

SEDIMENTATION AND EROSION CONTROL PLAN

SCALE 1:200

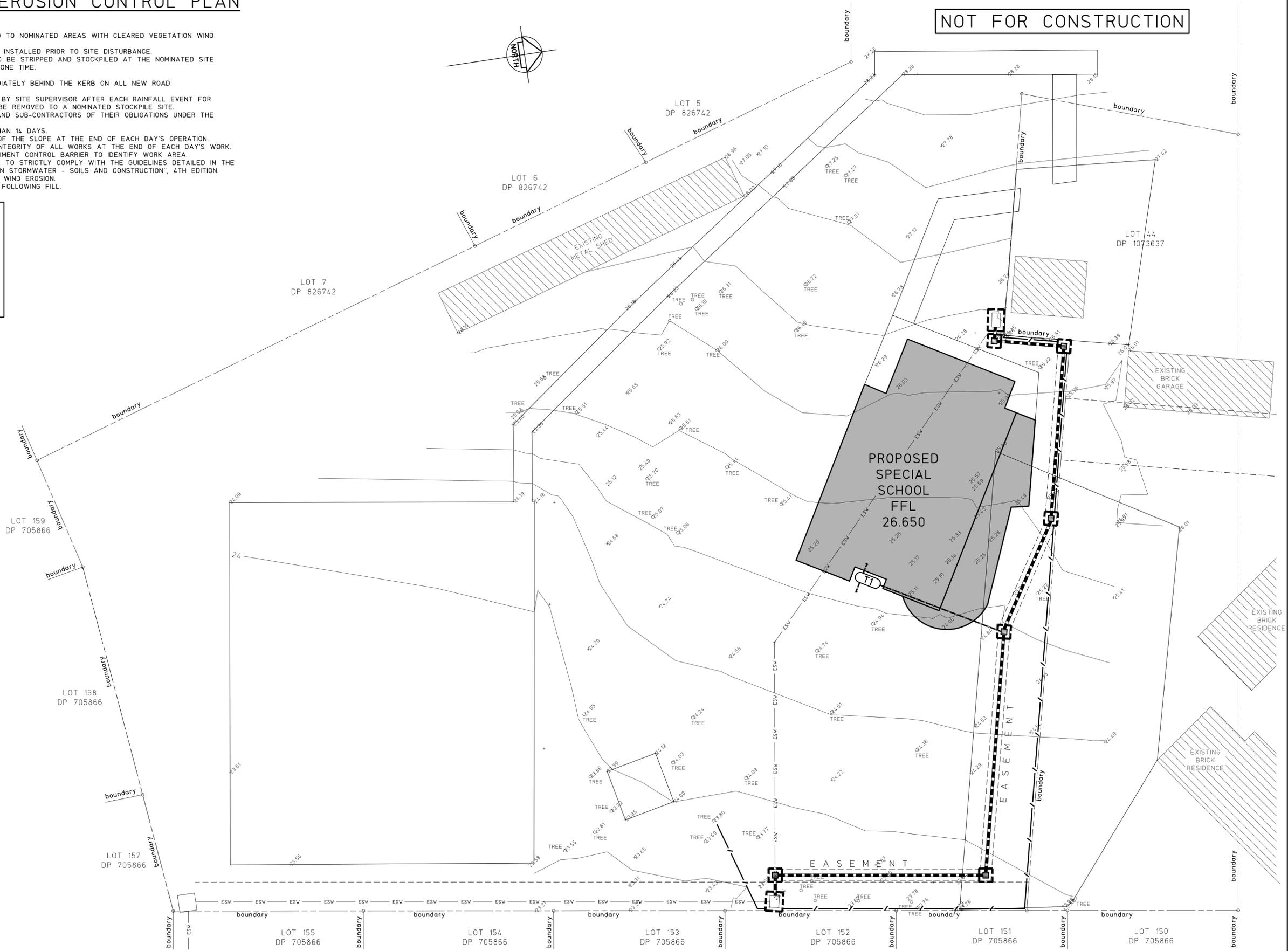
SEDIMENTATION AND EROSION CONTROL NOTES

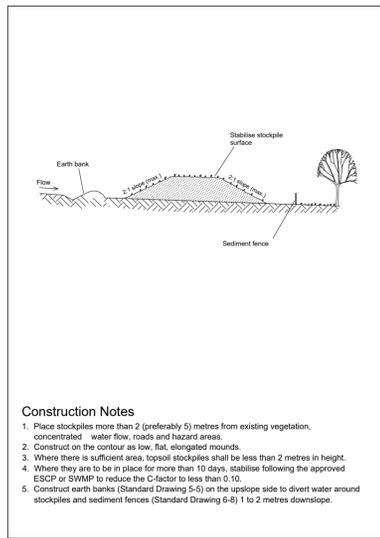
1. SELECTIVE CLEARING OF VEGETATION TO BE RESTRICTED TO NOMINATED AREAS WITH CLEARED VEGETATION WIND ROWED ON THE CONTOUR.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO SITE DISTURBANCE.
3. TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED AT THE NOMINATED SITE.
4. NO MORE THAN 150m OF TRENCH TO BE OPEN AT ANY ONE TIME.
5. CUT AND FILL BATTER GRADIENTS OF 1:2 (MAXIMUM).
6. A STRIP OF TURF 450mm WIDE IS TO BE PLACED IMMEDIATELY BEHIND THE KERB ON ALL NEW ROAD TO ACT AS A FILTER TRAP. REFER TO DETAIL SD6-13.
7. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED BY SITE SUPERVISOR AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED STOCKPILE SITE.
8. THE PROJECT MANAGER TO INFORM ALL CONTRACTORS AND SUB-CONTRACTORS OF THEIR OBLIGATIONS UNDER THE EROSION AND SEDIMENT CONTROL PLAN.
9. NO DISTURBED AREA IS TO REMAIN DENUDED LONGER THAN 14 DAYS.
10. ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END OF EACH DAY'S OPERATION.
