

Surveyor - General's Direction

No. 1

Approved Permanent Survey Marks

Version 1.0

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Surveyor-General's Direction No. 1
Approved Permanent Survey Marks

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[Spatial Services Customer Hub](#).

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Document Control Sheet

Record of Document Issues

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2.2	June 2016	Minor Revision
3.0	April 2019	Major Revision – new mark types, Surveying and Spatial Information Regulation 2017

Document Approval:

Approved By:

Narelle Underwood

Surveyor-General of NSW

Date of Approval:

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1. General

The form and style of permanent survey marks are prescribed by [Clause 27](#) and [Schedule 4](#) of the *Surveying and Spatial Information Regulation 2017*.

Generally speaking, a permanent survey mark is a stable and durable mark of a permanent nature that is uniquely identified by a combination of letters and numbers. These identifiers are used to store attributes of the mark, such as co-ordinates, height, characteristics and location details within the records of Spatial Services – Department of Customer Service.

Permanent survey marks provide the basic framework for all types of surveys to be brought onto a common network, the State Control Survey.

The introduction of Global Navigation Satellite System (GNSS) technology and large computerised Geographical Information System/Land Information System (GIS/LIS) databases increases the need for all survey and related land information to be on a common co-ordinate system. Use of the permanent survey marks in the State Control Survey will provide the means for all surveys and spatial data to be related to this common co-ordinate system.

The following diagrams show the mark types approved by the Surveyor General and gazetted as permanent survey marks.

Wherever Permanent Survey Marks are placed in rural locations, a survey plaque should be located nearby to assist recovery of the mark (see [Surveyor-General's Direction No. 2 - Preparation of Locality Sketch Plans](#)). [Clause 43\(4\)](#) of the *Surveying and Spatial Information Regulation 2017* states: "The sketch plan must be forwarded to the Surveyor-General within 2 months of the placement of the permanent survey mark concerned."

For further information or advice, contact:

SCIMS & CORS Unit

Spatial Services – Department of Customer Service Telephone: 1300 211 253

Email: SCIMS@customerservice.nsw.gov.au

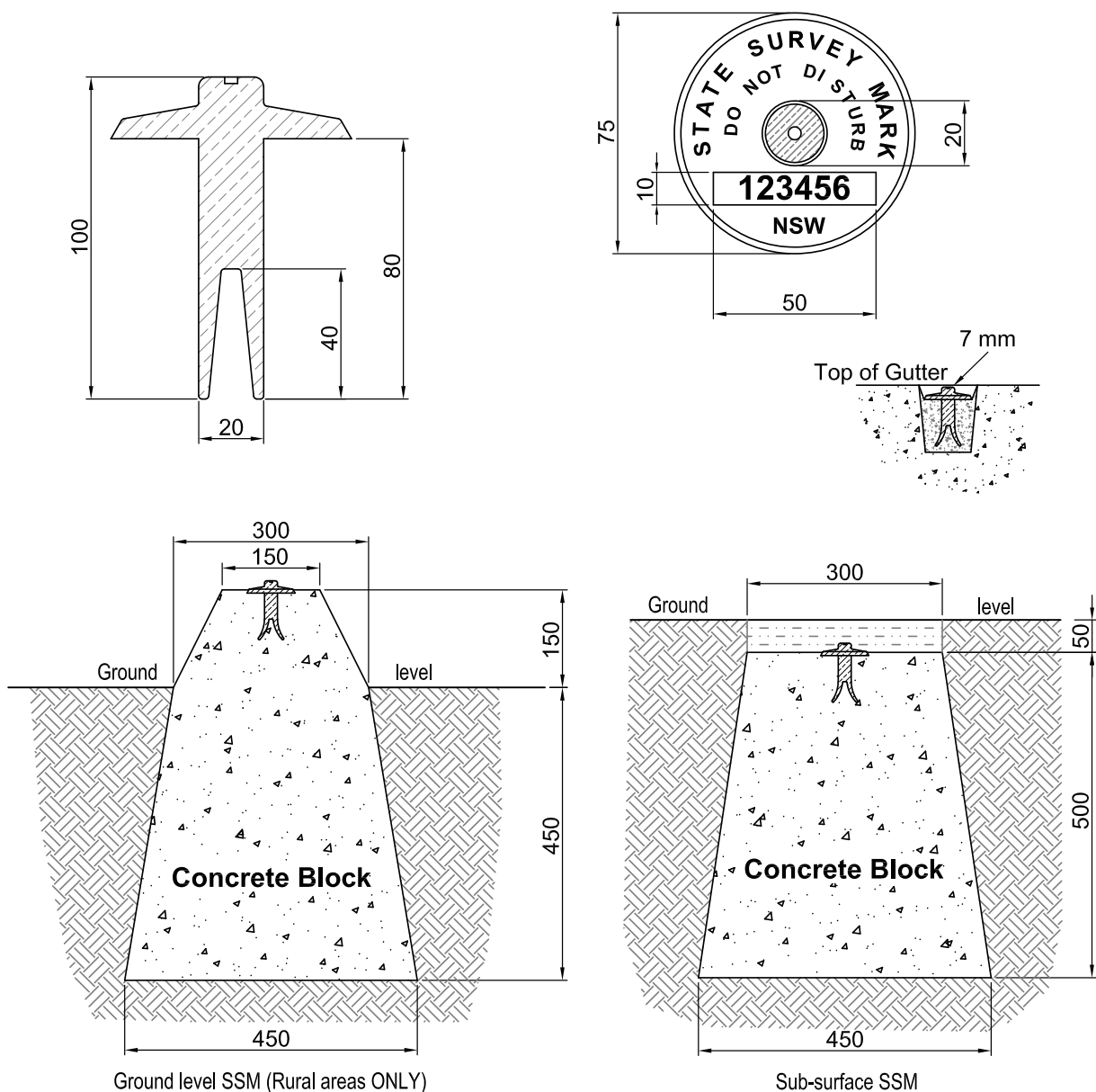
2. Permanent Survey Mark Diagrams

Notes:

1. All diagrams are as prescribed by the [Surveying and Spatial Information Regulation 2017](#).
2. Permanent Survey Mark Types 3 and 5 are no longer prescribed. See [Appendix 3.1 - Discontinued Permanent Survey Mark Diagrams](#).

