Specification (Measurement)

Transport and Main Roads Specifications
MRS140 Horizontal Directional Drilling (HDD)

July 2017
## Contents

1 Introduction ....................................................................................................................................1

2 Measurement of work ....................................................................................................................1

2.1 Standard Work Items ................................................................................................................1

2.2 Work Operations ........................................................................................................................1

2.2.1 **HDD construction** ...........................................................................................................1

2.3 Measurement................................................................................................................................3

2.3.1 Measurement of provision of traffic ................................................................................3

2.3.2 Measurement of General Earthworks .............................................................................3

2.4 Calculation of quantities ..........................................................................................................3

3 Measurement and payment ..........................................................................................................3

3.1 Traffic management ....................................................................................................................3

3.2 General earthworks ...................................................................................................................3

3.3 All lump sums amounts .............................................................................................................3

3.3.1 **Times for payments for lump sums** ..............................................................................4
1 Introduction

This Specification applies to the installation of underground services and utilities using Horizontal Directional Drilling (HDD).

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 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*

<table>
<thead>
<tr>
<th>Standard Item No.</th>
<th>Description</th>
<th>Unit of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>33301</td>
<td>Design of HDD boring installation system</td>
<td>lump sum</td>
</tr>
<tr>
<td>33302</td>
<td>Supply and installation of sleeving and carrier pipe</td>
<td>m</td>
</tr>
<tr>
<td>33303</td>
<td>HDD, all materials</td>
<td>m</td>
</tr>
<tr>
<td>33304P</td>
<td>HDD in hard ground, rate additional to rates for Work Item 33303 (Provisional Quantity)</td>
<td>m</td>
</tr>
<tr>
<td>33308</td>
<td>Removal of spoil material from HDD drive</td>
<td>m³</td>
</tr>
<tr>
<td>33309P</td>
<td>Addition of lime to spoil material in Acid Sulphate Soil area, (Provisional Quantity as directed)</td>
<td>m³</td>
</tr>
<tr>
<td>33313</td>
<td>Grouting outer annuls and space between the casing and carrier pipe</td>
<td>m³</td>
</tr>
<tr>
<td>33314</td>
<td>Sand fill the space between the casing and carrier pipe</td>
<td>m³</td>
</tr>
<tr>
<td>33315</td>
<td>Operation of HDD machine</td>
<td>lump sum</td>
</tr>
<tr>
<td>33316</td>
<td>Designer’s inspection and certification</td>
<td>lump sum</td>
</tr>
</tbody>
</table>

2.2 Work Operations

Any other Standard Work Items other than given in Table 2.1 shall be in accordance with the relevant MRS, e.g., in accordance with MRS02 *Provision for Traffic* and MRS04 *General Earthworks*.

2.2.1 HDD construction

*Item 33301 Design of HDD 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 HDD system in accordance with this Specification, and

c) submission of design for approval to use in accordance with the Conditions of Contract.
Item 33302  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 33303  HDD, 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 33304P  HDD in hard ground, rate additional to rates for Work Item 33303 (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 33308  Removal of spoil material from HDD drive

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 33309P  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 33313  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 33314  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 33315  Operation of HDD 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 HDD 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 33316  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 33301 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 33302, 33303, 33304P, 33308, 33309P, 33313, 33314 and 33315 in accordance

c) with the requirements of the Conditions of Contract, and

d) the Contractor may claim payment under Standard Work Item 33316 only after delivery to the Administrator of the documents listed in the Conditions of Contract.