

## INSTALLATION

1. PRIOR TO COMMENCING ANY WORKS, OBTAIN ALL NECESSARY APPROVALS AND PERMITS REQUIRED TO CONSTRUCT THE TEMPORARY WATERCOURSE CROSSING, INCLUDING PERMITS FOR THE DISTURBANCE OF BANK VEGETATION, AQUATIC VEGETATION (e.g. MANGROVES) AND ANY TEMPORARY INSTREAM FLOW DIVERSION BARRIERS OR SEDIMENT CONTROL MEASURES.

2. 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.

3. ENSURE THAT THE LOCATION OF THE CROSSING WILL NOT INTERFERE WITH FUTURE CONSTRUCTION WORKS.

4. PRIOR TO SIGNIFICANT LAND CLEARING OR CONSTRUCTION OF THE APPROACH RAMPS, ESTABLISH ALL NECESSARY SEDIMENT CONTROL MEASURES AND FLOW DIVERSION WORKS (INSTREAM AND OFF-STREAM AS REQUIRED), CLEARING ONLY THOSE AREAS NECESSARY FOR INSTALLATION OF THESE MEASURES.

5. TO THE MAXIMUM DEGREE PRACTICABLE, CONSTRUCTION ACTIVITIES AND EQUIPMENT SHALL NOT OPERATE WITHIN OPEN FLOWING WATERS.

6. MAINTAIN CLEARING AND EXCAVATION OF THE WATERCOURSE BED AND BANKS TO A MINIMUM. INITIALLY CLEAR ONLY THE AREA NECESSARY TO ALLOW ACCESS FOR CONSTRUCTION. CLEAR

THE REMAINDER OF THE APPROACH RAMPS ONLY WHEN ADEQUATE DRAINAGE AND SEDIMENT CONTROLS ARE IN PLACE.

7. IF FLOW DIVERSION SYSTEMS CANNOT BE INSTALLED, THEN CONDUCT BANK EXCAVATIONS BY PULLING THE SOIL AWAY FROM THE CHANNEL.

8. WHERE PRACTICABLE, CONSTRUCT THE CROSSING PERPENDICULAR TO THE CHANNEL.

9. WHERE PRACTICABLE, THE APPROACH RAMPS SHOULD BE STRAIGHT FOR AT LEAST 10 METRES AND SHOULD BE ALIGNED WITH THE CROSSING.

10. STABILISE THE STREAMBED CROSSING AS REQUIRED FOR THE GIVEN BED CONDITIONS, EXPECTED STREAM FLOW, AND VEHICULAR TRAFFIC.

11. DEPRESSIONS IN THE ROCK BED SHOULD BE FILLED WITH CLEAN, GRADED ROCK.

12. WHERE PRACTICABLE, DIRECT STORMWATER RUNOFF FROM THE APPROACH RAMPS INTO STABLE DRAINS, ADJACENT VEGETATION, OR APPROPRIATE SEDIMENT TRAPS TO MINIMISE THE RELEASE OF SEDIMENT INTO THE WATERCOURSE.

13. TAKE ALL REASONABLE MEASURES TO PREVENT DEBRIS AND CONSTRUCTION MATERIAL FROM ENTERING THE WATERCOURSE, ESPECIALLY ANY STILL OR FLOWING WATER.

14. IF HIGHLY EROSION SOILS ARE DETECTED, THEN APPROPRIATELY STABILISE SUCH SOILS AS SOON AS

PRACTICABLE.

15. APPROPRIATELY STABILISE DISTURBED WATERCOURSE BANKS.

16. FINISH CONSTRUCTION AND STABILISATION OF THE APPROACH RAMPS EACH SIDE OF THE CROSSING.

17. IF IT IS NOT PRACTICABLE TO STABILISE THE ACCESS RAMPS AGAINST EROSION, THEN INSTALL FLOW DIVERSION BANKS ACROSS THE WIDTH OF EACH ACCESS RAMP ADJACENT THE TOP OF THE CHANNEL BANK, AND AT REGULAR INTERVALS DOWN THE RAMPS (AS REQUIRED) TO PREVENT OR MINIMISE SEDIMENT-LADEN RUNOFF FLOWING DIRECTLY INTO THE WATERCOURSE.

## MAINTENANCE

1. TEMPORARY WATERCOURSE CROSSINGS SHOULD BE INSPECTED WEEKLY AND AFTER ANY SIGNIFICANT CHANGE IN STREAM FLOW.

2. DEBRIS TRAPPED ON OR UPSTREAM OF THE CROSSING SHOULD BE REMOVED.

3. REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION TRAFFIC. IF TRAFFIC HAS EXPOSED BARE SOIL, STABILISED AS APPROPRIATE.

4. CHECK FOR EROSION OF ABUTMENTS, CHANNEL SCOUR, OR ROCK DISPLACEMENT. MAKE ALL NECESSARY REPAIRS IMMEDIATELY.

5. CHECK FOR EXCESSIVE EROSION ON THE APPROACH RAMPS.

6. CHECK THE CONDITIONS OF ANY FLOW DIVERSION CHANNELS/BANKS AND THE OPERATING CONDITIONS OF ASSOCIATED SEDIMENT TRAPS.

## REMOVAL

1. TEMPORARY WATERCOURSE CROSSINGS SHOULD BE REMOVED, OR THE AREA APPROPRIATELY REHABILITATED, AS SOON AS POSSIBLE AFTER ALTERNATIVE ACCESS IS ACHIEVED OR THE CROSSING IS NO LONGER NEEDED.

2. IF THE REMOVAL OF THE CROSSING IS REQUIRED, THEN REMOVE ALL SPECIFIED MATERIALS AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.

3. RESTORE THE WATERCOURSE CHANNEL TO ITS ORIGINAL CROSS-SECTION, AND SMOOTH AND APPROPRIATELY STABILISE AND REVEGETATE ALL DISTURBED AREAS.

Drawn:

GMW

Date:

Dec-09

Temporary Ford Crossing

TFC-01