

Contract Document Register

Relating to a JCT Minor Works Building Contract 2024 with amendments


at

Springhead Bridge and Ebbsfleet Gateway A2260, Ebbsfleet, Kent, United Kingdom

Between

(1) EBBSFLEET DEVELOPMENT CORPORATION

(2) ERITH CONTRACTORS LIMITED

EMPLOYER INITIALIA  **...**

CONTRACTOR INITIAL: 

Section 1: JCT Minor Works Building Contract 2024

Section 2: Schedule of Amendments

Section 3: Contract Documents

3.1 Contract sum analysis

3.2 Contractor's clarification list

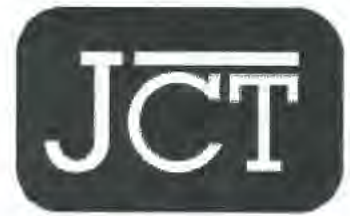
3.3 Contract Drawings

3.4 Specification

3.5 Invitation to Tender

3.6 Contractor's tender response

Section 1: JCT Minor Works Building Contract 2024



This document has changed from the published version. A comparison document must be provided.

MW 2024

Minor Works Building Contract 2024

2024

MINOR WORKS BUILDING CONTRACT

Minor Works Building Contract (MW)

Appropriate:

- where the work involved is simple in character;
- where the work is designed by or on behalf of the Employer;
- where the Employer is to provide drawings and/or a specification and/or work schedules to define adequately the quantity and quality of the work; and
- where an Architect/Contract Administrator is to administer the conditions.

Can be used:

- by both private and local authority employers.

Not suitable:

- where bills of quantities are required;
- where provisions are required to govern work carried out by named specialists;
- where detailed control procedures are needed including (but not limited to) detailed provisions governing extensions of time and loss and expense;
- where the Contractor is to design discrete part(s) of the works, even though all the other criteria are met – consider using the Minor Works Building Contract with contractor's design (MWD).

This contract document is created using JCT's online service. Changes or choices made by the contract creator mean that this document differs from the original JCT text. A comparison document, showing all the changes from the original JCT text, is available and must be provided with the contract by the contract creator to all parties to the contract under the terms and conditions of the use of this service. Please note that the finalised version of a contract document that has been output from this service includes the comparison document automatically. Reports of failure to observe the terms and conditions of the use of this service may result in this service being suspended.

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For details of 2024 Edition changes, see the Guidance Notes and the Tracked Change Document.

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Contents

	Agreement	1
	Recitals	2
	Articles	4
1	Contractor's obligations	
2	Contract Sum	
3	Collaborative working	
4	Architect/Contract Administrator	
5	CDM Regulations – Principal Designer and Principal Contractor	
6	Building Regulations – Principal Designer and Principal Contractor	
7	Adjudication	
8	Arbitration	
9	Legal proceedings	
	Contract Particulars	6
	Attestation	10
	Conditions	14
Section 1	Definitions and Interpretation	14
1.1	Definitions	
1.2	Agreement etc. to be read as a whole	
1.3	Headings, references to persons, legislation etc.	
1.4	Reckoning periods of days	
1.5	Contracts (Rights of Third Parties) Act 1999	
1.6	Notices and other communications	
1.7	Consents and approvals	
1.8	Applicable law	
Section 2	Carrying out the Works	18
2.1	Contractor's obligations	
2.2	Commencement and completion	
2.3	Architect/Contract Administrator's duties	
2.4	Correction of inconsistencies	
2.5	Divergences from Statutory Requirements	
2.6	Fees or charges legally demandable	
2.7	Extension of time	
2.8	Damages for non-completion	
2.9	Practical completion	
2.10	Defects	
2.11	Certificate of making good	
Section 3	Control of the Works	20
3.1	Assignment	
3.2	Person-in-charge	
3.3	Sub-contracting	
3.4	Architect/Contract Administrator's instructions	
3.5	Non-compliance with instructions	
3.6	Variations	
3.7	Provisional Sums	
3.8	Exclusion from the Works	
3.9	CDM Regulations and Part 2A of the Building Regulations	
Section 4	Payment	22
4.1	VAT	
4.2	Construction Industry Scheme (CIS)	

4.3	Interim payments – dates and certificates	
4.4	Interim payments – calculation of sums due	
4.5	Contractor's applications and payment notices	
4.6	Payments – amount and notices	
4.7	Failure to pay amount due	
4.8	Contractor's right of suspension	
4.9	Final certificate and final payment	
4.10	Fixed price and fluctuations provisions	
Section 5	Injury, Damage and Insurance	25
5.1	Contractor's liability – personal injury or death	
5.2	Contractor's liability – loss, injury or damage to property	
5.3	Contractor's insurance of its liability	
5.4	Joint Names Insurance of the Works by Contractor	
5.5	Joint Names Insurance of the Works and existing structures by Employer	
5.6	Insurance of the Works and existing structures by other means	
5.7	Evidence of insurance	
5.8	Loss or damage – insurance claims and reinstatement	
5.9	Loss or damage to existing structures – right of termination	
Section 6	Termination	28
6.1	Meaning of insolvency	
6.2	Notices under section 6	
6.3	Other rights, reinstatement	
6.4	Default by Contractor	
6.5	Insolvency of Contractor	
6.6	Corruption and regulation 73(1)(b) of the PC Regulations	
6.7	Consequences of termination under clauses 6.4 to 6.6	
6.8	Default by Employer	
6.9	Insolvency of Employer	
6.10	Termination by either Party and regulation 73(1)(a) of the PC Regulations	
6.11	Consequences of termination under clauses 6.8 to 6.10	
6.12	Termination Payment – final date, notices and amount	
Section 7	Settlement of Disputes	33
7.1	Notification and negotiation of disputes	
7.2	Mediation	
7.3	Adjudication	
7.4	Not applicable	

Schedules	34
Schedule 1 Arbitration	34
Schedule 2 Supplemental Provisions	35
Guidance Notes	37

Agreement

This Agreement

is made the 8 January 2025

Between

The Employer

EBBSFLEET DEVELOPMENT CORPORATION

of The Observatory Castle Hill Drive, Castle Hill, Ebbsfleet Valley DA10 1EE

And

The Contractor

ERITH CONTRACTORS LIMITED

Place of incorporation: England and Wales

(Company No. 01102060)^[1]

whose registered office is at Erith House, 7 Queen Street, Erith, Kent, DA8 1RP

[1] Where the Employer or Contractor is neither a company incorporated under the Companies Acts nor a company registered under the laws of another country, delete the references to Company number and registered office. In the case of a company incorporated outside England and Wales, particulars of its place of incorporation should be inserted immediately before its Company number.

Recitals

Whereas

First

the Employer wishes to have the following work carried out^[2]:

minor road and remedial repairs as further set out and identified within the attached "Springhead Bridge Principal Inspection document - June 2024".

at

Springhead Bridge and Ebbsfleet Gateway A2260, Ebbsfleet, Kent ('the Works')
under the direction of the Architect/Contract Administrator referred to in Article 4;

Second

the Employer has had the following documents prepared which show and describe the work to be done:

the drawings listed in the Contract Document Register ('the Contract Drawings')^{[3][4]}

a Specification ('the Contract Specification')^[3]

Work Schedules^[3]

which for identification have been signed or initialled by or on behalf of each Party; those documents together with this Agreement, the Conditions and, if applicable, a Schedule of Rates as referred to in the Third Recital (collectively 'the Contract Documents')^[5] are annexed to this Agreement^[6];

Third

the Contractor has supplied the Employer with a copy of the priced Contract Specification or Work Schedules or with a Schedule of Rates^[3];

Fourth

for the purposes of the Construction Industry Scheme (CIS) under the Finance Act 2004, the status of the Employer is, as at the Base Date, that stated in the Contract Particulars;

Fifth

for the purposes of the Construction (Design and Management) Regulations 2015 (the 'CDM Regulations') the status of the project that comprises or includes the Works is stated in the Contract

[2] State nature and location of intended works.

[3] Delete as appropriate.

[4] State the identifying numbers of the Contract Drawings or identify the schedule of drawings or other document listing them.

[5] It is envisaged that in those cases where there is an applicable BIM or other communications protocol this will be included within one of the Contract Documents identified in the Second Recital.

[6] Where a Contract Document has been priced by the Contractor it is that version of the document that should be annexed.

Particulars;

Sixth

the Contract is not supplemented by a Framework Agreement;

Seventh

whether any of Supplemental Provisions 1 to 3 apply is stated in the Contract Particulars;

Articles

Now it is hereby agreed as follows

Article 1 Contractor's obligations

The Contractor shall carry out and complete the Works in accordance with the Contract Documents.

Article 2 Contract Sum

The Employer will pay the Contractor at the times and in the manner specified in the Conditions the VAT-exclusive sum of

or such other sum as becomes payable under this Contract.

Article 3 Collaborative working

The Parties shall work with each other and with other project team members in a co-operative and collaborative manner, in good faith and in a spirit of trust and respect. To that end, each shall support collaborative behaviour and address behaviour which is not collaborative.

Article 4 Architect/Contract Administrator

For the purposes of this Contract the Architect/Contract Administrator^[7] is

of

the Employer

or, if it ceases to be the Architect/Contract Administrator, such other person as the Employer nominates (such nomination to be made within 14 days of the cessation). No replacement appointee as Architect and/or Contract Administrator shall be entitled to disregard or overrule any certificate, opinion, decision, approval or instruction given by any predecessor in that post, save to the extent that that predecessor if still in the post would then have had power under this Contract to do so.

Article 5 CDM Regulations – Principal Designer and Principal Contractor

For the purposes of the CDM Regulations:

the Principal Designer is

the Contractor

of

[7] Unless the person appointed by or under Article 4 is entitled to use the title 'Architect' under the Architects Act 1997, the term 'Architect' shall so long as that person holds that post be deemed deleted throughout this Contract. Any appointee as Contract Administrator should be suitably experienced for the role. Irrespective of experience or qualifications, the Employer should not at any time appoint itself to the role without the Contractor's prior agreement.

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or such replacement as the Employer at any time appoints to fulfil that role;

the Principal Contractor is the Contractor or such replacement as the Employer at any time appoints to fulfil that role.

Article 6

Building Regulations – Principal Designer and Principal Contractor

For the purposes of the Building Regulations (where applicable):

the Principal Designer is

the Contractor

of

Erith House, 7 Queen Street, Erith, Kent, DA8 1RP

or such replacement as the Employer at any time appoints to fulfil that role;

the Principal Contractor is the Contractor or such replacement as the Employer at any time appoints to fulfil that role.

Article 7

Adjudication

If any dispute or difference arises under this Contract either Party may refer it to adjudication in accordance with clause 7.3.^[8]

Article 8

Arbitration

Not applicable

Article 9

Legal proceedings^[9]

Subject to Article 7 and (where it applies) to Article 8, the English courts shall have jurisdiction over any dispute or difference between the Parties which arises out of or in connection with this Contract.

[8]

As to adjudication in cases where the Employer is a residential occupier within the meaning of section 106 of the Housing Grants, Construction and Regeneration Act 1996, see the Guidance Notes.

[9]

If it is intended, subject to the right of adjudication and exceptions stated in Article 8, that disputes or differences should be determined by arbitration and not by legal proceedings, the Contract Particulars **must** state that the arbitration provisions of Article 8 and Schedule 1 apply and the words "do not apply" **must** be deleted. If the Parties wish any dispute or difference to be determined by the courts of another jurisdiction the appropriate amendment should be made to Article 9 (see also clause 1.8).

Contract Particulars

*Note: An asterisk * indicates where selection has been or should have been made.*

Fourth Recital and the JCT Fluctuations Option (paragraphs 1.1, 1.2, 1.5, 1.6, 2.1 and 2.2)

Base Date

11 December 2024

Fourth Recital and clause 4.2

Construction Industry Scheme (CIS)

Employer at the Base Date
* is a 'contractor'
for the purposes of the CIS

Fifth Recital

CDM Regulations^[10]

the project
* is not notifiable

Seventh Recital and Schedule 2

Supplemental Provisions^[11]

(Where neither entry against one of Supplemental Provisions 1 to 3 below is deleted, that Supplemental Provision applies.)

Supplemental Provision 1: Health and safety
* applies

Supplemental Provision 2: Cost savings and value improvements
* applies

Supplemental Provision 3: Performance Indicators and monitoring
* applies

Article 8

Arbitration

(If neither entry is deleted, Article 8 and Schedule 1 do not apply. If disputes and differences are to be determined by arbitration and not by legal proceedings, it must be stated that Article 8 and Schedule 1 apply.)^[12]

Article 8 and Schedule 1 (Arbitration)

- [10] Under the CDM Regulations a project is notifiable if the construction work on a construction site is scheduled either to last longer than 30 working days and have more than 20 workers working simultaneously at any point in the project or to exceed 500 person days.
- [11] Supplemental Provision 4 (Transparency) applies only where the Employer is a Local or Public Authority or other body to which the Freedom of Information Act 2000 applies; Supplemental Provision 5 (The Public Contracts Regulations 2015) applies only where the Employer is a Local or Public Authority and this Contract is subject to the PC Regulations.
- [12] On factors to be taken into account by the Parties in considering whether disputes are to be determined by arbitration or by legal proceedings, see the Guidance Notes. See also footnote [9].

* do not apply

1.6.2

Addresses for service of notices by the Parties

(If a Party's address is not stated, it shall, subject to clause 1.6.2, be that shown at the commencement of the Agreement.)

Employer

The Observatory Castle Hill Drive, Castle Hill, Ebbsfleet Valley DA10 1EE

Contractor

Erith House, 7 Queen Street, Erith, Kent, DA8 1RP

The respective email addresses for the Parties are

Employer's email

[REDACTED]

Contractor's email

[REDACTED]

or, subject to clause 1.6.2, such other email address as each Party may notify to the other from time to time

2.2

Works commencement date

19 December 2024

Date for Completion

3 March 2025

or such later date for completion as is fixed under clause 2.7

2.8

Liquidated damages

at the rate of

£400 per day^[13]

2.10

Rectification Period

(The period is 3 months unless a different period is stated.)

3 months^[14]

from the date of practical completion

[13] Insert 'day', 'week' or other period.

[14] An insertion is needed here only if the default position is not to apply. If no retention is required, insert '100' in the percentage entries for clause 4.4.

4.3

Interim payments – Interim Valuation Dates^[15]

(Unless otherwise stated, the first Interim Valuation Date is one month after the Works commencement date specified in these Particulars (against the reference to clause 2.2) and thereafter at monthly intervals.)

The first Interim Valuation Date is

19 January 2025

and thereafter at intervals of

one month

4.4

Payments due prior to practical completion – percentage of the total value of work etc.
(The percentage is 95 per cent unless a different rate is stated.)

95 per cent^[14]

Payments becoming due on or after practical completion – percentage of the total amount to be paid to the Contractor
(The percentage is 97½ per cent unless a different rate is stated.)

97.5 per cent^[14]

4.4 and 4.9

Fluctuations provision^[16]

(Unless another provision or entry is selected, the JCT Fluctuations Option applies. References in this Contract to the JCT Fluctuations Option (or any provision as set out in such Option) are references to the JCT 2024 edition of that Option.)

* no fluctuations provision applies

4.9.1

Supply of documentation for computation of amount to be finally certified
(The period is 3 months unless a different period is stated.)

1 months^[14]

from the date of practical completion

5.3

Contractor's Public Liability insurance: injury to persons or property – the required level of cover is not less than

£5,000,000

for any one occurrence or series of occurrences arising out of one event

5.4, 5.5 and 5.6

Insurance of the Works etc. – alternative provisions^[17]

- [15] The first Interim Valuation Date should not be more than one month after the Works commencement date and the intervals between Interim Valuation Dates should not be more than one month.
- [16] Unless the fluctuations provision is to be the JCT Fluctuations Option, delete all but one of the asterisked choices. The printed text of the JCT Fluctuations Option is no longer included in JCT contract documents but continues to be available on the JCT website www.jctid.co.uk. If an alternative fluctuation is to be used, the document(s) in which it is contained should be identified here.
- [17] As to choice of applicable insurance provisions, see the Guidance Notes.
Where there are existing structures, it is vital that any prospective Employer – in particular any Employer which is a tenant or a domestic homeowner – which is not familiar with clause 5.5 and the possible solutions under clause 5.6, or an appropriate

* Clause 5.6 (*Works and existing structures insurance by other means*) applies

5.6

Insurance arrangements – details of the required policy or policies

are set out in the following document(s)

The Employer shall insure the existing structures under its existing policy. The Contractor shall insure the works under its All Risk annual policy which includes an indemnity to principals.

6.2.3.2

Service of notices by email

(If neither entry is deleted or an email address for each Party is not specified, clause 6.2.3.2 shall not apply.)

Clause 6.2.3.2
* applies

Employer's email

[REDACTED]

Contractor's email

[REDACTED]

7.1

Notification and negotiation of disputes

The respective nominees of the Parties are

Employer's nominee

[REDACTED]

Contractor's nominee

[REDACTED]

or such replacement as each Party may notify to the other from time to time

7.3

Adjudication^[18]

Nominating body – where no Adjudicator is named or where the named Adjudicator is unwilling or unable to act (whenever that is established) the nominating body is

(Delete all but one of the asterisked choices. If the body is to be other than one of those listed, insert the name here.)

(If a body has not been selected from those listed below or another body chosen and inserted, the nominating body shall be one of the bodies listed below selected by the Party requiring the reference to adjudication.)

* The Royal Institution of Chartered Surveyors

member of the Employer's professional team, should consult the Employer's insurance advisers prior to the tender stage. Any Employer which is a tenant should also consult its insuring landlord prior to that stage.

[18] The Parties should either name the Adjudicator and select the nominating body or, alternatively, select only the nominating body. The Adjudication Agreement (Adj) and the Adjudication Agreement (Named Adjudicator) (Adj/N) have been prepared by JCT for use when appointing an Adjudicator.

Attestation

Note on Execution

This Agreement should be executed by both the Employer and the Contractor either under hand or as a deed. As to the main factor relevant to that choice, see the Guidance Notes.

Execution under hand

If this Agreement is to be executed under hand, use the form set out on the following page. Each Party or its authorised representative should sign where indicated in the presence of a witness who should then sign and set out their name and address.

Execution as a Deed

If this Agreement is to be executed as a deed, each Party should use the relevant form marked 'Execution as a Deed' in accordance with the notes provided.

Other forms of Attestation

In cases where the forms of attestation set out are not appropriate, e.g. in the case of certain housing associations and partnerships or if a Party wishes an attorney to execute this Agreement on its behalf, the appropriate form(s) may be inserted in the vacant space opposite and/or below.

Electronic execution

In 2019, the Law Commission published a report on "Electronic execution of documents" to assist in clarifying the legal status of electronic signatures. It reached the general conclusion that: "An electronic signature is capable in law of being used to validly execute a document (including a deed) provided that (i) the person signing the document intends to authenticate the document and (ii) any formalities relating to execution of that document are satisfied."^[19] The practice of electronic execution has been growing in recent years and JCT understands that this is now commonplace. E-signature platforms are understood to be widely available, but JCT does not endorse any particular software company.

[19] See Statement of Law paragraph (1) at page 2 of the report. The full text of the report is available at www.lawcom.gov.uk/project/electronic-execution-of-documents.

Notes on Execution as a Deed

- 1 For the purposes of execution as a deed, two forms are provided for execution, one for the Employer and the other for the Contractor. Each form provides four methods of execution, **(A)** to **(D)**, for use as appropriate. The full name of the Employer or Contractor (whether an individual, a company or other body) should be inserted where indicated at the commencement of the relevant form. This applies irrespective of the method used.
- 2 For public and private companies incorporated and registered under the Companies Acts, the three principal methods of execution as a deed are:
 - (A)** through signature by a Director and the Company Secretary or by two Directors;
 - (B)** by affixing the company's common seal in the presence of a Director and the *Company* Secretary or of two Directors or other duly authorised officers; or
 - (C)** signature by a single Director in the presence of a witness who attests the signature.

Methods **(A)** and **(C)** are available to public and private companies whether or not they have a common seal. (Method **(C)** was introduced by section 44(2)(b) of the Companies Act 2006.) Methods **(A)** and **(C)** are not available under companies legislation to local authorities or to certain other bodies corporate, e.g. bodies incorporated by letters patent or private Act of Parliament that are not registered under companies legislation and such bodies may only use method **(B)**.
- 3 Where method **(A)** is being used, delete the inappropriate words and insert in the spaces indicated the names of the two Directors, or of the Director and the Company Secretary, who are to sign.
- 4 If method **(B)** (affixing the common seal) is adopted in cases where either or both the authorised officers attesting its affixation are not themselves a Director or the *Company* Secretary, their respective office(s) should be substituted for the reference(s) to Director and/or to *Company* Secretary/Director. (In the case of execution by bodies that are not companies, the reference to "*Company*" under the second signature should be deleted where appropriate.)
- 5 Method **(C)** (execution by a single Director) has been introduced primarily, but not exclusively, for 'single officer' companies. The Director should sign where indicated in the presence of a witness who should then sign and set out their name and address.
- 6 Where the Employer or Contractor is an individual, they should use method **(D)** and sign where indicated in the presence of a witness who should then sign and set out their name and address.

