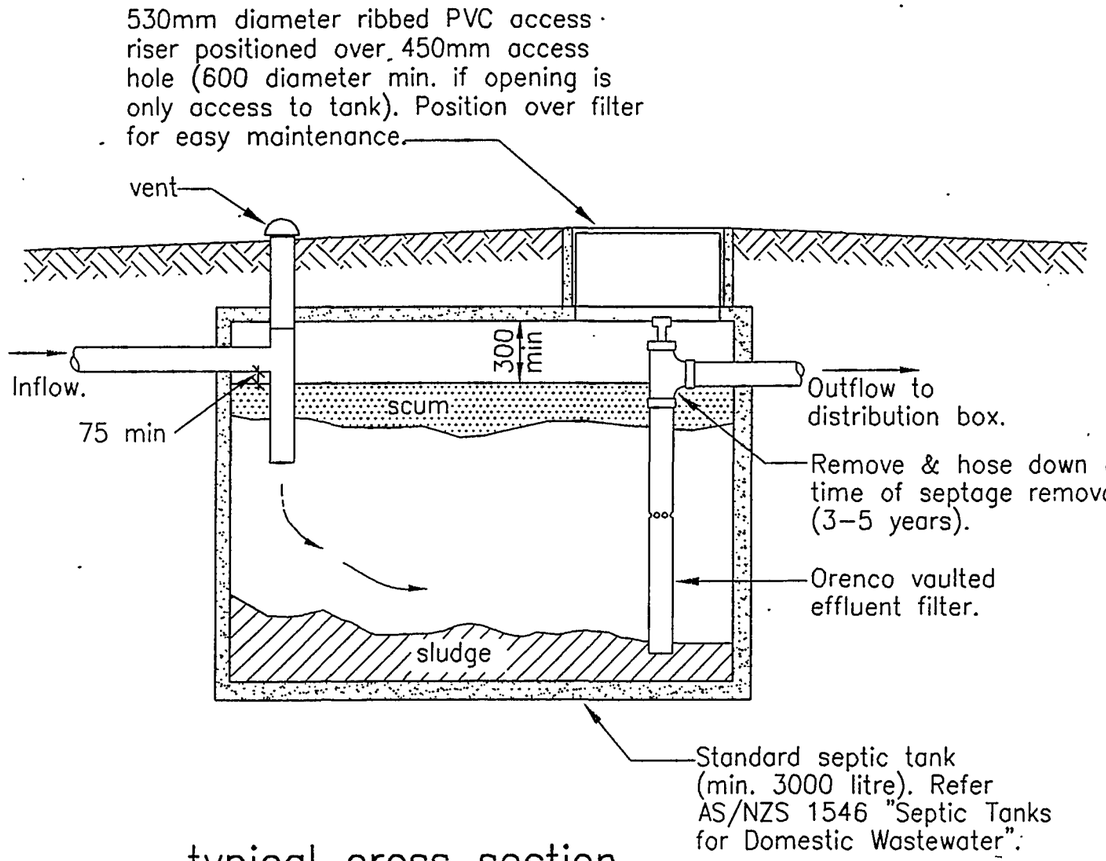
T. AND J. GOULD.
LOT 3 DP 3403.
MOETAPU BAY ROAD.
MAHAU SOUND.

plan to accompany Resource Consent.

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	As Shown	5836	R1	A

DES LM | DRN JMF | CK AWV | CAD



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MOETAPU BAY ROAD.
MAHAU SOUND.

effluent disposal field
typical septic tank details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	1:25	5836	R2	A