11. THE CONTRACTOR MUST ENSURE THE SUITABILITY AND INTEGRITY OF ALL WORKS AT THE END OF EACH DAY'S WORK.
12. ORANGE BARRIER TAPE TO BE AFFIXED TO TOP OF SEDIMENT CONTROL BARRIER TO IDENTIFY WORK AREA.
13. ALL SEDIMENTATION & EROSION CONTROL MEASURES ARE TO STRICTLY COMPLY WITH THE GUIDELINES DETAILED IN THE DEPARTMENT OF HOUSING PUBLICATION, "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", 4TH EDITION.
14. WATER TRUCKS TO BE USED AS REQUIRED TO PREVENT WIND EROSION.
15. SUBGRADE MATERIAL TO BE CONSTRUCTED IMMEDIATELY FOLLOWING FILL.

LEGEND

-  DENOTES ALLOWABLE AREA FOR TEMPORARY STOCKPILING OF CUT SOIL MATERIAL, REFER TO DETAIL SD4-1
-  DENOTES SEDIMENT FENCE, REFER TO DETAIL SD6-8
-  DENOTES GEOTEXTILE INLET FILTER, REFER TO DETAIL SD6-12

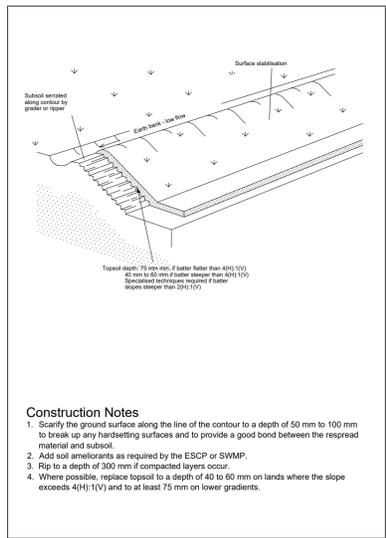
NOT FOR CONSTRUCTION





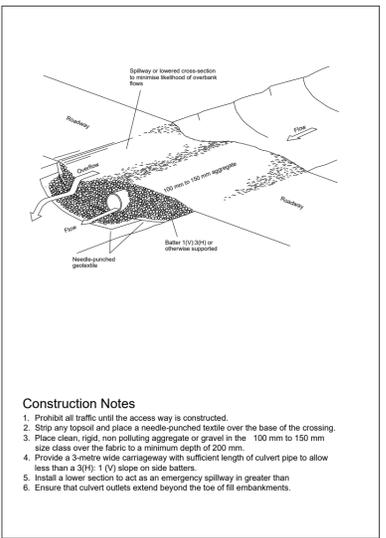
Construction Notes

- Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- Construct on the contour as low, flat, elongated mounds.
- Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) to 2 metres downslope.



