INSTALLATION

1. REFER TO APPROVED PLANS FOR LOCATION, EXTENT AND CONSTRUCTION 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. ENSURE ALL NECESSARY SOIL TESTING (e.g. SOIL pH, NUTRIENT LEVELS) AND ANALYSIS HAS BEEN COMPLETED, AND REQUIRED SOIL ADJUSTMENTS PERFORMED PRIOR TO PLANTING.

3. REMOVE ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL FROM THE CHANNEL FOOTPRINT AND DISPOSE OF PROPERLY.

4. EXCAVATE THE CHANNEL AND SHAPE IT TO NEAT LINES AND DIMENSIONS SHOWN ON THE APPROVED PLAN. ENSURE AN ADEQUATE ALLOWANCE IN THE EXCAVATED DIMENSIONS, TYPICALLY 75mm, FOR THE PLACEMENT TOPSOIL AND TURFING.

5. REMOVE AND PROPERLY DISPOSE OF ALL EXCESS SOIL SO THAT SURFACE WATER MAY ENTER THE CHANNEL FREELY.

6. THE PROCEDURES USED TO ESTABLISH GRASS WITHIN THE CHANNEL WILL DEPEND UPON THE EXPECTED WEATHER CONDITIONS, THE TYPE OF GRASS, AND THE LIKELY FLOW CONDITIONS WITHIN THE CHANNEL DURING AND IMMEDIATELY AFTER PLANTING. ENSURE THE ADOPTED PLANTING PROCEDURES ARE CONSISTENT WITH THE APPROVED PLANS OR THE RECOMMENDATIONS OF THE LANDSCAPE DESIGNERS.

ADDITIONAL REQUIREMENTS WHEN LAYING TURF WITHIN A DRAINAGE CHANNEL:

1. TURF SHOULD BE USED WITHIN 12-HOURS OF DELIVERY, OTHERWISE ENSURE THE TURF IS STORED IN CONDITIONS APPROPRIATE FOR THE WEATHER CONDITIONS (e.g. A SHADED AREA).

2. MOISTENING THE TURF AFTER IT IS UNROLLED WILL HELP MAINTAIN ITS VIABILITY.

3. TURF SHOULD BE LAID ON A MINIMUM 75mm BED OF ADEQUATELY FERTILISED TOPSOIL. RAKE THE SOIL SURFACE TO BREAK THE CRUST JUST BEFORE LAYING THE TURF.

4. DURING THE WARMER MONTHS, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY BEFORE LAYING THE TURF.

5. ENSURE THE TURF IS NOT LAID ON GRAVEL, HEAVILY COMPACTED SOILS, OR SOILS THAT HAVE BEEN RECENTLY TREATED WITH HERBICIDES.

6. LAY THE FIRST ROW OF TURF IN A STRAIGHT LINE DIAGONAL TO THE DIRECTION OF FLOW. STAGGER SUBSEQUENT ROWS IN A BRICK-LIKE (STRETCHER BOND) PATTERN. THE TURF SHOULD NOT BE STRETCHED OR OVERLAPPED. USE A KNIFE OR SHARP SPADE TO TRIM AND FIT IRREGULARLY SHAPED AREAS.

7. ENSURE THE TURF EXTENDS UP THE SIDES OF THE CHANNEL AT LEAST 100mm ABOVE THE ELEVATION OF THE CHANNEL BED, OR AT LEAST TO A SUFFICIENT ELEVATION TO FULLY CONTAIN THE EXPECTED CHANNEL FLOW THAT IS CONSIDERED LIKELY TO OCCUR WITHIN THE FIRST MONTH AFTER PLACEMENT.

8. ON CHANNEL GRADIENTS OF 3:1(H:V) OR STEEPER, OR WHEREVER EROSION MAY BE A PROBLEM, OR IN SITUATIONS WHERE HIGH FLOW VELOCITIES (i.e. VELOCITY > 1.5m/s) ARE LIKELY WITHIN THE FIRST 2-WEEKS FOLLOWING PLACEMENT, SECURE THE INDIVIDUAL TURF STRIPS WITH WOODEN PEGS.

9. ENSURE THAT INTIMATE CONTACT IS ACHIEVED AND MAINTAINED BETWEEN THE TURF AND THE SOIL SUCH THAT SEEPAGE FLOW BENEATH THE TURF IS AVOIDED.

10. WHERE PRACTICABLE, ONCE FIXED IN PLACE, THE TURF SHOULD BE ROLLED WITH A ROLLER WEIGHING 60 TO 90kg/m WIDTH, THEN WATERED.

11. AFTER ROLLING, LIGHTLY SPREAD SCREENED TOPSOIL TO REPLACE TOPSOIL LOST FROM THE TURF AND TO FILL ANY GAPS BETWEEN THE ROWS.

12. WATER UNTIL THE SOIL IS WET 100mm BELOW THE TURF. THEREAFTER, WATERING SHOULD BE SUFFICIENT TO MAINTAIN AND PROMOTE HEALTHY GROWTH.