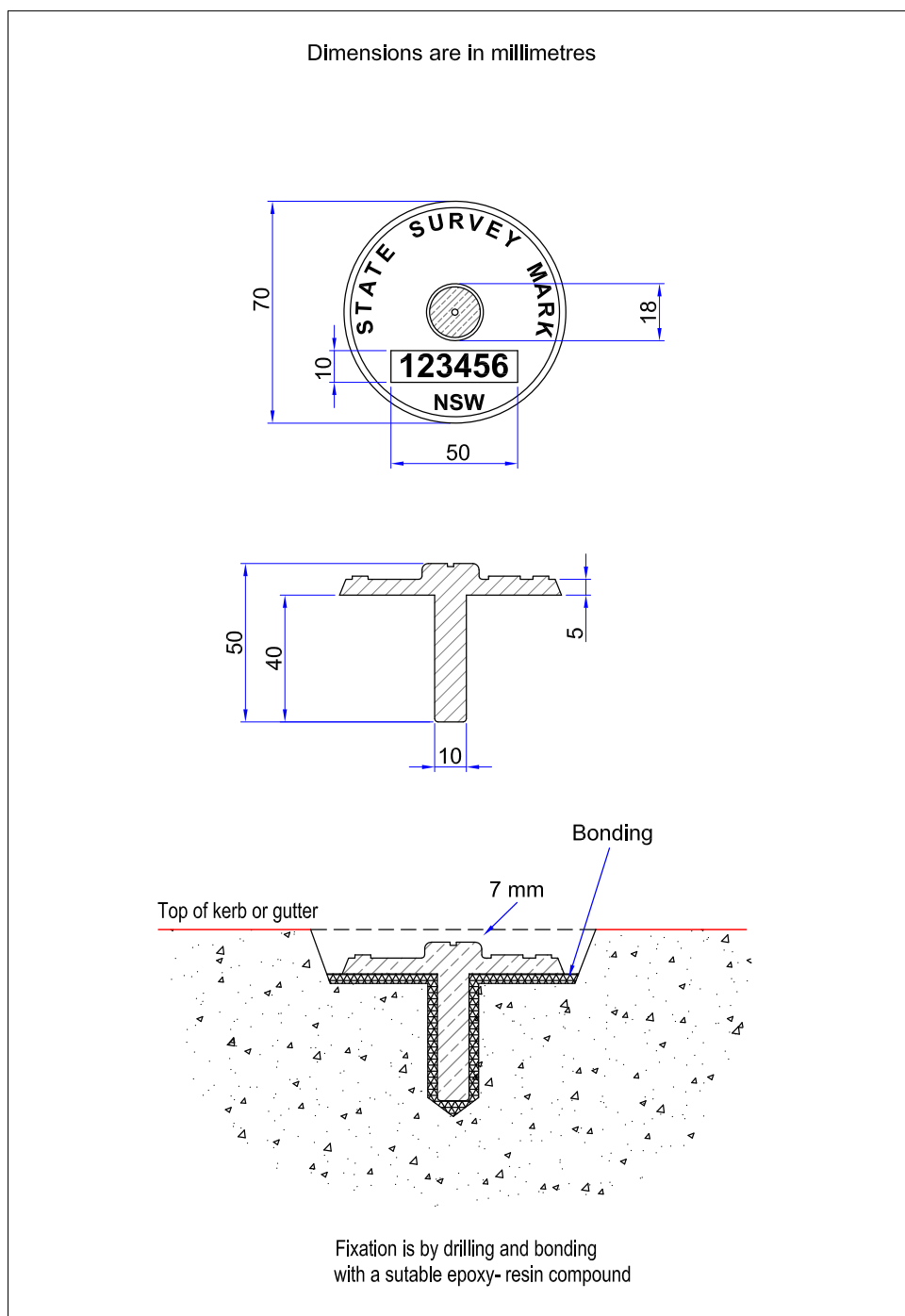
2.1 Permanent Survey Mark Type 1 (State Survey Mark)

Dimensions are in millimetres

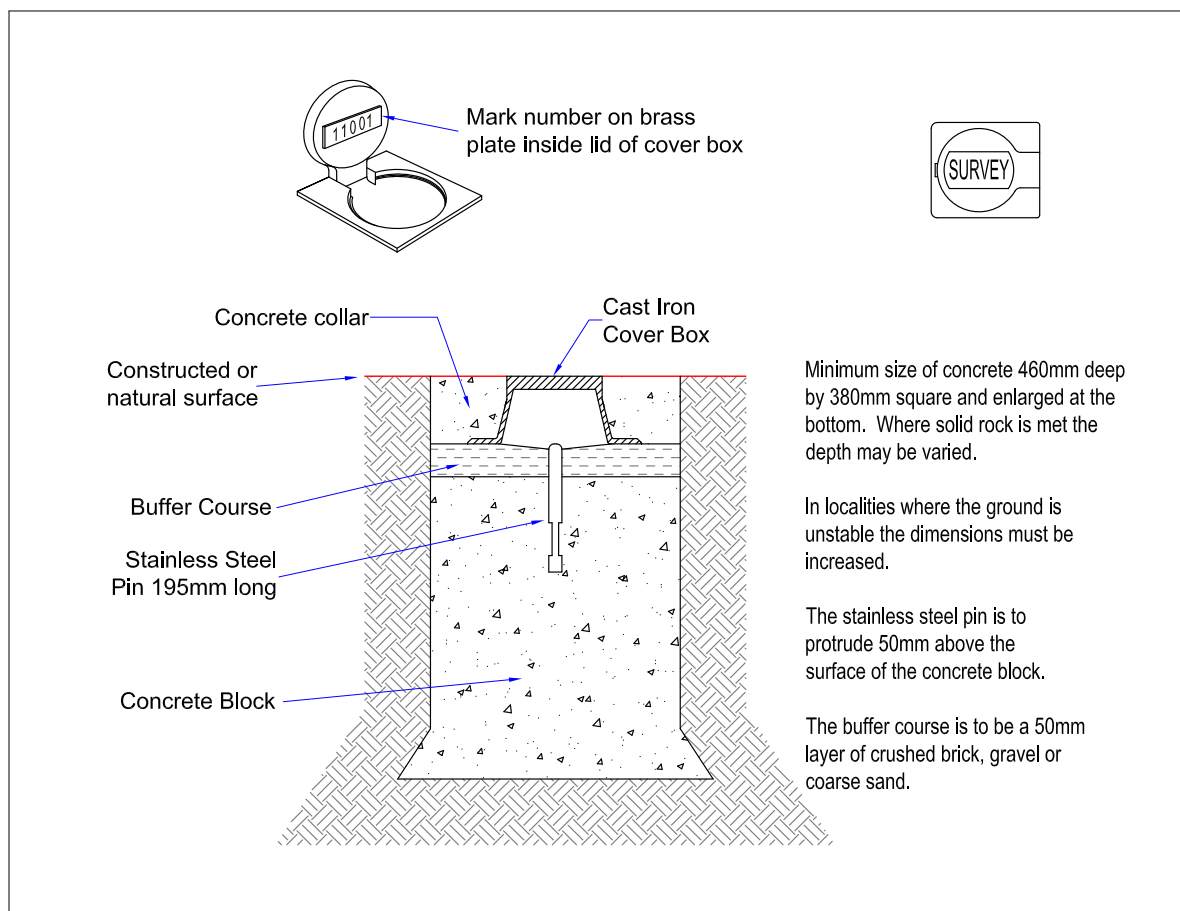


NOTE: Where an existing structure or solid rock is unavailable the mark is to be placed in the top of a concrete block and cast in situ. The block must have a volume of concrete of at least 0.07 cubic metres and shaped as indicated above