Execution as a Deed

Executed as a Deed by the Employer

namely ' EBBSFLEET DEVELOPMENT CORPORATION

(B) by affixing hereto the common seal
in the presence of



Signature

Signature



[Common seal of company]

Execution as a Deed

Executed as a Deed by the Contractor

namely ¹ ERITH CONTRACTORS LIMITED

(A) acting by a Director and the Company Secretary/two Directors **of the company** ^{2, 3}



Conditions

Section 1 Definitions and Interpretation

1.1 Definitions

Unless the context otherwise requires or the Agreement or these Conditions specifically provide otherwise, words and phrases defined in the Agreement shall have the same meanings in these Conditions and the following words and phrases, where they appear in capitalised form in these Conditions, shall have the meanings stated or referred to below:

Agreement: the Agreement to which these Conditions are annexed, including its Recitals, Articles and Contract Particulars.

All Risks Insurance^[20]: insurance which provides cover against any physical loss or damage to work executed and Site Materials and against the reasonable cost of the removal and disposal of debris and of any shoring and propping of the Works which results from such physical loss or damage but excluding the cost necessary to repair, replace or rectify:

- (a) property which is defective due to:
 - (i) wear and tear,
 - (ii) obsolescence, or
 - (iii) deterioration, rust or mildew;
- (b) any work executed or any Site Materials lost or damaged as a result of its own defect in design, plan, specification, material or workmanship or any other work executed which is lost or damaged in consequence thereof where such work relied for its support or stability on such work which was defective^[21];
- (c) loss or damage caused by or arising from:
 - (i) any consequence of war, invasion, act of foreign enemy, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection, military or usurped power, confiscation, commandeering, nationalisation or requisition or loss or destruction of or damage to any property by or under the order of any government *de jure* or *de facto* or public, municipal or local authority,
 - (ii) disappearance or shortage if such disappearance or shortage is only revealed when an inventory is made or is not traceable to an identifiable event, or
 - (iii) an Excepted Risk.

Article: an article in the Agreement.

Base Date: the date stated as such date in the Contract Particulars (against the Fourth Recital and the JCT Fluctuations Option).

[20] The definition of All Risks Insurance defines the risks for which insurance is required. Policies issued by insurers are not standardised and the way in which insurance for those risks is expressed varies.

[21] In any policy for All Risks Insurance taken out under clause 5.4 or 5.5.2, cover should not be reduced by any exclusion that goes beyond the terms of paragraph (b) in this definition. For example, an exclusion in terms that 'This Policy excludes all loss of or damage to the property insured due to defective design, plan, specification, materials or workmanship' would not be in accordance with the terms of those insurance clauses or of that definition. Wider All Risks cover than that specified may be available, though it is not standard.

Building Regulations: the Building Regulations 2010.

Business Day: any day which is not a Saturday, a Sunday or a Public Holiday.

CDM Regulations: the Construction (Design and Management) Regulations 2015.

Conditions: the clauses set out in sections 1 to 7, together with and including the Schedules hereto.

Construction Industry Scheme (or 'CIS'): see the **Fourth Recital**.

Construction Phase Plan: the plan referred to in regulation 2 of the CDM Regulations, including any updates and revisions.

Contract Particulars: the particulars in the **Agreement** and there described as such, including the entries made by the Parties.

Contractor's Persons: the Contractor's employees and agents, all other persons employed or engaged on or in connection with the Works or any part of them and any other person properly on the site in connection therewith, excluding the Architect/Contract Administrator, the Employer, Employer's Persons and any Statutory Provider.

Employer's Persons: all persons employed, engaged or authorised by the Employer, excluding the Contractor, Contractor's Persons, the Architect/Contract Administrator and any Statutory Provider.

Excepted Risks: ionising radiations or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof, pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

Interest Rate: a rate 5% per annum above the official bank rate of the Bank of England current at the date that a payment due under this Contract becomes overdue.

Interim Valuation Date: each date as specified by the **Contract Particulars** (against the reference to **clause 4.3**).

Joint Names Policy: a policy of insurance which includes the Employer and the Contractor as composite insured and under which the insurers have no right of recourse against any person named as an insured, or recognised as an insured thereunder.

Local or Public Authority: a body that is a 'contracting authority' as defined by the PC Regulations.

Parties: the Employer and the Contractor together.

Party: either the Employer or the Contractor.

PC Regulations: the Public Contracts Regulations 2015.

Principal Contractor: the Contractor or other contractor named in **Article 5** or **Article 6** or any successor appointed by the Employer.

Principal Designer: the Architect/Contract Administrator or other person named in **Article 5** or **Article 6** or any successor appointed by the Employer.

Provisional Sum: includes a sum provided for work that the Employer may or may not decide to have carried out, or which cannot be accurately specified in the Contract Documents.

Public Holiday: Christmas Day, Good Friday or a day which under the Banking and Financial Dealings Act 1971 is a bank holiday.^[22]

Recitals: the recitals in the **Agreement**.

Rectification Period: the period stated as such period in the **Contract Particulars** (against the reference to **clause 2.10**).

Scheme: Part 1 of the Schedule to The Scheme for Construction Contracts (England and Wales) Regulations 1998.

Site Materials: all unfixed materials and goods delivered to and placed on or adjacent to the Works

[22] Amend as necessary if different Public Holidays are applicable.

which are intended for incorporation therein.

Specified Perils: fire, lightning, explosion, storm, flood, escape of water from any water tank, apparatus or pipe, earthquake, aircraft and other aerial devices or articles dropped therefrom, riot and civil commotion, but excluding Excepted Risks.

Statutory Provider: any person executing work solely in pursuance of its statutory obligations, including any persons employed, engaged or authorised by such person upon or in connection with that work.

Statutory Requirements: any statute, statutory instrument, regulation, rule or order made under any statute or directive having the force of law which affects the Works or performance of any obligations under this Contract and any regulation or bye-law of any person which has any jurisdiction with regard to the Works or with whose systems the Works are, or are to be, connected.

Termination Payment: a payment to which **clauses 6.7.5, 6.11.4 and 6.12** refer.

VAT: Value Added Tax.

Works Insurance Policy: the Joint Names Policy or policies covering the Works and Site Materials to be effected and maintained under whichever of clauses 5.4, 5.5 and 5.6 applies.

1.2 Agreement etc. to be read as a whole

The Agreement and these Conditions are to be read as a whole. Nothing contained in the Contract Drawings, the Contract Specification or the Work Schedules, nor anything in any Framework Agreement, shall override or modify the Agreement or these Conditions.

1.3 Headings, references to persons, legislation etc.

In the Agreement and these Conditions, unless the context otherwise requires:

- 1.3.1 the headings, notes and footnotes are included for convenience only and shall not affect the interpretation of this Contract;
- 1.3.2 the singular includes the plural and vice versa;
- 1.3.3 a gender includes any other gender;
- 1.3.4 a reference to a 'person' includes any individual, firm, partnership, company and any other body corporate; and
- 1.3.5 a reference to a statute, statutory instrument or other subordinate legislation ('legislation') is to such legislation as amended and in force from time to time, including any legislation which re-enacts or consolidates it, with or without modification, and including corresponding legislation in any other relevant part of the United Kingdom.

1.4 Reckoning periods of days

Where under this Contract an act is required to be done within a specified period of days after or from a specified date, the period shall begin immediately after that date. Where the period would include a day which is a Public Holiday that day shall be excluded.

1.5 Contracts (Rights of Third Parties) Act 1999

Notwithstanding any other provision of this Contract, nothing in this Contract confers or is intended to confer any right to enforce any of its terms on any person which is not a party to it.

1.6 Notices and other communications

- 1.6.1 Each notice, instruction or other communication referred to in the Agreement or these Conditions shall be in writing.
- 1.6.2 Unless otherwise stated in these Conditions, any notice or other communication under this Contract may be given to or served on the recipient by any effective means and shall be duly given or served if:
 - 1.6.2.1 delivered by hand or sent by pre-paid post to the recipient's address stated in the Contract Particulars against clause 1.6.2, or to such other address as the recipient may from time to time notify to the sender, or if no such address is then

current, the recipient's last known principal business address or (where a body corporate) its registered or principal office; or

- 1.6.2.2 sent by email to the recipient's email address stated in the Contract Particulars against clause 1.6.2, or to such other email address as the recipient may from time to time notify to the sender.

1.7 Consents and approvals

- 1.7.1 Where consent or approval of either Party or the Architect/Contract Administrator is expressly required under these Conditions and is requested, then, except as provided in clause 1.7.2, such consent or approval shall not be unreasonably delayed or withheld.
- 1.7.2 In the following cases the giving of consent or approval shall be at the sole discretion of the Party from which it is sought and clause 1.7.1 shall not apply, namely the Employer's consent under clause 2.10 and either Party's consent under clause 3.1.

1.8 Applicable law

This Contract shall be governed by and construed in accordance with the law of England.^[23]

[23] Where the Parties do not wish the law applicable to this Contract to be the law of England appropriate amendments should be made.

Section 2 Carrying out the Works

2.1 Contractor's obligations

- 2.1.1 The Contractor shall carry out and complete the Works in a proper and workmanlike manner and in compliance with the Contract Documents, the Construction Phase Plan and Statutory Requirements, and shall give all notices required by the Statutory Requirements.
- 2.1.2 The Contractor is encouraged to suggest economically viable amendments to the Works which, if instructed as a variation under clause 3.6.1, may result in an improvement in environmental performance and sustainability in the carrying out of the Works or of the completed Works and a reduction in environmental impact, provided that no such instruction shall impose on the Contractor obligations in relation to design under this Contract.
- 2.1.3 The Contractor shall provide to the Employer all information that the Employer reasonably requests regarding the environmental impact of the supply and use of materials and goods which the Contractor selects.
- 2.1.4 Insofar as the quality of materials or standards of workmanship are stated to be a matter for the Architect/Contract Administrator's approval, such quality and standards shall be to the Architect/Contract Administrator's reasonable satisfaction.
- 2.1.5 The Contractor shall take all reasonable steps to encourage Contractor's Persons to be registered cardholders under the **Construction Skills Certification Scheme (CSCS)** or qualified under an equivalent recognised qualification scheme.

2.2 Commencement and completion

The Works may be commenced on and shall be completed by the respective dates stated in the Contract Particulars.

2.3 Architect/Contract Administrator's duties

The Architect/Contract Administrator shall issue any further information and instructions necessary for the proper carrying out of the Works and all certificates required by these Conditions.

2.4 Correction of inconsistencies

Any inconsistency in or between the Contract Drawings, the Contract Specification and the Work Schedules shall be corrected and any such correction which results in an addition, omission or other change shall be treated as a variation under clause 3.6.1.

2.5 Divergences from Statutory Requirements

- 2.5.1 If the Contractor becomes aware of any divergence between the Statutory Requirements and the Contract Documents or between the Statutory Requirements and any instruction from the Architect/Contract Administrator, it shall immediately notify the latter, specifying the divergence.
- 2.5.2 Provided the Contractor is not in breach of clause 2.5.1, the Contractor shall not be liable under this Contract if the Works do not comply with the Statutory Requirements to the extent that the non-compliance results from the Contractor having carried out work in accordance with the Contract Documents or the Architect/Contract Administrator's instructions.

2.6 Fees or charges legally demandable

The Contractor shall pay any fees or charges (including any rates or taxes) legally demandable under any of the Statutory Requirements. Such fees and charges shall not be reimbursable to the Contractor by the Employer unless otherwise agreed.

2.7 Extension of time

If it becomes apparent that the Works will not be completed by the Date for Completion as stated in the Contract Particulars or as later fixed under this clause 2.7, the Contractor shall thereupon notify the Architect/Contract Administrator. Where that delay occurs for reasons beyond the control of the Contractor, including compliance with Architect/Contract Administrator's instructions that are not occasioned by a default of the Contractor, the Architect/Contract Administrator shall give such extension of time for completion as may be reasonable and notify the Parties accordingly. Reasons within the control of the Contractor include any default of the Contractor, of any Contractor's Person or of any of their respective suppliers of goods or materials for the Works.

2.8 Damages for non-completion

2.8.1 If the Works are not completed by the Date for Completion as stated in the Contract Particulars or as later fixed under clause 2.7, the Employer may require the Contractor to pay or allow to the Employer liquidated damages at the rate stated in the Contract Particulars between such Date for Completion and the date of practical completion.

2.8.2 Subject to clause 2.8.3, the Employer may deduct the liquidated damages from any sum due to the Contractor under this Contract (provided a notice of that deduction has been given under clause 4.6.4 or (if applicable) 6.12.3 or 6.12.5) or recover those damages from the Contractor as a debt.

2.8.3 If the Employer intends to deduct any such damages from any sum due to the Contractor under this Contract or thereafter recover such damages as a debt, it shall additionally notify the Contractor of that intention not later than the due date for the final payment under clause 4.9.1 or (if applicable) the Termination Payment under clause 6.7.4 or 6.11.3.

2.8.4 If the Contractor's employment is terminated under this Contract:

2.8.4.1 where the date of termination occurs prior to the date of practical completion, the provisions of clauses 2.8.1 to 2.8.3 shall apply in respect of the period between the Date for Completion as stated in the Contract Particulars or as later fixed under clause 2.7 and the date of termination, and the reference to the date of practical completion in clause 2.8.1 shall be deemed to be a reference to the date of termination;

2.8.4.2 in respect of the period after the date of termination, subject to clause 2.8.4.1, the Employer shall not be empowered to require the payment of or to deduct liquidated damages under clause 2.8 but the provisions of this clause 2.8.4.2 shall be without prejudice to and not in substitution of any other rights and remedies of the Employer.

2.9 Practical completion

The Architect/Contract Administrator shall certify the date when in its opinion the Works have reached practical completion and the Contractor has complied sufficiently with clause 3.9 in respect of the supply of documents and information.

2.10 Defects

If any defects, shrinkages or other faults in the Works appear within the Rectification Period due to materials, goods or workmanship not in accordance with this Contract the Architect/Contract Administrator shall not later than 14 days after the expiry of the Rectification Period notify the Contractor and the Contractor shall make good such defects, shrinkages or other faults entirely at its own cost unless the Architect/Contract Administrator with the Employer's consent instructs otherwise. If the Architect/Contract Administrator instructs otherwise, an appropriate deduction may be made from the Contract Sum.

2.11 Certificate of making good

The Architect/Contract Administrator shall, when in its opinion the Contractor's obligations under clause 2.10 have been discharged, forthwith issue a certificate specifying the date they were discharged.

Section 3 Control of the Works

3.1 Assignment

Neither the Employer nor the Contractor shall, without the consent of the other, assign this Contract or any rights thereunder.

3.2 Person-in-charge

The Contractor shall ensure that at all reasonable times it has on the site a competent person in charge. Any instructions given to that person by the Architect/Contract Administrator shall be deemed to have been issued to the Contractor.

3.3 Sub-contracting

3.3.1 The Contractor shall not without the Architect/Contract Administrator's consent sub-contract the whole or any part of the Works. In no case shall any such consent or any sub-contracting in any way affect the Contractor's obligations under any other provision of this Contract.

3.3.2 Where considered appropriate, the Contractor shall engage the sub-contractor using the JCT Short Form of Sub-Contract. It shall be a condition of any sub-contract that:

3.3.2.1 the sub-contractor's employment under the sub-contract shall terminate immediately upon the termination (for any reason) of the Contractor's employment under this Contract;

3.3.2.2 (without limiting either party's statutory and/or regulatory duties) each party to the sub-contract shall in relation to the Works and the site comply with applicable CDM Regulations and as applicable Part 2A of the Building Regulations^[24];

3.3.2.3 if by a final date for payment under the sub-contract the Contractor fails to pay the sub-contractor any amount that should properly have been paid, the Contractor shall, in addition to that amount, pay simple interest on it at the Interest Rate for the period from the final date for payment until such payment is made, such payment of interest to be on and subject to terms equivalent to those of clause 4.7 of these Conditions.

3.4 Architect/Contract Administrator's instructions

The Architect/Contract Administrator may issue instructions and the Contractor shall forthwith comply with them. If instructions are given orally, they shall not have effect until the Architect/Contract Administrator confirms them in writing.

3.5 Non-compliance with instructions

If within 7 days after receipt of a notice from the Architect/Contract Administrator requiring compliance with an instruction the Contractor does not comply, the Employer may employ and pay other persons to execute work of any kind that may be necessary to give effect to that instruction. The Contractor shall be liable for all additional costs incurred by the Employer in connection with such employment and an appropriate deduction may be made from the Contract Sum.

3.6 Variations

3.6.1 The Architect/Contract Administrator may without invalidating this Contract issue instructions requiring an addition to, omission from, or other change in the Works or the order or manner in which they are to be carried out (a 'variation').

3.6.2 The Architect/Contract Administrator and the Contractor shall endeavour to agree a price prior to the Contractor carrying out the instruction.

[24] See footnote [25] to clause 3.9 below.

- 3.6.3 Failing agreement under clause 3.6.2, any instructions for a variation and any matters that are to be treated as a variation shall be valued by the Architect/Contract Administrator on a fair and reasonable basis using any relevant prices in the priced Contract Specification/Work Schedules/Schedule of Rates, and the valuation shall include any direct loss and/or expense incurred by the Contractor due to the regular progress of the Works being affected by compliance with the instruction.

3.7 Provisional Sums

The Architect/Contract Administrator shall issue instructions in regard to the expenditure of any Provisional Sums included in the Contract Documents; failing agreement on price, such instructions shall be valued on the basis set out in clause 3.6.3.

3.8 Exclusion from the Works

The Architect/Contract Administrator may (but shall not unreasonably or vexatiously) issue instructions requiring the exclusion from the site of any person employed thereon.

3.9 CDM Regulations and Part 2A of the Building Regulations

Without limiting either Party's statutory and regulatory duties and responsibilities, each Party undertakes to the other that in relation to the Works and site it will duly comply with applicable CDM Regulations and as applicable Part 2A of the Building Regulations^[25], and in particular but without limitation:

- 3.9.1 the Employer shall ensure that the Principal Designer carries out its duties and, where the Contractor is not the Principal Contractor, shall ensure that the Principal Contractor carries out its duties under those regulations;
- 3.9.2 the Contractor shall comply with:^[26]
- 3.9.2.1 regulations 8 and 15 of the CDM Regulations and, where it is the Principal Contractor for the purposes of the CDM Regulations, with regulations 12 to 14 of those regulations; and
 - 3.9.2.2 regulations 11F, 11J and 11L of the Building Regulations and, where it is the Principal Contractor for the purposes of the Building Regulations, with regulation 11N of those regulations;
- 3.9.3 if the Employer appoints a replacement for any Principal Designer or Principal Contractor, the Employer shall immediately upon that appointment notify the Contractor with details of the new appointee.

[25] Part 2A of the Building Regulations, introduced by the Building Regulations etc. (Amendment) (England) Regulations 2023 pursuant to the Building Safety Act 2022, sets out a framework of safety duties and competence requirements for those persons involved in the procurement, design and undertaking of building work to which building regulations apply (including higher-risk building work for which additional duties apply).
If any project involves higher-risk building work, see the Guidance Notes.

[26] Under the CDM Regulations and the Building Regulations, where the Employer is a domestic client (as defined in regulation 2(1) in both sets of regulations), the Principal Contractor may also be responsible for carrying out certain of the client's duties.

Section 4 Payment

4.1 VAT

The Contract Sum is exclusive of VAT and in relation to each payment to the Contractor under this Contract, the Employer shall in addition pay the amount of any VAT properly chargeable in respect of it.

4.2 Construction Industry Scheme (CIS)

If the Employer is or at any time up to the payment of the final certificate becomes a 'contractor' for the purposes of the CIS^[27], its obligation to make any payment under this Contract is subject to the provisions of the CIS.

4.3 Interim payments – dates and certificates

4.3.1 During the period up to the due date for the final payment fixed under clause 4.9.1, the due dates for interim payments to the Contractor shall in each case be the date 7 days after the relevant Interim Valuation Date.

4.3.2 The Architect/Contract Administrator shall not later than 5 days after each due date issue an interim certificate, stating the sum that it considers to be or have been due to the Contractor at the due date, calculated in accordance with clause 4.4, and the basis on which that sum has been calculated, including the amount of each adjustment.

4.3.3 Subject to clause 4.6.3, the final date for payment of each interim payment shall be 14 days from its due date.

4.4 Interim payments – calculation of sums due

The amount of each interim payment to be certified under clause 4.3.2 shall be the applicable percentage, as stated in the Contract Particulars, of the total value of:

4.4.1 work properly executed, adjusted where relevant for any amounts ascertained or agreed under clause 3.6, 3.7 or 4.8; and

4.4.2 materials and goods reasonably and properly brought on to the site for the purpose of the Works that are adequately protected against weather and other casualties

in both cases calculated as at the Interim Valuation Date and adjusted for any fluctuations provision that is stated by the Contract Particulars to apply, less the total of sums stated as due to the Contractor in previous interim certificates, any sums paid in respect of any payment notice given by the Contractor after the issue of the latest interim certificate and, if applicable, any deduction under clause 2.10 or 3.5.

4.5 Contractor's applications and payment notices

4.5.1 In relation to any interim payment the Contractor may not later than its Interim Valuation Date or, in the case of the final payment, may at any time prior to issue of the final certificate make an application to the Architect/Contract Administrator, stating the sum that the Contractor considers to be due to it at the relevant due date, as fixed in accordance with clause 4.3 or 4.9, and the basis on which that sum has been calculated.

4.5.2 If a certificate is not issued in accordance with clause 4.3 or 4.9, then:

4.5.2.1 where the Contractor has made an application for that payment in accordance with clause 4.5.1, that application is for the purposes of these Conditions a payment notice; or

4.5.2.2 where the Contractor has not made such an application, it may at any time after the 5 day period referred to in clause 4.3.2 or 4.9.2 give a payment notice to the Architect/Contract Administrator, stating the sum that the Contractor considers to

[27] See the Contract Particulars (Fourth Recital and clause 4.2).

have become due to it under clause 4.4 or 4.9 at the relevant due date and the basis on which that sum has been calculated.

