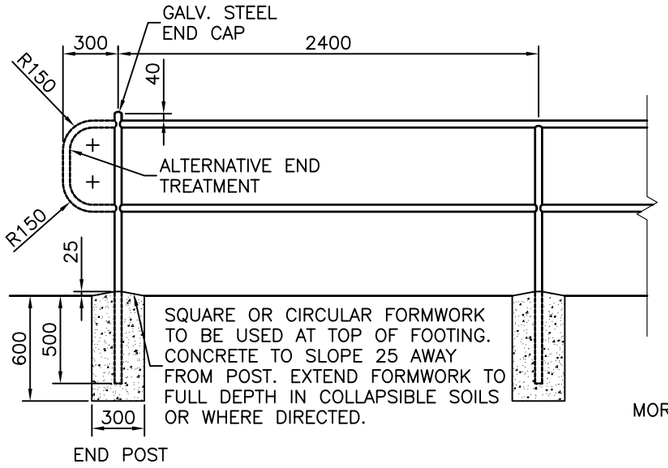
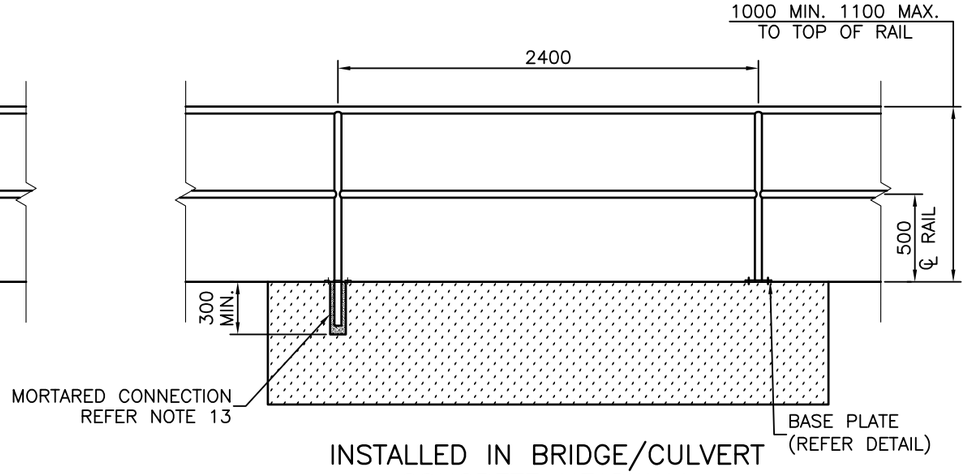
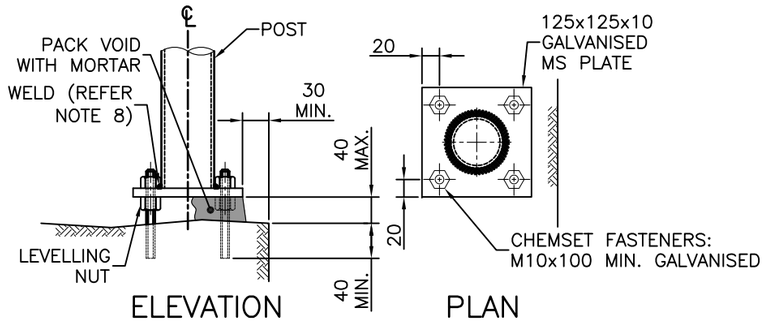



