

## CHUTES - GENERAL SPECIFICATIONS

### INSTALLATION

1. REFER TO APPROVED PLANS FOR LOCATION AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
2. CONSTRUCT THE SUBGRADE TO THE ELEVATIONS SHOWN ON THE PLANS. REMOVE ALL UNSUITABLE MATERIAL AND REPLACE WITH STABLE MATERIAL TO ACHIEVE THE DESIRED FOUNDATIONS.
3. IF THE CHUTE IS TEMPORARY, THEN COMPACT THE SUBGRADE TO A FIRM CONSISTENCY. IF THE CHUTE IS INTENDED TO BE PERMANENT, THEN COMPACT AND FINISH THE SUBGRADE AS SPECIFIED WITHIN THE DESIGN PLANS.
4. IF THE CHUTE IS TO BE LINED WITH ROCK, THEN AVOID COMPACTING THE SUBGRADE TO A CONDITION THAT WOULD PREVENT THE ROCK LINING FROM ADEQUATELY BEDDING INTO THE SUBGRADE.
5. ENSURE THE SUBGRADE IS FIRM ENOUGH TO MINIMISE WATER SEEPAGE.
6. ON FILL SLOPES, ENSURE THAT THE SOIL IS ADEQUATELY COMPACTED FOR A WIDTH OF AT LEAST ONE METRE EACH SIDE OF THE CHUTE TO MINIMISE THE RISK OF SOIL EROSION, OTHERWISE PROTECT THE SOIL WITH SUITABLE SCOUR PROTECTION MEASURES SUCH AS TURF OR EROSION CONTROL MATS.
7. PLACE AND SECURE THE CHUTE LINING AS DIRECTED.
8. IF CONCRETE IS USED AS A LINING, THEN KEEP THE SUBGRADE MOIST AT THE TIME CONCRETE IS PLACED. FORM, CUT-OFF WALLS AND ANCHOR BLOCKS AS DIRECTED IN THE APPROVED PLANS.
9. INSTALL AN APPROPRIATE OUTLET STRUCTURE (ENERGY DISSIPATER) AT THE BASE OF THE CHUTE (REFER TO SEPARATE SPECIFICATIONS).
10. ENSURE WATER LEAVING THE CHUTE AND THE OUTLET STRUCTURE WILL FLOW FREELY

WITHOUT CAUSING UNDESIRABLE PONDING OR SCOUR.

11. APPROPRIATELY STABILISE ALL DISTURBED AREAS IMMEDIATELY AFTER CONSTRUCTION.

### MAINTENANCE

1. DURING THE CONSTRUCTION PERIOD, INSPECT ALL CHUTES PRIOR TO FORECAST RAINFALL, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER SIGNIFICANT RUNOFF PRODUCING STORM EVENTS, OR OTHERWISE ON A WEEKLY BASIS. MAKE REPAIRS AS NECESSARY.
2. CHECK FOR MOVEMENT OF, OR DAMAGE TO, THE CHUTE LINING, INCLUDING SURFACE CRACKING.
3. CHECK FOR SOIL SCOUR ADJACENT THE CHUTE. INVESTIGATE THE CAUSE OF ANY SCOUR, AND REPAIR AS NECESSARY.
4. WHEN MAKING REPAIRS, ALWAYS RESTORE THE CHUTE TO ITS ORIGINAL CONFIGURATION UNLESS AN AMENDED LAYOUT IS REQUIRED.

### REMOVAL

1. TEMPORARY CHUTES SHOULD BE REMOVED WHEN AN ALTERNATIVE, STABLE, DRAINAGE SYSTEM IS AVAILABLE.
2. REMOVE ALL MATERIALS AND DEPOSITED SEDIMENT, AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
3. GRADE THE AREA IN PREPARATION FOR STABILISATION, THEN STABILISE THE AREA AS SPECIFIED IN THE APPROVED PLAN.