4.6 Payments – amount and notices

- 4.6.1 Subject to any notice given by the paying Party under clause 4.6.4, the paying Party shall pay the sum stated as due in the relevant certificate on or before the final date for payment under clause 4.3 or 4.9.
- 4.6.2 If that certificate is not issued in accordance with clause 4.3 or 4.9 but a Contractor's payment notice has been or is then given, the Employer shall, subject to any notice subsequently given by it under clause 4.6.4, pay the Contractor the sum stated as due in the Contractor's payment notice.
- 4.6.3 Where the Contractor gives a payment notice under clause 4.5.2.2, the final date for payment of the sum specified in it shall for all purposes be regarded as postponed by the same number of days as the number of days after expiry of the 5 day period referred to in clause 4.5.2.2 that the Contractor's payment notice is given.
- 4.6.4 Where:
- 4.6.4.1 the Employer intends to pay less than the sum stated as due from it in a certificate or, where applicable, the Contractor's payment notice; or
- 4.6.4.2 if the final certificate shows a balance due to the Employer, the Contractor intends to pay less than the sum stated as due,
- the Party by which the payment is stated to be payable shall not later than 5 days before the final date for payment give the other Party notice of that intention (a 'pay less notice'), stating the sum (if any) that it considers to be due to the other Party at the date the pay less notice is given and the basis on which that sum has been calculated. Where a pay less notice is given, the payment to be made on or before the final date for payment shall not be less than the amount stated in it as due.
- 4.6.5 A pay less notice to be given by the Employer under clause 4.6.4 may be given on its behalf by the Architect/Contract Administrator or by any other person which the Employer notifies the Contractor as being authorised to do so.
- 4.6.6 In relation to the requirements for the issue of certificates and the giving of notices under section 4, it is immaterial that the amount then considered to be due may be zero.

4.7 Failure to pay amount due

- 4.7.1 If either Party fails to pay a sum, or any part of it, due to the other Party under these Conditions by the final date for payment, it shall, in addition to any unpaid amount that should properly have been paid, pay the other Party simple interest on that amount at the Interest Rate for the period from the final date for payment until payment is made.
- 4.7.2 Any such unpaid amount and any interest under clause 4.7.1 shall be recoverable as a debt. Acceptance of a payment of interest shall not in any circumstances be construed as a waiver either of the recipient's right to proper payment of the principal amount due or of the Contractor's rights to suspend performance under clause 4.8 or terminate its employment under section 6.

4.8 Contractor's right of suspension

- 4.8.1 If the Employer fails to pay a sum payable to the Contractor in accordance with clause 4.6 (together with any VAT properly chargeable in respect of that payment) by the final date for payment and the failure continues for 7 days after the Contractor has given notice to the Employer, with a copy to the Architect/Contract Administrator, of its intention to suspend performance of its obligations under this Contract and the grounds for such suspension, the Contractor, without affecting its other rights and remedies, may suspend performance of any or all of those obligations until payment is made in full.
- 4.8.2 Where the Contractor exercises its right of suspension under clause 4.8.1, it shall be entitled to a reasonable amount in respect of costs and expenses reasonably incurred by it as a result of exercising the right.
- 4.8.3 Applications in respect of any such costs and expenses shall be made to the

Architect/Contract Administrator and the Contractor shall with its application or on request submit such details of them as are reasonably necessary for ascertaining the amount in question. When ascertained or agreed, the amount shall be included in the next interim certificate.

4.9 Final certificate and final payment

4.9.1 Following practical completion the Contractor shall within the period stated in the Contract Particulars supply to the Architect/Contract Administrator all documentation reasonably required for computation of the final payment. The due date for the final payment shall be 28 days after either the date of receipt of the documentation or, if later, the date specified in the certificate under clause 2.11.

4.9.2 Not later than 5 days after that due date the Architect/Contract Administrator shall issue a final certificate which shall state:

4.9.2.1 the Contract Sum, as adjusted for the amounts referred to in clause 4.4.1, any fluctuations provision that applies and any deductions made under clause 2.10 or 3.5;

4.9.2.2 the sum of amounts stated as due in interim certificates plus any amount paid in respect of any Contractor's payment notice in accordance with clause 4.6 that is not reflected in a subsequent certificate,

and (without affecting the rights of the Contractor in respect of any interim payment not paid in full by the Employer by its final date for payment) the final payment shall be the difference (if any) between the two sums, which shall be shown in the certificate as a balance due to the Contractor from the Employer or vice versa. The certificate shall state the basis on which that amount has been calculated, including the amount of each adjustment.

4.9.3 Subject to clause 4.6.3, the final date for payment of the final payment shall be 14 days from its due date.

4.10 Fixed price and fluctuations provisions

Subject to clauses 3.6, 3.7 and 4.8 and any fluctuations provision that is stated by the Contract Particulars (for clauses 4.4 and 4.9) to apply, no account shall be taken in any payment to the Contractor under this Contract of any change in the cost to the Contractor of the labour, materials, plant and other resources employed in carrying out the Works.

Section 5 Injury, Damage and Insurance

5.1 Contractor's liability – personal injury or death

The Contractor shall be liable for, and shall indemnify the Employer against, any expense, liability, loss, claim or proceedings whatsoever in respect of personal injury to or death of any person arising out of or in the course of or caused by the carrying out of the Works, except to the extent that the same is due to any act or neglect of the Employer, any Employer's Person or any Statutory Provider.

5.2 Contractor's liability – loss, injury or damage to property

Subject to clauses 5.2.1 to 5.2.3, the Contractor shall be liable for, and shall indemnify the Employer against, any expense, liability, loss, claim or proceedings in respect of any loss, injury or damage whatsoever to any property real or personal (other than loss, injury or damage to the Works and/or Site Materials) in so far as such loss, injury or damage arises out of or in the course of or by reason of the carrying out of the Works and to the extent that the same is due to any negligence, breach of statutory duty, omission or default of the Contractor or any Contractor's Person, in respect of existing structures and their contents:

- 5.2.1 where clause 5.5 applies, the Contractor's liability and indemnity under this clause 5.2 also excludes any loss or damage to those existing structures or to any of their contents that are required to be insured under clause 5.5.1 that is caused by any of the risks or perils required or agreed to be insured against under clause 5.5;
- 5.2.2 the exclusion in clause 5.2.1 shall apply notwithstanding that the loss or damage is or may be due in whole or in part to the negligence, breach of statutory duty, omission or default of the Contractor or any Contractor's Person;
- 5.2.3 where clause 5.6 applies, the Contractor's liability and indemnity under this clause 5.2 shall, in respect of loss, injury or damage to those existing structures and their contents due to the causes specified in clause 5.2, be subject to any limitations and exclusions specified in the insurance arrangements under clause 5.6 identified in the Contract Particulars.

5.3 Contractor's insurance of its liability

Without limiting or affecting its indemnities to the Employer under clauses 5.1 and 5.2, the Contractor shall effect and maintain insurance in respect of claims arising out of the liabilities referred to in those clauses which:

- 5.3.1 in respect of claims for personal injury to or the death of any employee of the Contractor arising out of and in the course of such person's employment, shall comply with all relevant legislation; and
- 5.3.2 for all other claims to which clause 5.3 applies^[28], shall indemnify the Employer in like manner to the Contractor, but only to the extent that the Contractor may be liable to indemnify the Employer under the terms of this Contract and shall for any one occurrence or series of occurrences arising out of one event be in a sum not less than that stated in the Contract Particulars for clause 5.3.

5.4 Joint Names Insurance of the Works by Contractor^{[29][30]}

If the Contract Particulars state that clause 5.4 applies, the Contractor shall effect and maintain with insurers approved by the Employer a Joint Names Policy for All Risks Insurance for the full reinstatement value of the Works (plus the percentage, if any, stated in the Contract Particulars to

[28] It should be noted that the cover granted under Public Liability policies taken out pursuant to clause 5.3 may not be co-extensive with the indemnity given to the Employer in clauses 5.1 and 5.2: for example, each claim may be subject to an excess and cover may not be available in respect of loss or damage due to gradual pollution.

[29] Where the Contractor has in force an All Risks Policy which insures the Works, this Policy may be used to provide the insurance required by clause 5.4 provided the Policy recognises the Employer as a composite insured in respect of the Works.

[30] As to choice of applicable insurance provisions, see the Guidance Notes.

cover professional fees) and shall maintain such Joint Names Policy up to and including the date of issue of the practical completion certificate or, if earlier, the date of termination of the Contractor's employment.

5.5 Joint Names Insurance of the Works and existing structures by Employer^[30]

If the Contract Particulars state that clause 5.5 applies, the Employer shall effect and maintain:

5.5.1 a Joint Names Policy in respect of the existing structures together with the contents of them owned by it or for which it is responsible, for the full cost of reinstatement, repair or replacement of loss or damage due to any of the Specified Perils;

5.5.2 a Joint Names Policy for All Risks Insurance for the full reinstatement value of the Works (plus the percentage, if any, stated in the Contract Particulars to cover professional fees)

and shall maintain such Joint Names Policies up to and including the date of issue of the practical completion certificate or, if earlier, the date of termination of the Contractor's employment.

5.6 Insurance of the Works and existing structures by other means^[30]

If the Contract Particulars state that clause 5.6 applies, the insurance arrangements identified by those particulars shall apply and each Party shall effect and maintain the policy or policies for which it is stated to be responsible or shall ensure that such policy or policies are effected and maintained, in each case in and on the specified terms.

5.7 Evidence of insurance

Where a Party is required by this Contract to effect and maintain an insurance policy or cover under any of clauses 5.3, 5.4, 5.5 and 5.6, or is responsible for ensuring that it is effected and maintained, that Party shall within 7 days of a request of the other Party supply such documentary evidence as the other Party may reasonably require that the policy or cover has been effected and remains in force.

5.8 Loss or damage – insurance claims and reinstatement

5.8.1 If during the carrying out of the Works any loss or damage affecting any executed work or Site Materials is occasioned by any of the risks covered by the Works Insurance Policy or an Excepted Risk or there is any loss of or damage of any kind to any existing structure or its contents, the Contractor shall forthwith notify the Architect/Contract Administrator and the Employer.

5.8.2 Subject to clauses 5.8.5.1 and 5.8.6, the occurrence of such loss or damage to executed work or Site Materials shall be disregarded in calculating any amounts payable to the Contractor under this Contract.

5.8.3 The Contractor, for itself and its sub-contractors, shall authorise the insurers to pay to the Employer all monies from the Works Insurance Policy, and from any policies covering existing structures or their contents that are effected by the Employer.

5.8.4 Where loss or damage affecting executed work or Site Materials is occasioned by any risk covered by the Works Insurance Policy, the Contractor, after any inspection required by the insurers under that policy, shall and with due diligence restore the damaged work, replace or repair any lost or damaged Site Materials, remove and dispose of any debris (collectively 'reinstatement work') and proceed with the carrying out and completion of the Works.

5.8.5 Where clause 5.4 applies or where clause 5.6 applies and the Contractor is responsible for effecting the Works Insurance Policy:

5.8.5.1 the Employer shall pay all monies from such insurance to the Contractor by instalments under separate reinstatement work certificates issued by the Architect/Contract Administrator at the same dates as those for interim certificates under clause 4.3 but without deduction of retention and less only the amounts referred to in clause 5.8.5.2;

5.8.5.2 the Employer may retain from those monies any amounts properly incurred by the Employer and notified by it to insurers in respect of professional fees up to the aggregate amount of the percentage cover for those fees or (if less) the amount paid by insurers in respect of those fees;

5.8.5.3 in respect of reinstatement work, the Contractor shall not be entitled to any

payment other than amounts received under the Works Insurance Policy and for the purposes of clause 2.7, but not otherwise under these Conditions, such work shall be treated as a variation under clause 3.6.

- 5.8.6 Where clause 5.5 applies, where clause 5.6 applies and the Employer is responsible for effecting the Works Insurance Policy or where loss or damage is caused by an Excepted Risk, reinstatement work shall be treated as a variation under clause 3.6.

5.9 Loss or damage to existing structures – right of termination

If there is material loss of or damage to any existing structure, the Employer shall be under no obligation to reinstate that structure, but either Party may, if it is just and equitable, terminate the Contractor's employment under this Contract by notice given to the other within 28 days of the occurrence of that loss or damage. If such notice is given, then:

- 5.9.1 unless within 7 days of receiving the notice (or such longer period as may be agreed) the Party to which it is given invokes a dispute resolution procedure of this Contract to determine whether the termination is just and equitable, it shall be deemed to be so;
- 5.9.2 upon the giving of that notice or, where a dispute resolution procedure is invoked within that period, upon any final upholding of the notice, the provisions of clause 6.11 shall apply.

Section 6 Termination

6.1 Meaning of insolvency

For the purposes of these Conditions a person becomes insolvent on:

- 6.1.1 the making of an administration, bankruptcy or winding-up order against it, appointment of an administrative receiver, receiver or manager of its property, its passing of a resolution for voluntary winding-up without declaration of solvency or any other event referred to in section 113, sub-sections (2) to (5), of the Housing Grants, Construction and Regeneration Act 1996;
- 6.1.2 otherwise entering administration within the meaning of Schedule B1 to the Insolvency Act 1986;
- 6.1.3 entering into an arrangement, compromise or composition in satisfaction of its debts (excluding a scheme of arrangement as a solvent company for the purposes of amalgamation or reconstruction);
- 6.1.4 (in the case of a partnership) each partner being the subject of an individual arrangement or any other event or proceedings referred to in this clause 6.1;
- 6.1.5 (in the case of a company) the coming into force of a moratorium pursuant to Part A1 of the Insolvency Act 1986 with respect to it; or
- 6.1.6 (in the case of a company) the making of an order sanctioning a compromise or arrangement pursuant to Part 26A of the Companies Act 2006 with respect to it.

6.2 Notices under section 6

- 6.2.1 Notice of termination of the Contractor's employment shall not be given unreasonably or vexatiously.
- 6.2.2 Such termination shall take effect on receipt of the relevant notice.
- 6.2.3 Each notice referred to in this section, except for the notices referred to in clause 6.12, shall:
 - 6.2.3.1 be delivered by hand or sent by Signed For 1st class or Special Delivery Guaranteed post (or any method of posting as has replaced either method and is then current) and, where sent by post in that manner, shall be deemed to have been received on the second Business Day after the date of posting; or
 - 6.2.3.2 (where clause 6.2.3.2 is stated in the Contract Particulars to apply) be sent by email to the recipient's email address stated in the Contract Particulars against clause 6.2.3.2, or to such other email address as the recipient may from time to time notify to the sender (provided that such notification states that it is a notice of change under this clause 6.2.3.2), and shall be deemed to have been received on the next Business Day after the day on which it was sent.

6.3 Other rights, reinstatement

- 6.3.1 The provisions of clauses 6.4 to 6.7 are without prejudice to any other rights and remedies of the Employer. The provisions of clauses 6.8 and 6.9 and (in the case of termination under either of those clauses) the provisions of clause 6.11, are without prejudice to any other rights and remedies of the Contractor.
- 6.3.2 Irrespective of the grounds of termination, the Contractor's employment may at any time be reinstated if and on such terms as the Parties agree.

6.4 Default by Contractor

- 6.4.1 If, before practical completion of the Works, the Contractor:

6.4.1.1 without reasonable cause wholly or substantially suspends the carrying out of the Works; or

6.4.1.2 fails to proceed regularly and diligently with the Works; or

6.4.1.3 fails to comply with clause 3.9,

the Architect/Contract Administrator may give to the Contractor a notice specifying the default or defaults (a 'specified' default or defaults).

6.4.2 If the Contractor continues a specified default for 7 days from receipt of the notice under clause 6.4.1, the Employer may on, or within 10 days from, the expiry of that 7 day period by a further notice to the Contractor terminate the Contractor's employment under this Contract.

6.5 Insolvency of Contractor

6.5.1 If the Contractor is insolvent, the Employer may at any time by notice to the Contractor terminate the Contractor's employment under this Contract.

6.5.2 As from the date the Contractor becomes insolvent, whether or not the Employer has given such notice of termination:

6.5.2.1 clauses 6.7.2 to 6.7.5 shall apply as if such notice had been given;

6.5.2.2 the Contractor's obligations under Article 1 and these Conditions to carry out and complete the Works shall be suspended; and

6.5.2.3 the Employer may take reasonable measures to ensure that the site, the Works and Site Materials are adequately protected and that such Site Materials are retained on site; the Contractor shall allow and shall not hinder or delay the taking of those measures.

6.6 Corruption and regulation 73(1)(b) of the PC Regulations

The Employer shall be entitled by notice to the Contractor to terminate the Contractor's employment, under this or any other contract with the Employer if, in relation to this or any other such contract, the Contractor or any person employed by it or acting on its behalf shall have committed an offence under the Bribery Act 2010, or, where the Employer is a Local or Public Authority, shall have given any fee or reward the receipt of which is an offence under sub-section (2) of section 117 of the Local Government Act 1972, or, where this Contract is one to which regulation 73(1) of the PC Regulations applies, the circumstances set out in regulation 73(1)(b) of the PC Regulations apply.

6.7 Consequences of termination under clauses 6.4 to 6.6

If the Contractor's employment is terminated under clause 6.4, 6.5 or 6.6:

6.7.1 the Employer may employ and pay other persons to carry out and complete the Works, or may do so itself, and the Employer and such other persons may enter upon and take possession of the site and the Works and (subject to obtaining any necessary third party consents) may use all temporary buildings, plant, tools, equipment and Site Materials for those purposes;

6.7.2 no further sum shall become due to the Contractor under this Contract other than any amount that may become due to it under clause 6.7.5 and the Employer need not pay any sum that has already become due either:

6.7.2.1 insofar as the Employer has given or gives a notice under clause 4.6.4; or

6.7.2.2 if the Contractor, after the last date upon which such notice could have been given by the Employer in respect of that sum, has become insolvent within the meaning of clause 6.1.1 or 6.1.2;

6.7.3 upon completion of the Works and the making good of defects in them (or of instructions otherwise, as referred to in clause 2.10) ('completion'), the Employer shall forthwith notify the Contractor of the date of completion and such completion shall be deemed for the purposes of this clause 6.7 to have taken place on the date so notified;

6.7.4 the due date for the Termination Payment under clause 6.7.5 shall be 2 months after the date of completion as referred to in clause 6.7.3;

6.7.5 the amount due on termination shall be calculated in accordance with the following amounts:

6.7.5.1 the amount of expenses properly incurred by the Employer, including those incurred pursuant to clause 6.7.1 and, where applicable, clause 6.5.2.3, and of any direct loss and/or damage caused to the Employer and for which the Contractor is liable, whether arising as a result of the termination or otherwise;

6.7.5.2 the amount of payments made to the Contractor; and

6.7.5.3 the total amount which would have been payable for the Works in accordance with this Contract,

and if the sum of the amounts referred to in clauses 6.7.5.1 and 6.7.5.2 exceeds the amount referred to in clause 6.7.5.3, the difference shall be an amount payable by the Contractor to the Employer or, if that sum is less, by the Employer to the Contractor (the 'Termination Payment').

6.8 Default by Employer

6.8.1 If the Employer:

6.8.1.1 does not pay by the final date for payment the amount due to the Contractor in accordance with clause 4.6 and/or any VAT properly chargeable on that amount; or

6.8.1.2 interferes with or obstructs the issue of any certificate due under this Contract; or

6.8.1.3 fails to comply with clause 3.9,

the Contractor may give to the Employer a notice specifying the default or defaults (a 'specified' default or defaults).

6.8.2 If before practical completion of the Works the carrying out of the whole or substantially the whole of the uncompleted Works is suspended for a continuous period of one month or more by reason of:

6.8.2.1 Architect/Contract Administrator's instructions under clause 3.6; and/or

6.8.2.2 any impediment, prevention or default, whether by act or omission, by the Employer, the Architect/Contract Administrator or any Employer's Person

(but in either case excluding such instructions as are referred to in clause 6.10.1.2), then, unless in either case that is caused by the negligence or default of the Contractor or any Contractor's Person, the Contractor may give to the Employer a notice specifying the event or events (a 'specified' suspension event or events).

6.8.3 If a specified default or a specified suspension event continues for 7 days from the receipt of notice under clause 6.8.1 or 6.8.2, the Contractor may on, or within 10 days from, the expiry of that 7 day period by a further notice to the Employer terminate the Contractor's employment under this Contract.

6.9 Insolvency of Employer

6.9.1 If the Employer is insolvent, the Contractor may by notice to the Employer terminate the Contractor's employment under this Contract;

6.9.2 as from the date the Employer becomes insolvent, the Contractor's obligations under Article 1 and these Conditions to carry out and complete the Works shall be suspended.

6.10 Termination by either Party and regulation 73(1)(a) of the PC Regulations

6.10.1 If, before practical completion of the Works, the carrying out of the whole or substantially the whole of the uncompleted Works is suspended for the relevant continuous period of one month or more by reason of one or more of the following events:

6.10.1.1 force majeure;

6.10.1.2 Architect/Contract Administrator's instructions under clause 3.6 issued as a result of the negligence or default of any Statutory Provider;

- 6.10.1.3 loss or damage to the Works occasioned by any risk covered by the Works Insurance Policy or by an Excepted Risk;
- 6.10.1.4 civil commotion or the use or threat of terrorism and/or the activities of the relevant authorities in dealing with such event or threat; or
- 6.10.1.5 the exercise by the United Kingdom Government or any of the devolved administrations, or any Local or Public Authority or any equivalent authority governed by public law in any of the devolved administrations of any statutory power (except to the extent caused or contributed to by any default, whether by act or omission, of the Contractor or any Contractor's Person) which affects the execution of the Works,

then either Party, subject to clause 6.10.2, may upon the expiry of that relevant period of suspension give notice to the other that, unless the suspension ceases within 7 days after the date of receipt of that notice, it may terminate the Contractor's employment under this Contract. Failing such cessation within that 7 day period, it may then by further notice terminate that employment.

