

TRANSPORT FOR NSW (TfNSW)

QA SPECIFICATION R131

GUIDE POSTS

NOTICE

This document is a Transport for NSW QA Specification. It has been developed for use with roadworks and bridgeworks contracts let by Transport for NSW or by local councils in NSW. It is not suitable for any other purpose and must not be used for any other purpose or in any other context.

Copyright in this document belongs to Transport for NSW.

REVISION REGISTER

Ed/Rev Number	Clause Number	Description of Revision	Authorised By	Date
Ed 1/Rev 1		First issued	GM, CMS	Jan 91
Ed 1/Rev 2		Clause numbers and lists have been restructured to suit the new format.	GM, CEC J Woodward	24.03.95
Ed 2/Rev 0		Specification Number changed from R68 to R131. Converted to MS Word 6.0c. References to RTA Specifications changed.	GM, RNIC; J Woodward	13.02.97
Ed 3/Rev 0		Revised to accommodate new supply specifications for timber and non-timber guide posts Revision of Clause 3.3 Installation	GM, RNIC	27.09.99
Ed 4/Rev 0	“Notice” Global Annex M	RTA PO Box and Fax numbers updated Specification reformatted. Text revised to direct imperative style. “Contractor” replaced by “you”. “Superintendent” replaced by “Principal”. “QUALITY PLAN” replaced by “PROJECT QUALITY PLAN”. Some clauses moved to Annexures. Some clauses re-written to improve clarity. References updated.	GM, IC	27.03.09
Ed 4/Rev 1	3.3.2 Annex M	Requirement for supply of proprietary guide and/or post driver for guide post installation removed. References updated.	GM, IC	06.04.09
Ed 4/Rev 2	Global	References to “Roads and Maritime Services” or “RMS” changed to “Transport for NSW” or “TfNSW” respectively.	DCS	22.06.20



GUIDE POSTS

Copyright – Transport for NSW
IC-QA-R131

VERSION FOR: DATE:

CONTENTS

CLAUSE	PAGE
FOREWORD	ii
TfNSW Copyright and Use of this Document	ii
Revisions to Previous Version	ii
Project Specific Changes	ii
1 GENERAL	1
1.1 Scope	1
1.2 Structure of the Specification	1
1.3 Definitions	1
2 PRODUCT REQUIREMENTS, PHYSICAL PROPERTIES AND PERFORMANCE OF GUIDE POSTS	2
3 INSTALLATION OF GUIDE POSTS	2
3.1 General	2
3.2 Location	2
3.3 Installation	3
3.4 Delineators	4
4 REMOVAL AND DISPOSAL OF EXISTING GUIDE POSTS	4
ANNEXURE R131/A – PROJECT SPECIFIC REQUIREMENTS	5
ANNEXURE R131/B – MEASUREMENT AND PAYMENT	5
ANNEXURE R131/C – (NOT USED)	5
ANNEXURE R131/D – PLANNING DOCUMENTS	6
ANNEXURES R131/E TO R131/L – (NOT USED)	6
ANNEXURE R131/M – REFERENCED DOCUMENTS	6
LAST PAGE OF THIS DOCUMENT IS	6

FOREWORD

TfNSW COPYRIGHT AND USE OF THIS DOCUMENT

Copyright in this document belongs to Transport for NSW.

When this document forms part of a contract

This document should be read with all the documents forming the Contract.

When this document does not form part of a contract

This copy is not a controlled document. Observe the Notice that appears on the first page of the copy controlled by TfNSW. A full copy of the latest version of the document is available on the TfNSW Internet website: <http://www.rms.nsw.gov.au/business-industry/partners-suppliers/specifications/index.html>

REVISIONS TO PREVIOUS VERSION

This document has been revised from Specification TfNSW R131 Edition 4 Revision 1.

All revisions to the previous version (other than minor editorial and project specific changes) are indicated by a vertical line in the margin as shown here, except when it is a new edition and the text has been extensively rewritten.

PROJECT SPECIFIC CHANGES

Any project specific changes are indicated in the following manner:

- (a) Text which is additional to the base document and which is included in the Specification is shown in bold italics e.g. ***Additional Text***.
- (b) Text which has been deleted from the base document and which is not included in the Specification is shown struck out e.g. ~~Deleted Text~~.

TfNSW QA SPECIFICATION R131

GUIDE POSTS

1 GENERAL

1.1 SCOPE

This Specification sets out the requirements for the supply and installation of guide posts.

Erect guide posts of the type specified at the locations shown on the Drawings, or as directed by the Principal.