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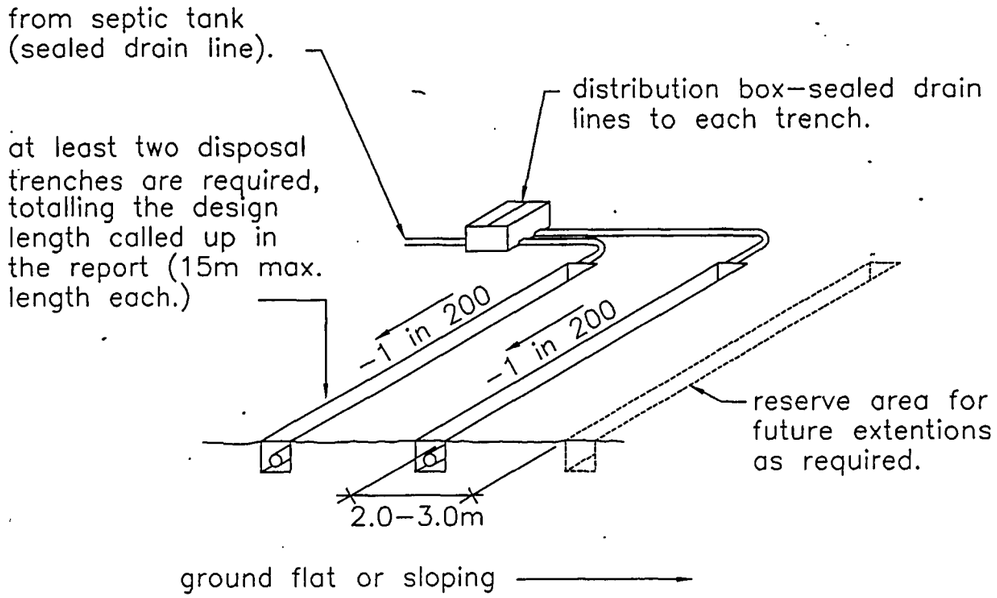

typical trench layout

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