MAINTENANCE

1. DURING THE INITIAL ROOT ESTABLISHMENT PERIOD, CHECK GRASSED CHANNELS AFTER EVERY RAINFALL.

2. AFTER GRASS IS ESTABLISHED, PERIODICALLY CHECK THE CHANNEL INCLUDING AFTER SIGNIFICANT STORM EVENTS.

3. CHECK FOR EROSION ALONG THE EDGE OF THE TURFED AREA. IF EROSION IS OCCURRING, TAKE APPROPRIATE MEASURES TO AVOID FURTHER EROSION.

4. IF DAMAGE HAS OCCURRED, IMMEDIATELY INITIATE REPAIRS WITH TURF OR BY SEEDING AS APPROPRIATE.

5. REMOVE EXCESSIVE SEDIMENT DEPOSITION OR DEBRIS FROM THE CHANNEL TO MAINTAIN THE CHANNEL'S REQUIRED HYDRAULIC CAPACITY.

6. MAINTAIN A HEALTHY AND VIGOROUS GRASS CONDITION WHENEVER AND WHEREVER POSSIBLE, INCLUDING WATERING AND FERTILISING AS NEEDED.

7. ENSURE A MINIMUM GRASS LEAF BLADE LENGTH OF 50mm IS MAINTAINED IN AREAS SUBJECT TO MEDIUM TO HIGH FLOW VELOCITIES, AND 20 TO 50mm IN LOW VELOCITY AREAS.

8. MOWING SHOULD NOT BE ATTEMPTED UNTIL THE TURF IS FIRMLY ROOTED, USUALLY 2 TO 3 WEEKS AFTER LAYING.

9. ALL REASONABLE MEASURES SHALL BE TAKEN TO COLLECT GRASS CLIPPINGS IMMEDIATELY AFTER MOWING IF THEIR REMOVAL BY SUBSEQUENT CHANNEL FLOWS WOULD CONTAMINATE SENSITIVE DOWNSTREAM WATERWAYS OR OTHERWISE CAUSE UNDESIRABLE ENVIRONMENTAL HARM.

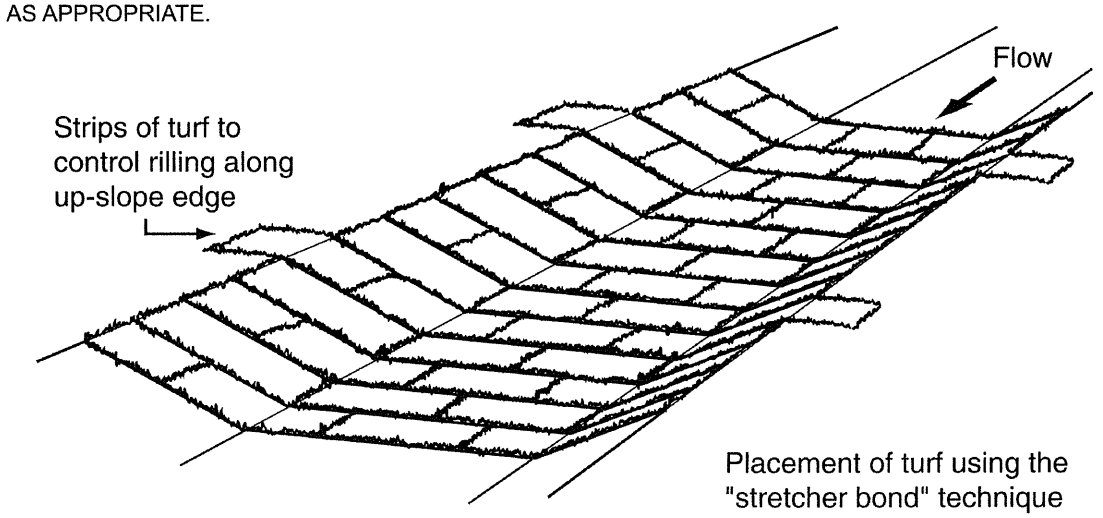

Figure 1 - Placement of turf within high-velocity drains

NOTE: LIMIT USE TO CHANNEL SLOPES OF 0.2 TO 0.5%.

NO.	DATE	DESCRIPTION	APPVD
A	18/11/11	ISSUE FOR CONSTRUCTION	-

AMENDMENTS AND REVISIONS

FILE NAME DESIGN\DOCUMENTS\SESC STD DRAWINGS\...

SURVEY -

SURVEY FILE No -

LEVEL DATUM AHD

MERIDIAN MGA 55

DRAWN PDG SIGNED PDG DATE 12/12/11

DESIGNED PDG SIGNED PDG DATE 12/12/11

CHECKED SIGNED DATE

MANAGER TECHNICAL SERVICES G. HAWES RPEQ 5693 DATE 12/12/11

DIRECTOR ENGINEERING SERVICES S.M. Holley STUART HOLLEY RPEQ 8940 DATE 13.12.11

Mackay REGIONAL COUNCIL

GRASS CHANNEL LININGS

SHEET 1 OF 1

WORKS JOB No. -

DRAWING No. A3-6746

AMEND. A