- 6.10.2 The Contractor shall not be entitled to give notice under clause 6.10.1 in respect of the matter referred to in clause 6.10.1.3 where the loss or damage to the Works was caused by the negligence or default of the Contractor or any Contractor's Person.
- 6.10.3 Where this Contract is one to which regulation 73(1) of the PC Regulations applies the Employer shall be entitled by notice to the Contractor to terminate the Contractor's employment under this Contract where the grounds set out in regulation 73(1)(a) of the PC Regulations apply.

6.11 Consequences of termination under clauses 6.8 to 6.10

If the Contractor's employment is terminated under any of clauses 6.8 to 6.10 or under clause 5.9:

- 6.11.1 no further sums shall become due to the Contractor otherwise than in accordance with this clause 6.11;
- 6.11.2 the Contractor shall not later than 2 months after the date of termination provide the Employer with all documents necessary for calculating the amounts referred to in clause 6.11.4. Not later than 3 months after receipt of those documents, the Employer shall prepare and send to the Contractor an account which shall set out the amounts referred to in clause 6.11.4;
- 6.11.3 the due date for the Termination Payment under clause 6.11.4 shall be the last date for issue of the Employer's account under clause 6.11.2;
- 6.11.4 the amount due on termination from the Employer to the Contractor or (if a negative amount) from the Contractor to the Employer shall be the aggregate of:
 - 6.11.4.1 the total value of work properly executed at the date of termination of the Contractor's employment, ascertained in accordance with these Conditions as if the employment had not been terminated, together with any other amounts due to the Contractor under these Conditions;
 - 6.11.4.2 the cost of materials or goods (including Site Materials) properly ordered for the Works for which the Contractor then has paid or is legally bound to pay;
 - 6.11.4.3 (only where the Contractor's employment is terminated either under clause 6.8 or 6.9, or under clause 6.10.1.3 if the loss or damage to the Works was caused by the negligence or default of the Employer or any Employer's Person) any direct loss and/or damage caused to the Contractor by the termination,

less amounts previously paid to the Contractor under this Contract, but without deduction of any retention (the 'Termination Payment'). Payment by the Employer for any such materials and goods as are referred to in clause 6.11.4.2 shall be subject to those materials and goods thereupon becoming the property of the Employer.

6.12 Termination Payment – final date, notices and amount

- 6.12.1 Subject to clause 6.12.5, the final date for payment of the Termination Payment shall be 14 days from its due date, as fixed in accordance with clause 6.7.4 or 6.11.3.

- 6.12.2 Not later than 5 days after the relevant due date the Employer shall give a termination payment notice to the Contractor, which shall state the sum that it considers to be or have been due at the due date, calculated in accordance with clause 6.7.5 or 6.11.4, and the Termination Payment shall be the difference or amount referred to in clause 6.7.5 or 6.11.4, which shall be shown in the termination payment notice as a balance due to the Contractor from the Employer or vice versa. Such notice shall state the basis on which that amount has been calculated.
- 6.12.3 If the Party by which the Termination Payment is stated to be payable ('the payer') intends to pay less than the stated balance, it shall not later than 5 days before the final date for payment give the other Party a pay less notice which shall state the sum (if any) that it considers to be due to the other Party at the date the pay less notice is given and the basis on which that sum has been calculated and where given by the Employer, the provisions of clause 4.6.5 shall correspondingly apply.
- 6.12.4 Where a pay less notice is given under clause 6.12.3, the payment to be made on or before the final date for payment shall not be less than the amount stated in it as due.
- 6.12.5 If a termination payment notice is not given by the Employer in accordance with clause 6.12.2:
- 6.12.5.1 the Contractor may at any time after the 5 day period referred to in clause 6.12.2 give a termination payment notice to the Employer, stating the sum that the Contractor considers to have become due under clause 6.7.5 or 6.11.4 at the due date and the basis on which that sum has been calculated and, subject to any pay less notice given under clause 6.12.5.3, the Termination Payment shall be the sum stated as due in the Contractor's termination payment notice;
- 6.12.5.2 if the Contractor gives a termination payment notice under clause 6.12.5.1, the final date for payment of the sum specified in it shall for all purposes be regarded as postponed by the same number of days after expiry of the 5 day period referred to in clause 6.12.2 that the Contractor's termination payment notice is given;
- 6.12.5.3 following the Contractor's termination payment notice the Employer may not later than 5 days before the final date for payment give a pay less notice in accordance with clause 6.12.3 and, if it gives such notice, the provisions of clause 6.12.4 shall correspondingly apply.
- 6.12.6 If the payer fails to pay the Termination Payment, or any part of it, by the final date for its payment, the payer shall, in addition to any unpaid amount that should properly have been paid, pay the other Party simple interest on that amount at the Interest Rate for the period from the final date for payment until payment is made. Acceptance of a payment of any such interest shall not in any circumstances be construed as a waiver of any right to proper payment of the principal amount due. Any such unpaid amount and any interest under this clause 6.12.6 shall be recoverable as a debt.
- 6.12.7 In relation to the requirements in this clause 6.12 for the giving of termination payment notices by the Employer, and pay less notices, it is immaterial that the amount then considered to be due may be zero.

Section 7 Settlement of Disputes

7.1 Notification and negotiation of disputes

With a view to avoidance or early resolution of disputes or differences (subject to Article 7), each Party shall promptly notify the other of any matter that appears likely to give rise to a dispute or difference. The senior executives nominated in the Contract Particulars (or if either is not available, a colleague of similar standing) shall meet as soon as practicable for direct, good faith negotiations to resolve the matter.

7.2 Mediation

Subject to Article 7, if a dispute or difference arises under this Contract which cannot be resolved by direct negotiations, each Party shall give serious consideration to any request by the other to refer the matter to mediation.

7.3 Adjudication

If a dispute or difference arises under this Contract which either Party wishes to refer to adjudication, the Scheme shall apply except that for the purposes of the Scheme the Adjudicator shall be the person (if any) and the nominating body shall be that stated in the Contract Particulars.

7.4 Not applicable

Schedules

Schedule 1 Arbitration

(Clause 7.4)

Not applicable

Schedule 2 Supplemental Provisions

(Seventh Recital)

Supplemental Provisions 1 to 3 apply unless otherwise stated in the Contract Particulars. Supplemental Provision 4 applies where the Employer is a Local or Public Authority or other body of the type mentioned in that provision; Supplemental Provision 5 applies where the Employer is a Local or Public Authority and this Contract is subject to the PC Regulations.

Health and safety

1

- 1.1 Without limiting either Party's statutory and/or regulatory duties and responsibilities and/or the specific health and safety requirements of this Contract, the Parties will endeavour to establish and maintain a culture and working environment in which health and safety is of paramount concern to everybody involved with the project.
- 1.2 In addition to the specific health and safety requirements of this Contract, the Contractor undertakes to:
 - 1.2.1 comply with any and all approved codes of practice produced or promulgated by the Health and Safety Executive;
 - 1.2.2 ensure that all personnel engaged by the Contractor and members of the Contractor's supply chain on site receive appropriate site-specific health and safety induction training and regular refresher training;
 - 1.2.3 ensure that all such personnel have access at all times to competent health and safety advice in accordance with regulation 7 of the Management of Health and Safety at Work Regulations 1999; and
 - 1.2.4 ensure that there is full and proper health and safety consultation with all such personnel in accordance with the Health and Safety (Consultation with Employees) Regulations 1996.

Cost savings and value improvements

2

- 2.1 The Contractor is encouraged to propose changes to designs and specifications for the Works and/or to the programme for their execution that may benefit the Employer, whether in the form of a reduction in the cost of the Works or their associated life cycle costs, through practical completion at a date earlier than the date for completion or otherwise.
- 2.2 The Contractor shall provide details of its proposed changes, identifying them as suggested under this Supplemental Provision 2, together with its assessment of the benefit it believes the Employer may obtain, expressed in financial terms, and a quotation.
- 2.3 Where the Employer wishes to implement a change proposed by the Contractor, the Parties shall negotiate with a view to agreeing its value, the financial benefit and any adjustment to the date for completion. Upon agreement, the change and the amount of any adjustment of the Contract Sum shall be confirmed in an Architect/Contract Administrator's instruction, together with the share of the financial benefit to be paid to the Contractor and any adjustment to the date for completion.
- 2.4 Original proposals by the Contractor under this Supplemental Provision 2 may only be instructed in accordance with it, provided always that nothing shall prevent the Employer from utilising other contractors to implement such changes after practical completion of the Works.

Performance Indicators and monitoring

3

- 3.1 The Employer shall monitor and assess the Contractor's performance by reference to any performance indicators stated or identified in the Contract Documents.
- 3.2 The Contractor shall provide to the Employer all information that the Employer may reasonably require to monitor and assess the Contractor's performance against the targets for those performance indicators.
- 3.3 Where the Employer considers that a target for any of those performance indicators may not be met, it may inform the Contractor and the Contractor shall submit its proposals for improving its performance against that target to the Employer.

Transparency

- 4 Where the Employer is a Local or Public Authority or other body to which the provisions of the Freedom of Information Act 2000 ('FOIA') apply, the Parties acknowledge that, except for any information which is exempt from disclosure in accordance with the provisions of FOIA, the content of this Contract is not confidential. The Employer shall be responsible for determining in its absolute discretion whether any of the content of this Contract is exempt from disclosure in accordance with the provisions of FOIA. Notwithstanding any other term of this Contract:
 - 4.1 the Contractor hereby consents to the Employer publishing any amendments to the standard form JCT contract in their entirety, including changes to the standard form agreed from time to time, but in each case with any information which is exempt from disclosure in accordance with the provisions of FOIA redacted;
 - 4.2 the Employer shall promptly inform the Contractor of any request for disclosure that it receives in relation to this Contract.

The Public Contracts Regulations 2015

- 5 Where the Employer is a Local or Public Authority and this Contract is subject to the PC Regulations^[31]:
 - 5.1 where regulation 113 of the PC Regulations applies to this Contract, the Contractor shall include in any sub-contract it enters into suitable provisions to impose the requirements of regulation 113(2)(c)(i) and (ii);
 - 5.2 the Contractor shall include in any sub-contract it enters into provisions requiring the sub-contractor:
 - 5.2.1 to supply and notify to the Contractor the information required (as applicable) under regulations 71(3), 71(4) and 71(5) of the PC Regulations; and
 - 5.2.2 to include in any sub-subcontract the sub-contractor in turn enters into provisions to the same effect as required under paragraph 5.2.1 of Supplemental Provision 5;
 - 5.3
 - 5.3.1 the Contractor shall include in any sub-contract it enters into provisions that shall entitle the Contractor to terminate the sub-contractor's employment where there are grounds for excluding the sub-contractor under regulation 57;
 - 5.3.2 in the event the Employer requires the Contractor to terminate a sub-contractor's employment pursuant to regulation 71(9) the Contractor shall take the appropriate steps to terminate that employment and where required by the Employer under regulation 71(9) shall, or in circumstances where there is no such requirement may, appoint a replacement sub-contractor.

[31] See the Guidance Notes. Provisions relating to the PC Regulations are also set out in section 6 (Termination) of this Contract. The JCT Short Form of Sub-Contract (ShortSub) meets the requirements of Supplemental Provision 5.

Guidance Notes

Use of Minor Works Building Contract

- 1 The Contract should only be used where the employer has engaged an architect or other professionally qualified person to advise on and administer its terms.
- 2 The criteria for determining the suitability of the Contract are set out on the inside of the front cover.
- 3 For Works which do not fulfil these criteria, reference should be made to www.jcttd.co.uk for guidance as to the appropriate contract.
- 4 The Contract is predicated upon a lump sum offer being obtained, based on drawings and/or a specification and/or work schedules, but without detailed measurements. Those documents should therefore be in a form sufficient to enable the Contractor accurately to identify the work to be done without the need for the Employer to provide bills of quantities. In those cases where there is a relevant BIM protocol, it is assumed that it will be included in the Contract Documents.
- 5 The Contract is not suitable for use where the Works are of a complex nature.
- 6 The payment provisions in the Contract comply with the payment and payment-related notice requirements of the Housing Grants, Construction and Regeneration Act 1996, as amended ('the Construction Act'). In addition to the statutory requirements regarding payment procedures, the Construction Act provides a statutory right for either Party to refer disputes or differences to adjudication.
- 7 However, not all building contracts are subject to the Construction Act; for example, a contract with a residential occupier within the meaning of section 106 of the Act is excluded and therefore it does not need to contain adjudication provisions, but, unless amendments are made, a residential occupier in entering into a Minor Works Building Contract will be accepting adjudication as a means of resolving disputes.
- 8 For some projects where it is intended to use the Contract, the Employer may wish to control the selection of sub-contractors for specialist work. This may be done by naming a person or company in the tender documents or in instructions on the expenditure of a Provisional Sum. There are, however, no provisions in the Contract to deal with the consequences of such naming and control of specialist work may be better achieved by the Employer entering into a direct contract with its chosen specialist.

Outline of the Contract

General

- 9 Defined terms are dealt with in clause 1.1 and there is a short version of JCT's standard interpretation provisions set out in clauses 1.2 to 1.8. In the 2024 edition the section 1 and section 6 provisions relating to the service of notices have been extended to provide for service by email.

Architect/Contract Administrator

- 10 This is the professional which the Employer has appointed to advise on and administer the Contract. If the appointee is not an architect, it is taken to be referred to in the Contract as the 'Contract Administrator', but, irrespective of the Architect/Contract Administrator's profession, their duties under the Contract are the same.

Role of the Architect/Contract Administrator

- 11 The Architect/Contract Administrator is paid by the Employer, advises the Employer on all matters in connection with the building work and administers the Contract on behalf of the Employer with a view to securing completion of the work in an efficient and economical manner. However, in relation to decisions in that administrative role that require professional skill and judgment, it should act fairly and independently as between the Employer and the Contractor, in particular when:

- issuing payment certificates;

- valuing any variations or any work instructed in respect of Provisional Sums (see "Terms used") included in the Contract Documents;
- giving any extension to the time stated in the Contract Particulars for the completion of the building work;
- certifying the date of practical completion (see "Terms used") and the date when in its opinion all defects which appear during the Rectification Period (see "Terms used") have been made good.

Instructions

- 12 Under the Contract only the Architect/Contract Administrator can issue instructions to the Contractor; although the Employer is paying for the building work, the Employer is not entitled to give any instructions direct to the Contractor in connection with it. If the Employer wishes to make any change to the work or the manner in which it is being carried out, it must ask the Architect/Contract Administrator to give the necessary instructions to the Contractor.

Price

- 13 This is the lump sum stated in the Contract, plus any VAT properly chargeable on the building work. The precise sum may be increased or decreased depending on any changes to the work or the order or period in which it is carried out, the value of work instructed by the Architect/Contract Administrator in respect of any Provisional Sums included in the Contract Documents and, where applicable, any increase or decrease in contributions, levies and taxes for which the Contractor is liable.

Time-scale for the work

- 14 If it becomes apparent that the work cannot be finished within the original time stated in the Contract Particulars the Contractor is required to notify the Architect/Contract Administrator straightaway. If the delay arises for reasons beyond the control of the Contractor, the Architect/Contract Administrator is then required to give such extension of time as is reasonable.

If the work is not finished by the Date for Completion (see "Terms used") after taking into account any extensions of time, the Employer can recover liquidated damages (see "Terms used") from the Contractor.

Payment

- 15 In section 4, payment is to be made under certificates issued by the Architect/Contract Administrator. Interim payments are to be made against interim certificates issued by the Architect/Contract Administrator. The final balance is paid following the issue of the final certificate. The final date for payment of certificates, together with any VAT chargeable to the Employer, is 14 days from the due date for payment. The Construction Act requires interim and final certificates to be issued not later than 5 days after their due date and clauses 4.3 (Interim payments – dates and certificates) and 4.9 (Final certificate and final payment) comply with these requirements.

The provisions relating to the due dates for payment for interim payments are set out in clause 4.3. During the period up to the due date for the final payment, the due dates for interim payments are in each case the date 7 days after the relevant Interim Valuation Date. The first Interim Valuation Date and the intervals that will apply for subsequent Interim Valuation Dates are to be specified in the entry in the Contract Particulars for clause 4.3. JCT recommends that the first Interim Valuation Date should not be more than one month after the Works commencement date and the intervals between Interim Valuation Dates should not be more than one month. If the Contract Particulars entry is not completed, the default provisions set out in the entry apply.

The amount of each interim payment to be certified as due under clause 4.3 is to be calculated in accordance with clause 4.4. Unless a percentage for payment other than 95 per cent is inserted in the Contract Particulars for clause 4.4, interim certificates for the period up to practical completion will reflect the Employer's entitlement to retain 5 per cent. For the period between practical completion and the final certificate, the Contract envisages that the percentage retained will be halved.

The general provisions governing Contractor's payment applications (and, in default of a payment certificate, their role as a payment notice) which apply with respect to the final payment as well as to interim payments are set out in clause 4.5.

The provisions regarding payment and pay less notices, amounts to be paid and default interest are set out in clauses 4.6 and 4.7 and as the text of each indicates, these clauses apply with respect to the final payment as well as to interim payments. Clause 4.9 provides for issue of the final certificate.

If the Employer fails to pay an amount due to the Contractor by the final date for its payment, interest at a rate of 5% per annum over the official bank rate of the Bank of England is payable by the Employer for the period until payment is made.

If the Employer gives a pay less notice and pays the lesser amount specified in the pay less notice, the Contractor's right under the Construction Act to suspend for non-payment does not arise. However, the JCT provision for interest is intended to preserve the Contractor's right to interest on the additional amount that it should have been paid, insofar as there was no sustainable basis for a withholding by the Employer and regardless of any pay less notice that the latter has given.

Suspension

- 16** If the Employer does not give a pay less notice and does not pay the amount due to the Contractor by the final date for its payment, or, having given a pay less notice, then fails to pay the amount specified in it, the Contractor, after giving a 7 day notice, has the right to suspend performance of some or all of its obligations under the Contract until payment of the appropriate amount is made. The Contractor also has a statutory right to recover reasonable costs and expenses that it incurs as a result of that suspension.

Termination

- 17** Either Party may end the Contractor's employment if the other Party is in breach of certain obligations (in the case of the Contractor those mentioned in clauses 6.4 and 6.6; in the case of the Employer those in clause 6.8) or becomes insolvent. There is also a right under clause 6.10.1 for either Party to terminate in the case of prolonged suspension resulting from certain neutral causes and (where applicable) clause 6.10.3 allows for termination by the Employer on the substantial modification ground set out in regulation 73(1)(a) of the PC Regulations.

The section 6 termination accounting and payment provisions have in this 2024 edition been amended to provide for the Construction Act's payment procedures. There is a new defined term, i.e. the 'Termination Payment' and some adjustments to the accounting provisions in clauses 6.7 and 6.11 including the insertion of due date provisions. The provisions regarding the final date for payment of the Termination Payment, payment and pay less notices, amount to be paid and default interest are set out in clause 6.12.

Dealing with disputes

- 18** Either Party may at any time refer any dispute to adjudication for a 'fast track' decision; the adjudicator's decision is binding unless and until the dispute is decided by an arbitrator or the court. Residential occupiers wishing to use the Contract should also refer to paragraph 7 above. The Contract Particulars enable the Parties to name an individual adjudicator and specify the adjudicator nominating body in advance, should they wish. However, an individual should not be named in the Contract without their prior agreement. It has also to be recognised that those of sufficient standing to merit nomination are generally busy people and that when a dispute arises they may not be available.

As respects specifying the adjudicator nominating body in advance, the relevant entry in the Contract Particulars in this 2024 edition of the Contract has been adjusted to allow the Parties to specify a nominating body of their own choosing as an alternative to selecting a body from those listed. The bodies listed will be familiar to JCT contract users. Such bodies are required to provide feedback to JCT regarding their adjudication services on an ongoing basis. If a Party is unsure about the suitability of a proposed alternative (non-listed) body JCT suggests seeking appropriate professional advice.

The Parties may also agree to mediate a dispute.

For final dispute resolution in cases where either or both Parties are dissatisfied with the results of adjudication or mediation (or neither Party wished to have the dispute adjudicated), the choice is between court litigation and arbitration. Since 2005 litigation has been the default option under JCT contracts. If arbitration is the agreed choice, it should be selected through the appropriate entry in the Contract Particulars.

The JCT 2024 edition of the [Construction Industry Model Arbitration Rules](#) (CIMAR), which includes the JCT Supplementary and Advisory Procedures, will govern any arbitration that is commenced. It is recommended that anyone considering instituting arbitration proceedings should obtain a copy of the rules and, as with litigation, should take competent professional advice before taking steps to institute proceedings.

In making the choice between arbitration and litigation, in addition to the adjudication option, one should consider a range of other factors. Arbitration provides the ability to choose an arbitrator from any relevant profession, greater freedom of choice procedurally and confidentiality, whereas in

litigation there is the wider power of the court. In the case of contracts where claims either way are likely to be small, it may be considered desirable to keep open the potentially cheaper route of using the small claims track in the court system; any agreement to arbitrate, unless suitably qualified, would normally operate as a bar to using that route if the other Party did not agree.