1.2 STRUCTURE OF THE SPECIFICATION

This Specification includes a series of annexures that detail additional requirements.

1.2.1 Project Specific Requirements

Project specific details of work are shown in Annexure R131/A.

1.2.2 Measurement and Payment

The method of measurement and payment must comply with Annexure R131/B.

1.2.3 (Not Used)

1.2.4 Planning Documents

The PROJECT QUALITY PLAN must include each of the documents and requirements listed in Annexure R131/D and must be implemented.

In all cases where this Specification refers to the manufacturer's recommendations, these must be included in the PROJECT QUALITY PLAN.

1.2.5 Referenced Documents

Unless specified otherwise, the applicable issue of a referenced document, other than a TfNSW Specification, must be the issue current at the date one week before the closing date for tenders, or where no issue is current at that date, the most recent issue.

Standards, specifications and test methods are referred to in abbreviated form (e.g. AS 2350). For convenience, the full titles are given in Annexure R131/M.

1.3 DEFINITIONS

The terms "you" and "your" mean "the Contractor" and "the Contractor's" respectively.

The following definitions apply to this Specification.

- (a) **Guide post:** Posts used to mark the edge of the road carriageway. They assist the road user by indicating the alignment of the road ahead, especially at horizontal and vertical curves, and under some circumstances, by providing a gauge with which to assess available sight distance.
- (b) **Delineator:** The small retroreflectors or panels of retroreflective sheeting that are attached to guideposts to provide a coherent pattern of delineation of the edges of the carriageway as an aid to night driving.
- (c) **Flexible guide post:** A guide post that deflects when impacted by a vehicle and then returns to the vertical position, without maintenance intervention.
- (d) **Semi-flexible guide post:** A guide post which fails by bending when impacted by a vehicle, and can be straightened with maintenance intervention.
- (e) **Rigid guide post:** A guide post which either fails by fracturing or remains intact and straight, but not vertical, when impacted by a vehicle.

2 PRODUCT REQUIREMENTS, PHYSICAL PROPERTIES AND PERFORMANCE OF GUIDE POSTS

Guide posts must conform to one or both of the following Specifications, as applicable:

- TfNSW 3411 Supply of Guide Posts (Timber)
- TfNSW 3412 Supply of Guide Posts (Non-Timber)

3 INSTALLATION OF GUIDE POSTS

3.1 GENERAL

Installation of guide posts includes, as applicable:

- (a) removal and disposal of existing guide posts;
- (b) supply of guide posts;
- (c) setting out of guide posts;
- (d) excavation for guide post holes, the supply, placement and compaction of backfill; and
- (e) erection or driving of guide posts.

3.2 LOCATION

The locations of guide posts must be in accordance with the requirements of AS 1742.2 and/or as shown on the Drawings, or as specified by the Principal. Unless shown otherwise on the Drawings or specified otherwise, place the guide posts at a uniform distance from the pavement edge in accordance with the following:

- (a) where the carriageway shoulder is adjacent to an embankment or at the surrounding natural surface level, place the guide posts so that their inside edge is in line with the outside edge of the shoulder;

- (b) where the carriageway shoulder is located in a cutting, place the guide posts on the pavement side of the table drain in such a manner as not to impede the flow of water in the drain.

3.3 INSTALLATION

3.3.1 General

Erect each guide post with the 100 mm face at right angles to the centre line of the roadway.

Install timber guide posts supplied with a sloped top with the higher 100 mm face visible to drivers in the lane nearest to the guide post.

Set the guide posts vertically in the shoulder pavement to a minimum embedment depth of 500 mm for rigid and timber guide posts, and a minimum embedment depth of 350 mm for flexible and semi-flexible guide posts. To offset shoulder irregularities, vary these depths slightly so as to give a uniform profile of guide post heights of approximately 1000 mm above ground level.

3.3.2 Guide Posts Installed in Natural Ground

Do not install timber guide posts by driving them into the ground.

Non-timber guide posts may be driven, but only where this method of installation is recommended by the non-timber guide post supplier.

Where timber guide posts, or non-timber guide posts for which driving is not recommended, are to be installed in natural ground, they must be erected inside excavated holes which are subsequently backfilled and compacted around the guide posts.

With the Principal's approval, you may use pilot holes to assist driving in hard ground conditions. Where the guide post supplier has recommended the use of a guide and/or post driver to ensure the proper and accurate driving of the guide posts, you must only drive the guide posts using the guide and/or post driver.