INSTALLED IN GROUND

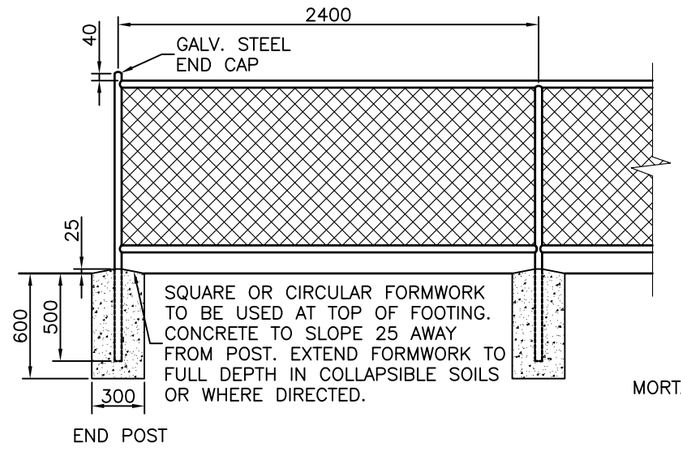



INSTALLED IN BRIDGE/CULVERT
CONCRETE HEADWALL
**(REFER SPECIAL NOTE)**

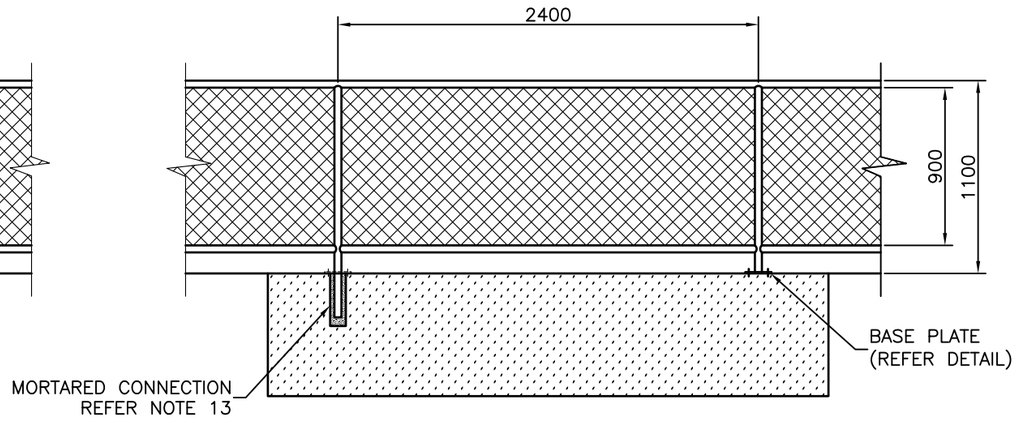



## BASE PLATE DETAIL

# GENERAL PURPOSE GALVANISED TUBULAR HANDRAIL




INSTALLED IN GROUND




INSTALLED IN BRIDGE/CULVERT
CONCRETE HEADWALL
**(REFER SPECIAL NOTE)**

# GALVANISED TUBULAR HANDRAIL WITH CHAIN WIRE

## SPECIAL NOTE

THE PURPOSE OF THIS STANDARD IS TO PROVIDE A BARRIER RESTRICTING ACCESS. IT IS NOT APPLICABLE FOR PROVIDING EDGE PROTECTION WHERE THERE IS RISK OF INJURY FROM A FALL GREATER THAN 1m. THIS INCLUDES LOCATIONS SUCH AS CULVERTS, BRIDGE CROSSINGS AND LARGE RETAINING WALLS.

