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Requirements for Measuring and Pricing of Trenchless Installation of Road Drainage and Service Ducts

CC-RMP-02800

October 2016

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1. Trenchless Installation of Road Drainage & Service Ducts

- Scope**
- 1 This document applies to the installation by trenchless techniques of road drains, service ducts, sleeves and culverts of internal diameters 900mm or less. The method of installation will be selected by the Tenderer to meet the requirements of Appendix 28/1 of the Specification document.
 - 2 This document covers the Trenchless or Minimum Dig installation and the associated Temporary Works. All other items of permanent works shall be measured under CC-RMP-00500. For purposes of this measurement the launch and reception pits are considered Temporary Works.
- Definitions**
- 3 Where the ground level has been subjected to treatment, under the Contract, in respect of ground improvement, mine workings, swallow holes and the like, for the purposes of Trenchless Techniques, Existing Ground level shall be the level of the ground before any work under the contract has been carried out.
- Establishment and Removal of Plant**
- Units**
- 4 The units of measurement for establishment and removal of plant shall be:
 - (i) establishment and removal of plant.....item.
- Measurement**
- 5 The establishment and removal of plant shall be measured once only to each pipe run. Any additional establishment and removal to suit the Contractor's method of working shall not be measured.
- Itemisation**
- 6 Separate items shall be provided for plant in accordance with Section 3 of CC-RMP-00010, paragraphs 3 and 4 and the following:

Group	Feature
I	1 Pipe run reference
II	1 Establishment and removal of plant
- Establishment and Removal of Plant**
- 7 The items for the establishment of trenchless installation and plant shall in accordance with the Preambles to Bill of Quantities General Directions include for:
 - (a) bringing plant and equipment to the site of the pipe run;
 - (b) setting up plant and equipment at each pipe run;
 - (c) dismantling and removing plant and equipment on completion of the pipe run;
 - (d) construction of launch and reception pits and all reinstatement;
 - (e) thrust and winch blocks and their removal on completion of the pipe run;
 - (f) site preparation and access arrangements;
 - (g) lead-in trenches and their reinstatement;
 - (h) ground stabilisation treatment;
- Item Coverage**

- (i) dealing with existing flows;
- (j) construction and reinstatement of launch and reception eyes;
- (k) alteration and reinstatement of existing chambers used as launch and reception pits;
- (l) protection of existing or completed pipes in chambers;
- (m) replacing acceptable material rendered unacceptable;
- (n) taking precautions to avoid damage to property, structures, drains, services, pavements, instrumentation and the like, including monitoring;
- (o) excavation of acceptable material (CC-RMP-00600 paragraphs 17 and 18);
- (p) excavation of unacceptable material (CC-RMP-00600 paragraph 19);
- (q) excavation of hard material (CC-RMP-00600 paragraph 23);
- (r) excavation in contaminated land and disposal of all contaminated materials including clothing, wash water and any other materials to a licensed site;
- (s) disposal of material (CC-RMP-00600 paragraph 39);
- (t) establishment and supply of water.

Drain and service ducts

- Units** **8** The unit of measurement for pipe runs shall be:
- (i) pipe run reference linear metre.
- Measurement** **9** The measurement of a pipe run shall be the lengths measured along the centre line of the pipe between any of the following:
- (a) the internal faces of permanent chambers;
 - (b) the external faces of headwalls;
 - (c) the position of termination shown in the Contract.
- 10** The measurement of service ducts shall be for the complete construction irrespective of the number of ducts contained within any one bore. Where more than one duct is laid in a bore then the number of ducts shall be stated in the item description.
- Itemisation** **11** Separate items shall be included for each pipe run in accordance with Section 3 of CC-RMP-00010, paragraphs 3 and 4 and the following:

Group	Feature
I	1 Pipe run reference
II	1 Drain
	2 Service ducts
	3 Lining
III	1 New Installation
	2 On-line Replacement
	3 Minimum Dig
	4 Rehabilitation
IV	1 Internal diameter
V	1 Existing internal diameter (Rehabilitation only)

Drains and service ducts

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The items for pipe runs shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item Coverage