Rights and remedies generally

- 19 Statutory and common law rights are not restricted by the terms of the Contract. The limitation period for a contract that is simply signed by the Parties is 6 years from the date of the breach or, where it is executed as a deed, 12 years. The limitation period should not be confused with the Rectification Period, which is provided to facilitate the remedying of the Contractor's defective work by allowing it to return to site to make good.

Supplemental Provisions

- 20 Schedule 2 includes optional Supplemental Provisions which are for use where appropriate. The previous supplemental provisions for collaborative working, sustainability (the wording of which has been adjusted slightly in this edition), and notification and negotiation of disputes have been moved into the Agreement or main text of the Conditions and are now no longer optional, a change that is in common with other JCT contract forms and is part of JCT's response to the government's Construction Playbook document. The three remaining Supplemental Provisions (1 to 3) are those relating to health and safety, cost savings and performance monitoring and their applicability will need to be considered. The choice as to which of these provisions apply is made in the Contract Particulars and if no choice is made in relation to a provision, it will apply (these provisions are generally intended to be disapplied only where there is a Framework Agreement or other contract documentation that covers the same ground).

Schedule 2 also contains Supplemental Provision 4 which relates to the Freedom of Information Act 2000 ('FOIA'); it will only apply where the Employer is a Local or Public Authority or other body to which the FOIA applies. Supplemental Provision 5 contains provisions relevant to the PC Regulations and this will only apply where the Employer is a Local or Public Authority and the Contract is subject to those regulations. For guidance on aspects of the PC Regulations relevant to JCT contracts, please go to www.jctfd.co.uk.

Terms used

- 21 As part of its duties to the Employer, the Architect/Contract Administrator should be prepared to explain the general meanings of the various terms used in the Contract. For example:

Base Date

- 22 The Base Date is stated in the Contract Particulars. The date often selected is 7 days or thereabouts before the date for submission of tenders so as to avoid any need for tenderers to deal with last minute changes. In the Minor Works Building Contract, however, Base Date plays a comparatively minor role, acting as the date of record for the Employer's status under the CIS scheme and for determining what fluctuations are payable.

CDM Regulations

- 23 Regulations made under Act of Parliament to improve health and safety standards on construction sites. For guidance on the CDM Regulations 2015, please go to www.jctfd.co.uk.

Part 2A of the Building Regulations

- 24 Part 2A of the Building Regulations 2010 was introduced by the Building Regulations etc. (Amendment) (England) Regulations 2023 pursuant to the Building Safety Act 2022. Part 2A sets out a framework of safety duties for those persons ('dutyholders') who commission, design and undertake building work to which building regulations apply, with a limited exclusion where the work consists only of minor work of a prescribed type. Part 2A includes obligations to appoint a Principal Designer and Principal Contractor in respect of works to which the regulations apply. Dutyholders are required to ensure that they have the necessary competence to carry out design and building work and that arrangements and systems are in place to plan, manage and monitor compliance with the regulations. Additional duties apply to higher-risk building work. For information, please go to www.jctfd.co.uk.

Principal Designer and Principal Contractor

- 25 The respective persons named in the Agreement or subsequently appointed as such, as required by the CDM Regulations and Part 2A of the Building Regulations. With a view to minimising health and

safety risks, the CDM Regulations require the Employer to appoint a Principal Designer to control the pre-construction phase where there is more than one contractor, or it is reasonably foreseeable that more than one contractor will be working on the project at any time. One of the contractors must also be appointed as Principal Contractor in those circumstances. (For these purposes the term 'contractor' includes sub-contractors.) The Building Regulations provide that instead of appointing a separate principal designer and principal contractor, the client may certify that the CDM principal designer and the CDM principal contractor should be treated as appointed in these roles for the purposes of the Building Regulations (Part 2A, regulation 11D(2)). Professional advice should be sought as to whether this is appropriate in any given project.

CDM Health and safety file

- 26 A manual which the Principal Designer prepares with assistance from the Principal Contractor, containing health and safety information necessary for anyone undertaking work on the site post-completion of the Works, which the Principal Designer passes on to the Principal Contractor if its appointment terminates before the end of the project and is to be delivered to the Employer on completion.

Date for Completion

- 27 The date by which the Contractor is required to finish the work, as stated in the Contract Particulars or subsequently extended by the Architect/Contract Administrator.

Date of practical completion

- 28 The date when, in the Architect/Contract Administrator's opinion, the Contractor has to all practical intents and purposes completed the Works.

Rectification Period

- 29 Unless otherwise agreed, the Rectification Period is 3 months from the date of practical completion. The Contractor is required to put right any defects in the work which appear during the Rectification Period before it is entitled to be paid the final balance of the Contract price. The Architect/Contract Administrator is required to notify the Contractor of any such defects not later than 14 days after the expiry of the Rectification Period.

Insurance in Joint Names

- 30 With respect to Works insurance, clause 5.4 is intended for use where there are no existing structures and the contractor is to arrange a Joint Names, All Risks policy, under which each Party is covered as a 'composite insured'. This may take the form of a specific project policy or through equivalent coverage under the Contractor's annual CAR policy.

Clause 5.5 is for use where there are existing structures and the Employer is able to cover the works on a Joint Names, All Risks basis and, in addition to its own cover for existing structures, is able to extend at least Specified Perils cover to the Contractor in respect of the existing structures.

However, existing structures cover for the Contractor is not always readily available to Employers at reasonable cost, in particular where the Employer is a domestic homeowner or where it is only a tenant and structures cover is effected by the freeholder or an intermediate lessor, and clause 5.6 is designed for cases in these latter categories.

The freeholder Employer may cover the Works in Joint Names and continue with its own cover under its household or existing structures policy, with the Contractor covering its liability for any damage to existing structures under the Public Liability cover required under clause 5.3.2 or an appropriate extension of it.

In the case of tenant Employers, it is necessary to involve the insuring landlord and in all cases, in particular those involving existing structures, it is essential that Employers and Architect/Contract Administrators, prior to the tender stage, take appropriate specialist insurance advice, consult the Employer's household or existing structures insurers and, where relevant, the landlord. They should also then liaise with the prospective Contractor and its advisers at the earliest opportunity, specify any further cover required from it and check that that is in place before work commences on site.

In the case of the Works insurance, care should also be taken in determining the full reinstatement value (including any applicable VAT) and to ensure that the policy gives appropriate cover for items such as the additional costs of materials, working and removal of debris etc. that are likely to arise from loss or damage to the Works.

Liquidated damages

- 31 The rate per day/week/month stated in the Contract Particulars by the Employer, to compensate it for the Contractor's failure to finish the work on time. The prudent Employer will be alert to the legal principles and rules governing the enforceability of liquidated damages provisions and will approach calculation of the rate with these in mind. It is suggested that the Employer records an explanation of the rate and why the rate represents (i) a genuine pre-estimate of the loss that it is likely to suffer or (ii) a reasonable and proportionate protection of its legitimate commercial interest(s) in timely completion, which it can use to respond to any challenge.

It is for the Employer to decide whether to deduct any liquidated damages that it might be entitled to from any amount certified as due to the Contractor; such deduction is not taken into account by the Architect/Contract Administrator in the calculation of any certificate and the appropriate notice must be given by the Employer under clauses 2.8 and 4.6.4 or (if applicable) 6.12.3 or 6.12.5.

In the 2024 edition there is a new provision (clause 2.8.4) designed to clarify the position in relation to liquidated damages where the Contractor's employment is terminated under the Contract during a period of Contractor culpable delay which essentially confirms the approach taken in recent case law.

Provisional Sum

- 32 A sum included for work which the Employer may or may not decide to have carried out, or which cannot be accurately specified in the original contract documents. For instance, where the Employer is undecided whether all, some or none of the outside of the premises will need to be re-decorated, the pricing documents may say "Allow £X for complete external redecoration of the premises." If the Employer then decides any redecoration is necessary, the specification required is instructed by the Architect/Contract Administrator and the price to be paid is either agreed between the Architect/Contract Administrator and the Contractor or valued by the Architect/Contract Administrator.

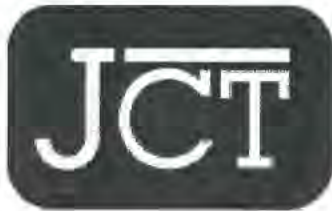
Variation

- 33 A change to the work that the Architect/Contract Administrator instructs on behalf of the Employer. The variation may be an addition to or an omission from the work as originally specified or to the order or manner in which it is to be carried out.

MW User Checklist

A checklist of the key information that will help you to complete the Agreement may be downloaded from the JCT [website](#).

Care has been taken in preparing these Guidance Notes but they should not be treated as a definitive legal interpretation or commentary. Users are reminded that the effect in law of the provisions of the Minor Works Building Contract 2024 Edition is, in the event of a dispute as to that effect, a matter for decision in adjudication, arbitration or litigation.



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Section 2: Schedule of Amendments

JCT MINOR WORKS BUILDING CONTRACT 2024

SCHEDULE OF AMENDMENTS

DATED 8 January 2025

relating to the minor road and remedial repairs
at

Springhead Bridge and Ebbsfleet Gateway A2260, Ebbsfleet, Kent

(1) EBBSFLEET DEVELOPMENT CORPORATION

(2) ERITH CONTRACTORS LIMITED

INITIALLED  (EMPLOYER)

INITIALLED (CONTRACTOR)

JCT MINOR WORKS BUILDING CONTRACT 2024

SCHEDULE OF AMENDMENTS

The Agreement is amended as follows:

Articles

Article 8 Delete and insert "Not used."

Article 10 Insert as a new Article 10:

"The Schedule of Amendments are incorporated into this Contract and the provisions of the Agreement and the Conditions shall take effect as so modified. If there is any discrepancy or conflict between (1) the Agreement and the Conditions and (2) the Schedule of Amendments, the wording of the Schedule of Amendments prevails."

[NOTE: Ensure that Article 10 is endorsed on the printed form of the JCT Booklet.]

Attestation The Agreement is to be executed as a deed.

The Conditions are amended as follows:

Section 1 - Definitions and Interpretation

Definitions

1.1 Amend the following definitions:

"Agreement: at the end of the definition insert "(all as amended by the Schedule of Amendments annexed hereto)".

"Building Regulations: amend to read "means Part 2A of the Building Regulations 2010 as inserted by regulation 6 of the Building Regulations etc (Amendment) (England) Regulations 2023, SI 2023/911".

"Conditions: after "Schedules" insert "and the Schedule of Amendments annexed".

1.1 Insert the following new definitions:

"Competence: the skills, knowledge, experience and behaviours necessary and, where the Contractor is not an individual, the organisational capability (and has identified an individual within the organisation who has the required skills, knowledge and experience), in relation to relevant duties under the CDM Regulations and the Building Regulations."

"HS1 site: the HS1 rail line and any adjoining land owned, operated and maintained by HS1 Ltd (company nr. 03539665) whose registered address is at 5th Floor, Kings Place, 90 York Way, London, England, N1 9AG."

"Practical Completion: a state in which the Works are complete in all respects, suitable for beneficial use for their intended purposes and free from apparent defects save for any minor items of incomplete work or minor defects the existence, completion or rectification of which in the opinion of the Architect/Contract Administrator would not prevent or interfere with the use (or the fitting out for use) of the Works or the relevant Section and the process commonly referred to as "snagging" has been carried out.

References elsewhere in this Contract to 'practical completion' shall be read and construed as references to 'Practical Completion'."

"Schedule of Amendments: means these schedule of amendments to the Contract."

"Site: Springhead Bridge and Ebbsfleet Gateway A2260, Ebbsfleet, Kent."

1.5 Delete and insert:

"This Contract does not create any right enforceable by any person not a party to it (whether pursuant to the Contracts (Rights of Third Parties) Act 1999 or otherwise) except for the rights of any person who is a successor to or an assignee of the rights of the Employer and who shall be deemed to be a party to this Contract."

1.7.2 In line 3 of Clause 1.7.2 after the first reference to "under" delete the remainder of the Clause and insert "clauses 2.11 and 3.1.2".

1.8 At the end of Clause 1.8, before the full stop, insert:

"and Wales and the English and Welsh courts shall have non-exclusive jurisdiction to hear and determine any disputes or differences arising under or in connection with this Contract".

1.9 Insert a new Clause 1.9:

"If any term or condition of this Contract is for any reason held to be illegal, invalid, ineffective, inoperable or otherwise unenforceable, it shall be severed and deemed to be deleted from this Contract and the validity and enforceability of the remainder of this Contract shall not be affected or impaired thereby."

Section 2 – Carrying out the Works

Without prejudice to clause 2.1.2, the Contractor shall at all times prevent

2.1.6 Insert a new Clause 2.1.6:

"The Contractor shall at all times prevent any nuisance (including, without limitation, any noisy working operations) or other interference with the rights of any adjoining land-owner, tenant or occupier or any statutory undertaker of which the Contractor is or ought reasonably to have been aware arising out of the carrying out of the Works or the performance of the Contractor's obligations under clause 2.10 and shall assist the Employer in defending any action or proceedings which may be instituted in relation hereto. The Contractor shall be responsible for and shall indemnify the Employer from and against any and all expenses liabilities losses claims and proceedings resulting from any failure or default by the Contractor in performing its obligations under this clause 2.1.6."

2.1.7 Insert a new Clause 2.1.7:

"The Contractor shall take all the necessary measures to prevent the pollution of surface waters (including, without limitation, rivers, streams and canals) and implement and maintain effective pollution control measures which a reasonable Contractor shall be aware of during the carrying out of the Works or the performance of the Contractor's obligations under clause 2.10 in order to prevent the Employer from incurring any liabilities under the applicable environmental laws and regulations. If such liabilities arise, the Contractor shall assist the Employer in defending any action or proceedings which may be instituted in relation hereto. The Contractor shall be responsible for and shall indemnify the Employer from and against any and all expenses liabilities losses claims and proceedings resulting from any failure or default by the Contractor in performing its obligations under this clause 2.1.7."

2.1.8 Insert a new clause 2.1.8:

"The Contractor shall ensure that the HS1 site and any relevant access routes to and from the HS1 site are kept clear of any materials, equipment, plants or vehicles during the carrying out of the Works or the performance of the Contractor's obligations under clause 2.10."

2.1.9 Insert a new clause 2.1.9:

"The Contractor acknowledges that responsibility for the management of traffic operations resides with the Kent County Council (the "Council"). The Contractor shall at all times comply with any measures, restrictions or requirements imposed by the Council in respect of traffic operations on or around the Site (including, without limitation, vehicle and pedestrian movement) during the carrying out of the Works or the performance of the Contractor's obligations under clause 2.10. The Contractor shall be responsible for and shall indemnify the Employer from and against any and all expenses liabilities losses claims and proceedings resulting from any failure or default by the Contractor in performing its obligations under this clause 2.1.9."

2.7A Insert a new Clause 2.7A:

"If and whenever it becomes reasonably apparent that there is or is likely to be a delay in receiving a Temporary Traffic Regulation Order ("TTRO") from the relevant local traffic authorities, the Contractor shall notify the Architect/Contract Administrator. The Contractor shall be entitled to an extension of time for completion as a result of a delay in receiving a TTRO. Provided always that the Contractor has used its best endeavours to prevent such delays in receiving a TTRO and such delays are not the consequence of a breach or default by the Contractor."

2.10 Renumber Clause 2.10 and Clause 2.10.1.

2.10.1 In line 4 after "other faults" insert "as soon as reasonably practicable and".

2.10.2 Insert a new Clause 2.10.2:

"Prior to the notification issued by the Architect/Contract Administrator in accordance with clause 2.10.1, the Architect/Contract Administrator may whenever he considers it necessary issue instructions requiring any defect, shrinkage or other fault to be made good by the Contractor and the Contractor shall do so at no cost and as soon as reasonably practicable provided that no instructions under this clause 2.10.2 shall be issued after the service of the notification in accordance with clause 2.10.1 or more than 14 days after the expiry of the Rectification Period."

2.10.3 Insert a new Clause 2.10.3:

"If the Contractor does not make good such defects, shrinkages or other faults as soon as reasonably practicable, the Employer may, without prejudice to any other remedy it may have, make good such defects, shrinkages or other faults itself or arrange for a third party to undertake the work or supply any materials. The Employer may deduct all costs reasonably incurred from any payment due or becoming due to the Contractor or if there is no payment due such costs shall be a debt due and recoverable from the Contractor."

Section 3 – Control of the Works

3.1 Delete and replace with:

"3.1.1 The Employer may, without the consent of the Contractor, assign the benefit of this Contract to any person. The Contractor undertakes to the Employer not to contend in any proceedings under this Contract that any person to whom the Employer assigns or has assigned its rights under this Contract or any of them in accordance with the foregoing provisions of this clause is to be precluded from recovering any loss resulting from any breach of this Contract (whenever happening) by reason that such person is an assignee and not the original promisee under this Contract or by reason that the Employer or any intermediate assignee of the Employer escaped loss resulting from such breach by reason of the disposal of its interest in the same.

3.1.2 The Contractor shall not, without the prior written consent of the Employer, assign the benefit of this Contract."

- 3.9.1 Delete and replaced with:
- “3.9.1 where the Contractor is and while it remains the Principal Designer, it shall comply with the duties of a Principal Designer and it shall without charge prepare, and deliver to the Employer, the health and safety file and any other documents required to comply with the Employer’s and Principal Designer’s obligations under the CDM Regulations, Part 2A of the Building Regulations;”
- 3.9.2.2 After “for the purposes of the Building Regulations, with regulation” insert “11H and”.
- 3.9.2A Insert a new clause 3.9.2A:
- “whether or not the Contractor is the Principal Contractor, compliance by the Contractor with his duties under the regulations shall be at no cost to the Employer and shall not entitle the Contractor to an extension of time;”
- 3.9.2B Insert a new clause 3.9.2B:
- “the Contractor warrants that:
- .1 as at the Base Date it has the Competence required to discharge his duties under the CDM Regulations and the Building Regulations
 - .2 it has not been the subject of a serious sanction by the Building Safety Regulator and/or another Local or Public Authority within the 5 years ending on the date of this Contract
 - .3 it shall notify the Employer pursuant to regulation 11I of the Building Regulations where it or any of his sub-contractors ceases to have the Competence required to discharge his duties under the Building Regulations.”

Section 4 – Payment

No amendments

Section 5 – Injury, Damage and Insurance

- 5.1 After “Works” in line 3 insert “(or the performance of the Contractor’s obligations under clause 2.11 (Defects))”.
- 5.2 After “Works” in line 5 insert “(or the performance of the Contractor’s obligations under clause 2.11 (Defects))”.

Section 6 – Termination

- 6.1 At the end of Clause 6.1.1 insert “or when a monitor is appointed in respect of such person or any document is filed at court to obtain or apply for a moratorium or an order is made for a moratorium to come into force in respect of such person”
- 6.8.3 At the end of Clause 6.8.3 insert “provided that the Employer is not Insolvent on or before the date of such further notice of termination.”
- 6.9 Delete Clause 6.9 and replace with the following:
- “6.9.1 If the Employer is insolvent, the Contractor may not by notice terminate the Contractor’s employment under this Contract unless and to the extent that:
- .1 in a case where the Employer has entered administration, an administrative receiver of the company has been appointed (otherwise than in succession to another administrative receiver), gone into liquidation and/or a provisional liquidator of the Employer is appointed (otherwise than in succession to another provisional liquidator), the office-holder consents to the termination,
 - .2 in any other case, the Employer consents to the termination,

.3 the court is satisfied that the continuation would cause the Contractor hardship and grants permission for the termination; or

.4 the termination is otherwise permitted pursuant to s.233B of the Insolvency Act 1986 as amended by the Corporate Insolvency and Governance Act 2020."

6.9.2 as from the date the Employer becomes insolvent only where clauses 6.9.1.1, 6.9.1.2, 6.9.1.3 or 6.9.1.4 apply, the Contractor's obligations under Article 1 and these Conditions to carry out and complete the Works shall be suspended."

6.10.2 Delete Clause 6.10.2 and replace with:

"The Contractor shall not be entitled to give notice under clause 6.10.1:

.1 in respect of the matter referred to in clause 6.10.1.3 where the loss or damage to the Works was caused by the negligence or default of the Contractor or any Contractor's Person; or

.2 where the Employer is Insolvent on or before the date that such termination takes effect unless clauses 6.9.1.1, 6.9.1.2, 6.9.1.3 or 6.9.1.4 apply."

Section 7 – Settlement of Disputes

Clause 7.4 Delete.

Section 8 – Not used

Section 9 – Not used

Section 10 – Modern Slavery

Insert new clause 10:

"10.1 The Contractor represents and warrants that:

10.1.1 it has not been and is not engaged in any practices involving the use of child labour, forced labour, the exploitation of vulnerable people, or human trafficking ("**slavery and human trafficking**");

10.1.2 its employees and agency workers are paid in compliance with all applicable employment laws and minimum wage requirements; and

10.1.3 it will take reasonable steps to prevent slavery and human trafficking in connection with the Contractor's business.

10.2 The Contractor shall demonstrate to the Employer's satisfaction that the representations and warranties given above are true and accurate.

10.3 The Contractor agrees to respond to all requests for information required by the Employer for the purposes of completing the Employer's annual anti-slavery and human trafficking statement as required by the UK's Modern Slavery Act 2015.

