

**National Asset Delivery
Technical Surveys and Testing**

**Works Information for
609250 - Area 14 Cathodic Protection
Structures Monitoring 2021-22**

CONTENTS AMENDMENT SHEET

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TABLE OF CONTENTS

1	Description of the works	4
1.1	Project objectives	4
1.2	Scope of works	4
1.3	Deliverables	6
2	Existing INFORMATION	6
3	Constraints on how the Contractor Provides the Works	8
3.1	General	8
3.2	Working hours & site specific constraints	8
3.3	Health, Safety and Environment & Risk Management	8
4	Requirements for the programme	10
5	Services and other things provided by the <i>Employer</i>	11
6	Specification for the works	12

LIST OF ANNEXES

Appendix 1 Supplementary Constraints

1 DESCRIPTION OF THE WORKS

1.1 Project objectives

1.1.1 The principal objective is to carry out a programme of Cathodic Protection Performance Monitoring and System Reviews for 2021 – 2022. In addition to this, the scope is intended to address recommendations (as identified in the most recent Performance Monitoring Reports and System Reviews carried out in 2020-2021), either as part of the monitoring exercises or as separate works.

1.1.2 The specification that applies to the *works* is included in Section 6

1.2 Scope of works

1.2.1 The *works* to be provided under this contract are:

There are 4 no. structures in total with cathodic protection systems (2 no. structures are located within the same interchange). The names, structure references and OS grid reference locations of these structures are given in the following table:

Structure Ref	Structure Name	OS grid ref (E, N)	Type of Cathodic Protection
STR_5644	Shillbottle Underpass	419580, 611800	ICCP
STR_5591	Middle Engine Lane	431856, 568801	Galvanic
STR_5568	Whitemare Pool (West)	431100, 561361	ICCP
STR_5569	Whitemare Pool (East)	431181, 561339	ICCP

The following lists the works identified for each structure as recommended in the most recent Performance Monitoring reports and System Review reports as well as the requirement to carry out the latest programme of performance monitoring and system reviews:

(1) Shillbottle Underpass (STR_5644)

- Further investigate faulty DuraHold unit that was replaced and failed if needed (due to be replaced again).
- Carry out **2no. Performance Monitoring Assessments** of the cathodic protection systems.
- Carry out a **System Review** of the cathodic protection system.

(2) Middle Engine Lane (STR_5591)

- Extend collection time of monitoring results to 72 hours as recommended in the latest performance monitoring report to see if better depolarisation results can be achieved.
- Replace corroded terminals in the monitoring units as recommended in the latest performance monitoring report.
- Carry out **2no. Performance Monitoring Assessments** of the cathodic protection systems.
- Carry out a **System Review** of the cathodic protection system.

(3) **Whitmare Pool Interchange (STR_5568 & STR_5569)**

- Increase the current output to the anode zones as recommended in the most recent performance monitoring report and allow several days before next monitoring exercise.
- Investigate further the intermittent power supply to the WestWest pier as identified in the most recent performance monitoring report and provide recommendations to rectify.
- Investigate further the faulty decay probes within the system as identified in the most recent performance monitoring report and provide recommendations to rectify.
- Extend collection time of monitoring results to 72 hours as recommended in the latest performance monitoring report to see if better depolarisation results can be achieved.
- Carry out **2no. Performance Monitoring Assessments** of the cathodic protection systems.
- Carry out a **System Review** of the cathodic protection system.

- (4) The works will be carried out over the course of the remainder of the current financial year (Apr 2021 – Mar 2022). The expected programme for completion of deliverable is as follows:

1st Performance Monitoring	August 2021
2nd Performance Monitoring	February 2022
System Review	February 2022

It is assumed remedial measures / adjustments will be carried out around the same time as 1st or 2nd performance monitoring visits.