- (a) excavation of acceptable material (CC-RMP-00600 paragraphs 17 and 18);
- (b) excavation of unacceptable material (CC-RMP-00600 paragraph 19);
- (c) excavation of hard material (CC-RMP-00600 paragraph 23);
- (d) supply and installation of pipes;
- (e) cutting and jointing of pipes and fittings, including packers;
- (f) building in pipes to chambers, headwalls and outfall works including reshaping inverts and benching;
- (g) disposal of material (CC-RMP-00600 paragraph 39);
- (h) cleaning, clearing obstructions and testing including all CCTV surveys and inspections;
- (i) recording, staking and labelling;
- (j) in the case of ducts, fixing draw ropes, removable stoppers, marker blocks and posts;
- (k) pipe schedules and records in accordance with Appendix 28/1;
- (l) measures for reduction of friction, including lubricants and their disposal;
- (m) protective system (CC-RMP-01900 paragraph 4);
- (n) sleeves;
- (o) support and drilling fluid and disposal;
- (p) surveys and monitoring in accordance with Appendix 28/1;
- (q) grouting including packers and fixings;
- (r) breakout and reinstatement of start and end headings at existing chambers;
- (s) ground stabilisation treatment;
- (t) dealing with existing flows;
- (u) cleaning existing sewers of debris, silt, obstructions and other material including disposal;
- (v) standing time waiting for deformed pipes to normalise;
- (w) taking precautions to avoid damage to property, structures, drains, services, pavements, instrumentation and the like, including monitoring;
- (x) excavation in contaminated land and disposal of all contaminated materials including clothing, wash water and any other materials to a licensed site;
- (y) photographs;
- (z) delivery of samples for testing.

Lateral connections to pipes to be replaced by on-line replacement

Units	13	The unit of measurement for lateral connections shall be: (i) lateral connection reference..... number.																						
Measurement	14	The depth of lateral connection shall be the vertical measurement between the invert of the lateral pipe and the Existing Ground Level except where the Earthworks Outline is below the Existing Ground Level the measurement shall be taken to the Earthworks Outline.																						
Itemisation	15	Separate items shall be included for lateral connections in accordance with the following: <table border="0" style="margin-left: 40px;"> <thead> <tr> <th style="text-align: left;">Group</th> <th style="text-align: left;">Feature</th> <th></th> </tr> </thead> <tbody> <tr> <td>I</td> <td>1</td> <td>Lateral connection reference</td> </tr> <tr> <td rowspan="2">II</td> <td>1</td> <td>Drain</td> </tr> <tr> <td>2</td> <td>Service ducts</td> </tr> <tr> <td>III</td> <td>1</td> <td>Different Internal Diameters of lateral pipes</td> </tr> <tr> <td>IV</td> <td>1</td> <td>Different Internal Diameters of main pipe run</td> </tr> <tr> <td rowspan="2">V</td> <td>1</td> <td>Depth to invert not exceeding 2 metres</td> </tr> <tr> <td>2</td> <td>Depth to invert exceeding 2 metres but not exceeding 3 metres and so on in steps of 1 metre</td> </tr> </tbody> </table>	Group	Feature		I	1	Lateral connection reference	II	1	Drain	2	Service ducts	III	1	Different Internal Diameters of lateral pipes	IV	1	Different Internal Diameters of main pipe run	V	1	Depth to invert not exceeding 2 metres	2	Depth to invert exceeding 2 metres but not exceeding 3 metres and so on in steps of 1 metre
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Lateral connections	16	The items for lateral connections shall in accordance with the Preambles to Bill of Quantities General Directions include for:																						
Item Coverage		<ul style="list-style-type: none"> (a) excavation of acceptable material (CC-RMP-00600 paragraphs 17 and 18); (b) excavation of unacceptable material (CC-RMP-00600 paragraph 19); (c) excavation of hard material (CC-RMP-00600 paragraph 23); (d) locating and making entry; (e) breaking up beds, haunches and surrounds; (f) disconnection from existing pipe to be replaced; (g) dealing with existing flows; (h) backfilling and compaction; (i) disposal of material (CC-RMP-00600 paragraph 39); (j) pipes, fittings and saddles; (k) bedding, haunching and surrounding; (l) relaying or replacing existing pipes disturbed or broken; (m) excavation in contaminated land and disposal of all contaminated materials including clothing, wash water and any other materials to a licensed site; (n) sealing off disused ends; (o) relaying or replacing existing pipes disturbed or broken, including cutting, jointing and fittings; (p) cleaning, clearing obstructions and testing including all CCTV surveys and inspections; (q) photographs; (r) testing. 																						

2. References

2.1 TII Publications (Standards) References


CC-RMP-00010 Introduction to the Requirements for Measuring and Pricing

CC-RMP-00500 Requirements for Measuring and Pricing of Drainage and Service Ducts

CC-RMP-00600 Requirements for Measuring and Pricing of Earthworks

CC-RMP-01900 Requirements for Measuring and Pricing of Protection of Steelwork against Corrosion





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