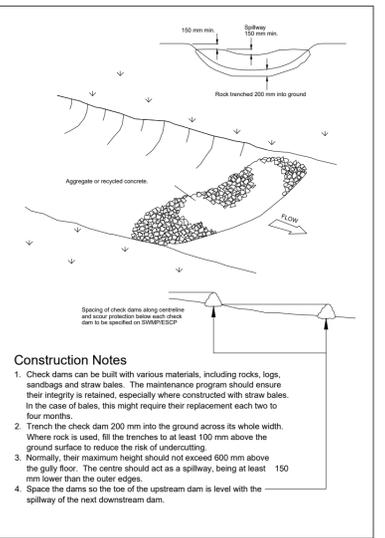
Construction Notes

- Scarify the ground surface along the line of the contour to a depth of 50 mm to 100 mm to break up any hardsetting surfaces and to provide a good bond between the respread material and subsoil.
- Add soil ameliorants as required by the ESCP or SWMP.
- Rip to a depth of 300 mm if compacted layers occur.
- Where possible, replace topsoil to a depth of 40 to 60 mm on lands where the slope exceeds 4H:1(V) and to at least 15 mm on lower gradients.



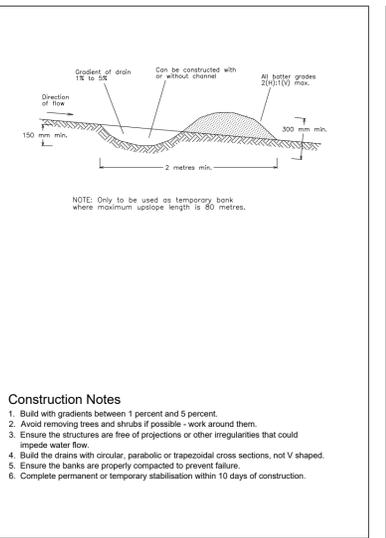
Construction Notes

- Prohibit all traffic until the access way is constructed.
- Strip any topsoil and place a needle-punched textile over the base of the crossing.
- Place clean, rigid, non-polluting aggregate or gravel in the 100 mm to 150 mm size class over the fabric to a minimum depth of 200 mm.
- Provide a 3-metre wide carriageway with sufficient length of culvert pipe to allow less than a 3H:1(V) slope on side batters.
- Install a lower section to act as an emergency spillway in greater than 150 mm lower than the outer edges.
- Ensure that culvert outlets extend beyond the toe of fill embankments.



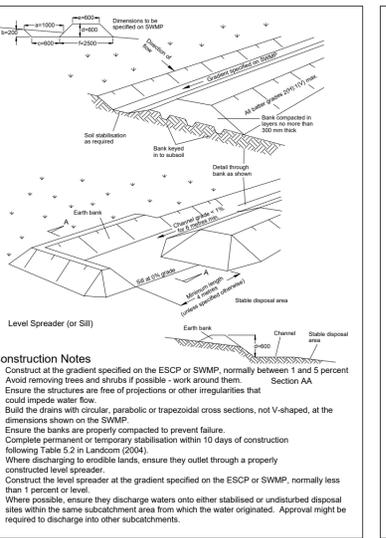
Construction Notes

- Check dams can be built with various materials, including rocks, logs, sandbags and straw bales. The maintenance program should ensure their integrity is retained, especially where constructed with straw bales. In the case of bales, this might require their replacement each two to four months.
- Trench the check dam 200 mm into the ground across its whole width. Where rock is used, fill the trenches to at least 100 mm above the ground surface to reduce the risk of undercutting.
- Normally, their maximum height should not exceed 600 mm above the gully floor. The centre should act as a spillway, being at least 150 mm lower than the outer edges.
- Space the dams so the toe of the upstream dam is level with the spillway of the next downstream dam.



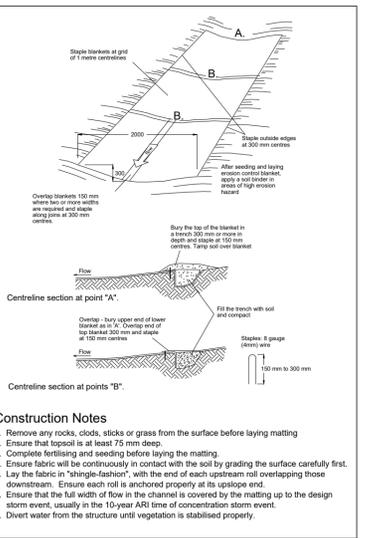
Construction Notes

- Build with gradients between 1 percent and 5 percent.
- Avoid removing trees and shrubs if possible - work around them.
- Ensure the structures are free of projections or other irregularities that could impede water flow.
- Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped.
- Ensure the banks are properly compacted to prevent failure.
- Complete permanent or temporary stabilisation within 10 days of construction.



