INSTALLATION

1. REFER TO APPROVED PLANS FOR LOCATION AND INSTALLATION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.

2. PLACE PIPES ON UNDISTURBED SOIL OR WELL-COMPACTED FILL AT LOCATIONS SHOWN ON THE APPROVED PLAN.

3. EXCAVATE SUITABLE BEDDING FOR THE SLOPE DRAIN INLET. IF IT IS NECESSARY TO CUT THROUGH A FLOW DIVERSION BANK AT THE TOP OF THE SLOPE, THEN LIMIT THE DISTURBANCE TO THE ABSOLUTE MINIMUM.

4. SLIGHTLY GRADE (MINIMUM 3% SLOPE IN THE DIRECTION OF FLOW) THE SECTION OF PIPE UP-SLOPE OF THE CREST OF THE EMBANKMENT.

5. RE-ESTABLISH THE FLOW DIVERSION BANK SO AS TO FIRMLY ANCHOR THE INLET OF THE SLOPE DRAIN. FIRMLY HAND-TAMP THE SOIL UNDER AND AROUND THE INLET SECTION OF PIPE IN LIFTS NOT TO EXCEED 100mm. IF NECESSARY, DRIVE STAKES ON BOTH SIDES OF THE INLET A MINIMUM OF 450mm INTO THE GROUND. SECURE THE PIPE TO THE STAKES WITH WIRE OR CORD.

6. ENSURE THAT THE EMBANKMENT (FLOW DIVERSION BANK) FORMED OVER THE INLET OF THE PIPE HAS MINIMUM DIMENSIONS OF 500mm HEIGHT, 300mm CLEARANCE OVER PIPE OBVERT, AND MAXIMUM 2:1(H:V) SIDE SLOPES.

7. EXTEND THE SLOPE DRAIN DOWN THE SLOPE ENSURING THAT IT IS PLACED PERPENDICULAR TO THE SLOPE CONTOURS.

8. ENSURE THAT ALL PIPE CONNECTIONS ARE WATERTIGHT.

9. ENSURE THAT ALL FILL MATERIAL IS WELL-COMPACTED.

10. SECURELY FASTEN THE PIPE DOWN THE SLOPE WITH ANCHORS SPACED NO MORE THAN 3m APART.

11. EXTEND THE PIPE BEYOND THE TOE OF THE SLOPE AND ADEQUATELY PROTECT THE OUTLET OF THE PIPE FROM EROSION. DO NOT DIRECT THE OUTLET TO A FILL SLOPE OR UNSTABLE GROUND.

12. CONSTRUCT A STABILISED OUTLET STRUCTURE, SUCH AS A ROCK PAD (AS DETAILED ON THE PLANS), TO CONTROL SOIL SCOUR.

13. IMMEDIATELY STABILISE ALL DISTURBED AREAS FOLLOWING INSTALLATION OF THE SLOPE DRAIN.

MAINTENANCE

1. WHILE CONSTRUCTION WORKS CONTINUE ON THE SITE, INSPECT ALL SLOPE DRAINS PRIOR TO FORECAST RAINFALL, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER SIGNIFICANT RUNOFF PRODUCING RAINFALL, AND ON A WEEKLY BASIS.

2. INSPECT FOR:
(i) SOIL EROSION AT THE INLET AND OUTLET;

(ii) SEDIMENT OR DEBRIS BLOCKAGE OF THE INLET;

(iii) WATER DAMAGE CAUSE BY LEAKAGE FORM PIPE JOINTS;

(iv) DAMAGE OR SLUMPING OF THE ASSOCIATED INLET CONTROL FLOW DIVERSION BANK;

(v) LEAKAGE OF WATER THROUGH THE FLOW DIVERSION BANK ALONG THE OUTER SURFACE OF THE PIPE.

3. PROMPTLY MAKE ALL NECESSARY REPAIRS.

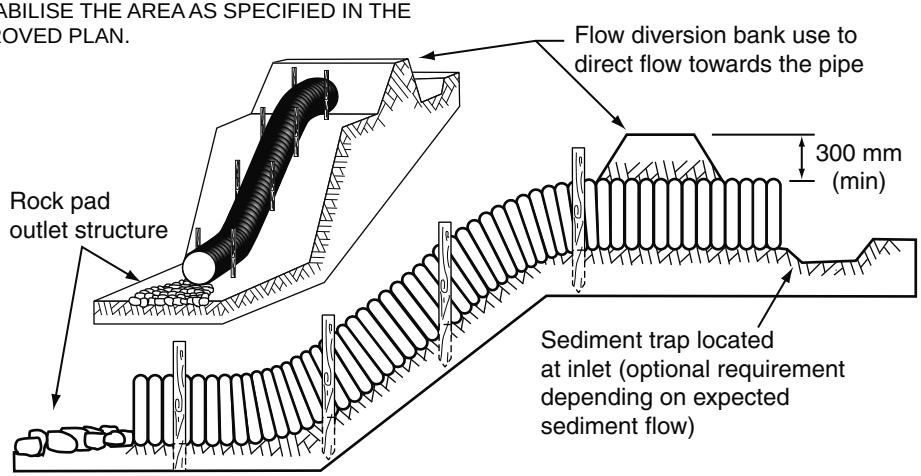
REMOVAL

1. SLOPE DRAINS SHOULD BE REMOVED ONLY WHEN AN ALTERNATIVE, STABLE, DRAINAGE PATH IS AVAILABLE.

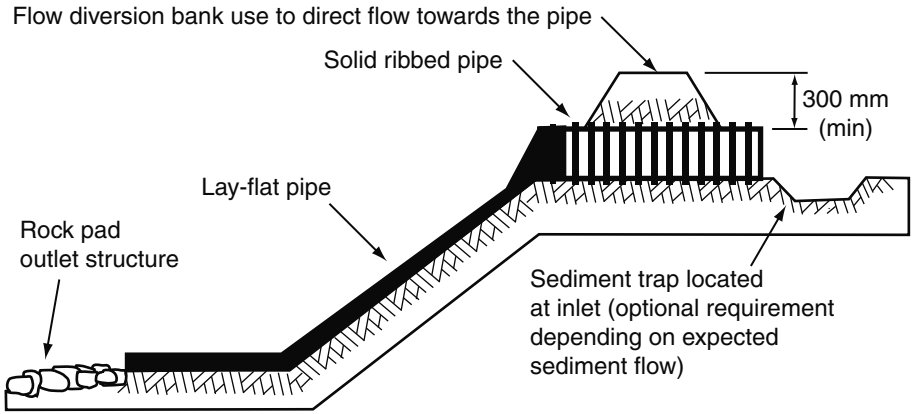
2. REMOVE ALL MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

3. GRADE THE AREA AND SMOOTH IT OUT IN PREPARATION FOR STABILISATION.

4. STABILISE THE AREA AS SPECIFIED IN THE APPROVED PLAN.



(a) Installation of flexible, solid-wall slope drain



(b) Installation of lay-flat pipe slope drain

Drawn:	Date:		
GMW	Dec-09	Slope Drains	SD-01