

# DEANE CONSULTANCY LTD

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19/106/ESCP1

## **Panetiki Ltd, 20 Omaha Block Access Rd Erosion and Sediment Control Summary Report**

### **Preamble:**

Auckland Council have requested a report covering proposed Erosion and Sediment Control measures in support of a resource consent application.

Proposed measures for stages 1 to 4 are shown on the “Erosion and sediment control concept plan” (4 sheets. Ref: 20 OBAR/ 03.12.21). All work will be in accordance with GD05. A high level of silt control is demanded by our clients and will be delivered on site. No contaminated runoff is to be allowed to the coastal fringe areas. All control ponds and emergency outlets are to lead to the central overland flow path. While discharge from these is expected to be minimal, further treatment of suspended sediment will occur by filtration in the vegetated bed of this OFP.

### **Proposed stages:**

Construction and associated earthworks will be staged as below. Once the catchment feeding each sediment control pond has been stabilised, that pond will be backfilled and compacted and covered in lawn or garden.

Stage 1 is entirely within the western bank of the overland flow path, stages 2 and 3 are entirely within the eastern bank.

**Stage 1:** This is underway. The stage 1 sediment control pond was installed prior to earthworks commencing for the utility shed, pavilion and associated works. It is working well, with minimal discharges exiting the pond even during what has been a wet spring season.

**Stage 2:** Accommodation unit 01. A new sediment control pond will be established below the earthworked and building area. This will mirror the stage 1 pond, and will be sized and detailed as specified in GD05.

A supersilt fence is to be erected on undisturbed ground above the steep bank which falls to the coastline as no sediment discharge is acceptable here.

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**Stage 3:** Accommodation unit 02. Unfortunately ground levels and topography will not allow a single sediment control pond to cater for both accommodation units 01 and 02. So a separate, and much smaller pond will be provided immediately below unit 02.

**Stage 4:** Accommodation unit 03. It has been decided to construct this on timber piles. So the amount of earthworks will be very minor, perhaps a topsoil scrape and metal for garage and parking areas. However as this unit is close to a beach, any sediment discharge is unacceptable. A silt fence is to surround any earth worked areas to trap all runoff. The work associated with unit 03 should be carried out speedily, and on a good upcoming weather forecast.

Further assessment against AUP criteria is set out in the attached addendum.



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P A Deane,  
CMEngNZ, CPEng.  
3 December, 2021.

In terms of the AUP, the proposed erosion controls are assessed as follows:

## Table E11.4.1 activity A9

### E11.6.2:

- (1) Water borne sediments from earthworks will be contained within Stage 1 to 3 sediment control ponds, and the stage 4 silt fence. Any discharges will be minimal.
- (2) This is accepted, and will be complied with.
- (3) This is noted. Any dewatering will be discharged into the sediment control ponds.
- (4) Trenching. This requirement is noted and will be observed when pipework trenches are constructed.
- (5) No clean fill will be imported. The job has a surplus of cut materials.
- (6) Noted. However there are no kauri trees on the subject lot, nor in the close vicinity.
- (7, 8) N/A



P A Deane,  
CMEngNZ, CPEng.  
2 December, 2021.

