

Specification (Measurement)

**Transport and Main Roads Specifications
MRS142 Thrust Boring and Auger Boring**

July 2017

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1 Introduction

This Specification applies to the installation of underground services and utilities using thrust boring or auger boring.

This Specification shall be read in conjunction with MRS01 *Introduction to Specifications* and other Specifications as appropriate.

This Specification forms part of the Transport and Main Roads Specification Manual.

2 Measurement of work

2.1 Standard Work Items

In accordance with the provisions of Clause 2.1.3 of MRS01 *Introduction to Specifications*, the Standard Work Items covered by this Specification are listed in Table 2.1.

Table 2.1 – Standard Work Items

Standard Item No.	Description	Unit of Measurement
Thrust Boring and Auger Boring		
33501	Design of thrust / auger boring installation system	lump sum
33502	Supply and installation of sleeving and carrier pipe	m
33503	Thrust / auger boring, all materials	m
33504P	Thrust / auger boring in hard ground, rate additional to rates for Work Item 33503 (Provisional Quantity)	m
33508	Removal of spoil material from thrust / auger bore	m ³
33509P	Addition of lime to spoil material in Acid Sulphate Soil area, (Provisional Quantity, as directed)	m ³
33513	Grouting outer annuls and space between the casing and carrier pipe	m ³
33514	Sand fill the space between the casing and carrier pipe	m ³
33515	Operation of thrust / auger boring machine	lump sum
33516	Designer's inspection and certification	lump sum

2.2 Work Operations

Any other standard work items other than given in Table 2.1 shall be in accordance with relevant MRS, e.g., in accordance with MRS02 *Provision for Traffic* and MRS04 *General Earthworks*.

2.2.1 Thrust / auger boring construction

Item 33501 Design of thrust / auger boring installation system

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) design of thrust / auger boring system in accordance with this Specification, and
- c) submission of design for approval to use in accordance with the Conditions of Contract.

Item 33502 Supply and installation of sleeving and carrier pipe

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply and installation of sleeving and carrier pipe.

Item 33503 Thrust / auger boring, all materials

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) boring through all materials.

Item 33504P Thrust / auger boring, hard ground, rate additional to rates for Work Item 33503 (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) boring associated with hard ground in addition to that required for, in all materials.

Item 33508 Removal of spoil material from thrust / auger bore

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) removing all spoils from pits
- c) stockpiling of material considered suitable for re-use, and
- d) hauling and disposing of unsuitable material.

Item 33509P Addition of lime to spoil material in Acid Sulphate Soil area, (Provisional Quantity, as directed)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) mixing of lime into spoil material at the rate required to neutralise potential acid production (excluding supply of lime).

Item 33513 Grouting outer annulus and space between the casing and carrier pipe

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply cementitious grouting and other associated materials and grouting the annulus and any void between casing and carrier pipe.

Item 33514 Sand fill the space between the casing and carrier pipe

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply sand and filling the space between casing and carrier pipe.

Item 33515 Operation of thrust / auger boring machine

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) mobilizing and demobilizing thrust / auger boring machine
- c) provide access road / working platform as necessary
- d) provide surveyors for checking the alignment
- e) supply, install and monitoring of instrumentations throughout the operations, and
- f) install of all sundry items and other components necessary to complete the work.

Item 33516 Designer's inspection and certification

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) provision of design certification in accordance with the Conditions of Contract, and
- c) addressing review comments and revising design.

2.3 Measurement

2.3.1 Measurement of provision of traffic

The provision of traffic shall be measured in accordance with MRS02 *Provision for Traffic*.

2.3.2 Measurement of General Earthworks

The measurement of excavation and backfilling shall be measured in accordance with MRS04 *General Earthworks*.

2.4 Calculation of quantities

Quantities shall be calculated in accordance with the provisions of Clause 2.1.1 of MRS01 *Introduction to Specifications*.

3 Measurement and payment

3.1 Traffic management

The measurement and payment shall be in accordance with MRS02 *Provision for Traffic*.

3.2 General earthworks

The measurement and payment shall be in accordance with MRS04 *General Earthworks*.

3.3 All lump sums amounts

The lump sum amounts tendered by the Contractor and accepted by the Administrator under Standard Work Items shall be deemed to be full.

3.3.1 Times for payments for lump sums

Notwithstanding the requirements of the Conditions of Contract:

- a) the Contractor may claim payment under Standard Work Item 33501 only after permission to use the Contractor's Design has been approved by the Administrator under the Conditions of Contract or after such permission is deemed to have been given under the Conditions of Contract
- b) the Contractor may claim payment under Standard Work Items 33502, 33503, 33504P, 33508, 33509P, 33513, 33514 and 33515 in accordance with the requirements of the Conditions of Contract, and
- c) the Contractor may claim payment under Standard Work Item 33516 only after delivery to the Administrator of the documents listed in the Conditions of Contract.

