Appendix E.  Sketches of Concept Design Options
Ammon layer - 2 layers of D50 (size subject to design)
D50 ranges from 300 mm - 800 mm

Filter layer - 2 layers of D50 (size subject to design)
- Min 300 mm thick

Design water level

Filter fabric
Compact granular fill
Backfill with clay, topsoil & grass

H6 Marine timber poles
- Size and spacing to be designed

Free draining granular fill, typically 20mm-40mm

100 mm diameter HDPE pipe lined with Fe1, straight c. Astfall determined at each location

H6 Marine treated timber
- Lagging - Dimensions to be designed

17 Mpa concrete

Pole diameter dependent on design
Arrows layer - 2 layers of 
D₅₀ (size subject to design) 
D₅₀ varies from 50mm - 80mm.

Gross width
(Min 3m)

Nominal 1m

Design water level

Filter layer - 2 layers of 
D₅₀ (size subject to design) 
- Min 300 mm thick

Filter fabric

Size and cost will be subject to:

- Detailed design
- Site conditions
- Water depth & wave height
Size and cost will be subject to:

- Detail design
- Site conditions
- Water depth and wave height.

Armour layer - 2 layers of $d_50$ (size subject to design)
$D_50$ varies from 300mm - 800mm

Main crest: depth = 1m

Filter fabric

Low tide level

Ballast fill

Filter layer - 2 layers of $d_5$ (subject to design)
- Min 300mm thick.
DRAIN DETAIL

Inclination angle
5°-15°

End cap

Grad. plug

100mm - 150mm
diameter slotted PVC pipe
wrapped in geotextile filter
fabric TN2 F/17 class 1/3

Non-slotted

2m-25m long horizontal drain

Low permeability
sensitive soils

2m-25m long
horizontal drain

Main slip
camp

High tide

Shoreline

Remediation Options - Concept Only
Horizontal Bored Drain Detail