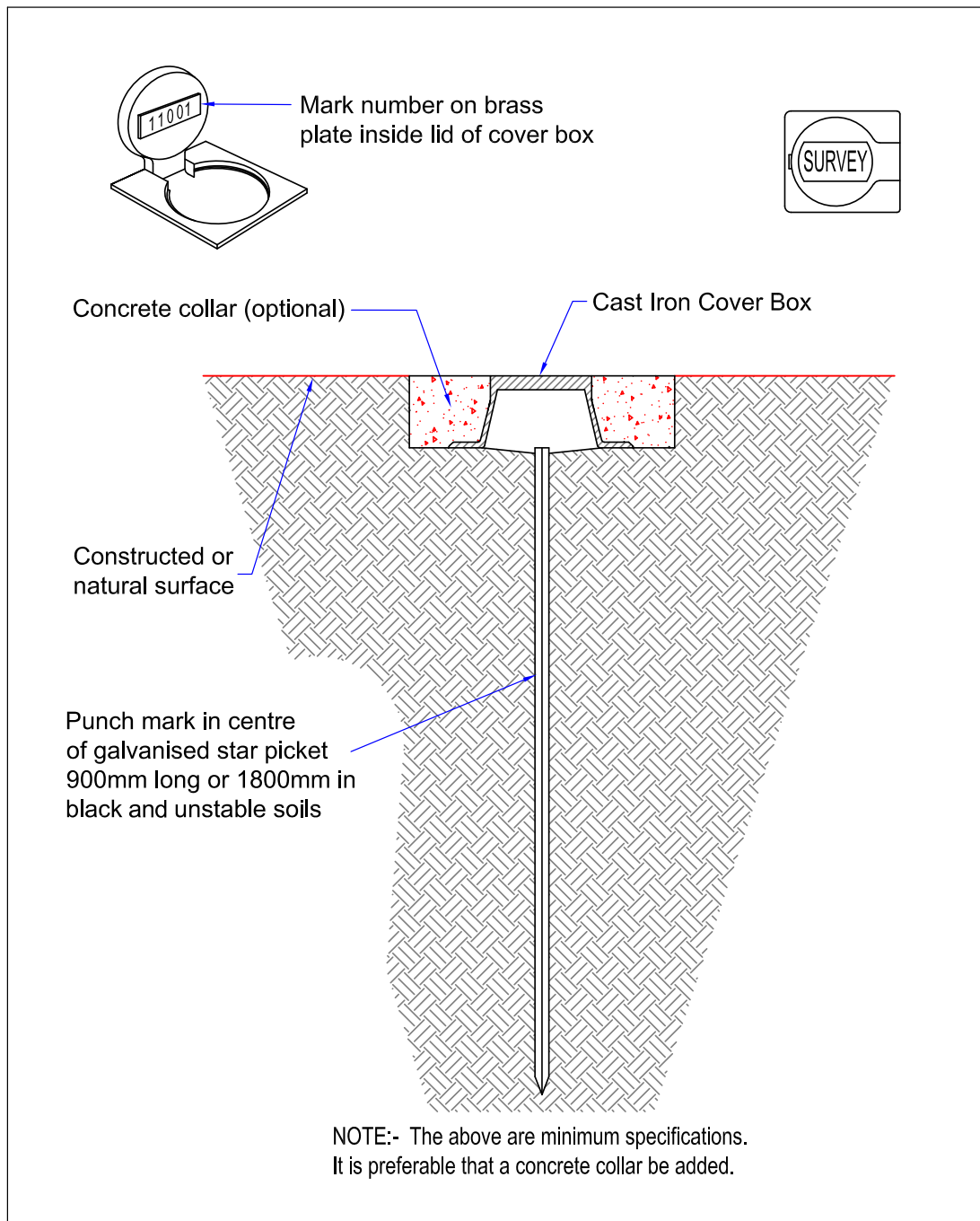
2.2 Permanent Survey Mark Type 2 (State Survey Mark)



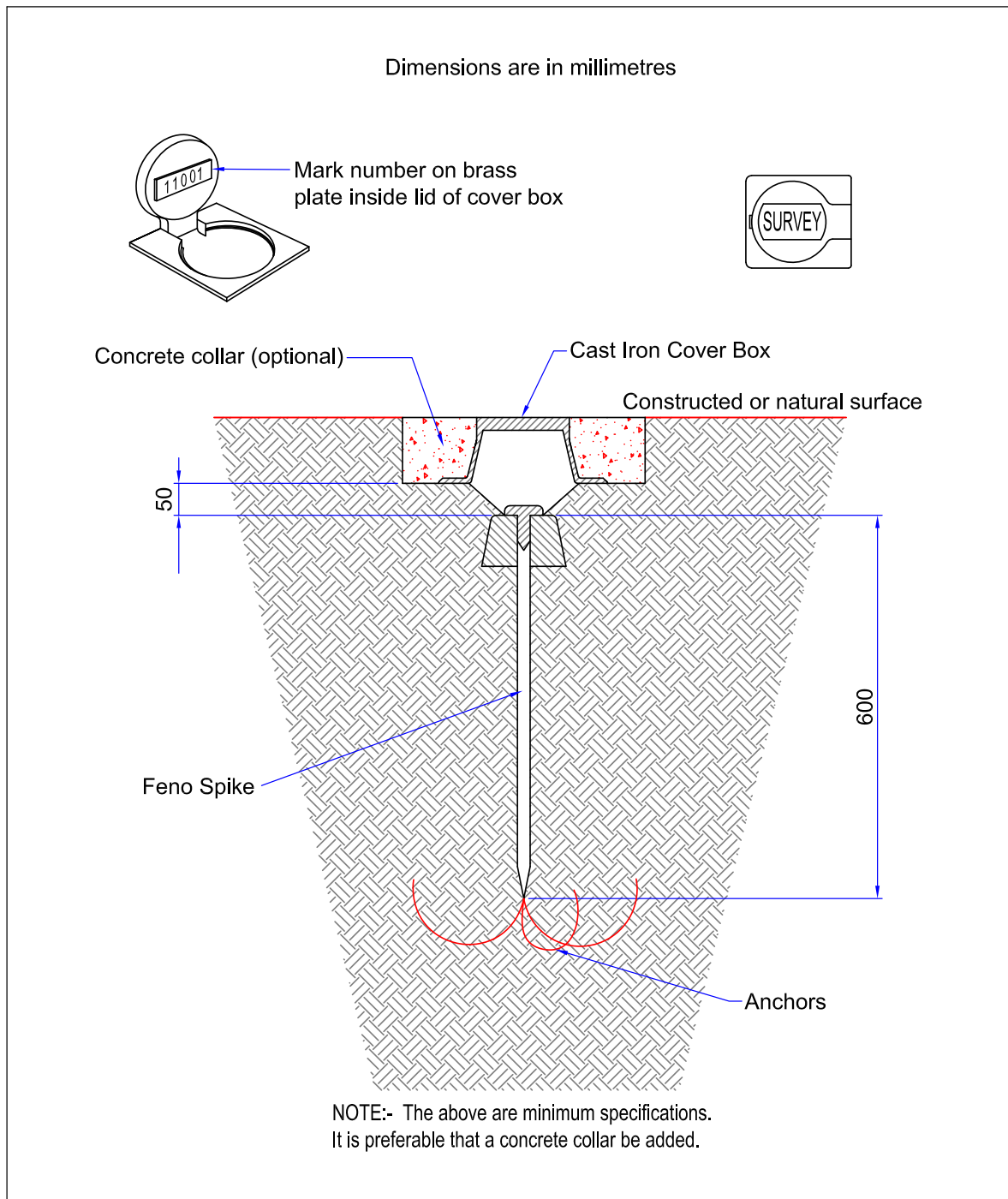
2.3 Permanent Survey Mark Type 4 (Urban Type)