1.3 Deliverables

1.3.1 The *Contractor* is required to produce the following deliverables:

- (1) For each structure outlined in the scope of works, 2no. Performance Monitoring Assessments including Function Checks are to be carried out in accordance with BS EN ISO 12696:2016. It is expected there will be approximately 6 months between performance monitoring assessments.

A factual report outlining the findings, results, conclusions and recommendations of each Performance Monitoring Assessment is to be submitted.

- First Performance Monitoring Report (1 for each structure) to be submitted by 31 August 2021.
- Second Performance Monitoring Report (1 for each structure) to be submitted by 28th February 2022.

- (2) For each structure outlined in the scope of works, 1no. System Review is to be carried out in accordance with BS EN ISO 12696:2016.

A System Review Report is to be submitted for each structure by 28th February 2022. It is expected the System Review will be carried out in line with the Second Performance Monitoring.

2 EXISTING INFORMATION

2.1.1 The following existing information is provided:

- (1) **Shilbottle Underpass:**
 - Cathodic Protection System Operation and Maintenance Manual 2012
 - Cathodic Protection Commissioning Report Rev 0 2016
 - System acceptance test September 2012 Rev 0.
 - CP performance Report April 2013 to March 2014
 - Cathodic Protection Performance Verification 1st Quarter 2019
 - Cathodic Protection Performance Verification 2nd Quarter 2019
 - As Built Drawings – Cathodic Protection Drawings
 - As Built Drawings – Refurb Scheme Drawings
 - Asbestos Action Plan
 - CCSL C0138 Shilbottle Underpass August 2020 PM 1

- CCSL C0138 Shilbottle March 2021 PM 2
- CCSL C0138 System Review Shilbottle

(2) **Middle Engine Lane**

- Galvanic Cathodic Protection Commissioning Report
- Cathodic Protection Performance Verification 1st Quarter 2019
- Cathodic Protection Performance Verification 2nd Quarter 2019
- As-built Drawings – 2015 Refurbishment Works
- Asbestos Action Plan
- CCSL C0138 Middle Engine Lane August 2020 PM 1
- CCSL C0138 Middle Engine Lane March 2021 PM 2
- CCSL C0138 System Review Middle Engine Lane

(3) **Whitemare Pool Interchange**

- Cathodic Protection O & M Manual
- Installation and Commissioning Report
- Cathodic Protection Performance Verification 1st Quarter 2019
- Cathodic Protection Performance Verification 2nd Quarter 2019
- CP Performance Report April 2013 to March 2014
- Performance Verifications and System Review 2012
- Cathodic Protection Drawings
- Whitemare Pool East - Asbestos Action Plan
- Whitemare Pool West – Asbestos Action Plan
- CCSL C0138 Whitemare Pool August 2020 PM 1
- CCSL C0138 White Mare Pool March 2021 PM 2
- CCSL C0138 System Review Whitemare Pool

2.1.2 Further information to that provided may be available on request.

3 CONSTRAINTS ON HOW THE CONTRACTOR PROVIDES THE WORKS

3.1 General

- 3.1.1 The *Contractor* Provides the Works in such manner as to minimise the risk of damage or disturbance to or destruction of third party property.
- 3.1.2 The *Contractor* complies with the constraints and meets with the requirements outlined in Appendix 1.
- 3.1.3 The *Contractor* submits information detailing how the *Contractor* will provide the Works to the *Employer* prior to the *works* commencing. This information will include any lifting plans, risk assessments, method statements, the *Contractor's* staff training information and any other relevant Health and Safety requirements.

3.2 Working hours & site specific constraints

- 3.2.1 The *Contractor's* working hours for site works shall be 08:00 – 18:00
- 3.2.2 Parking – Contractors are not permitted to park on the mainline carriageway unless under traffic management. Contractors should park in a suitable and safe location off network where possible and access the structures on foot using local footpaths. The contractor is to provide details of their methods of access in their Risk Assessment and Method Statements for the work.
- 3.2.3 It is assumed that all testing can be carried out from off network without the need for traffic management. Should the contractor envisage the need for traffic management to carry out any of the work this should be raised with Highways England as soon as possible so that necessary traffic management arrangements can be made.