10.4 The Contractor will permit the Employer and its third party representatives, on reasonable notice during normal business hours, but without notice if there are reasonable grounds to suspect an instance of slavery and human trafficking to access and take copies of the Contractor's records and any other information held at the Contractor's premises and to meet with the Contractor's personnel and more generally to audit the Contractor's compliance with its obligations relating to slavery and human trafficking. The Contractor shall give all necessary assistance to the conduct of such audits during the term of the Contract."

Section 11 – Prevention of Fraud and Bribery

Insert new clause 11:

- "11.1 The Contractor represents and warrants that neither it, nor to the best of its knowledge any of its employees, have at any time prior to the date of this Agreement:
- 11.1.1 committed a Prohibited Act or been formally notified that it is subject to an investigation or prosecution which relates to an alleged Prohibited Act; and/or
- 11.1.2 been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act.
- 11.2 During the carrying out of the Works the Contractor shall not:
- 11.2.1 commit a Prohibited Act; and/or
- 11.2.2 do or suffer anything to be done which would cause the Employer or any of the Employer's employees, Contractors, Contractors, sub-contractors or agents to contravene any of the Relevant Requirements or otherwise incur any liability in relation to the Relevant Requirements
- 11.3 During the carrying out of the Works the Contractor shall:
- 11.3.1 establish, maintain and enforce, and require that its sub-contractors establish, maintain and enforce, policies and procedures which are adequate to ensure compliance with the Relevant Requirements and prevent the occurrence of a Prohibited Act;
- 11.3.2 keep appropriate records of its compliance with this Agreement and make such records available to the Employer on request;
- 11.3.3 provide and maintain and where appropriate enforce an anti-bribery policy (which shall be disclosed to the Employer on request) to prevent it and any Contractor's employees or any person acting on the Contractor's behalf from committing a Prohibited Act.
- 11.4 The Contractor shall notify the Employer immediately in writing if it becomes aware of any breach of clause 11.1, or has reason to believe that it has or any of its employees or sub-contractors have:
- 11.4.1 been subject to an investigation or prosecution which relates to an alleged Prohibited Act;
- 11.4.2 been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act; and/or
- 11.4.3 received a request or demand for any undue financial or other advantage of any kind in connection with the performance of this Agreement or otherwise suspects that any person or Party directly or indirectly connected with this Agreement has committed or attempted to commit a Prohibited Act.
- 11.5 If the Contractor shall make a notification to the Employer pursuant to clause 11.4, the Contractor shall respond promptly to the Employer's enquiries, co-operate with any investigation, and allow the Employer to audit any books, records and/or any other relevant documentation in accordance with this Agreement.
- 11.6 If the Contractor breaches Clause 11.3, the Employer may by notice require the Contractor to remove from carrying out the Works any Contractor's Person whose acts or omissions have caused the Contractor's breach."

Section 12 – Data Protection

Insert new clause 12

12.1 The Employer and the Contractor shall comply with the provisions of Appendix 9

Section 13 – IR35

Insert new clause 13:

“13.1 For the purpose of this clause 13, the following capitalised words have the following meaning:

“IR35 Contractor” means any of the Contractor’s personnel or any individual engaged by the Contractor (either directly or via any other intermediary or intermediaries) through a PSC.

“ITEPA” means the Income Tax (Earnings and Pensions) Act 2003.

“PSC” means a limited company or partnership which meets the conditions specified in sections 610 or 61P (as applicable) of ITEPA.

13.2 The Contractor shall ensure (and shall ensure that all or any other third parties ensure on behalf of the Contractor), that on or after 6 April 2021 none of its subcontractors of any tier nor any other person whatsoever will be supplied or otherwise allowed to be utilised in the undertaking of any works and/or the performance of any other obligations of the Contractor under or pursuant to the contract if they are an IR35 Contractor, unless the Employer has expressly authorised in writing the supply or utilisation of any sub-subcontractor or other person who had been expressly identified as an IR35 Contractor in a prior notice given to the Employer by the Contractor.

13.3 The Contractor shall provide (and shall ensure that all or any other third parties provide on behalf of the Contractor) all such information and documentation as is reasonably required by the Employer to make a determination as to whether any person whom the Contractor has given the Employer prior notice of as referred to in clause 13.2 would be regarded for Income Tax purposes as an employee of the Employer under Part 2 Chapter 10 of ITEPA.

13.4 The Contractor shall pay all Corporation Tax, Income Taxes, National Insurance Contributions, VAT and other taxes, duties, levies, charges and contributions (and any interest or penalties thereon) whatsoever properly payable by the Contractor in respect of payments to the Contractor’s personnel. In particular, but without limitation, the Contractor shall comply with any requirement to make deductions of Income Tax and National Insurance Contributions at source and to pay employer National Insurance Contributions and Apprenticeship Levy in respect of each and any of the Contractor’s personnel.

Without prejudice to any other rights or remedies of the Employer, the Contractor shall indemnify and save harmless the Employer against and from any and all damages, losses, claims, demands, expenses (including reasonable legal and other professional expenses), costs, deductions, liabilities, fines, penalties, compensation orders and any proceedings whatsoever suffered or incurred by the Employer due to or resulting from any breach by the Contractor of this clause 13 (including any liability of the Employer to account for deductions of Income Tax, and/or employee National Insurance Contributions, or to make payment of employer National Insurance Contributions or Apprenticeship Levy (and in each case against any liability of the Employer to pay interest or penalties in respect of such sums)), as a result of a subcontractor of any tier or any other person whatsoever being supplied or otherwise allowed to be utilised in the undertaking of any works and/or the performance of any other obligations of the Contractor under or pursuant to the contract, in each case regardless of whether or not the Contractor has or is deemed by HM Revenue & Customs to have complied with its own obligations under Chapter 10 of Part 2 ITEPA or otherwise.”

Section 14 – Reporting and Progress Monitoring

Insert new clause 14

- "14.1 In the performance of the Works, the Contractor shall:-
- 14.1.1 keep the Employer regularly informed of progress of all Works in which the Contractor is engaged under this Agreement and provide all such information in relation to the Works as the Employer shall reasonably request from time to time;
- 14.1.2 make full and timely disclosure to the Employer immediately upon becoming aware of any:-
- (a) matter which adversely affects any of the Project, or adversely affects the Employer's liability in respect of any of the Project;
 - (b) matter which arises (or is likely to arise) and which would have a material adverse effect on the ability of the Contractor to perform the Works in accordance with this Agreement;
 - (c) if the Contractor becomes Insolvent; and/or
 - (d) actual or potential conflict of interest which may arise with the Contractor or any of the Contractor's directors or Key Personnel in the performance of the Works and/or the Contractor's duties and obligations under this Agreement.
- 14.1.3 allow the Employer, on reasonable prior notice, access to Key Personnel and to inspect and/or take copies of any documents or records as may be necessary or appropriate for the purpose of or in connection with the Works and/or the Business and for the purpose of monitoring the Contractor's performance of the Works in accordance with this Agreement;
- 14.1.4 when required by the Employer (giving details of time, location and agenda) to attend meetings (at no cost to the Employer) to present its Monthly Performance Report, to provide a full briefing and professional advice to the Employer on the performance of the Works and the Project and on general matters in respect of the Employer, to seek the Employer approval to support its actions and to answer either at, or as soon as is reasonably practicable after, such meeting all enquiries made at such meetings; and
- within five Business Days of the end of each month which follows the commencement of the Works, provide the Employer with a report (in a format approved by the Employer) detailing the Contractor's performance and delivery of the Works during the immediately preceding month (the "Relevant Month") in accordance with the terms of this Agreement (the "Monthly Performance Report"). For the avoidance of doubt the first Monthly Performance Report shall relate to the period from and including the commencement of the Works and expiring on the last Business Day of the month in which the commencement of the Works occurred (and the Monthly Performance Report shall become due on the fifth Business Day thereafter). "

Section 15 – Accounts Inspection and Audit Facilities

Insert new clause 15

- "15.1 The Contractor shall at all times:
- 15.1.1 maintain a full record of particulars of all the income received by the Contractor in respect of the Project;
- 15.1.2 when required to do so by the Employer, provide a summary of any of the income referred to in clause 15.1.1 as the Employer may require to enable it to monitor the performance by the Contractor of its obligations under this clause;
- 15.1.3 permit the Employer and persons authorised by the Employer to inspect audit and take copies of all reports books accounting records and vouchers which the Employer properly considers relevant to the Project; and
- 15.1.4 provide such facilities as the Employer may require for its representatives to visit any place where the records are held and examine the records maintained under this clause 15.1.
- 15.2 The Contractor shall maintain records of all time spent by his professional and technical staff (including partners) in performing each Works performed by such staff under this Agreement.
- 15.3 The Contractor shall from time to time upon request (and after as well as before the termination or conclusion of the Contractor's employment under this Agreement) make the records referred to in Clause 15.1 available to the Employer or its appointee for inspection and provide such copies as the Employer may request."

Section 16 – Social Value

Insert new clause 16

- "16.1 The Contractor shall:
- 16.1.1 provide the Employer with a report on a monthly basis on the Contractor's progress against the Social Value Delivery Plan provided at Appendix 9; and
- 16.1.2 in carrying out its Works comply with the Social Value Delivery Plan provided at Appendix 9"

Section 17 – Not used

Section 18 – Confidentiality

Insert a new clause 18

- "18.1 Except to the extent set out in this clause or where disclosure is expressly permitted elsewhere in this contract, each party shall:
- 18.1.1 treat the other party's Confidential Information as confidential and safeguard it accordingly; and;
- 18.1.2 not disclose the other party's Confidential Information to any other person without prior written consent;
- 18.1.3 immediately notify the other Party if it suspects unauthorised access, copying, use or disclosure of the Confidential Information; and

- 18.1.4 notify the Serious Fraud Office where a Party has reasonable grounds to believe that the other Party is involved in activity that may be a criminal offence under the Bribery Act 2010.
- 18.2 The clause above shall not apply to the extent that:
- 18.2.1 such disclosure is a requirement of the law of the contract placed upon the party making the disclosure, including any requirements for disclosure under the FOIA or the Environmental Information Regulations pursuant to clause 13 (Freedom of Information);
- 18.2.2 such information was in the possession of the party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;
- 18.2.3 such information was obtained from a third party without obligation of confidentiality;
- 18.2.4 such information was already in the public domain at the time of disclosure otherwise than by a breach of this Agreement; or
- 18.2.5 it is independently developed without access to the other party's Confidential Information
- 18.3 The Contractor may only disclose the Employer's Confidential Information to Contractor's Persons who are directly involved in the provision of the service and who need to know the information and shall ensure that such Contractor's Persons are aware of and shall comply with these obligations as to confidentiality.
- 18.4 The Contractor shall not, and shall procure that the Contractor's persons do not, use any of the Employer's Confidential Information received otherwise than for the purposes of this contract.
- 18.5 The Contractor may only disclose the Employer's Confidential Information to Contractor's persons who need to know the information and shall ensure that such Contractor's Persons are aware of, acknowledge the importance of, and comply with these obligations as to confidentiality. In the event that any default, act or omission of any Contractor's persons causes or contributes (or could cause or contribute) to the Contractor breaching its obligations as to confidentiality under or in connection with this contract, the Contractor shall take such action as may be appropriate in the circumstances, including the use of disciplinary procedures in serious cases. To the fullest extent permitted by its own obligations of confidentiality to any of the Contractor's persons, the Contractor shall provide such evidence to the Employer as the Employer may reasonably require (though not so as to risk compromising or prejudicing the case) to demonstrate that the Contractor is taking appropriate steps to comply with this clause, including copies of any written communications to and/or from Contractor's persons, and any minutes of meetings and any other records which provide an audit trail of any discussions or exchanges with Contractor's persons in connection with obligations as to confidentiality.
- 18.6 At the written request of the Employer, the Contractor shall procure that those members of the Contractor's persons identified in the Employer's notice signs a confidentiality undertaking prior to commencing any work in accordance with this Agreement.
- 18.7 Nothing in this Agreement shall prevent the Employer from disclosing the Contractor's Confidential Information:

- 18.7.1 to any Crown Body or any other Contracting Bodies. All Crown Bodies or Contracting Bodies receiving such Confidential Information shall be entitled to further disclose the Confidential Information to other Crown Bodies or other Contracting Bodies on the basis that the information is confidential and is not to be disclosed to a third party which is not part of any Crown Body or any Contracting Body;
- 18.7.2 to a professional adviser, Contractor, Contractor, supplier or other person engaged by the Employer or any Crown Body (including any benchmarking organisation) for any purpose connected with this Agreement, or any person conducting an Office of Government Commerce gateway review (or a successor body exercising a comparable function);
- 18.7.3 for the purpose of the examination and certification of the Employer's accounts;
- 18.7.4 for any examination pursuant to Section 6(1) of the National Audit Act 1983 of the economy, efficiency and effectiveness with which the Employer has used its resources;
- 18.7.5 for the purpose of the exercise of its rights under this Agreement; or
- 18.7.6 to a proposed successor body of the Employer in connection with any assignment, novation or disposal of any of its rights, obligations or liabilities under this Agreement, and for the purposes of the foregoing, disclosure of the Contractor's Confidential Information shall be on a confidential basis and subject to a confidentiality agreement or arrangement containing terms no less stringent than those placed on the Employer under this clause 18.7.
- 18.8 The Employer shall use all reasonable endeavours to ensure that any government department, Contracting Body, employee, third party or sub-contractor to whom the Contractor's Confidential Information is disclosed pursuant to the above clause is made aware of the Employer's obligations of confidentiality.
- 18.9 Nothing in this clause shall prevent either party from using any techniques, ideas or know-how gained during the performance of the contract in the course of its normal business to the extent that this use does not result in a disclosure of the other party's Confidential Information or an infringement of IPR.
- 18.10 The Employer may disclose the Confidential Information of the Contractor:
 - 18.10.1 to Parliament and Parliamentary Committees or if required by any Parliamentary reporting requirement;
 - to the extent that the Employer (acting reasonably) deems disclosure necessary or appropriate in the course of carrying out its public functions."

Section 19 – Freedom of Information

Insert a new clause 19

- "19.1 The Contractor acknowledges that unless the Employer has notified the Contractor that the Employer is exempt from the provisions of the FOIA, the Employer is subject to the requirements of the Code of Practice on Government Information, FOIA and the Environmental Information Regulations. The Contractor shall co-operate with and assist the Employer so as to enable the Employer to comply with its information disclosure obligations.
- 19.2 The Contractor shall:
 - 19.2.1 transfer to the Employer all Requests for Information that it receives as soon as practicable and in any event within two Working Days of receiving a Request for Information;

- 19.2.2 provide the Employer with a copy of all Information in its possession, or power in the form that the Employer shall require within five Working Days (or such other period as the Architect/Contract Administrator may specify) of the Employer's request;
- 19.2.3 provide all necessary assistance as reasonably requested by the Employer to enable the Employer to respond to the Request for Information within the time for compliance set out in section 10 of the FOIA or regulation 5 of the Environmental Information Regulations; and
- 19.2.4 procures that its sub-contractors do likewise.
- 19.3 The Employer is responsible for determining in its absolute discretion whether any information is exempt from disclosure in accordance with the provisions of the Code of Practice on Government Information, FOIA or the Environmental Information Regulations.
- 19.4 The Contractor shall not respond directly to a Request for Information unless authorised to do so by the Employer.
- 19.5 The Contractor acknowledges that the Employer may, acting in accordance with the Cabinet Office Freedom of Information Code of Practice on the Discharge of the Functions of Public Authorities under Part 1 of the Freedom of information Act 2000, be obliged to disclose Information without consulting or obtaining consent from the Contractor or despite the Contractor having expressed negative views when consulted.
- 19.6 The Contractor shall ensure that all Information is retained for disclosure for twelve years where this Agreement is executed as a deed or six years where this Agreement is executed under hand and shall permit the Employer to inspect such records as and when reasonably requested from time to time."

Section 20 – Tax Compliance

Insert a new clause 20

- "20.1 The Contractor represents and warrants that as at the date of this Agreement, it has notified the Employer in writing of any Occasions of Tax Non-Compliance or any litigation that it is involved in that is in connection with any Occasions of Tax Non-Compliance.
- 20.2 If, at any point prior to the end of the Rectification Period, an Occasion of Tax Non-Compliance occurs, the Contractor shall:
- 20.2.1 notify the Employer in writing of such fact within 5 days of its occurrence; and
- 20.2.2 promptly provide to the Employer:
- 20.2.3 details of the steps which the Contractor is taking to address the Occasions of Tax Non-Compliance and to prevent the same from recurring, together with any mitigating factors that it considers relevant; and
- 20.2.4 such other information in relation to the Occasion of Tax Non-Compliance as the Employer may reasonably require"

Section 21 – Equality and Diversity

Insert a new clause 21

- "21.1 The Contractor shall perform its obligations under this contract in accordance with
- 21.1.1 all applicable equality Law (whether in relation to race, sex, gender reassignment, religion or belief, disability, sexual orientation, pregnancy, maternity, age or otherwise); and
- 21.1.2 any other requirements and instructions which the Employer reasonably imposes in connection with any equality obligations imposed on the Employer at any time under applicable equality Law;
- 21.2 The Contractor shall take all necessary steps, and inform the Employer of the steps taken, to prevent unlawful discrimination designated as such by any court or tribunal, or the Equality and Human Rights Commission or (any successor organisation)."

Section 22 – Conflicts of Interest

Insert a new clause 22

- "22.1 The Contractor shall take appropriate steps to ensure that neither the Contractor nor any of its personnel are placed in a position where (in the reasonable opinion of the Employer) there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Contractor or its personnel and the duties owed to the Employer under this contract.
- 22.2 The Contractor shall promptly notify and provide full particulars to the Employer if such conflict referred to in the clause above arises or may reasonably be foreseen as arising.
- 22.3 The Employer may terminate this Agreement immediately and/or to take such other steps the Employer deems necessary where, in the reasonable opinion of the Employer, there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Contractor and the duties owed to the Employer under this contract."

Section 23 – Publicity and Branding

Insert a new clause 23

- "23.1. The Contractor shall not make any press announcements or publicise this Agreement in any way or use the Employer's name or brand in any promotion or marketing or announcement of the contract without approval of the Employer.
- 23.2. The Employer is entitled to publicise the contract in accordance with any legal obligation upon the Employer, including any examination of the contract by the National Audit Office pursuant to the National Audit Act 1983 or otherwise."

Section 24 – Change of Control

Insert a new clause 24

- "24.1 The Contractor shall notify the Employer immediately in writing and as soon as the Contractor is aware (or ought reasonably to be aware) that it is anticipating, undergoing, undergoes or has undergone a Change of Control and provided such notification does not contravene any Law. The Contractor shall ensure that any notification sets out full details of the Change of Control including the circumstances suggesting and/or explaining the Change of Control.
- 24.2 The Employer may terminate this agreement within six months from:
- 24.2.1 being notified in writing that a Change of Control is anticipated or is in contemplation or has occurred; or;
- 24.2.2 where no notification has been made, the date that the Employer becomes aware that a Change of Control is anticipated or is in contemplation or has occurred but shall not be permitted to terminate where an approval was granted prior to the Change of Control."

Schedule 1 – Arbitration

Schedule 1 Delete.