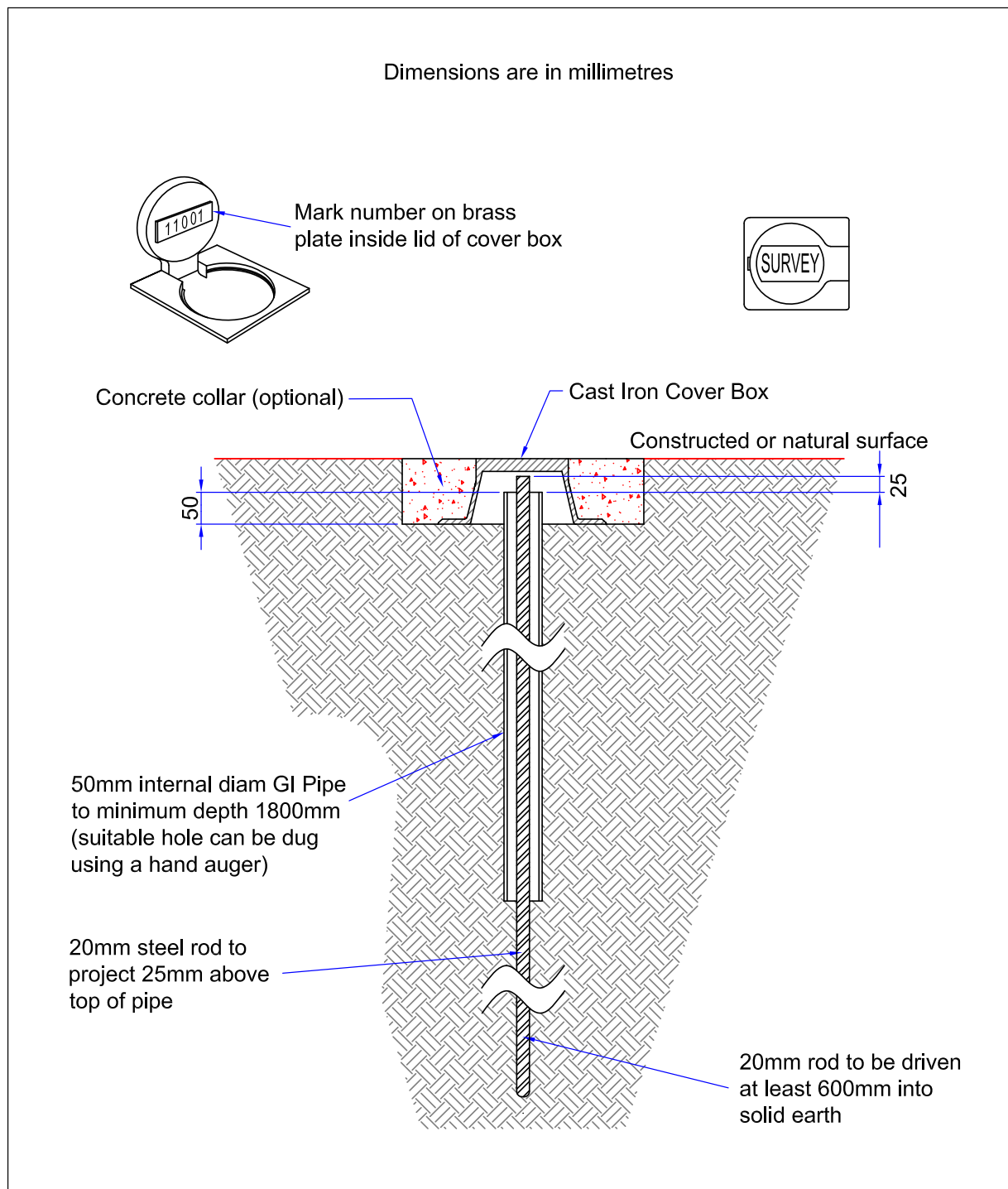
2.4 Permanent Survey Mark Type 6 (Non Urban Type)



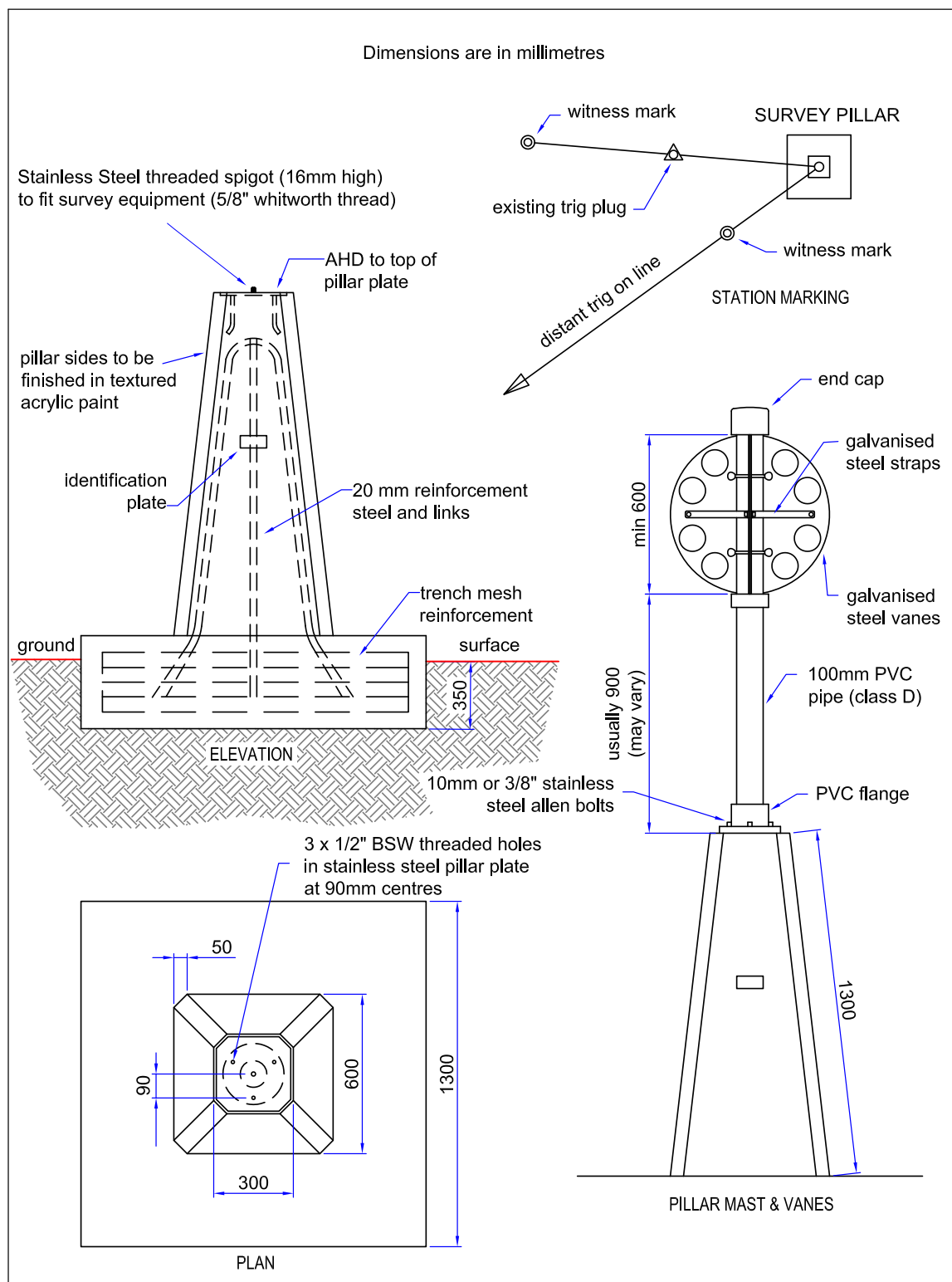
2.5 Permanent Survey Mark Type 7 (Feno Spike with Cover Box)