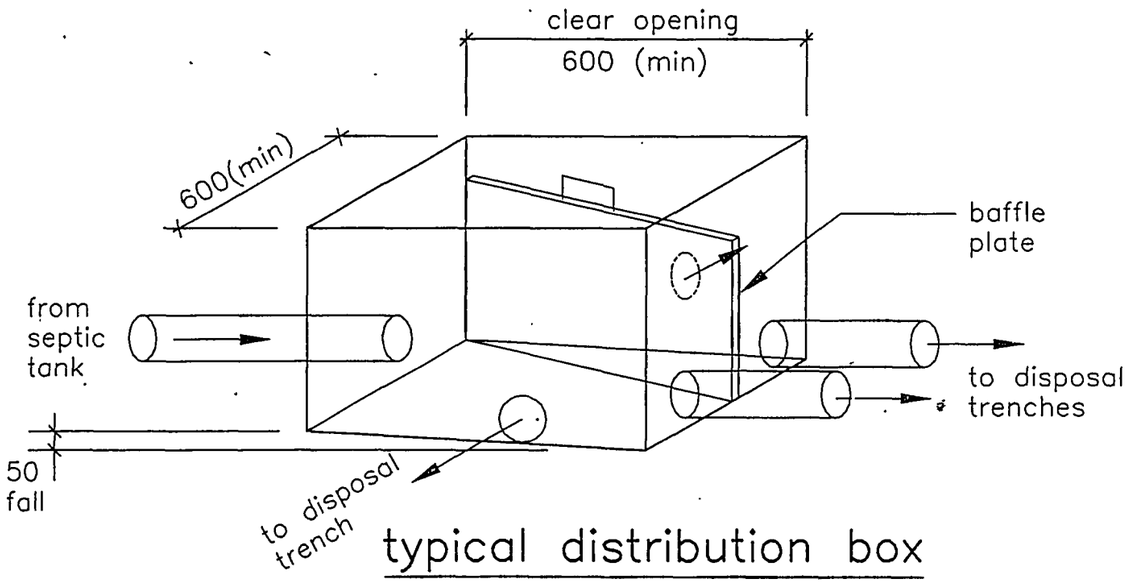
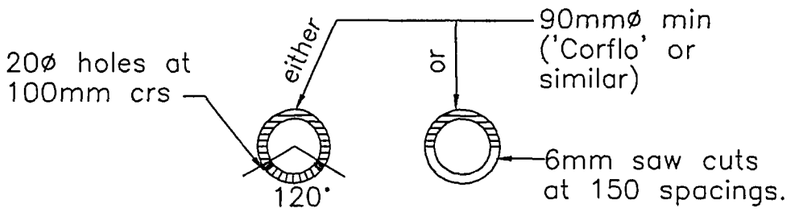
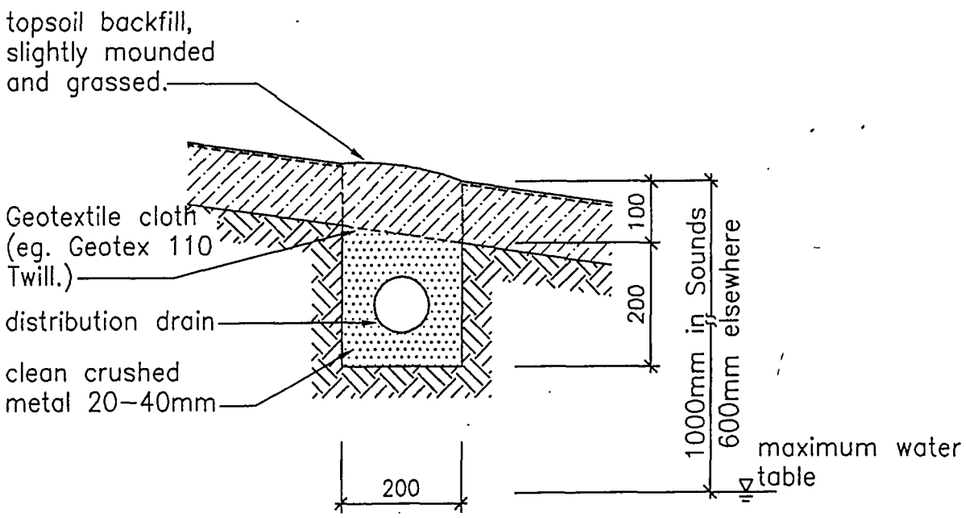