## **20 Omaha Block Access Road**

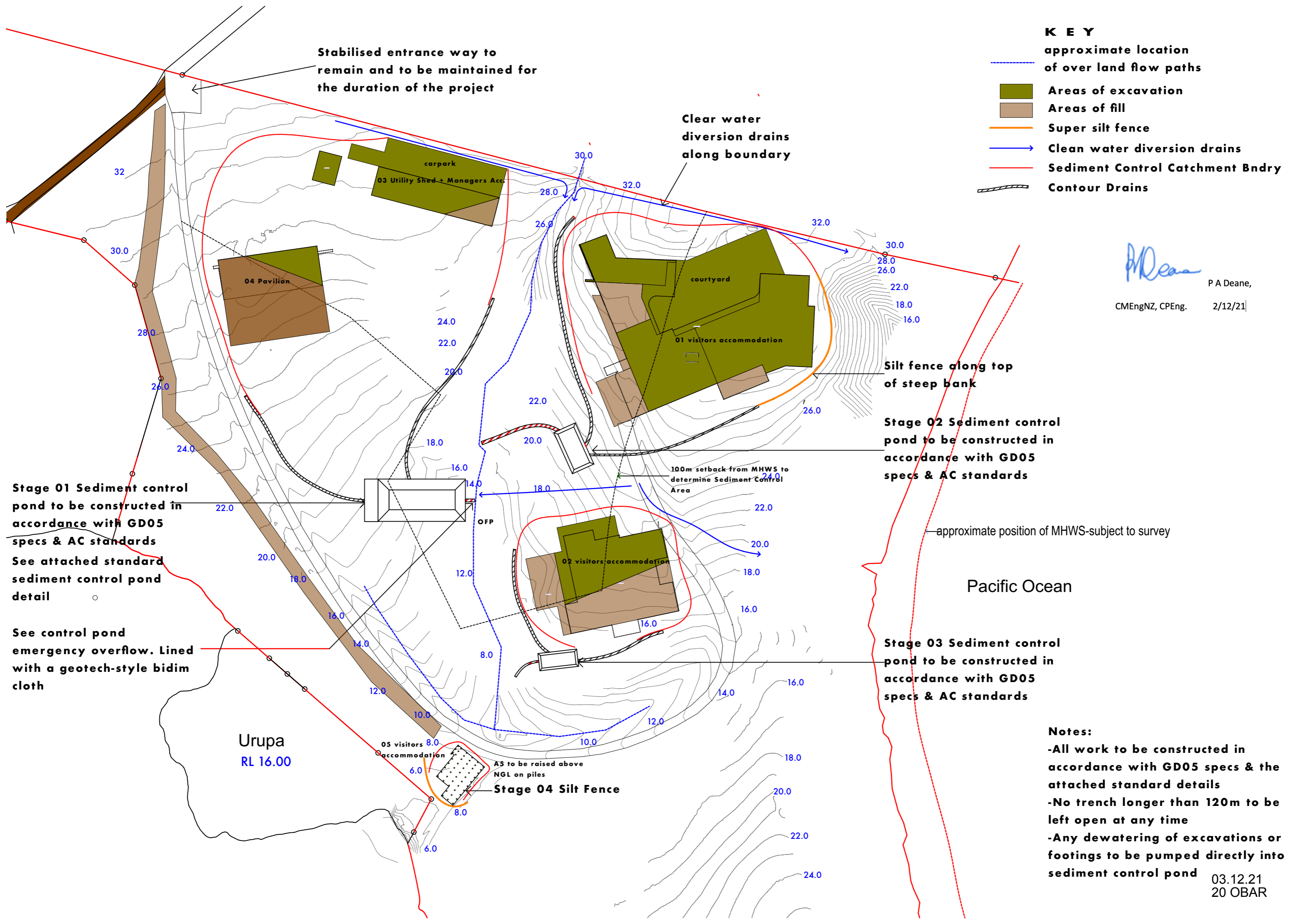
### **Erosion and sediment control Concept Plan**

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Proposed erosion and sediment control plan for 20 Omaha Block Access rd.  
Earthworks areas and volumes to be confirmed.

All controls are to be in accordance with Auckland council regulations and GD05 specifications. Treatment of silt ponds will be carried out to the recommendations once soil testing is complete.

Overland flow path diversion is to be created and maintained throughout the duration of the earthworks process.



- KEY**
- approximate location of over land flow paths
  - Areas of excavation
  - Areas of fill
  - Super silt fence
  - Clean water diversion drains
  - Sediment Control Catchment Bndry
  - Contour Drains

*P A Deane*  
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 CMEngNZ, CPEng. 2/12/21

Stabilised entrance way to remain and to be maintained for the duration of the project

Clear water diversion drains along boundary

Silt fence along top of steep bank

Stage 02 Sediment control pond to be constructed in accordance with GD05 specs & AC standards

Stage 01 Sediment control pond to be constructed in accordance with GD05 specs & AC standards  
 See attached standard sediment control pond detail

See control pond emergency overflow. Lined with a geotech-style bidim cloth

100m setback from MHWS to determine Sediment Control Area

approximate position of MHWS-subject to survey

Pacific Ocean

Stage 03 Sediment control pond to be constructed in accordance with GD05 specs & AC standards

