APPENDIX B : RECOMMENDED DRAINAGE MEASURES

Figure B1  Suggested measures to prevent rainwater and surface runoff entering the trench  

Figure B2  Typical vehicle crossing over trench opening for flexible pavement (Flush with road surface). (Reproduced from Highways Department Drawing No. H 6135A) 

Figure B3  Typical vehicle crossing over trench opening for rigid pavement. (Reproduced from Highways Department Drawing No. H 6136A) 

Figure B4  Typical arrangement of temporary pedestrian crossing over trench not exceeding 2000mm wide. (Reproduced from Highways Department Drawing No. H 1132) 

Plate B1  Typical vehicle crossing over trench opening which is also effective for preventing surface runoff and infiltration of rainwater 

Plate B2  Typical pedestrian crossing over trench opening which is also effective for preventing surface runoff and infiltration of rainwater 

Plate B3  Sandbag upstand with fibre-glass cover to prevent surface runoff and infiltration of rainwater 

Plate B4  Sheet piles protruding above ground with cement mortar wedge applied to prevent surface runoff 

Plate B5  Timber support protruding above ground with cement mortar wedge applied to prevent surface runoff 

Plate B6  Pumping provided 

Plate B7  Tarpaulin cover secured against wind for wider trenches 

Plate B8  Tarpaulin cover secured against wind for wider trenches
Note: For trenches up to 2m wide, upstands should be used together with rigid covers, e.g. fibre-glass or steel plate. For wider trenches, the use of tarpaulin sheeting properly secured against strong wind is acceptable.

Figure B1 - Suggested measures to prevent rainwater and surface runoff entering the trench
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.

2. FOR TRENCH WIDTH OF 300 mm OR MORE, STEEL CHANNEL DETAILS AT UNDERSIDE OF STEEL PLATE AS SHOWN IN HIGHWAYS DEPARTMENT DRAWING NO. H6396 SHALL BE ADOPTED.

3. STRUCTURAL STEELWORK SHALL BE OF GRADE 43C COMPLIED WITH BS486 OR EQUIVALENT.

4. TOP OF STEEL PLATE TO BE TREATED WITH ANTI-SKID DRESSING; OTHER SURFACES TO BE TREATED WITH PROTECTIVE PAINTING.

5. DETAILS OF LIFTING HOLES ARE TO BE APPROVED BY THE ENGINEER.

6. THE SURFACE OF THE STEEL PLATE SHALL BE MARKED WITH ALTERNATE BLACK AND YELLOW DIAGONAL STRIPS OF 300 mm WIDTH. THE YELLOW MARKINGS SHALL HAVE RESISTANCE AND REFLECTIVE CHARACTERISTICS EQUIVALENT TO COMMON THERMOPLASTIC ROAD MARKINGS.

7. SUBMISSION OF ALTERNATIVE DESIGN IS REQUIRED IN ORDER TO MEET PARTICULAR SITE CONDITIONS.

8. THE NAME OF THE ROADWORK UNDERTAKER SHOULD BE MARKED ON THE STEEL PLATE FOR EASY IDENTIFICATION.

Figure B2 - Typical vehicle crossing over trench opening for flexible pavement (Flush with road surface) (Reproduced from Highways Department Drawing No. H6135A)
NOTES:

1. All dimensions are in millimetres.

2. Structural steelwork shall be of Grade 43C complied with BS4360 or equivalent.

3. All fillet welds to be 6 mm unless otherwise specified.

4. Top of steel plate to be treated with anti-sid dressing; other surfaces to be treated with protective painting.

5. Welding between channels to be full penetration weld.

6. Design to be accordingly to BS5400.

7. Other details of lifting holes are to be approved by the engineer.

8. The surface of the steel plate shall be marked with alternate black and yellow diagonal strips of 300 mm width. The yellow markings shall have resistance and reflective characteristics equivalent to common thermoplastic road markings.

9. Submission of alternative design is required in order to meet particular site conditions.

10. The name of the roadwork undertaker should be marked on the steel plate for easy identification.

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Figure B3 - Typical vehicle crossing over trench opening for rigid pavement
(Reproduced from Highways Department Drawing No. H6136A)
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. PORTION OF TRENCH SHOULD BE STRUTTED FOR AT LEAST 900 BOTH SIDES OF BRIDGE CROSSING.

Figure B4 - Typical arrangement of temporary pedestrian crossing over trench not exceeding 2000mm wide (Reproduced from Highways Department Drawing No. H1132)
Plate B1 – Typical vehicle crossing over trench opening which is also effective for preventing surface runoff and infiltration of rainwater

Plate B2 – Typical pedestrian crossing trench opening which is also effective for preventing surface runoff and infiltration of rainwater
Plate B3 – Sandbag upstand with fibre-glass cover to prevent surface runoff and infiltration of rainwater

Plate B4 – Sheet piles protruding above ground with cement mortar wedge applied to prevent surface runoff
Plate B5 – Timber support protruding above ground with cement mortar wedge applied to prevent surface runoff

Plate B6 – Pumping provided
Plate B7 – Tarpaulin cover secured against wind for wider trenches

Plate B8 – Tarpaulin cover secured against wind for wider trenches