2.6 Permanent Survey Mark Type 8 (Dept of Water Resources "Type" C)

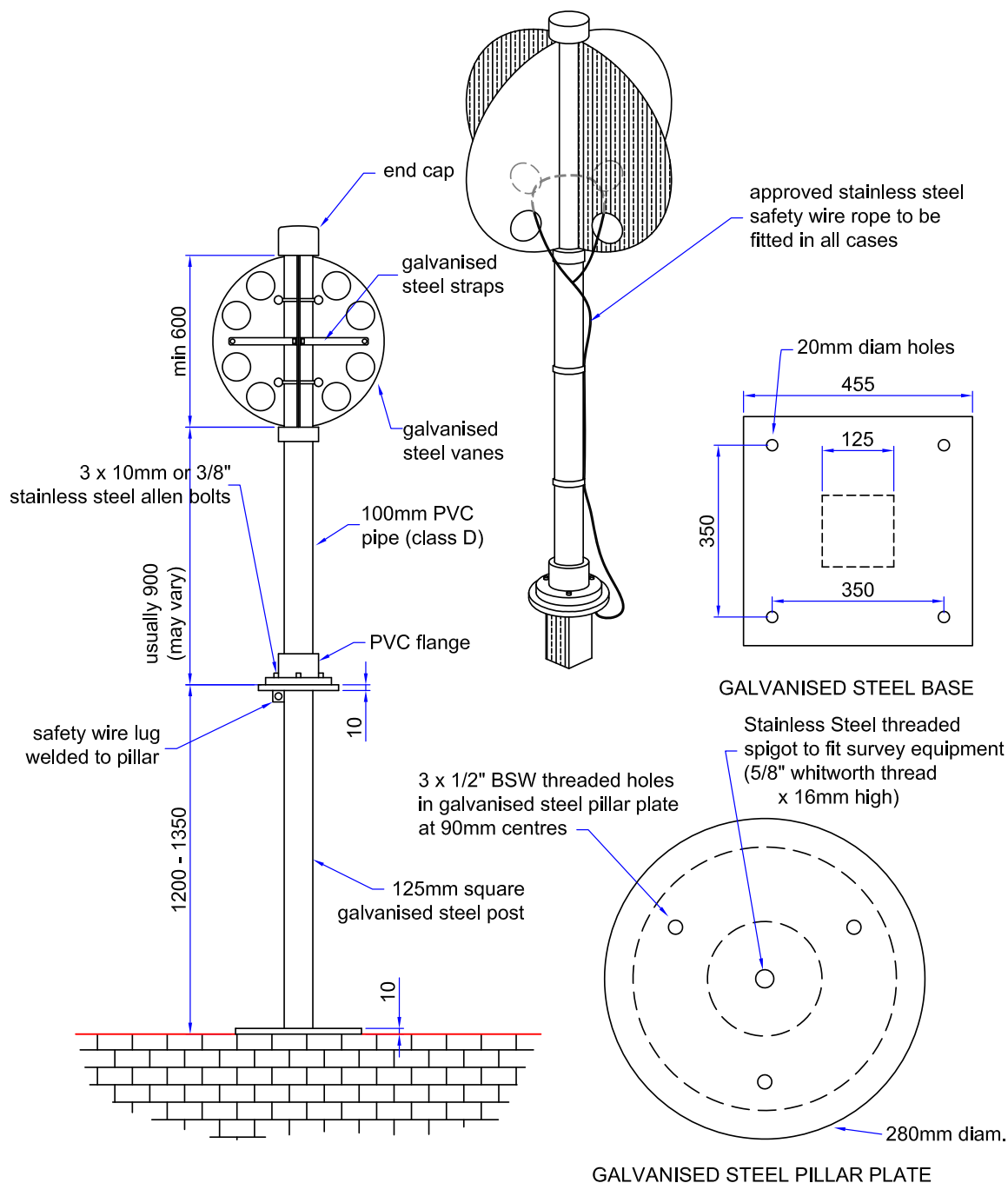


2.7 Permanent Survey Mark Type 9 (Trigonometrical Station)



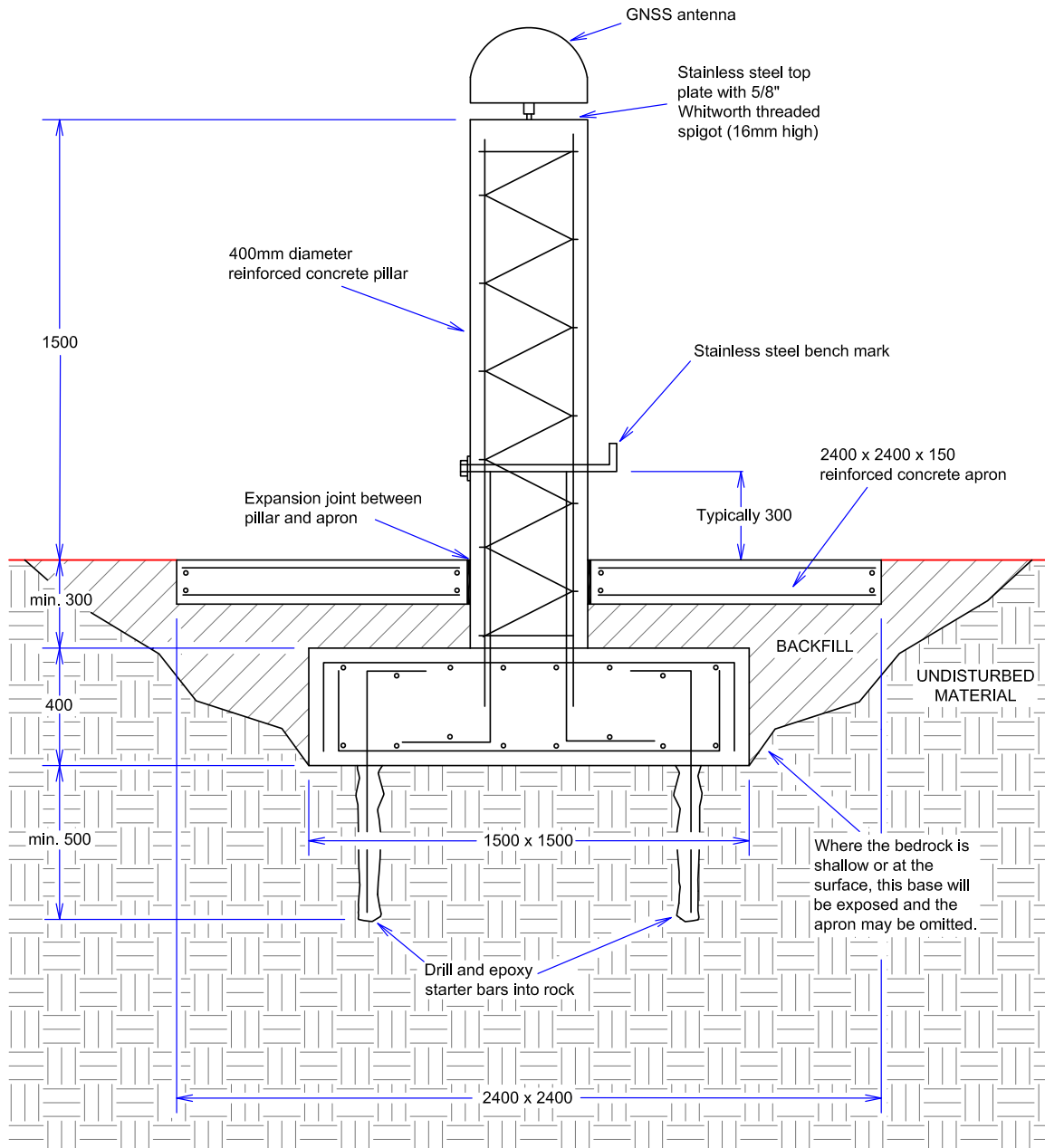
2.8 Permanent Survey Mark Type 10 (Rooftop Pillar)