typical distribution box



distribution drains

(for gravity feeding only.)



shallow disposal trench

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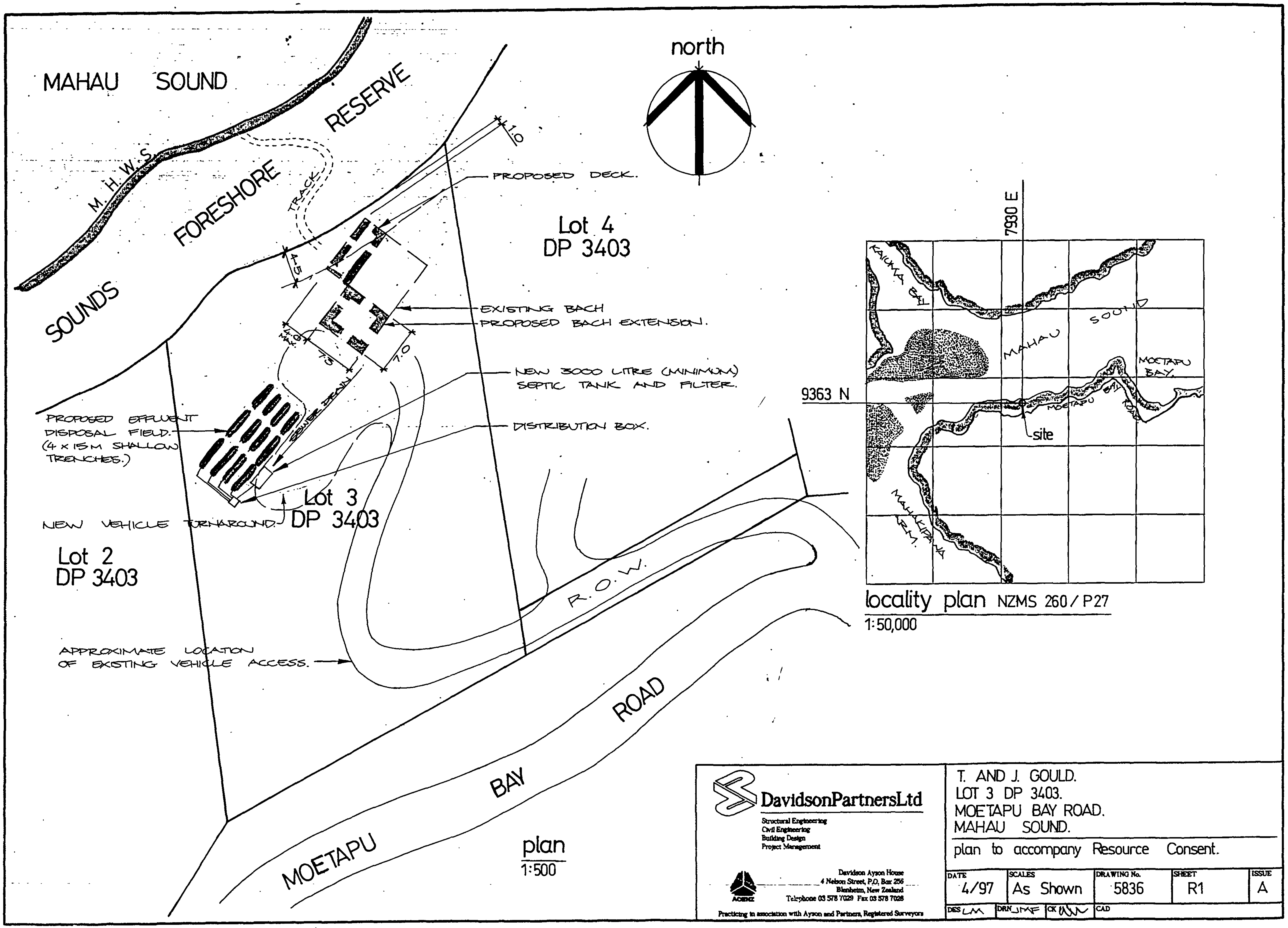
MAHAU SOUND.

effluent disposal field
typical details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	N.T.S	5836	R3	A