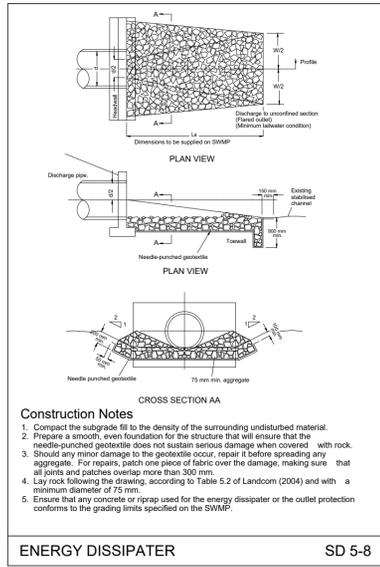
Construction Notes

- Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent.
- Avoid removing trees and shrubs if possible - work around them. Section AA
- Ensure the structures are free of projections or other irregularities that could impede water flow.
- Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
- Ensure the banks are properly compacted to prevent failure.
- Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
- Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
- Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
- Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval may be required to discharge into other subcatchments.



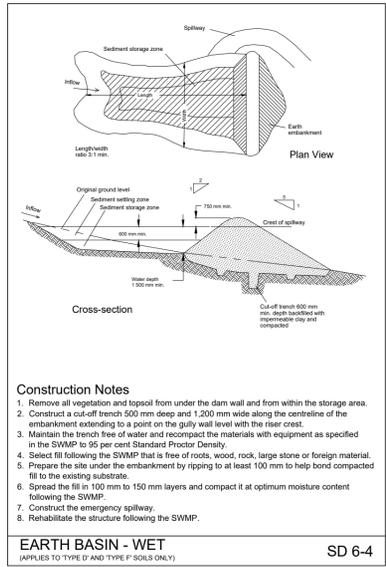
Construction Notes

- Remove any rocks, clods, sticks or grass from the surface before laying matting.
- Ensure that topsoil is at least 75 mm deep.
- Complete fertilising and seeding before laying the matting.
- Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
- Lay the fabric in "single-fabric" with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end.
- Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
- Divert water from the structure until vegetation is stabilised properly.



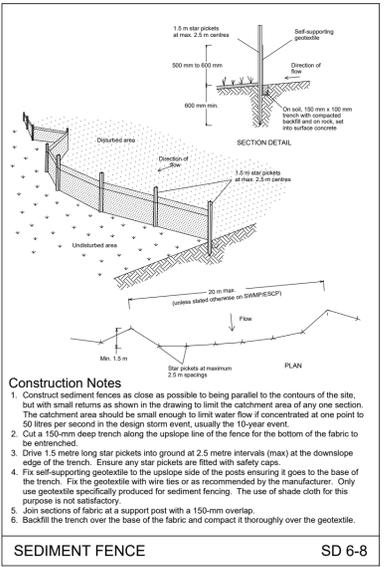
Construction Notes

- Compact the subgrade fill to the density of the surrounding undisturbed material.
- Prepare a smooth, even foundation for the structure that will ensure that the needle-punched geotextile does not sustain serious damage when covered with rock.
- Should any minor damage to the geotextile occur, repair it before spreading any aggregate. For repairs, patch one piece of fabric over the damage, making sure that all joints and patches overlap more than 300 mm.
- Lay rock following the drawing, according to Table 5.2 of Landcom (2004) and with a minimum diameter of 75 mm.
- Ensure that any concrete or riprap used for the energy dissipater or the outlet protection conforms to the grading limits specified on the SWMP.



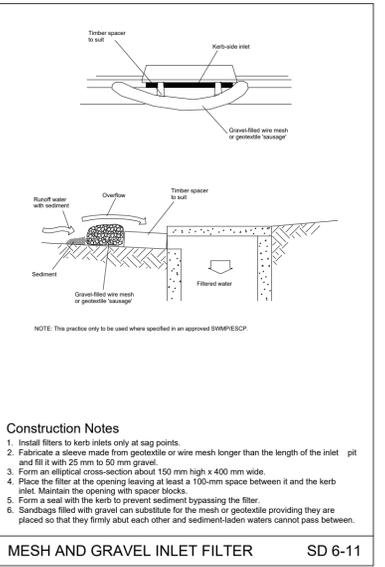
Construction Notes

- Remove all vegetation and topsoil from under the dam wall and from within the storage area.
- Construct a cut-off trench 500 mm deep and 1,200 mm wide along the centreline of the embankment extending to a point on the gully wall level with the riser crest.
- Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
- Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
- Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
- Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
- Construct the emergency spillway.
- Rehabilitate the structure following the SWMP.