Dimensions are in millimetres

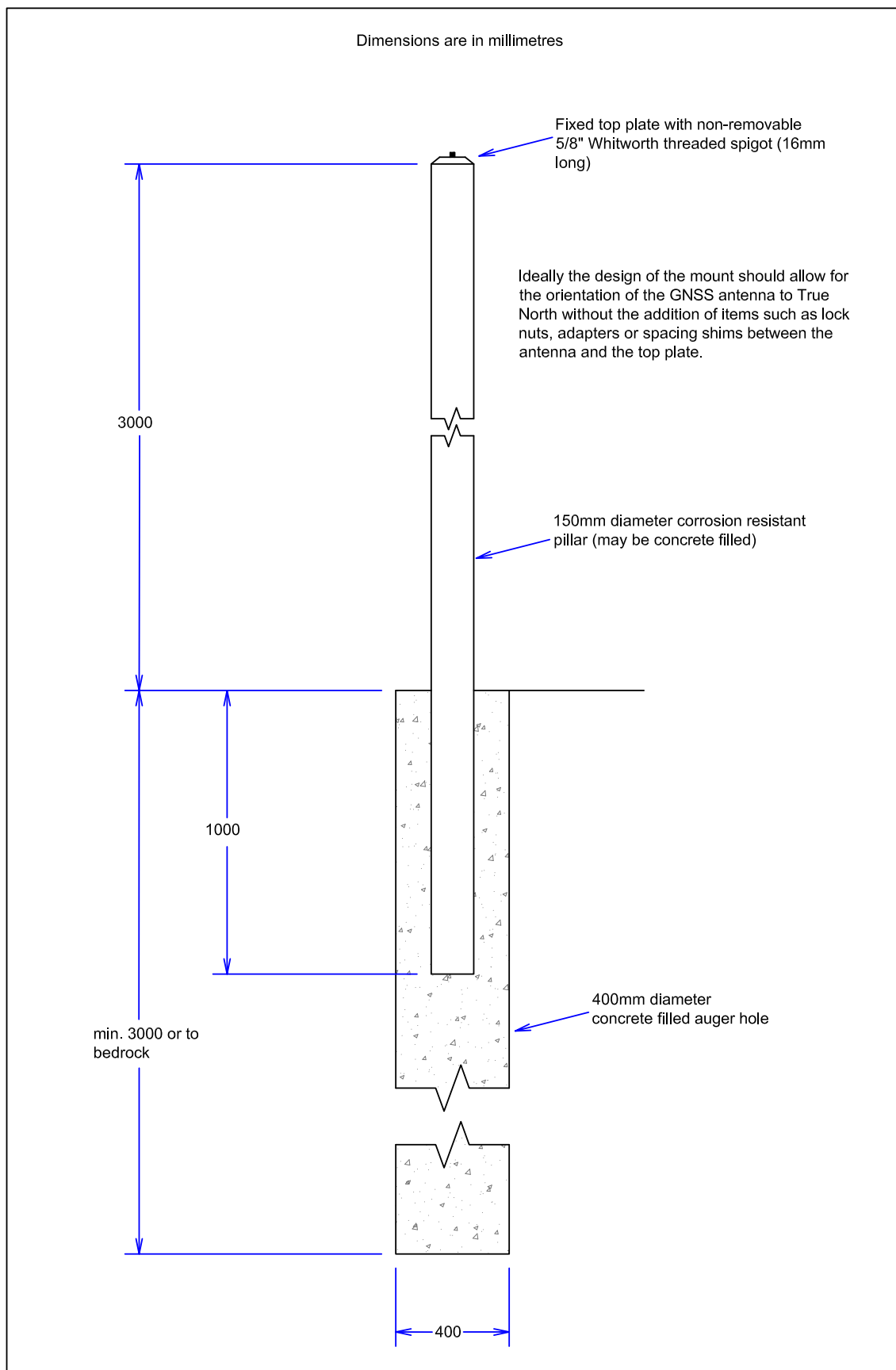


2.9 Permanent Survey Mark Type 11 (Tier 2 CORS Pillar)

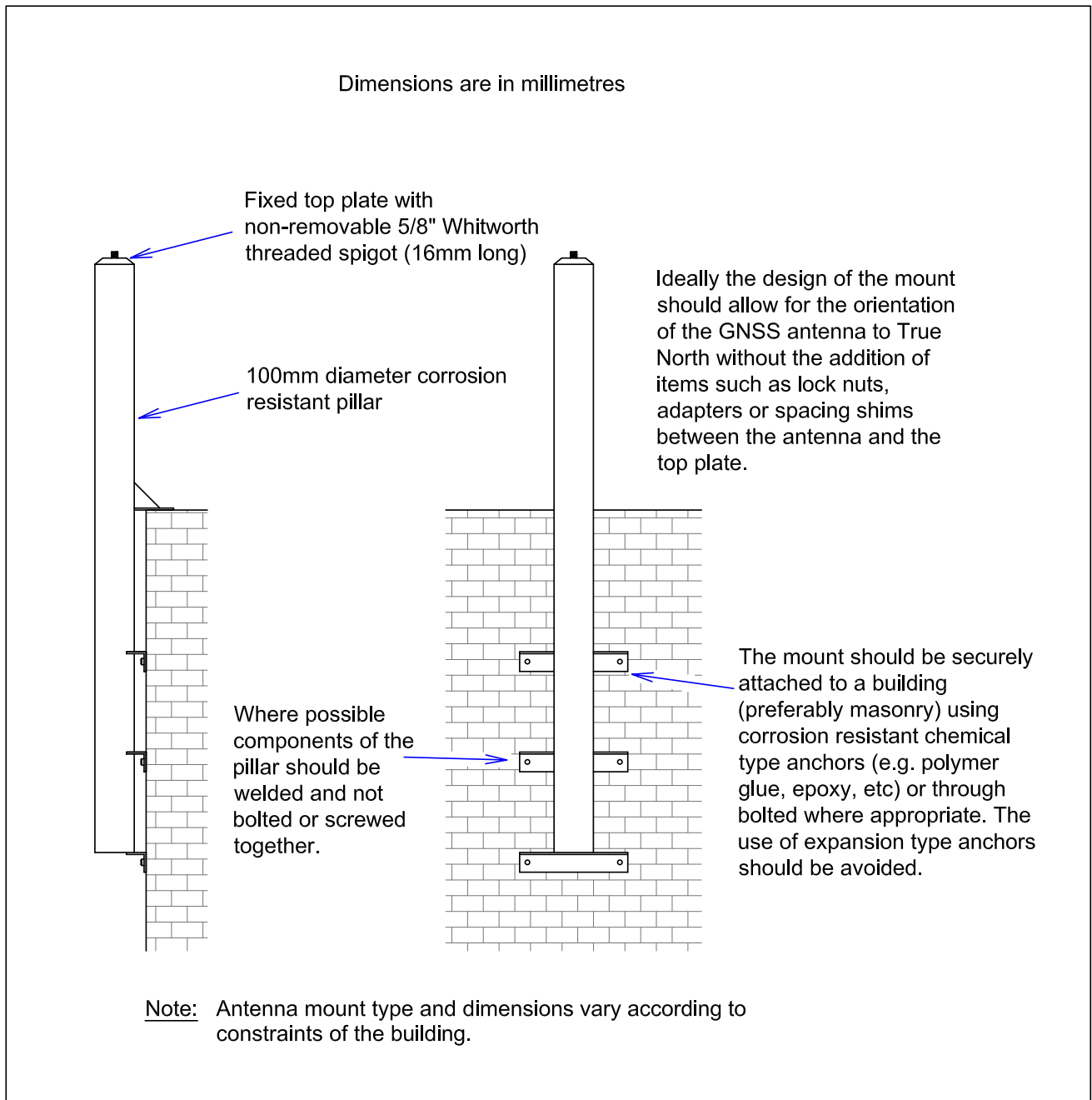
Dimensions are in millimetres



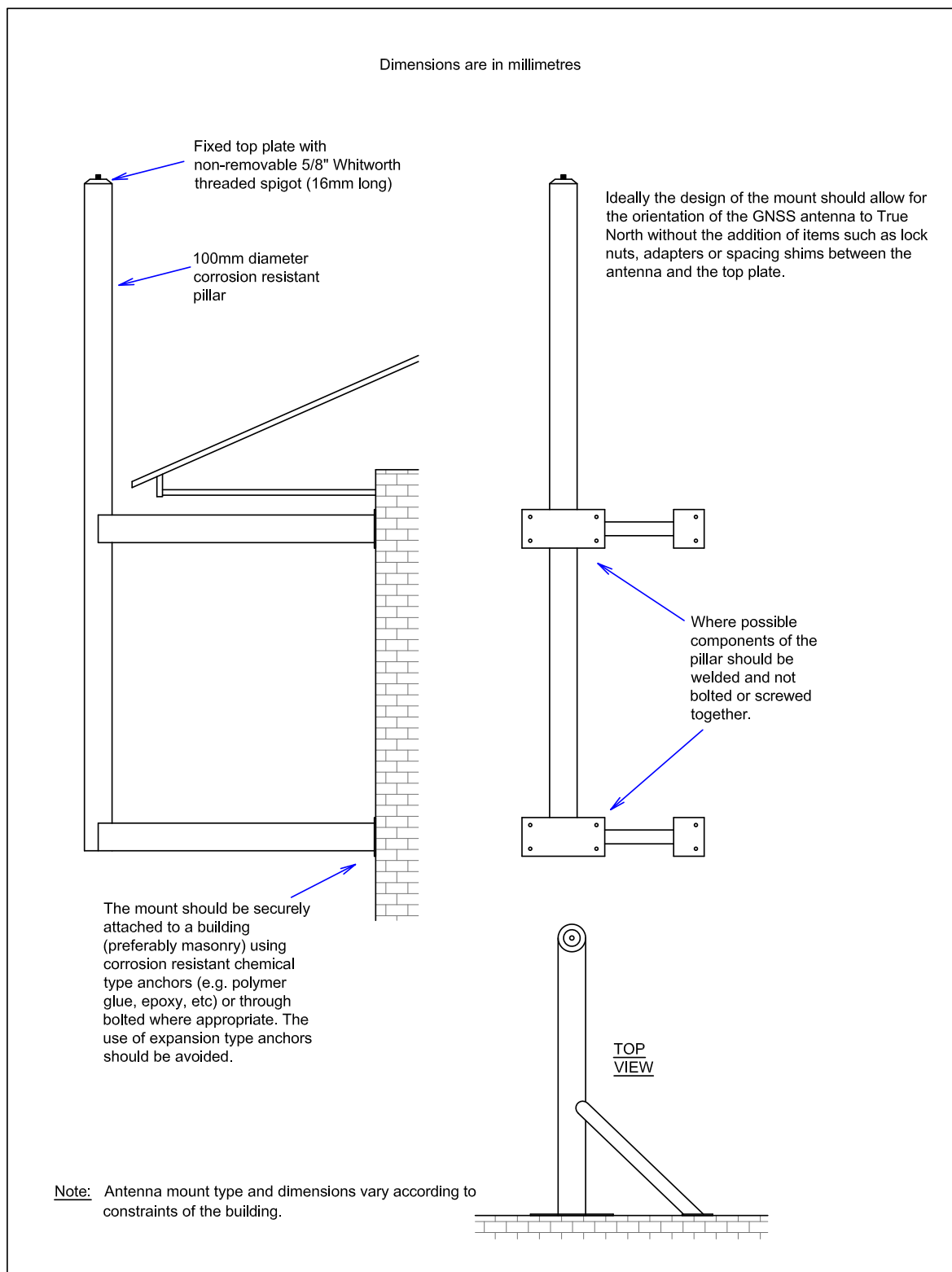
2.10 Permanent Survey Mark Type 12 (Tier 3 CORS Pillar - Freestanding)



2.11 Permanent Survey Mark Type 13 (Tier 3 CORS Pillar – Wall mounted, no eaves)