DES L.M. | DRN D.M. | CK wjm | CAD C:\ACLTWIN\4029\STD_A3


MAHAU SOUND
M.H.W.S.
SOUNDS FORESHORE RESERVE
TRACK
north
1.0
4.5
PROPOSED DECK.
Lot 4
DP 3403
EXISTING BACH
PROPOSED BACH EXTENSION.
4.0 MAX.
7.3
7.0
NEW 3000 LITRE (MINIMUM) SEPTIC TANK AND FILTER.
SEWER DRAIN
PROPOSED EFFLUENT DISPOSAL FIELD. (4 x 15M SHALLOW TRENCHES.)
DISTRIBUTION BOX.
Lot 3
DP 3403
NEW VEHICLE TURNAROUND.
Lot 2
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R.O.W.
APPROXIMATE LOCATION OF EXISTING VEHICLE ACCESS.
MOETAPU BAY ROAD
plan
1:500
7930 E
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KAIUMA BAY
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MAHAKIPAWA
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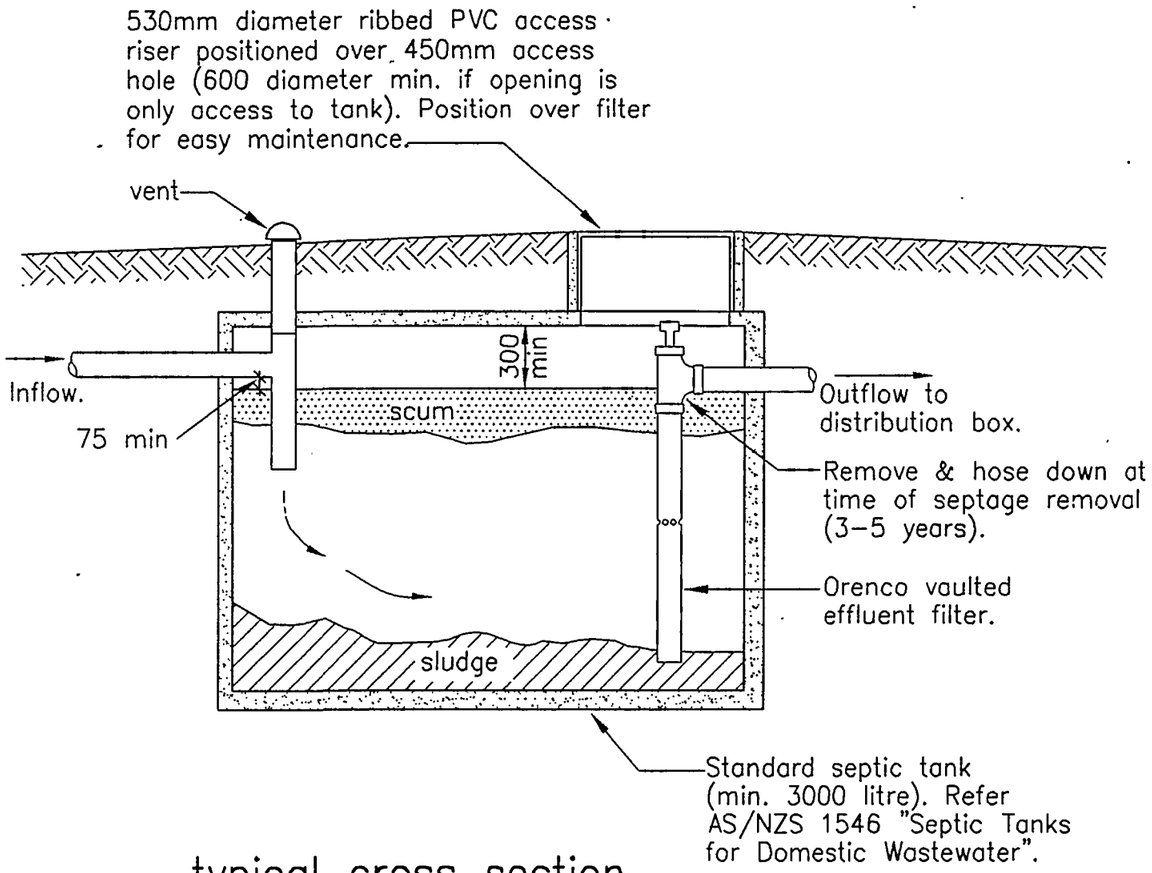
MAHAU SOUND.
plan to accompany Resource Consent.
DATE 4/97
SCALES As Shown
DRAWING No. 5836
SHEET R1
ISSUE A
DES LM
DRN JMF
CK
CAD



typical cross section

1:25

Suggested Operation and Maintenance Septic Tank

1. The inflowing household sewage should not contain anything other than human waste and toilet paper, and food material such as may go down a kitchen sink drain. Garbage grinders are not recommended, although they need not be forbidden. More frequent de-sludging of the septic tank may be needed if a garbage grinder is used.
   Normal use in the house of soaps, detergents, bleaches, plumbing fixture cleaners, drain cleaners and disinfectants will not harm the functioning of the septic tank or the soil absorbtion system.

2. Prohibited discharges to the septic tank include:-
   Oil/grease from e.g. a deep fryer.
   Stormwater and any drainage other than sewage generated in the house.
   Petrol, oil and other flammable/explosive substances.
   Household, garden, garage, and workshop chemicals (e.g. pesticides paint cleaners, photographic chemicals, motor oil and trade waste).
   Disposable nappies and sanitary napkins.

3. Septic tanks need to be pumped (septage removed when the scum layer comes to within 75mm of the bottom of the outlet tee or when sludge and scum have accumulated to the extent that the clear space (between scum and sludge) has a volume less than 1000 litres). Septage removal may need to be done as often as every three years but at no longer than five year intervals.