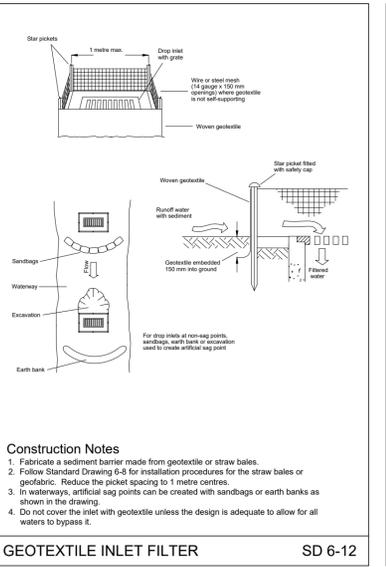
Construction Notes

- Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
- Cut a 150-mm deep trench along the upslope line of the fabric to the bottom of the fabric to be entrenched.
- Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
- Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
- Join sections of fabric at a support post with a 150-mm overlap.
- Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.



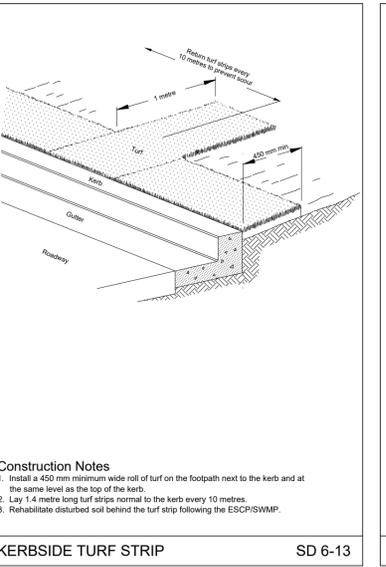
Construction Notes

- Install filters to kerb inlets only at sag points.
- Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
- Form an elliptical cross-section about 150 mm high x 400 mm wide.
- Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
- Form a seal with the kerb to prevent sediment bypassing the filter.
- Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.
- Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.



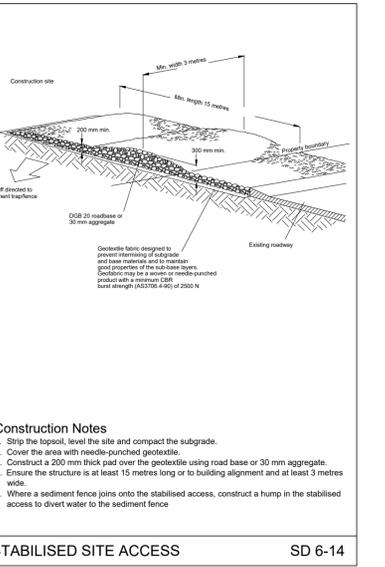
Construction Notes

- Fabricate a sediment barrier made from geotextile or straw bales.
- Follow Standard Drawing 6-8 for installation procedures for the straw bales or geotextile. Reduce the picket spacing to 1 metre centres.
- In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
- Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.



Construction Notes

- Install a 450 mm minimum wide roll of turf on the footpath next to the kerb and at the same level as the top of the kerb.
- Lay 1.4 metre long turf strips normal to the kerb every 10 metres.
- Rehabilitate disturbed soil behind the turf strip following the ESCP/SWMP.



Construction Notes

- Strip the topsoil, level the site and compact the subgrade.
- Cover the area with needle-punched geotextile.
- Construct a 200 mm thick pad over the geotextile using road base or 30 mm aggregate.
- Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
- Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence.

SEDIMENTATION AND EROSION CONTROL DETAILS

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THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS ENDORSED BELOW		The concepts and information contained in this document are the copyright of MPC Consulting Engineers. Use or copying of the document in whole or in part without the written permission of MPC Consulting Engineers constitutes an infringement of copyright.		mpc consulting engineers civil/structural		TITLE SEDIMENTATION AND EROSION CONTROL DETAILS		DRAWN J.D.L.		ENGINEER M.S.		No in SET 4		SHEET A1	
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