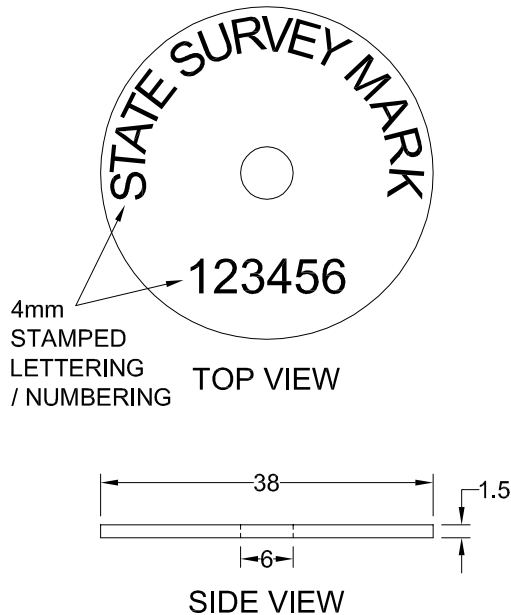
2.12 Permanent Survey Mark Type 14 (Tier 3 CORS Pillar – Wall mounted)



2.13 Permanent Survey Mark Type 15 (State Survey Mark – Urban)

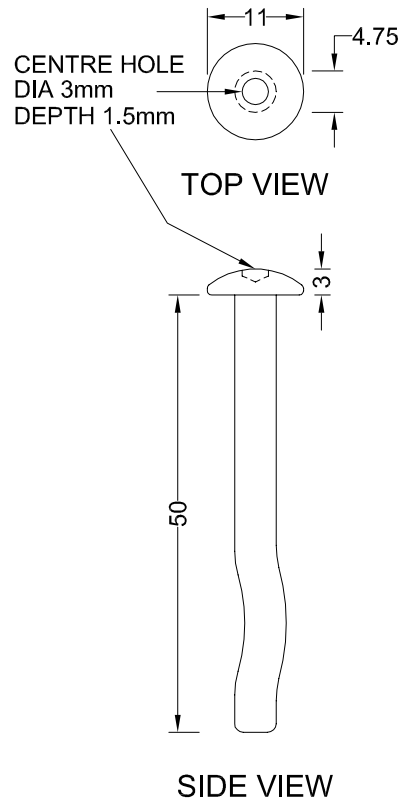
Dimensions are in millimetres

DISC DETAIL



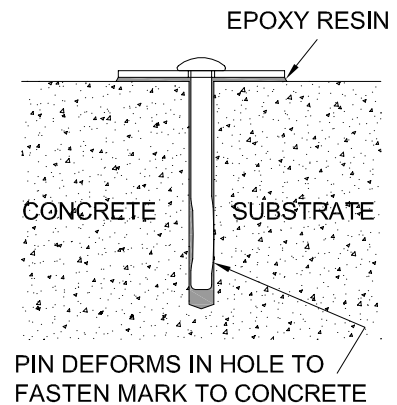
DISC & PIN TO BE MARINE
GRADE STAINLESS STEEL