"Orenco" vaulted filter

1. The septic tank should be pumped prior to removal of the filter to prevent any solids from escaping to the trenches when the cartridge is removed.
2. The Orenco filter shall be cleaned at the same time as normal septic tank servicing (3-5 years).
3. Remove the disc cartridge and rinse off with a garden hose, being careful to rinse all septage material back into the tank.
   It is not neccessary that the discs be cleaned "spotless".
   The biomass growing on the filter aids in the pre-treatment process and should be left in the discs.

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LOT 3 DP 3403.
MOETAPU BAY ROAD.
MAHAU SOUND.

effluent disposal field
typical septic tank details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	1:25	5836	R2	A

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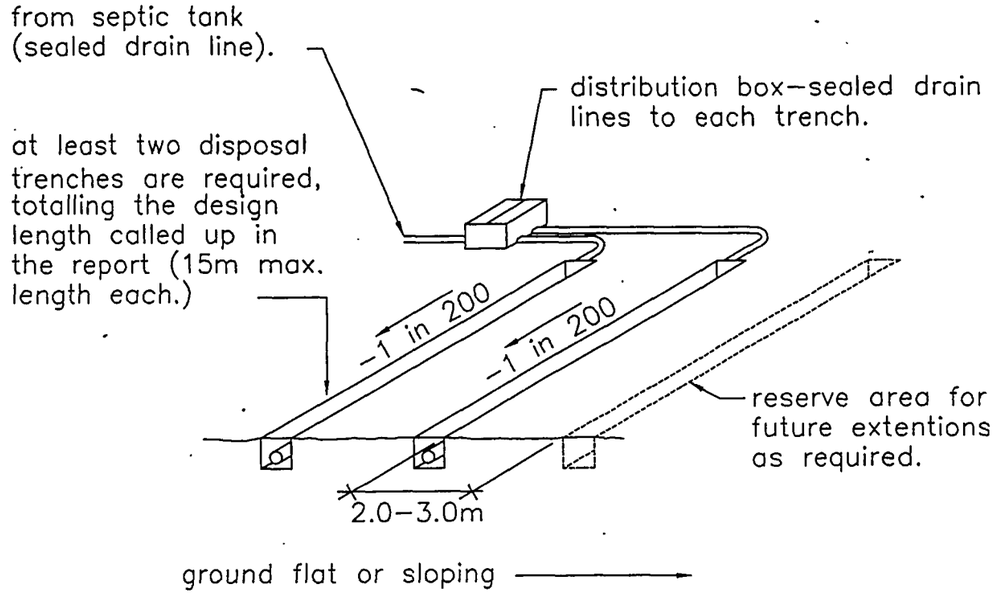
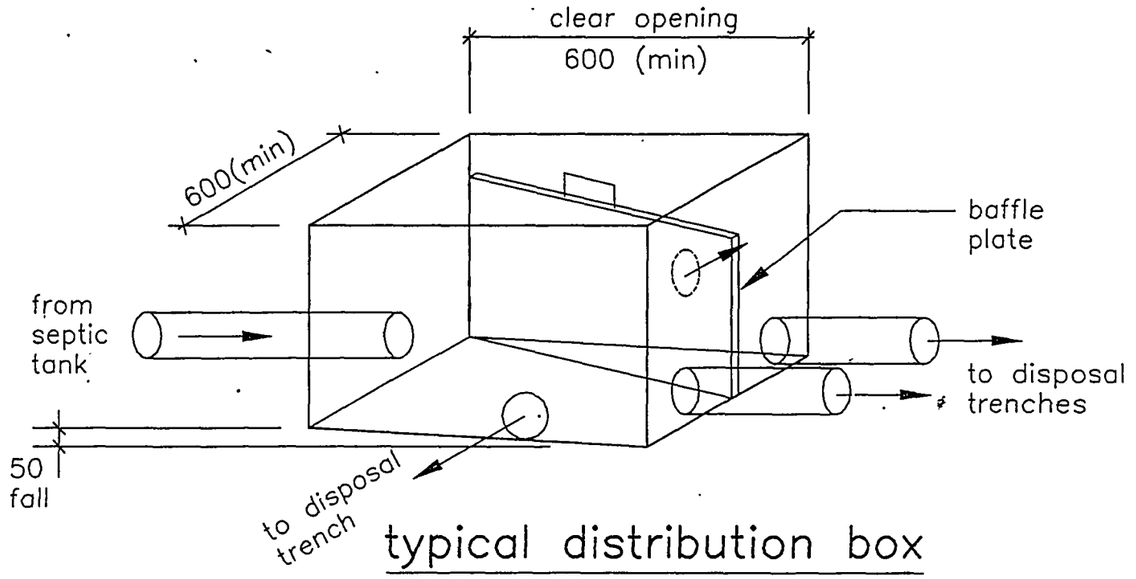