### ADDITIONAL SPECIFICATIONS FOR ROCK PAD OUTLET STRUCTURE AT BASE OF CHUTE:

#### MATERIALS:

**ROCK:** HARD, ANGULAR, DURABLE, WEATHER RESISTANT AND EVENLY GRADED WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL ROCK SIZE AND SUFFICIENT SMALL ROCK TO FILL THE VOIDS BETWEEN THE LARGER ROCK. THE DIAMETER OF THE LARGEST ROCK SIZE SHOULD BE NO LARGER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. SPECIFIC GRAVITY TO BE AT LEAST 2.5.

**GEOTEXTILE FABRIC:** HEAVY-DUTY, NEEDLE-PUNCHED, NON-WOVEN FILTER CLOTH, MINIMUM BIDIM A24 OR EQUIVALENT.

### INSTALLATION (ROCK OUTLET PADS)

1. REFER TO APPROVED PLANS FOR LOCATION AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
2. THE DIMENSIONS OF THE OUTLET STRUCTURE MUST ALIGN WITH THE DOMINANT FLOW DIRECTION.
3. EXCAVATE THE OUTLET PAD FOOTPRINT TO THE SPECIFIED DIMENSION SUCH THE WHEN THE ROCK IS PLACED IN THE EXCAVATED PIT THE TOP OF THE ROCKS WILL BE LEVEL WITH THE SURROUNDING GROUND, UNLESS OTHERWISE DIRECTED.
4. IF THE EXCAVATED SOILS ARE DISPERSIVE, OVER-EXCAVATED THE ROCK PAD BY AT LEAST 300mm AND BACKFILL WITH STABLE, NON-DISPERSIVE MATERIAL.
5. LINE THE EXCAVATED PIT WITH GEOTEXTILE FILTER CLOTH, PREFERABLY USING A SINGLE SHEET. IF JOINTS ARE REQUIRED, OVERLAP THE FABRIC AT LEAST 300mm.
6. ENSURE THE FILTER CLOTH IS PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION OF THE FABRIC AND THE ROCK. REPAIR ANY DAMAGE BY REMOVING THE ROCK AND PLACING WITH ANOTHER PIECE OF FILTER CLOTH OVER THE DAMAGED AREA OVERLAPPING THE EXISTING FABRIC A MINIMUM OF 300mm.
7. ENSURE THERE ARE AT LEAST TWO LAYERS OF ROCKS. WHERE NECESSARY, REPOSITION THE LARGER ROCKS TO ENSURE TWO LAYERS OF ROCKS ARE ACHIEVED WITHOUT ELEVATING THE UPPER SURFACE ABOVE THE PIPE INVERT.

8. ENSURE THE ROCK IS PLACED IN A MANNER THAT WILL ALLOW WATER TO DISCHARGE FREELY FROM THE PIPE.

9. ENSURE THE UPPER SURFACE OF THE ROCK PAD DOES NOT CAUSE WATER TO BE DEFLECTED AROUND THE EDGE OF THE ROCK PAD.

10. IMMEDIATELY AFTER CONSTRUCTION, APPROPRIATELY STABILISE ALL DISTURBED AREAS.

### MAINTENANCE

1. WHILE CONSTRUCTION WORKS CONTINUE ON THE SITE, INSPECT THE OUTLET STRUCTURE PRIOR TO FORECAST RAINFALL, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER SIGNIFICANT RUNOFF PRODUCING RAINFALL, AND ON AT LEAST A WEEKLY BASIS.
2. REPLACE ANY DISPLACED ROCK WITH ROCK OF A SIGNIFICANTLY (MINIMUM 110%) LARGER SIZE THAN THE DISPLACED ROCK.

### REMOVAL

1. TEMPORARY OUTLET STRUCTURES SHOULD BE COMPLETELY REMOVED, OR WHERE APPROPRIATE, REHABILITATED SO AS NOT TO CAUSE ONGOING ENVIRONMENTAL NUISANCE OR HARM.
2. FOLLOWING REMOVAL OF THE DEVICE, THE DISTURBED AREA MUST BE APPROPRIATELY REHABILITATED SO AS NOT TO CAUSE ONGOING ENVIRONMENTAL NUISANCE OR HARM.
3. REMOVE MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

Drawn:

GMW

Date:

Dec-09

Chutes - General

CH-02