

SECTION TWENTY-TWO

ERECTION OF SIGNS

22.01 DESCRIPTION

This section covers the requirements for the handling, storage and erection of signs and sign supports.

22.02 SUPPLY OF MATERIALS

Unless otherwise specified, all materials shall be supplied by the Contractor.

22.03 HANDLING AND STORAGE OF SIGNS SUPPLIED BY LATROBE CITY COUNCIL

The Contractor shall be responsible for loading and transporting the signs, posts and fittings to the sign locations as specified and shall be responsible for any damage to the signs from any cause after taking delivery and up to completion of installation.

Where a Contractor stores signs prior to installation they shall be stored in the following manner:

- (a) Face to face with a layer of protective material between faces to prevent damage.
- (b) Vertically and clear of the ground with adequate care to protect the edges of the signs.
- (c) Stacked in numbers small enough to prevent damage to any sign due to the combined weight of the signs.
- (d) Adequately protected from ingress of moisture between sign face and packing or other protective material.

22.04 CONFORMITY WITH DRAWINGS

(a) Foundations

Concrete foundations shall be poured such that the finished surface of foundation is flush with the finished surface at the base of the sign.

(b) Posts

- (i) Posts are to be straight and plumb to within a tolerance of 1 in 100.
- (ii) Post tops are to be 50 ± 10 mm below the top edge of the signboard.

(c) Signs

- (i) Signs are to be mounted level to within a tolerance of 1 in 100.
- (ii) Signs shall be mounted symmetrically on their posts unless shown as offset in the assembly drawings or directed by the Superintendent.
- (iii) Where an assembly consists of two or more signs above each other, the signs shall be mounted with the adjacent edges touching unless otherwise shown on the sign assembly drawings.
- (iv) The faces of the signs shall present an even surface free from twists, cracks, indentations or any other faults after erection.

22.05 ERECTION OF POSTS

Details of post erection are shown on the Sign and Post Schedule.

Before the erection of posts proceeds, the Superintendent will review and confirm the required positions of all posts and signs.

(a) Steel and Timber Posts

Timber and steel posts supplied by Latrobe City will generally be in the standard lengths listed below:

For 32mm Nominal Bore steel posts	- 1625mm - 2165mm
For 50mm Nominal Bore steel posts	- 2800mm - 3250mm - 2700mm - 4600mm
For 180 x 100mm Frangible Hardwood	- 4800mm - 5400mm - 6000mm - 6600mm

The Contractor shall cut posts to the length required so as to minimise wastage and to conform with the requirements of Clause 22.04 and the Sign and Post Schedule.

Where posts are to be mounted in sockets, the Contractor shall drill a hole in the post and bolt the post to the socket to prevent movement or rotation of the post in the socket.

Signs to be mounted on two or more posts shall have posts positioned such that the sign face is rotated away from the approaching traffic to avoid specular reflection. Unless otherwise shown on the drawings, posts shall be positioned such that the sign is rotated away from the normal cross section by an amount equal to one tenth of the width of the sign.

Hardwood posts specified as frangible shall be set such that the centre of the lower hole of each post is between 50mm and 125mm above the finished surface at the base of the post.

(b) Foundations

All posts shall be set in footings to the depths shown in the Sign and Post Schedule. Foundation hole diameters shall be as follows:

For 32mm and 50mm Nominal Bore steel posts	- 225mm diameter
For 80mm to 150mm Nominal Bore steel posts	- 300mm diameter
For 180mm x 100mm Frangible Hardwood posts	- 300mm diameter

Concrete used in foundations shall be 20 MPa strength grade complying with the requirements of AS 3600 - Concrete Structures.

Where posts are required to be mounted in sockets, the sockets shall be installed to the same depth, as indicated for the parent post with socket sizes as follows:

<u>Post Size</u>	<u>Socket Size</u>
32mm Nominal Bore pipe	50mm Nominal Bore pipe
50mm Nominal Bore pipe	65mm Nominal Bore pipe

The sockets shall be plugged at the bottom and shall protrude between 20mm and 30mm above the finished surface of the concrete foundation.