typical trench layout

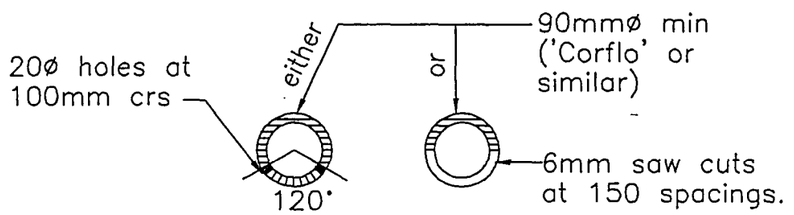
NOTES–

(1) Inlet and outlet pipes 90–100mm diameter.
(2) Lid to be made up flush with ground level.
(3) Construction to be of approved materials.
(4) Baffle plate to be used for alternation of loading and resting cycles. It should be removed when system is fully loaded.

(5) Distribution pipes to be 90mm diameter min.
(6) Distribution pipes to be laid flat or at gradient not greater than 1 in 200.

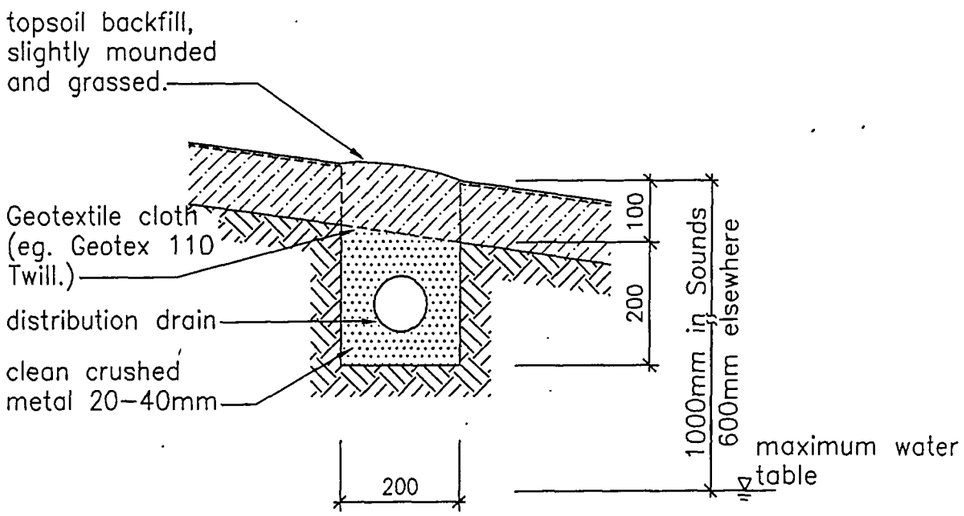


typical distribution box



distribution drains

(for gravity feeding only.)



shallow disposal trench

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effluent disposal field
typical details

DATE	SCALES	DRAWING No.	SHEET	ISSUE
4/97	N.T.S	5836	R3	A

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