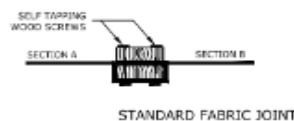
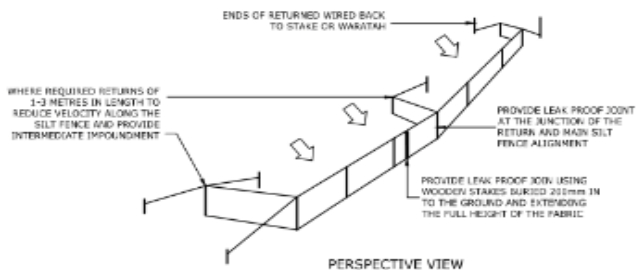
Urupa  
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A5 to be raised above NGL on piles

Stage 04 Silt Fence

- Notes:**
- All work to be constructed in accordance with GD05 specs & the attached standard details
  - No trench longer than 120m to be left open at any time
  - Any dewatering of excavations or footings to be pumped directly into sediment control pond

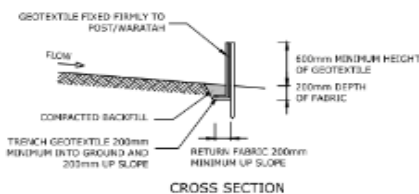
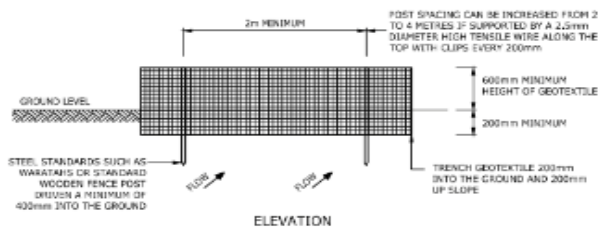
03.12.21  
 20 OBAR



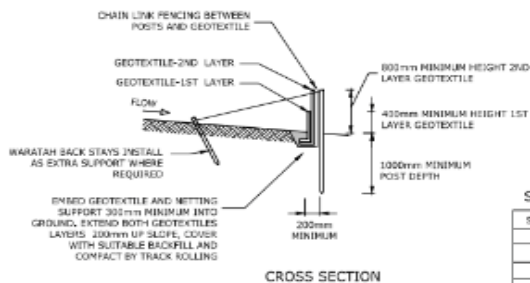
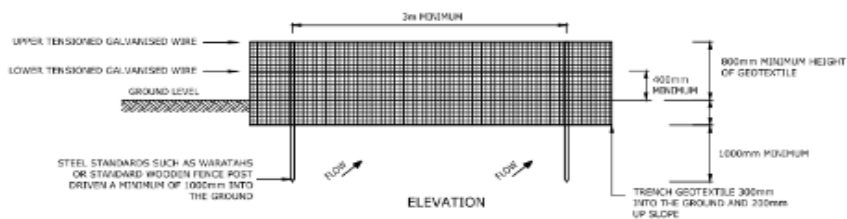
**SILT FENCE DESIGN CRITERIA:**

SLOPE STEEPNESS %	SLOPE LENGTH (m) (MAXIMUM)	SPACING OF RETURNS (m)
< 2%	N/A	UNLIMITED
2-10%	40	60
10-20%	30	50
20-33%	20	40
33-50%	15	30
>50%	6	20

GRAB TENSILE STRENGTH: >140N (ASTM D4632)  
 TENSILE MODULUS: 0.140 psi (MINIMUM)  
 APPARENT OPENING SIZE: 0.1-0.5mm (ASTM D4751)



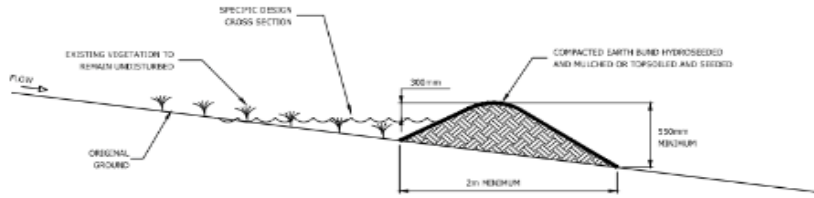
**SILT FENCE CONSTRUCTION**



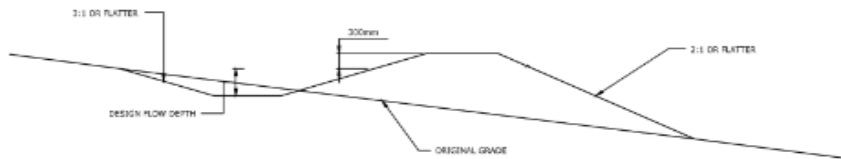
**SUPER SILT FENCE DESIGN CRITERIA:**

SLOPE STEEPNESS %	SLOPE LENGTH (m) (MAXIMUM)	SPACING OF RETURNS (m)
0-10%	UNLIMITED	60
10-20%	60	30
20-33%	30	40
33-50%	30	30
>50%	15	20

