

Notes for steelwork :

1. The works shall comply with the latest edition of general specification for Civil Engineering Works, unless specified otherwise.
2. All dimensions are in millimetres unless otherwise stated.
3. All structural steel sections shall be hot rolled and shall comply with the latest edition of the following British Standards :-
 BS EN 10210-2 for hollow sections
 BS 4-1 for channels and tees
 BS EN 10056 for angles
4. All steelwork grade, unless otherwise stated, shall be :-
 S355J2H to BS EN 10210 for hollow sections
 S355J2G4 to BS EN 10025 for other sections and plates
5. Welding of steel shall be in accordance with BS EN 1011-1 and BS EN 1011-2 and electrodes shall be in accordance with BS EN 499.
6. Welding symbols shall be in accordance with BS EN 22553
7. Minimum fillet weld to be 6mm leg length unless otherwise specified.
8. Butt welds to be complete penetration welds produced by methods approved by the Engineer after demonstration at procedure trials.
9. Wire wool and wire brushes used to clean surfaces both before and after welding shall be stainless steel. All exposed butt joints shall be ground smooth and buffed. The direction of grinding shall follow the grain pattern.
10. After fabrication all structural steel is to be hot-dip galvanized in accordance with BS EN ISO 1461 to the appropriate coating weight. Surfaces shall be properly prepared removing all rust, oil, paint, and other surface contaminants: mill scale and welding slag shall be removed by grit blasting. Cut faces and outside arrises shall be ground smooth. The size and position of any vent holes required by the galvanizer, together with his proposed method of re-sealing, shall be notified to the Engineer for his approval.
11. Where members are too large for available galvanizing baths, sub-assemblies shall be prepared as above and subsequent welded joints shall be zinc sprayed in accordance with EN 22063 to a minimum thickness of 0.2mm. Two coats of good quality zinc-rich paint complying with BS 4652 shall then be applied across the entire zinc sprayed areas including at least 25mm of the parent galvanized coating. Any damage to galvanized coating shall be made good in a similar way to the treatment of welded joints, or, at the discretion of the Engineer, by the use of low melting point zinc alloy repair rods made specifically for this purpose resulting in a minimum coating thickness of 0.2mm.
12. Fasteners for steelwork shall be ISO metric precision hexagonal bolts, studs and nuts to BS 3692 or cup head bolts to BS 4933 as appropriate with compatible washers. Each fastener shall be complete with either a locking nut or spring washer. The strength grade of the bolts shall be as follows:

M12 or greater	8.8
others	4.6
13. Fasteners for aluminium components are to be stainless steel bolts and nuts complying with BS EN ISO 3506-1 and BS EN ISO 3506-2, grade A2-80, with compatible stainless steel washers. Fasteners, other than stainless steel materials, shall be cadmium or zinc electroplated, hot-dip galvanized, or sherardized to the appropriate British Standards. A nylon or other approved plastic washer is to be provided between the surfaces of any different metal such as aluminium alloy, stainless steel and galvanized steel.
14. The diameter of a bolt hole shall be 2mm larger than the nominal diameter of the bolt, unless shown otherwise.
15. Stainless steel bolts, nuts, and washers shall be insulated from galvanized mild steel by nylon or other approved non-metallic washers unless indicated otherwise.
16. Material and workmanship shall comply with BS 5400 : part 6.
17. Gaps in sign plate shall be sealed with a polysulphide, polyurethane or silicone sealant which must be recommended by the sealant manufacturer as suitable for the intended application and approved by the Engineer.
18. The steelwork shall be painted to system D as specified in section 18 of General Specification for Civil Engineering Works in a colour to be agreed by the Engineer.
19. Manufacturing data of the sign face shall be shown at the back of the plate.

	New issue		Aug 03
REF.	REVISION	SIGNATURE	DATE

ROADSIDE DIRECTIONAL SIGNS
(SHEET 10 OF 14)

HIGHWAYS DEPARTMENT

REFERENCE	DRAWING No.	CAD
SCALE	H 2221	