## NOTES:

1. THIS STANDARD IS NOT FOR USE IN A MARINE ENVIRONMENT. THE MARINE ENVIRONMENT COULD EXTEND UP TO 1 km FROM THE FORESHORE.
2. WHERE STANDARD IS REQUIRED FOR USE WITH MARINE ENVIRONMENT, THE FOLLOWING PROTECTION TREATMENT IS REQUIRED:
   - STEELWORK HOT DIP GALVANISING: 85 MICRONS (600g/m²) MIN;
   - SWEEP ABRASIVE BLAST;
   - STEELWORK FIRST COAT: EPOXY PRIMER 75 MICRONS MIN;
   - STEELWORK SECOND COAT: TWO PACK ACRYLIC OR POLYURETHANE GLOSS 75 MICRONS MIN;
   - WIRE MESH AND WIRE TIES TO BE PVC COATED.
3. PAINT SYSTEMS TO BE IN ACCORDANCE WITH AS 2312 AND DESIGNATED HDG600P6 AND HDG600P
4. GATE AND END POSTS TO BE 50 NB (60.3 OD, 3.6 THICK) GALVANISED STEEL TUBE TO AS/NZS1163.
5. INTERMEDIATE POSTS TO BE 40 NB (48.3 OD, 3.2 THICK) GALVANISED STEEL TUBE TO AS/NZS1163.
6. RAILS TO BE 40 NB (48.3 OD, 3.2 THICK) GALVANISED STEEL TUBE TO AS/NZS1163.
7. STANDARD COUPLINGS (DOWN–EE FITTINGS, MONOWILLS, SENTAUR JOINTS, KEE–KLAMP, SWAGED JOINTS OR SIMILAR) MAY BE USED AS AN ALTERNATIVE TO WELDS.
8. ALL WELDS TO BE 5 THICK C.F.W. (CONTINUOUS FILLET WELDS) TO AS 1554.1 WITH COLD GALVANISING TREATMENT TO COMPLETED WELDS, EXCEPT FOR POST/BASE PLATE WHICH SHALL BE HOT–DIP GALVANISED.
9. CHAIN WIRE TO BE 900 HIGH x 3.15 THICK x 50 MESH TO AS 2423.
10. CHAIN WIRE TO BE FIXED USING 1.6 THICK WIRE, TIED TO POSTS AT 2 LOCATIONS AND CONTINUOUSLY LACED TO RAILS.
11. POSTS TO BE VERTICAL.
12. ALL CONCRETE TO BE GRADE N25.
13. POSTS, INSTALLED IN EXISTING BRIDGE/CULVERT CONCRETE HEADWALL, TO BE GROUTED INTO 90 DIAMETER HOLE WITH 1:3 CEMENT MORTAR BY VOLUME AFTER THEY HAVE BEEN CAREFULLY ALIGNED.
14. GALVANISED TUBULAR HANDRAILS TO BE USED ONLY IN SITUATIONS CLEAR OF LONGITUDINAL VEHICLE IMPACT SO AS NOT TO BE A POTENTIAL SPEARING HAZARD TO MOTORISTS.
15. GALVANISED TUBULAR HANDRAILS WITH CHAIN WIRE ARE GENERALLY USED ON BRIDGE APPROACHES AND ON RETAINING WALLS.
16. THESE FENCES ARE INTENDED AS A PEDESTRIAN BARRIER AND ARE NOT TO BE USED IN SITUATIONS WHERE MOTOR VEHICLES REQUIRE RESTRAINT.
17. STEEL WORK MAY BE POWDER COATED TO AS 4506 TO MATCH COLOUR COORDINATION IN THE AREA (IN ACCORDANCE WITH BCC CORPORATE COLOUR PALETTE – REFER UMS 113).
18. HOT DIP GALVANISING: FERROUS OPEN SECTIONS TO AS 4791, FERROUS HOLLOW SECTIONS TO AS 4792.
19. DIMENSIONS IN MILLIMETRES (UNO).

| ISSUE | AMENDMENT | DRAWN DATE | CHK'D DATE | APPR'D DATE |
|---|---|---|---|---|
| F | Note 2 Amended | DJL 07/12 | IC 08/12 | IC 08/12 |
| E | General Purpose Galv. Tubular Handrail Height Clarified, Note 7 Mod. | DJL 12/09 | IC 06/10 | PC 06/10 |
| A–D | Refer Previous Revisions | 04/01–07/07 | 05/01–08/07 | 06/01–08/07 |

DESIGN AUTHORISED FOR ISSUE
B. BALL SIGNATURE ON ORIGINAL
DATED 29/6/01

MANAGER ASSET SUPPORT - R.P.E.Q: 3 8 5 2

DESIGN APPROVED
B. HANSEN SIGNATURE ON ORIGINAL
DATED 27/6/01

PRINCIPAL ASSET OFFICER ROADS & DRAINAGE

| | | | |
|---|---|---|---|
| DESIGN | STD DWG GROUP | DATE | April '01 |
| DRAWN | CITY DESIGN | DATE | April '01 |
| CHECKED | M. STEER | DATE | May '01 |
| DRAWING FILENAME | \UMS 241 | | |
| ASSOCIATED PLANS | SUPERSEDES WS 14-1 | | |

BRISBANE CITY

**BRISBANE CITY COUNCIL STANDARD DRAWING**

GALVANISED TUBULAR HANDRAIL

SCALE: NOT TO SCALE
DWG No.: UMS 241
ORIGINAL SIZE: A3
REVISION: F