Section 3: Contract Documents

CONTRACT DOCUMENTS


DATED.....8 January 2025.....

relating to the minor road and remedial repairs at Springhead Bridge and Ebbsfleet
Gateway A2260, Ebbsfleet, Kent

(1) EBBSFLEET DEVELOPMENT CORPORATION

(2) ERITH CONTRACTORS LIMITED

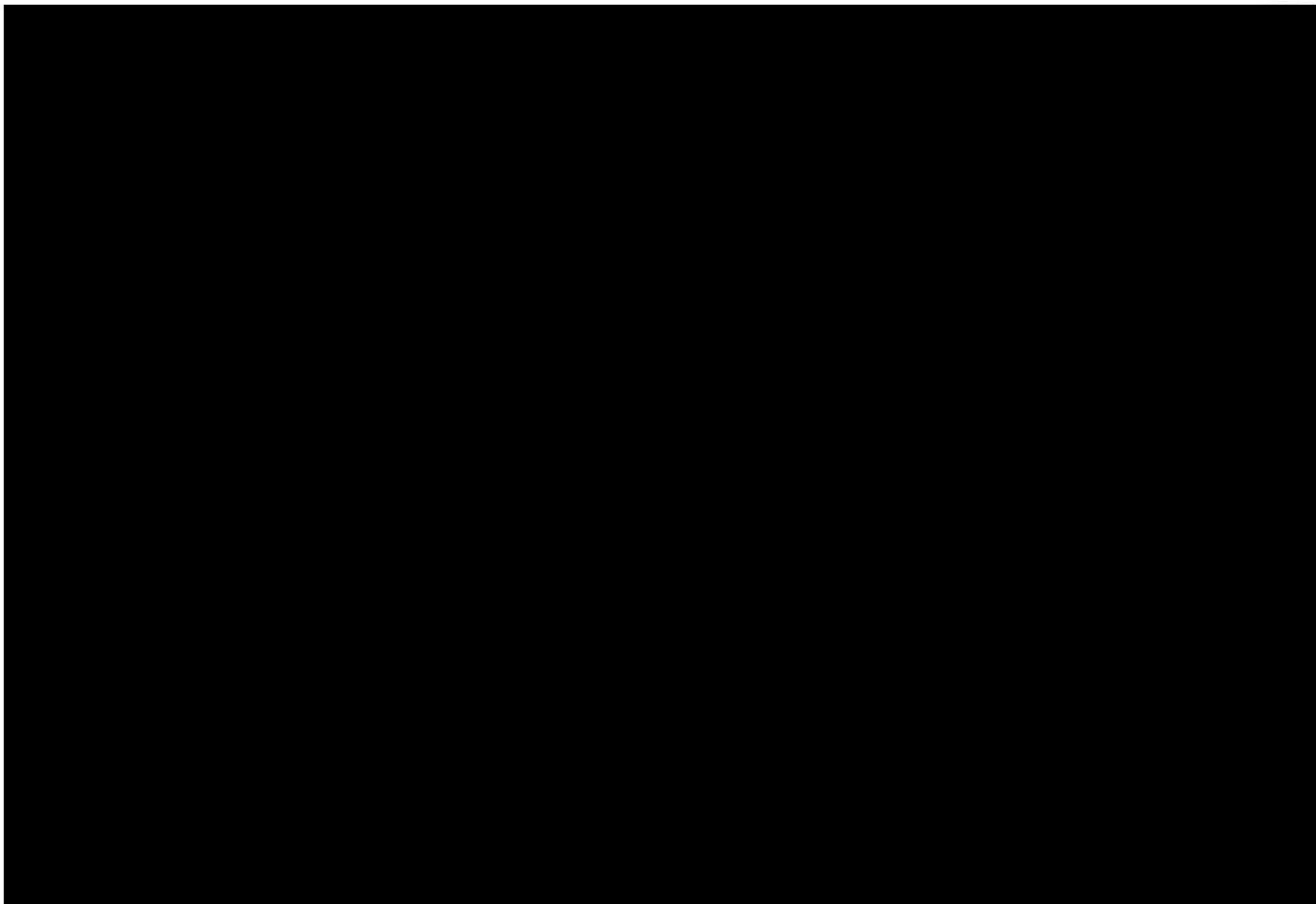
INITIALLED..........(EMPLOYER)

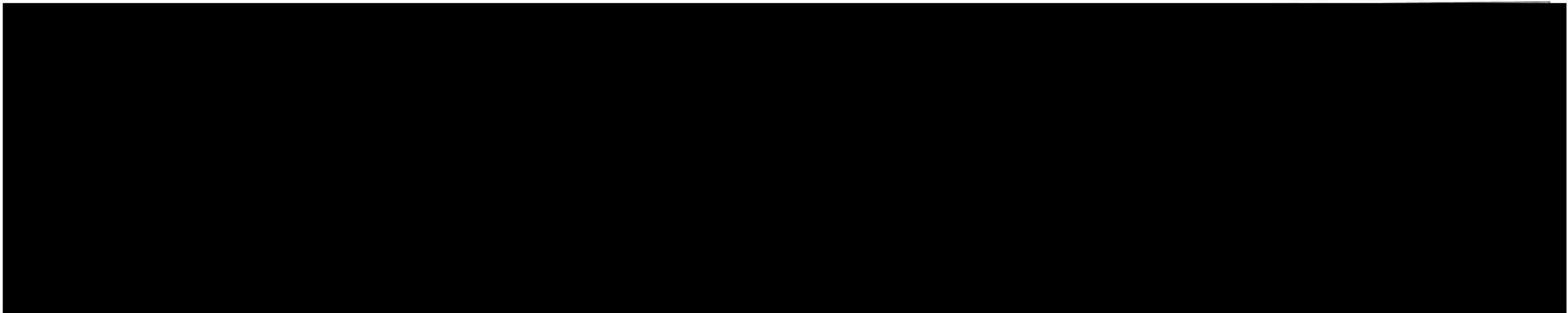
INITIALLED..........(CONTRACTOR)

3.1 Contract Sum Analysis

Tender Code				EDC 1064
Tender Name				Springhead Bridge Remedial Works
Annex D - PRICING SCHEDULE	Rev 2 Issue			
Bidder Name:				Erith Contractors
Activity/main stages				Fixed Price £
Remastic joints at affected areas in parapet beam (see Works Breakdown, Principle Inspection - 1)				
Replace broken combination locks (2 no.) (see Works Breakdown, Principle Inspection - 2, Works Breakdown, Principle Inspection - 10)				
Remove damage/protruding screws from Northwestern expansion joint cover (5 no.) (see Works Breakdown, Principle Inspection - 3/4)				
Repair or replace Northwestern expansion joint cover (see Works Breakdown, Principle Inspection - 4)				
Vegetation removal and make good joints (2 no.) (see Works Breakdown, Principle Inspection - 5, Works Breakdown, Principle Inspection - 9)				
Make good mastic construction joints (see Works Breakdown, Principle Inspection - 6)				
Remove graffiti and clean South abutment wall (see Works Breakdown, Principle Inspection - 7)				
Repair joint in 50mm subsurface pipework (see Works Breakdown, Principle Inspection - 8)				
Secure lose wire fencing and replace broken fencing (see Works Breakdown, Principle Inspection - 11)				
Clearance and debris removal within bearing chamber (see Works Breakdown, Principle Inspection - 12)				
Clear out affected joints and reinstance mortar joints (see Works Breakdown, Location 1)				
Breakout and replace damaged kerbs (see Works Breakdown, Location 2)				
Debris removal and clean on road/pathways (see Works Breakdown, Location 3 part I, part II and part III)				
Adjust height of kerb upstand at pedestrian crossing to prevent debris buildup (see Works Breakdown, Location 3 part II)				
Replace damaged guardrails (2 no.) (see Works Breakdown, Location 4 part I and part II)				
Plane off the existing 40mm surface course and reinstance as per original specification (4 no.) (see Works Breakdown, Location 5, Location 6, Location 8 and Location 9)				
Break out existing road gully for reuse. Install original road gully and re do concrete haunch and surround (see Works Breakdown, Location 7)				
ERITH ADDED - Night Closure Traffic Management & Permits, Licenses & Fees Associated				
ERITH ADDED - Prelims Associated				
Please make allowance, where necessary, to cover potential top up in binder course (60mm) where resurfacing coincides with EDC traffic signal trenches				
Please make allowance for investigating water seepage causing surface corrosion and leachate buildup to service pipes and the floor of the bearing shelf (see Works Breakdown, Principle Inspection - 8) - INVESTIGATION, INCLUSIVE OF JET TEST & CCTV, NOT REMEDIATE SHOULD FURTHER PROBLEMS BE PROMINENT				
Erith to carry out principal designer role inline with Construction (Design and Management) Regulations 2015				
TOTAL FIXED PRICE (Excluding VAT)				£

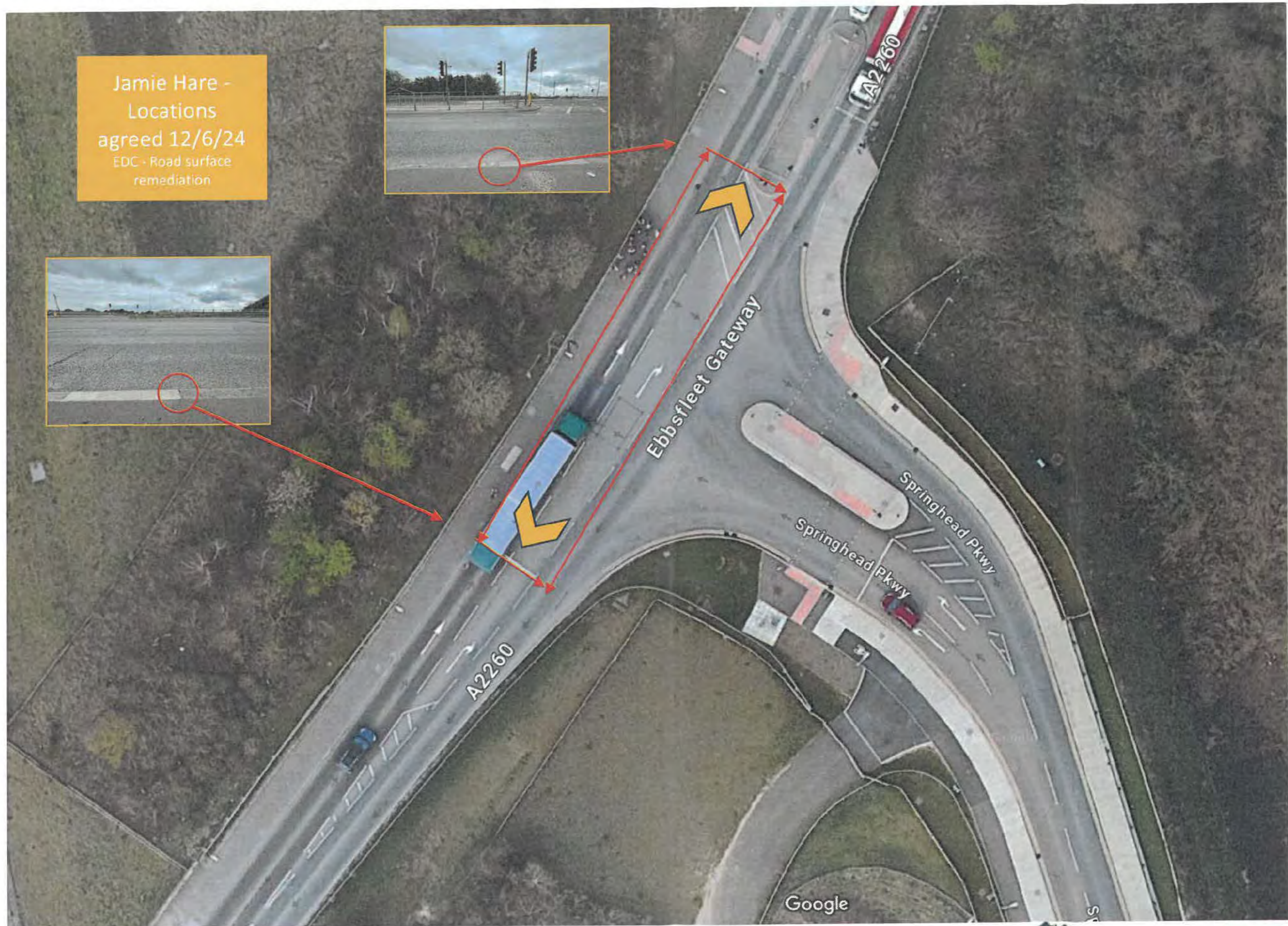
3.2 Contractor's Clarifications List





3.3 Contract Drawings

Springhead Bridge – Road Resurfacing and KCC remediation – Jamie Hare



Jamie Hare -
Locations
agreed 12/6/24
EDC - Road surface
remediation

Springhead Bridge – Road Resurfacing and KCC remediation requirements inc. PI



Ebbsfleet
Council for the South East



3.4 Specification

Springhead Bridge Link

Scheme Specification

On behalf of **Balfour Beatty and Ebbsfleet Development Corporation**

Balfour Beatty



Project Ref: 38800/2002 | Rev: C01 | Date: June 2018



Document Control Sheet

Project Name: Springhead Bridge Link

Project Ref: 38800/2002

Report Title: Scheme Specification


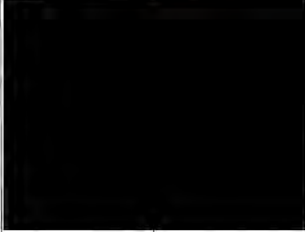
Doc Ref: 01 Rev C01

Date: June 2018

	Name	Position	Signature	Date
Prepared by:		Engineer		27/2/17
Reviewed by:		Principal Engineer		27/2/17
Approved by:		Director		27/2/17

For and on behalf of Peter Brett Associates LLP

Revision	Date	Description	Prepared	Reviewed	Approved
P01	07/04/17	<u>Updated:</u> A0/2, 0/3 (List A), A1/4, A1/5 (table 1/5 - including Series 1600 to 2100), A1/7, A1/12, A1/13 A5/1 & 2, A6/1 to 15, A7/1, A12/1, A14/2, A30/1 to 9 and A30/12. <u>Added:</u> A1.17 Annex A, A1.17 form, A2/6, A12/5, A12/1 Annex A, A16/15, A24/1, A30/10 & 11			
P02	31/08/17	<u>Removed:</u> Marginal planting A30/8 removed. Including references in: A30/1, A30/2, A30/4, A30/6, A30/7, A30/9. <u>Updated:</u> Following revised staggered NMU crossing layout & attenuation pond location & KCC maintenance audit comments, the following is updated: A0/3, A0/4, A1/13, A5/1, A5/2, A6/9, A7/1 (Schedules 7/1/2 and 7/1/3), A11/1, 13/1.			

C01	09/05/18	<p>For Construction Issue.</p> <p><u>Updated:</u></p> <p>Following KCC's additional comments for S38/S278 Stage 2 approval.</p> <p>A5/1, A6/3, A11/1.</p>		

Peter Brett Associates LLP disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client and generally in accordance with the appropriate ACE Agreement and taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and Peter Brett Associates LLP accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

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Contents

1 Preamble to the Specification	1
Appendix 0/1 Contract – Specific Additional, Substitute and Cancelled Clauses, Tables and Figures Included in the Contract	6
Appendix 0/2 Contract – Specific Minor Alterations to Existing Clauses Tables and Figures Included in the Contract	10
Appendix 0/3 List of Numbered Appendices Referred to in the Specification and Included in the Contract	28
Appendix 0/4 List of Drawings Included in the Contract	33
Appendix 1/4: Working and Fabrication Drawings	39
Appendix 1/5 Testing to be carried out by the Contractor	40
Appendix 1/7 Site Extent and Limitations on Use	73
Appendix 1/9 Control of Noise and Vibration	74
Appendix 1/10 Permanent Works to be Designed by the Contractor	77
Appendix 1/11 Temporary Works Design	78
Appendix 1/12 Setting Out and Existing Ground Levels	79
Appendix 1/13 Programme of Works	81
Appendix 1/16 Privately and Publically Owned Services and Supplies	84
Appendix 1/17 Traffic Safety and Management	89
Table 1/17/1 – Traffic Management Patrol Log	102
Appendix 1/17 Annex A - Kent Permit Scheme	103
Appendix 1/18 Temporary Diversion for Traffic	104
Appendix 1/19 Routeing of Vehicles	105
Appendix 1/23 Risks to Health and Safety	107
Appendix 1/24 Quality Management	108
Appendix 1/85 Night Work	109
Appendix 1/89 Health and Safety file	110
Appendix 2/1 List of Buildings, etc to be Demolished or Partially Demolished	111
Appendix 2/2 Filling of Trenches and Pipes	112
Appendix 2/3 Retention of Material Arising from Clearance	113
Appendix 2/6 Site Clearance Environmental Requirements	114
Appendix 3/1 Fencing	115
Appendix 4/1 Road Restraint Systems	116
Appendix 4/2 Information Required to Demonstrate Compliance of Road Restraint Systems	117
Appendix 5/1 Drainage Requirements	118
Appendix 5/2 Service Duct Requirements	124
Appendix 6/1: Requirements for Acceptability and Testing Etc. of Earthworks Materials	126
Appendix 6/2 Requirements for Dealing with Class U1B/U2 Unacceptable Material	138
Appendix 6/3 Requirements for Excavation, Deposition and Compaction.	142
Appendix 6/4 Requirements for Class 3 Material	148

Appendix 6/5 Geotextiles Used to Separate Earthworks Materials	149
Appendix 6/6 Fill to Structures and Fill Above Structural Foundations	150
Appendix 6/7 Sub-formation, Capping, Preparation & Surface Treatment of Formation	151
Appendix 6/8 Topsoiling	152
Appendix 6/9 Earthwork Environmental Bunds, Landscape Areas, Strengthened Embankments 154	
Appendix 6/10 Ground Anchorages, Crib Walling and Gabions	158
Appendix 6/11 Swallow Holes and Other Naturally Occurring Cavities and Disused Mine Workings	160
Appendix 6/14 Limiting Values for Pollution of Controlled Waters	161
Appendix 6/15 Limiting Values for Harm to Human Health and the Environment.....	162
Appendix 7/1 Permitted Pavement Options	164
Appendix 7/2 Excavation, Trimming and Reinstatement of Existing Surfaces	180
Appendix 7/4 Bond Coats, Tack Coats and Other Bituminous Sprays	181
Appendix 7/9 Cold Milling (Planing of Bituminous Bound Flexible Pavement	184
Appendix 7/22 Repair to Potholes	185
Appendix 11/1 Kerbs, Footways and Paved Areas	186
Appendix 12/1 Traffic Signs - General.....	190
Appendix 12/3 Road Markings and Studs.....	201
Appendix 12/5 Traffic Signals	202
Appendix 12 Annex A – Traffic Systems General Specification.....	203
Appendix 13/1 Lighting Columns	204
Appendix 13/2 Typical Lighting Column and Bracket Data Sheets.....	205
PART A General	205
PART B Foundation Data.....	205
Appendix 13/3 Instructions for Completion of Lighting Column and Bracket Data Sheets	208
Appendix 14/1 Electrical Work for Road Lighting and Traffic Signals – Site Records	209
Appendix 14/2 Location of Lighting Units and Feeder Pillars	210
Appendix 14/3 Temporary Lighting	211
Appendix 14/4 Electrical Equipment for Road Lighting	212
Appendix 14/5 Electrical Equipment for Traffic Signs.....	214
Appendix 16/1 General Requirements for Piling and Embedded Retaining Walls	216
Appendix 16/3: Bored Cast-In Place Piles	218
Appendix 16/4: Bored Piles Constructed Using Continuous Flight Augers and Concrete or Grout Injection Through Hollow Auger Stems	220
Appendix 16/8: Non-Destructive Methods for Testing Piles	221
Appendix 16/15 Steel Sheet Piles	222
Appendix 17/1 Schedule for the Specification of Designed Concrete	223
Appendix 17/3 Concrete - Surface Finishes	225
Appendix 17/4 Concrete - General Requirements	226
Appendix 17/5 Buried Concrete	227
Appendix 18/1 Structural Steelwork	228

Appendix 19/5 General Requirements.....	239
Appendix 20/1 Waterproofing for Concrete Structures.....	240
Appendix 21/1 Bridge Bearings	241
Appendix 23/2 Sealing of Joints	244
Appendix 24/1 Brickwork, Blockwork and Stonework	245
Appendix 26/1 Ancillary Concrete	246
Appendix 26/2 Bedding Mortar	247
Appendix 30/1 Landscaping and Ecology	248
SHEET 4: Information to be provided by the Contractor	251
Appendix 30/2 Weed Control.....	252
Appendix 30/3 Rabbit Control	253
Appendix 30/4 Ground Preparation	254
Appendix 30/5 Grass Seeding, Wildflower Seeding and Turfing	255
Appendix 30/6 Planting	258
Appendix 30/7 Grass Maintenance	259
Appendix 30/9 Establishment Maintenance Period for Planting	260
Appendix 30/10 Maintenance of Established Trees and Shrubs	261
Appendix 30/11 Management of Waterbodies	262
Appendix 30/12 Special Ecological Measures	263

Figures

LIST OF SUBSTITUTE CLAUSES, TABLES AND FIGURES.....	6
LIST OF CANCELLED CLAUSES, TABLES AND FIGURES.....	6

Tables

LIST OF ADDITIONAL CLAUSES, TABLES AND FIGURES.....	6
Table 1 : Minimum coefficients of retroreflection in Candelas per lux per square metre	19
Table 2: Chromacity and luminance factors	20

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1 Preamble to the Specification

1. The Specification referred to in the Tender shall be the 'Specification for Highway Works', published by the Stationery Office (formerly HMSO) as Volume 1 of the Manual of Contract Documents for Highway Works, as modified and extended by the following contract specific items:
 - (i) Appendix 0/1: Contract specific Additional, Substitute and Cancelled Clauses, Tables and Figures;
 - (ii) Appendix 0/2: Contract specific minor alterations to existing Clauses, Tables and Figures;
 - (iii) The contract specific Numbered Appendices listed in Appendix 0/3;
 - (iv) Appendix 0/5: Special National Alterations of the Overseeing Organisation of Scotland, Wales or Northern Ireland.

Appendix 0/4 contains a list of the Drawings.
2. The relevant publication date of each page of the Specification for Highway Works is given in the Schedule of Pages and Relevant Publication Dates.
3. An Additional Clause as indicated by a suffix 'A' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. An Additional Clause as indicated by a suffix 'AR' in Appendix 0/1 is a contract specific alteration.
4. A Substitute Clause, as indicated by the suffix 'S' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. A Substitute Clause as indicated by a suffix 'SR' in Appendix 0/1 is a contract specific alteration.
5. A Cancelled Clause as indicated by a suffix 'C' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. A Cancelled Clause indicated by a suffix 'CR' in Appendix 0/1 is a contract specific alteration.
- 5A A Minor Kent Contract-specific text alteration to an existing Clause is indicated by the suffix 'K' and is included in Appendix 0/2.
6. Insofar as any of the contract specific Numbered Appendices may conflict or be inconsistent with any provision of the Specification for Highway Works the Numbered Appendices shall always prevail. Additionally, Numbered Appendices 0/1 and 0/2 shall take precedence over Numbered Appendix 0/5.
7. Any reference in the Contract to a Clause number or contract specific Appendix shall be deemed to refer to the corresponding Substitute Clause number or contract specific Appendix listed in Appendix 0/1, 0/2 or 0/5.
8. Where a Clause is altered any original Table/Figure referred to in the Clause shall apply unless the Table/Figure is also altered. Where a Table/Figure is altered any reference in a Clause to the original Table/Figure shall apply to the altered Table/Figure.
9. Where a Clause in the Specification relates to work goods or materials which are not required for the Works it shall be deemed not to apply.
10. Any Appendix referred to in the Specification which is not used shall be deemed not to apply.
11. Where a Clause in the Specification is prefixed by an # this indicates that this particular Clause has a substitute National Alteration for one or more of the Overseeing Organisations of Scotland, Wales or Northern Ireland. Substitute or additional National Clauses shall be used within countries

to which they specifically apply and they are deemed to replace corresponding Clauses in the main text of the Specification as appropriate. The substitute National Clauses are located at the end of the relevant Series together with the additional National Clauses of the Overseeing Organisations.