(c) Backfilling of Post Holes

Posts shall be installed to the depths shown in the Sign and Post Schedule.

(i) For 32 and 50mm Nominal Bore Steel Posts, the following shall apply:

- * Concrete collars are to be placed at the top and bottom of the post hole.
- * Posts carrying up to 0.6m² of signs area each are to have two concrete collars each 100mm deep.
- * Posts carrying more than 0.6m² of sign area each are to have two concrete collars each 150mm deep.

(ii) For 180mm x 100mm Frangible Hardwood Timber Posts, the following shall apply:

- * Frangible Hardwood Posts shall be erected in accordance with the drawings.
- * Select backfill with 4% cement added shall be used. If the post is erected in a concrete paved surface, an upper concrete collar 250mm deep shall be provided.

(iii) Slip Base Struted Aluminium Posts

All foundations shall be 400mm diameter x 1200mm deep.

Slip base struted aluminium sign posts shall be erected in accordance with the drawings.

Footing plates shall be set in concrete such that the top of the footing plate is between 50mm and 125mm above the finished surface at the base of the post or strut as appropriate.

The vertical posts will be supplied cut to correct length and with post base and cap installed. The struts will be supplied overlength with the adjustable base only installed.

The Contractor shall cut the strut to correct length and install the strut to post clamp.

22.06 ERECTION OF SIGNS

Details of sign erection are shown on the Sign and Post Schedule.

- (a) Signs shall be attached to the post(s) or structures using the type and number of fittings as specified in the schedule. When a sign is braced it should be attached to the post at every intersection point between a post and a sign bracing member.
- (b) Where a sign assembly consists of two or more signs, the signs shall be mounted in accordance with the sign assembly drawings.
- (c) Signs shall be mounted to:
 - (i) Within a tolerance of ± 40 mm of the height specified in the Sign and Post Schedule measured from the bottom of the sign or sign assembly to the lip of the kerb or edge of shoulder nearest the sign unless otherwise indicated in the drawings.
 - (ii) Within a tolerance of ± 100 mm of the pegged sign location or specified location unless otherwise indicated in the drawings.
- (d) When a sign is to be mounted on frangible posts on a cut batter having a slope steeper than or equal to 2:1, the mounting height at the shorter post may be reduced providing that:
 - (i) the uphill corner of the sign is a minimum of 800mm above the ground at that point;
 - (ii) the sign at the longer post is 2200mm minimum above the ground at that point.
- (e) Where a sign is to be mounted on a utility pole with stainless steel straps, the brackets shall be attached to the pole using stainless steel strapping having a minimum width of 12mm and a minimum breaking strain of 6.5kN.
- (f) Where the drawings indicate that a sign is to be erected so as to face oncoming traffic directly, it shall be mounted on posts which have been rotated in accordance with the requirements of clause 22.05(a), with the exception of signs mounted on structures over traffic lanes.
- (g) Where signs are to be removed or relocated, as specified in the Schedule, the Contractor shall dismantle the assembly and transport the signs, posts and fittings to the specified new location or to the Latrobe City Site Compound as appropriate. Post holes shall be backfilled and compacted to the finished surface. Relocated signs shall be erected in their new position as specified.
- (h) After erection of each sign all stiffening bars are to be removed.

22.07 MASKING OF SIGNS

Where indicated in the Schedule the Contractor shall arrange to mask the nominated sign(s) by placing a black plastic sheet over the face of the sign which shall be held in position by wire mesh over the sign.

Adhesive material shall only be applied to the plastic and not be applied to either the front or rear face of the signboard.

Signs to be masked are marked "m" in the Sign and Post Schedule.

The size of the masking material and its method of attachment shall be such that the sign is effectively and securely covered, either in whole or in part, as required, at all times and under all conditions.