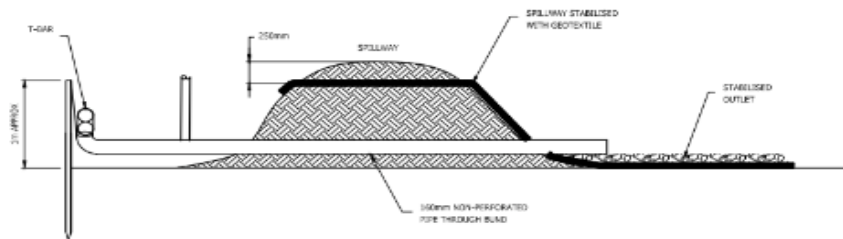
**SUPER SILT FENCE CONSTRUCTION**



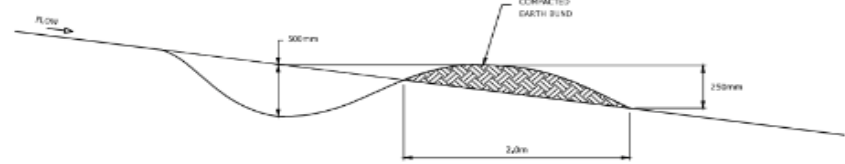
CLEANWATER RUNOFF DIVERSION BUND - CROSS SECTION



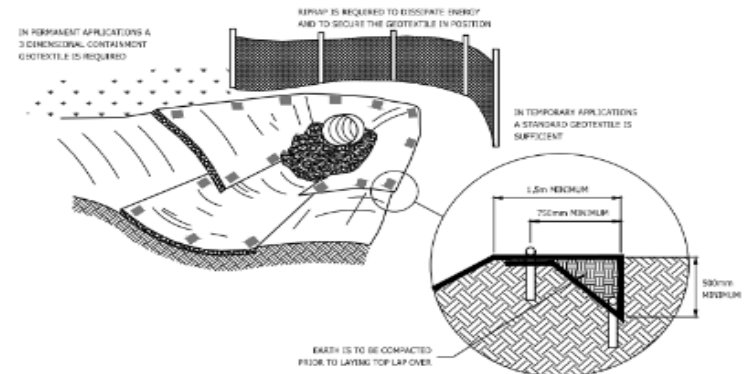
RUNOFF DIVERSION BUND - CROSS SECTION



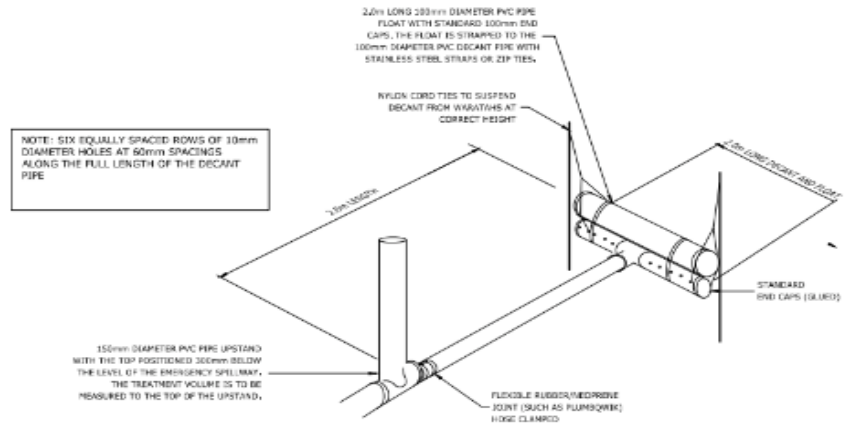
EARTH BUND



CONTOUR DRAIN



GEOTEXTILE AT CULVERT OUTLET



100mm DECANT WITH UPSTAND FOR DECANTING EARTH BUND