PIN DETAIL



MARK INSTALLATION

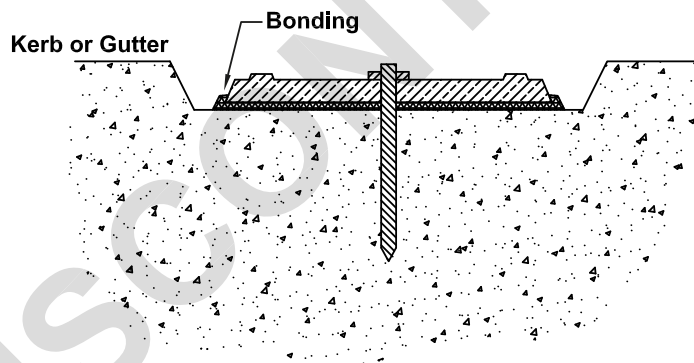
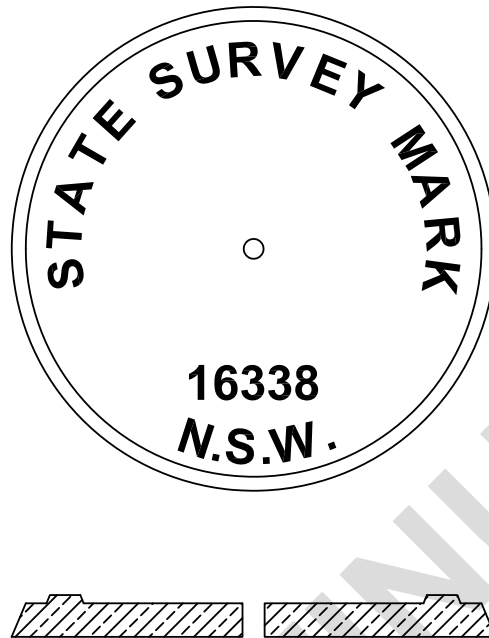
1. DRILL 5mm HOLE, 60mm DEEP & CLEAN OUT DEBRIS THOROUGHLY (ANY OTHER SIZE DRILL HOLE WILL NOT RESULT IN A FIRM, STABLE MARK).
2. MIX EPOXY RESIN - POUR SMALL AMOUNT DOWN HOLE, APPLY PART AROUND DISC LOCATION.
3. TAP MARK IN GENTLY TO SET MARK INTO POSITION.
4. REMOVE EXCESS EPOXY FROM SURROUNDING AREA IF REQUIRED.



3. Appendices

3.1 Discontinued Permanent Survey Mark Diagrams

3.1.1 Permanent Survey Mark Type 3 (State Survey Mark)

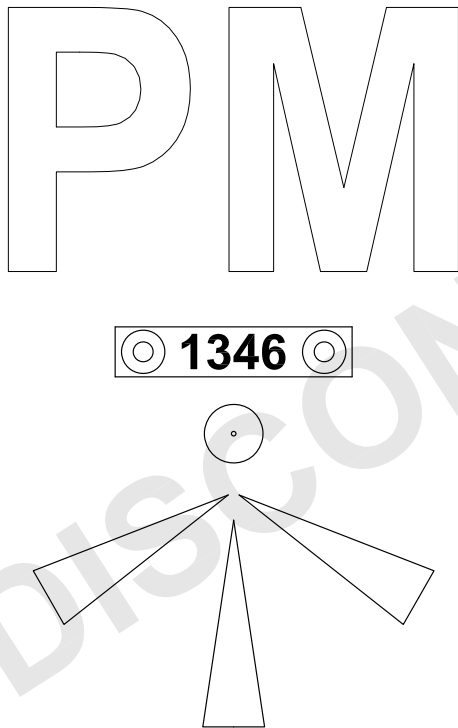


NOTE:-

Where an existing structure (kerb & gutter or solid rock) is available, these marks may be used in lieu of larger SSM.

Fixation is by drilling and bonding with an approved epoxy-resin compound or fixed by power driven stainless steel nail & brass washer of minimum length 40mm, with plate bonded to concrete.

3.1.2 Permanent Survey Mark Type 5



PERMANENT MARK IN ROCK

The pin and plate is to be fixed by grouting with a 3:1 sand-cement mixture, or with epoxy-resin mixed to the manufacturer's specifications.

The letters P.M. and the Broad Arrow should be 100mm long and at least 10mm deep cut into the rock.

The top of the pin should project at least 5mm above the surface and the number plate should be fitted into a recess so that the top of the plate is at least 2mm below the surface of the rock.

3.2 Suitable Fixing Agents

Following is a list of epoxies which are suitable for bonding the State Survey Mark (SSM) style of Permanent Survey Marks as required.

Product:

- Quickset cement
- Cement mix
- Selley's Epoxy
- Resin Cement repair kit

When choosing a suitable epoxy those with a higher viscosity are recommended.

3.3 Distribution Centres for Survey Mark Fittings

Mark Distribution from all centres must be pre booked for pickup or a courier arranged. Please use the contact details below for orders and bookings.

Armidale

New England Surveying & Engineering
1/161 Rusden Street
Email: info@nese.com.au
Phone: (02) 6772 3141

Bathurst

Spatial Services
346 Panorama Avenue
Email: SCIMS@customerservice.nsw.gov.au
Phone: 1300 211 253

Coffs Harbour

Spatial Services
c/o Fair Trading
359 Harbour Drive
Email: Stewart.Folley@customerservice.nsw.gov.au
Phone: (02) 8587 0510

Dubbo

Langford & Rowe Consulting Surveyors Pty Ltd
46 Church Street
Email: langrowe@langrowe.com
Phone: (02) 6882 1611

Goulburn

KMJ Surveying Pty Ltd
36 Montague Street
Email: admin@kmjsurveying.com.au
Phone: (02) 4821 1033

Grafton

Clarence Valley Surveys Pty Ltd
86 Victoria Street
Email: admin@cvsurveys.com.au
Phone: (02) 6642 3300

Lismore

Spatial Services
West Wing
120 Dalley Street, East Lismore
Email: Dave.Hegerty@customerservice.nsw.gov.au
Phone: (02) 6626 5670

Moree

SMK Consultants Pty Ltd
39 Frome Street
Email: admin@smk.com.au
Phone: (02) 6752 1021

Newcastle

Spatial Services
Level 2
117 Bull Street, Newcastle West
Email: Andrew.Holt@customerservice.nsw.gov.au
Phone: (02) 9372 7200

Nowra

Spatial Services
5 O'Keeffe Avenue
Email: Barry.Jeffery@customerservice.nsw.gov.au
Phone: 0417 664 841

Sydney

Spatial Services
Level 14
2-24 Rawson Place Haymarket, NSW 2000
Email: SCIMS@customerservice.nsw.gov.au
Phone: 1300 211 253

Tamworth

Bath Stewart Associates Pty Ltd
239 Marius Street
Email: office@bathstewart.com.au
Phone: (02) 6766 5966

Wagga Wagga

Wagga Wagga City Council
Alan Turner Depot
155 Fernleigh Road, Glenfield Park
Email: Blomfield.David@wagga.nsw.gov.au
Phone: (02) 6971 4627

End of Direction