3.3 Health, Safety and Environment & Risk Management

Health and Safety requirements

- 3.3.1 In Providing the Works the *Contractor* meets the requirements of Annex 2 of the supplementary constraints in relation to health and safety duties.
- 3.3.2 When implemented, the *Contractor* shall comply with the requirements of Highways England's safety passport scheme and ensure that all of his employees, and any of his subcontractor's, are registered in accordance with the implementation of the scheme.
- 3.3.3 Not Used
- 3.3.4 Before commencing the construction phase of the *works*, the *Contractor* confirms to the *Employer* that adequate welfare facilities are in place. Where the facilities detailed in section 5 are not deemed adequate, the *Contractor*

provides all necessary facilities to Provide the Works and to comply with the minimum requirements set out in HSE guidance document L153.

Environmental requirements

- 3.3.5 In Providing the Works the *Contractor* meets the requirements of Annex 2 of the supplementary constraints in relation to environmental duties.

Risk Management

- 3.3.6 The *Contractor* identifies, manages and mitigates risks in accordance with the principles of ISO31000.
- 3.3.7 The Contractor submits a risk register, which captures all risks associated with the delivery of the works including those identified by the Employer, with his tender and maintains it for the contract period.

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4 REQUIREMENTS FOR THE PROGRAMME

- 4.1.1 The *Contractor* submits programme to the *Employer* with his tender.
- 4.1.2 The *Contractor* Provides the Works taking into account the following programme constraints:
- (i) the *starting date* and *completion date* and any post site works, reporting and review period
 - (ii) The services and other things provided by *Employer* (see Section 5)
 - (iii) Any site visits required prior to performance monitoring to provide reconnaissance, to adjust the systems or carry out checks and investigations.
 - (iv) First Performance Monitoring Report (1 for each structure) to be submitted by 31 August 2021.

Second Performance Monitoring Report (1 for each structure) to be submitted by 28th February 2022.

A System Review Report is to be submitted for each structure by 28th February 2022.
- 4.1.3 The programme should be in the form of an activity and time related bar chart, produced as a result of a critical path analysis.
- 4.1.4 The programme should preferably be provided in either a PDF or MS Excel format and cover the full contract period including post site activities. Activities should be clearly defined and named and the programme should detail the following:
- (i) dates and times associated with the project, including the *starting date*, *completion date* & *Contractor's* planned completion, and any other dates or times that will specifically impact the delivery of the project
 - (ii) activities associated with delivering the project
- 4.1.5 The *Contractor* submits an updated programme to the *Employer* upon request.

5 SERVICES AND OTHER THINGS PROVIDED BY THE *EMPLOYER*

5.1.1 The following temporary traffic management will be provided by the *Employer* to allow the *Contractor* to Provide the Works:

- (1) It is assumed that all works can be carried out from off network without the need for traffic management. Should the contractor envisage the need for traffic management to carry out any of the work this should be raised with Employer as soon as possible so that necessary traffic management arrangements can be made.

This TM will be provided by the Employers M&R Contractor.

5.1.2 The other things that will be provided by the *Employer* are as follows:

- (1) Not Used.

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6 SPECIFICATION FOR THE WORKS

6.1.1 The *Contractor* shall undertake the works in accordance with:

- BS EN ISO 12696:2016 Cathodic Protection of Steel In Concrete

6.1.2 Persons carrying out the works should hold the relevant competence levels as given in BS EN ISO 15257:2017. All works should be undertaken either by, or under the direct supervision of, a cathodic protection specialist. The specialist should hold accredited third-party certification to level 3 in cathodic protection of reinforced concrete and marine metallic structures in accordance with BS EN ISO 15257:2017.

6.1.3 The contractor is to provide the relevant certification of all persons carrying out the work as part of the tender submission.

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