Use the excavated material as backfill. Where the specified relative compaction requirements cannot be achieved using excavated material, use imported backfill material and remove the excavated material from site and dispose of it in accordance with Specification TfNSW G36. Imported backfill material must have similar characteristics to the shoulder material.

Compact the backfill material in layers of maximum depth of 150 mm for the full depth of the guide post hole up to ground level. Unless specified otherwise, the relative compaction of the compacted backfill material must be not less than that of the adjacent shoulder material.

3.3.3 Guide Posts Installed in Concrete Pavements

Where guide posts are to be installed in concrete pavements, include in the PROJECT QUALITY PLAN details of the proposed installation method, including details of fixing the guide posts to the concrete. Typically, the fixing must take the form of a fixed or demountable base plate which is attached to the pavement using hot-dipped galvanized steel anchors.

3.3.4 Installation Tolerances

Install each guide post within the maximum installation tolerances shown in Table R131.2.

Table R131.2 - Maximum Installation Tolerances

Component	Attribute	Tolerance
Guide Post	Verticality	Within 3° from the true vertical position
	Height	Within 25 mm of the uniform profile height (nominally 1000 mm)
	Location (plan)	Within 200 mm longitudinally of the design spacing and 100 mm transversely of the plan position with reference to the control line for the road

3.4 DELINEATORS

Install the guide posts such that drivers will see only the following array of coloured delineators when approaching in the appropriate direction of travel:

- (a) a red delineator on each guide post on their left hand side;
- (b) a white delineator on each guide post on their right hand side on two-way carriageways; and
- (c) a yellow delineator on each guide post on their right hand side on one-way carriageways and medians separating traffic travelling in opposite directions.

NOTE: Guide posts that are to be installed on two-way carriageways are required to be fitted with two delineators (one red delineator on the face visible to drivers in the lane nearest to the guide post and one white delineator on the opposite face).

4 REMOVAL AND DISPOSAL OF EXISTING GUIDE POSTS

Where required, remove existing guide posts as specified or shown on the Drawings, or as directed by the Principal. Removal must include extracting all posts and other in-ground components and materials.

Backfill all holes left after the removal of existing guide posts and compact to the relative compaction of the surrounding shoulder material in layers of maximum depth of 150 mm. Imported backfill material must have similar characteristics to the shoulder material.

All existing guide posts removed by you must be removed from site or disposed of as directed by the Principal. Dispose of all existing guide posts in accordance with TfNSW G36. Recycle existing guide posts manufactured from recyclable materials.

ANNEXURE R131/A – PROJECT SPECIFIC REQUIREMENTS

Insert any project specific requirements here. If there are none, delete this comment and change the section title to “Not Used”.

ANNEXURE R131/B – MEASUREMENT AND PAYMENT

Payment will be made for all costs associated with completing the work detailed in this Specification in accordance with the following Pay Items.

Where no specific pay items are provided for a particular item of work, the costs associated with that item of work are deemed to be included in the rates and prices generally for the Work Under the Contract.

Unless specified otherwise, a lump sum price for any of these items will not be accepted.

Pay Item R131P1 Supply and Installation of Guide Posts

The unit of measurement must be per "each" guide post installed. The schedule rate must include:

- (i) supply of the guide post;
- (ii) setting out of the guide post;
- (iii) excavation of the guide post hole and erection of the guide post including supply, placement and compaction of backfill; or
- (iv) driving of the guide post including excavation of a pilot hole; or
- (v) surface mounting of the guide post on concrete pavements.

Separate rates must be given for each type of guide post and method of construction.

Pay Item R131P2 Removal of Existing Guide Posts

The unit of measurement must be per “each” guide post removed. Payment must include the supply, placement and compaction of backfill material for the reinstatement of the guide post hole and the collection and disposal of the existing guide post.

ANNEXURE R131/C – (NOT USED)

ANNEXURE R131/D – PLANNING DOCUMENTS

Refer to Clause 1.2.4.

The following document must be included in the PROJECT QUALITY PLAN. The requirements of this Specification and others included in the Contract must be reviewed to determine additional documentation requirements.

Clause	Description
3.3.2	Installation method for guide posts in concrete pavement

ANNEXURES R131/E TO R131/L – (NOT USED)**ANNEXURE R131/M – REFERENCED DOCUMENTS**

Refer to Clause 1.2.5.

TfNSW Specifications

TfNSW G36	Environmental Protection
TfNSW 3411	Supply of Guide Posts (Timber)
TfNSW 3412	Supply of Guide Posts (Non-Timber)

Australian Standards

AS 1742.2	Manual of uniform traffic control devices – Traffic control devices for general use
-----------	---