12. Other than where references to the Overseeing Organisation are made in the context of the Overseeing Organisation granting statutory or type approvals, the roles and functions of the Overseeing Organisation shall be undertaken by the Employer.

Where the Specification requires the provision of documentation to the Overseeing Organisation for statutory or type approval such documentation shall be provided to the Project Manager.

13. If the Specification is used in conjunction with a Contract under which the Contractor is responsible for the design of any part of the Permanent Works, the delegation of the roles and functions of the Overseeing Organisation as stated in paragraph 12 above shall be further amended as follows:
 - (i) If any agreement, consent or approval required to be obtained from the Overseeing Organisation impacts on the health and safety of the general public, the environment or any property or equipment not owned or operated by the Contractor, such agreement, consent, approval shall be obtained from the Employer or the Project Manager.
 - (ii) Where the Specification provides for the Overseeing Organisation to require a test, waive the requirement for a test or alter testing frequency, the party to whom the Overseeing Organisation's roles and functions have been ascribed by paragraph 12 above shall exercise such decisions in accordance with the Employer's requirements stated in the Contract.
14. Where Standards and other documents are incorporated into the Contract by reference the respective edition used shall be that which is current on the Contract Reference Document Date unless otherwise stated in the Specification.
15. Where the term Engineer is used in this specification it shall mean the Project Manager.

SPECIFICATION FOR HIGHWAY WORKS

SCHEDULE OF PAGES AND RELEVANT PUBLICATION DATES

Series/Appendix	Page Number	Publication Date
000	1 to 3	May 2014
000	4 to 7F	February 2016
100	1 to 2, 4 to 9, 12 to 29F, WF1, N2 to N11F	May 2014
100	3, 10 to 11, N1	December 2014
200	1, 3F	February 2016
300	1	May 2001
300	4	November 2002
300	2 to 3, 5 to 6F	May 2008
400	1 to 6, 8, 10 to 13F	November 2007
400	7, 9	November 2008
500	23 to 24, 26	November 2004
500	28F	May 2005
500	3, 22, N1F	May 2006
500	2, 5, 27	November 2006
500	6, 25	November 2007
500	1, 4, 7 to 21	November 2009
600	1 to 77F, S1 to S4F, W1 to W4F, N1 to N5F	February 2016
700	1 to 36F, N1 to N6F	February 2016
800	1 to 31F	February 2016
900	2 to 5, 9 to 22, 24 to 26, 28 to 67F	August 2008
900	1, 6 to 8, S1F	November 2008
900	23, 27	May 2009
1000	1 to 45F	February 2016
1100	1, 4F	November 2004
1100	2, N1F	November 2006
1100	3	August 2008
1200	5	May 2001
1200	2 to 3, W1F	August 2003
1200	1, 14 to 16F	May 2004
1200	4, 9 to 11, 13	May 2005
1200	12	November 2006
1200	6 to 7, N1 to N4F	November 2007
1200	8	May 2008
1300	N2F	November 2003

Series/Appendix	Page Number	Publication Date
1300	3 to 4	November 2004
1300	1, 5 to 12F	November 2005
1300	2, 11 and N1	May 2006
1400	2, N1F	May 2001
1400	1, 3 to 9F	May 2006
1500	7	May 2001
1500	2	February 2003
1500	3 to 4, 8 to 11, 13	November 2004
1500	1, 5 to 6, 12, 14 to 17F	November 2006
1600	1, 4 to 5, 9, 15, 17 to 18, 24 to 26, 29 to 31, 35, 38, 49F	March 1998
1600	2, 6 to 8, 10 to 14, 16, 19, 27 to 28, 32 to 34, 36 to 37, 39 to 42, 44 to 48	November 2003
1600	3, 20 to 23, 43	November 2005
1700	1 to 27F	December 2014
1800	1 to 35F	August 2014
1900	1 to 35F, S1 to S2F	August 2014
2000	1, 3 to 4F	May 2001
2000	2	November 2004
2100	1 to 2F	February 2016
2300	1	March 1998
2300	2 to 3F	May 2001
2400	1, 4, 7F	May 2005
2400	2	May 2006
2400	3, 5 to 6	May 2008
2500	1	May 2001
2500	2, 8, 11F	November 2003
2500	10	November 2004
2500	6 to 7, 9	May 2005
2500	5	May 2006
2500	3 to 4	November 2006
2600	1	March 1998
2600	2 to 4	November 2003
2600	5	November 2004
2600	6	May 2005
2600	7F	November 2006
3000	4 to 7, 10, 12 to 17, 19, 22 to 27F	May 2001

Series/Appendix	Page Number	Publication Date
3000	20	November 2004
3000	2 to 3	May 2006
3000	8 to 9, 11, 18, 21	May 2008
5000	1, 4 to 19F, S1F	May 2005
5000	2 to 3	November 2008
Appendix A	1 to 4F	May 2014
Appendix B	1 to 3F	May 2014
Appendix C	1 to 2F	May 2014
#Appendix D	1F	May 2014
Appendix D (NI)	N1F	May 2014
Appendix E	1F	May 2014
Appendix F	1 to 52F	February 2016
Appendix G	Not Used	
Appendix H	1	May 2004
Appendix H	2	November 2005
Appendix H	3	November 2006
Appendix H	4 to 9F	November 2008

Appendix 0/1 Contract –Specific Additional, Substitute and Cancelled Clauses, Tables and Figures Included in the Contract

LIST OF ADDITIONAL CLAUSES, TABLES AND FIGURES

CLAUSE NO	TITLE	WRITTEN ON FOLLOWING PAGE NO
185 AK	Night Work	
187 AK	Site Safety	
586 AK	Existing Drainage	
588 AK	Adjustment of Ironwork	
889 AK	Portable Dynamic Plate Test	
890 AK	Materials Approval using Portable Dynamic Plate Test	

LIST OF SUBSTITUTE CLAUSES, TABLES AND FIGURES

CLAUSE NO	TITLE	WRITTEN ON FOLLOWING PAGE NO
	NONE USED	

LIST OF CANCELLED CLAUSES, TABLES AND FIGURES

CLAUSE NO	TITLE
	NONE

ADDITIONAL CLAUSES, TABLES AND FIGURES

AK SERIES 100 PRELIMINARIES

185 AK Night Work

Night work will only be permitted as detailed in Appendix 1/85.

187 AK Site Safety

In the interests of Site Safety, where there is a foreseeable risk, safety helmets and high visibility warning clothing shall be worn on the Site by all Site personnel at all times. The high visibility warning clothing shall be as described in Clause 117.18.

AK SERIES 500 DRAINAGE AND SERVICE DUCTS

586 AK Existing Drainage

Renewal of Filter Drains

The Contractor shall locate the ends of the existing filter pipe where it has been built into catchpits or the concrete surround to gully connections. These pipes shall be protected during the excavation of the existing drain and surround. The new filter pipe shall connect positively to the existing pipe using a method approved by the Engineer.

Invert and Pipe Details of Replacement Drainage

All replacement pipe sizes and inverts shall be as existing.

Following agreement of the temporary bench mark values and before the drainage work is commenced, invert and existing ground levels above drain runs shall be agreed with the Engineer.

588 AK Adjustment of Ironwork

Where the adjustment or replacement of existing frames and covers or gratings to service boxes, service valves and the like is required, such adjustment or replacement shall be in accordance with Clause 507.18.

AK SERIES 800 Road Pavements

889 AK Portable Dynamic Plate Test

The Portable Dynamic Plate Test shall be carried out using equipment which has been properly calibrated to the manufacturer's specification and subject to a validation check prior to use. The equipment shall be capable of delivering a total load pulse of peak magnitude 6-8kN, of total duration 15-40 milliseconds, to a rigid circular plate of 300mm diameter. Both the applied load and the transient deflection shall be measured.

The dynamic modulus shall be determined at each point tested using the following formula:-

$$\text{Dynamic Modulus, } E_{vd} \text{ (MPa)} = P(1-\nu^2)/0.3y$$

Where P is the peak applied load (kN)

y is the peak deflection (mm)

ν is the Poisson's Ratio; a value of 0.35 shall be used in the absence of any other data

The stiffness modulus shall be obtained using the following formula:-

$$\text{Stiffness Modulus, } G \text{ (MPa)} = E_{vd} / 0.6.$$

The full technical specification of the Portable Dynamic Plate Test apparatus is published by the German Federal Ministry of Transport, Road Construction Department in TP BF-StB Part B 8.3, 1992 (in German).

AK 890 Materials approval using Portable Dynamic Plate Test

The material shall be compacted into a box dimensions: 610mm x 610mm x 420mm deep, with a 75Kg Vibrating Plate Compactor in 3 layers with 6 passes on each layer.

The moisture content shall satisfy the requirements for the particular material being approved.

The density shall be checked with a calibrated nuclear density gauge in direct transmission mode to ensure a minimum compaction of 95% of wet density achieved in BS 1377-4 Method 3.7.

The materials shall be tested using the Portable Dynamic Plate Test in accordance with Clause 889 AK.

The mean Stiffness modulus shall satisfy the requirements of the relevant Clause for the material.

AR SERIES 600 Earthworks

602 General Requirements

- 20AR1 The Contractor shall prepare a detailed Earthworks Quality Control Method Statement, risk assessment and plans, in advance of the commencement of the earthworks operations, demonstrating the process by which he will achieve the requirements of all sub-Clauses. The Contractor is to submit such document to the Contract Administrator not less than 10 working days prior to the start of Earthworks.

The Earthworks Quality Control Method Statement shall include details of the environmental control measures the Contractor will employ, and the measures to be adopted to mitigate any identified risks to human health or the environment

The Contractor shall also provide within his Earthworks Quality Control Method Statement details of all testing to be undertaken, in accordance with the provisions of Appendices 1/5, 6/2, 6/3, 6/14 and 6/15 and provide details of the method of the tests and the soils laboratory to be utilised for such.

The Contractor shall provide details of all facilities to be used for the offsite disposal of materials arising from the works and reference should be made to Appendices 6/2 and 6/14.

608 Construction of Fills

- 14AR In addition to any grading requirements the maximum particle size of any fill material placed by method compaction shall be no more than two-thirds of the compacted layer thickness.
- 15AR The Contractor shall ensure that fill comprises material from a single source only. Cohesive and granular materials shall be excavated, placed and compacted separately without intermixing; use of interbedded cohesive and granular fill is not acceptable.
- 16AR Where a deadweight tamping roller or similar compaction plant is adopted the testing shall be undertaken on the layer below the layer being compacted. Where the tested layer fails to meet the required specification both layers and any further overlying layers shall be removed and reworked at the Contractor's expense. Subsequent validation testing shall be undertaken to confirm remedial action taken.

¹ A suffix 'AR' indicates a Contract-specific Additional Clause to the Specification.

612 Compaction of Fills

The following sub-paragraphs follow on from Cl. 612 in the SHW.

16. Fill compacted to an end product specification, except those utilised in reinforced earth structures, shall meet the additional requirements set out below and in Appendices 6/1 and 6/3.
17. Materials classification testing is to be carried out during the earthworks as set out in Table 1/5. This is to include determination of optimum moisture content and maximum dry density by compaction testing and classification tests including grading, moisture content determination and Atterberg Limit determination. In addition the Contractor is to undertake chemical analysis of any proposed imported materials to show chemical suitability for reuse.

613 Sub-Formation and Capping

Add after sub-clause 14.

15. Unless otherwise stated in Appendix 7/1, when used in the carriageway the materials shall not be frost susceptible if used within 450mm of the designed final surface when tested in accordance with Clause 801.17.

SUBSTITUTE CLAUSES, TABLES AND FIGURES

NONE

Appendix 0/2 Contract – Specific Minor Alterations to Existing Clauses Tables and Figures Included in the Contract

LIST OF ALTERATIONS TO EXISTING CLAUSES, TABLES AND FIGURES

Clause No	Title
104K	Standards, Quality Assurance, Agrément Certificates and Other Approvals
105K	Goods, Materials, Sampling and Testing
110K	Information Boards
116K	Privately and Publicly Owned Services and Supplies
117K	Traffic Safety and Management
301K	Fencing
403K	Installation of Safety Fencing
406K	General
507K	Chambers
508K	Gullies and Pipe Junctions
516K	Combined Drainage & Kerb Systems
517K	Linear Drainage Channel Systems
520K	The Cleaning of Existing Drainage Systems
608K	Construction of Fills
613K	Sub-Formation and Capping
701K	Pavement Construction
706K	Excavation, Trimming and Reinstatement of Existing Surfaces
709K	Cold Milling (Planing) of Bituminous Bound Flexible Pavement
801K	General Requirements for Unbound, Hydraulically Bound and Other Materials
803K	Granular Sub-base Material Type 1
901K	Bituminous Roadbase and Surfacing Materials
915K	Coated Chippings for Application to Premixed Surfacing
919K	Surface Dressing
942K	Thin Surface Course System
1032K	Thin Bonded Repairs
1101K	Precast Concrete Kerbs, Channels, Edgings and Quadrants
1202K	General Requirements for Permanent Traffic Signs
1204K	Posts for Permanent Traffic Signs
1205K	Sign Plates for Permanent Traffic Signs
1206K	Faces for Permanent Traffic Signs
1207K	Construction and Assembly of Permanent Traffic Signs
1208K	Location and Erection of Permanent Traffic Signs
1212K	Road Markings
1214K	Traffic Cones, Traffic Cylinders, Flat Traffic Delineators and Other Traffic Delineators
1216K	Temporary Traffic Signs
1301K	General

Clause No	Title
1302K	Design of Lighting Columns, Brackets, CCTV Masts, Foundations, Anchorages and Attachment Systems
1305K	Installation of Foundations, Anchorages and Attachment Systems
1307K	Materials and Surface Finishes
1401K	General
1407K	Luminaires
1409K	Photo-electric Control Units (PECUs)
1412K	Ballasts
1416K	Cut-outs, Fuse Holders, Fuses and Miniature, Circuit Breakers (MCBs)
1417K	Base Compartment Fixing Arrangements
1419K	Wiring
1424K	Inspection and Testing to be Carried out by the Contractor
2003K	Materials for Waterproofing Concrete Bridge Decks
2104K	Bridge Bearings
2202K	Metal Parapets
2401K	Cement
2404K	Mortar
Appendix F	Publications Referred to in the Specification

CONTRACT-SPECIFIC MINOR ALTERATIONS TO EXISTING CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT

SERIES 000 INTRODUCTION

Clause 004K British Standards, British Standard Codes of Practice, Harmonised European Standards, European Standards and Other Reference Documents

Sub-clause 2 line 4 delete

"date stated in the Contract"

and substitute with "Reference Date stated in the Appendix to the Form of Tender"

SERIES 100 PRELIMINARIES

Clause 104K Standards, Quality Assurance, Agrément Certificates and Other Approvals

Add after Sub-Clause 18

- 19 In case of bituminous materials, in addition to the requirements for the plant to have certification to Sector Scheme 14, the Contractor shall supply details of the weekly 'Q' value of each of the plants proposed or used. Data shall be not more than one week in arrears.

Clause 105K Goods, Materials, Sampling and Testing

- (i) Add to the end of sub-clause 1:

"All goods and materials shall be new unless otherwise described in the Contract."

- (ii) Add sub-Clause 9 as follows:

"9 Source approval will be automatically granted where the source satisfies a quality assurance scheme to BS EN ISO 9001 independently accredited by UKAS; otherwise the Contractor shall satisfy himself and supply adequate data and information for the Engineer to confirm approval of the source before any materials are used. The Contractor must allow sufficient time in his programming for the source approval process. Any change to a quality control or quality assurance system shall be notified to the Engineer so that reapproval can be granted."

Clause 110K Information Boards

Delete first sentence of sub-clause 1 and insert the following:

"The Contractor shall provide and erect information boards as described in Appendix 1/21"

Clause 116K Privately and Publicly Owned Services and Supplies

- (i) Add to the end of sub-clause 3:

"Before requesting attendance for the commencement of works to services or supplies the Contractor must ensure that these works can continue without interruption from the main Works. The Contractor must also programme the works to services and supplies to ensure that there is no interaction between the owners of the services or supplies which causes delay to any of them."

Clause 117K Traffic Safety and Management

- (i) Sub-Clause 18 is deleted and substituted by

"Where work is carried out on or adjacent to a highway open to traffic the Contractor shall ensure that the workforce and the site supervisory staff at all times wear high visibility warning clothing, saturn yellow in colour, to BS EN 471 Class 3. The clothing must be properly fastened at all times. The Contractor shall ensure that the person in charge of the workforce is readily distinguishable from the person designated in sub-Clause 19 of this Clause and from the remainder of the workforce"

Insert in sub-Clause 19 line 8 after "and":

"when working on motorways or high speed dual carriageways,"

SERIES 300 FENCING

Clause 301K General

- (i) Add the following as a second sentence.

"Unless otherwise agreed by the Engineer all timber components of temporary fencing and any cleft timber components of permanent fencing shall be manufactured from Sweet Chestnut.

SERIES 400 SAFETY FENCES, SAFETY BARRIERS AND PEDESTRIAN GUARDRAILS

Clause 403K Installation of Safety Fences

Overall Requirements

- (i) General

Add the following after "... Part 3" in line 2 of sub-clause 1.

"except where the clearance is within 1500mm the beam/rope height shall be measured from the top of the kerb when a kerb is present"

Clause 406K General

Delete sub-clause 2 and insert the following:-

"Approval

2. The design of parapets other than those described in Appendix 4/1 shall be submitted to the Engineer not later than the date stated in Appendix 4/1 for approval."

SERIES 500 DRAINAGE AND SERVICE DUCTS

Clause 507K Chambers

- (i) Delete sub-clause 1 and insert the following:-

"1. Chambers shall include manholes, catchpits, inspection chambers, petrol interceptors, draw pits and walled soakaways. Chambers shall be as described in Appendix 5/1."

- (ii) Add the following to the end of the first sentence of sub-clause 3:

"and shall be one brick thick."

Clause 508K Gullies and Pipe Junctions

- (i) Delete sub-clause 1 and insert the following:-

"1. Gullies shall be trapped or untrapped as described in Appendix 5/1"

- (ii) Delete sub-clause 6 and insert the following:-

"6. Backfilling to gullies shall be in mix ST2 concrete up to top of sub-base level. The remainder of the backfilling shall be in appropriate road pavement materials."

Clause 516K Combined Drainage and Kerb Systems

- (i) Delete sub-clause 1 and insert the following:-

"1. Combined drainage and kerb systems shall be as detailed in Appendix 5/5"

Clause 517K Linear Drainage Channel Systems

- (i) Delete the first two sentences of sub-clause 1 and insert the following:-

"1. Linear drainage channel systems shall be as detailed in Appendix 5/6."

- (ii) Sub-clause 1 second sentence delete " and Appendix 1/11 as appropriate"

Clause 520K The Cleaning of Existing Drainage Systems

- (i) Delete sub-Clause 1 and insert the following:-

1. Within the first seven days of being given possession of the Site, or any section thereof, the Contractor shall clean and prove the existing drainage system in accordance with this Clause, to the extent shown in Appendix 5/1.
 2. The Contractor shall within two working days of cleaning, or attempting to clean any section, submit to the Engineer a written report on the state of the whole system or any section thereof. Cleaning of any section, and its subsequent reporting, shall be completed prior to commencing any other drainage work within that section.
 3. On receipt of the Contractor's written report on the status of a section of the existing drainage system the Engineer may instruct additional work.
- (ii) Re-number existing sub-Clauses 2 to 21 as 4 to 23.

SERIES 600 EARTHWORKS

Clause 608K Construction of fills

Add to the end of sub-Clause 2:

"The surface level of starter layers shall have a tolerance within +20mm and -30mm relative to the design level".

Clause 613K Sub-formation and Capping

i) Add after sub-Clause 13 the following sub-Clauses 14 to 20 inclusive:

- "14. For the purposes of this clause 'cement' includes portland cement and cementitious (hydraulic) binders including PFA and ground granulated blast furnace slag. Selected granular materials include Type 3 sub-base and recycled aggregates, for example: crushed concrete, demolition waste, incinerator ash and asphalt planings but excluding unburnt colliery spoil.
15. Material shall achieve a minimum CBR of 30% when tested in the laboratory in accordance with BS 1377 Part 4 Cl. 7 when compacted to 95% of the maximum achieved by BS 1377 Test 14 and at saturation moisture content using 3 annular surcharge rings. *(PBA) The material shall achieve a minimum CBR of 15%, maintained until completion of the Permanent Works.*
16. As an alternative to sub-clause 15, the material shall satisfy the requirements of Table 8/88 when tested in the Laboratory for approval purposes using the Portable Dynamic Plate in accordance with Clause 890 AK.
17. Chalk shall have a saturation moisture content not exceeding 20% and shall be compacted in homogeneous layers not exceeding 225mm to achieve maximum air voids of 5%.
18. Capping layer material shall be compacted with vibrating rollers so that when tested they achieve an in-situ Stiffness Modulus measured by Portable Dynamic Plate, of 40 MPa maintained until carriageway construction is complete. Tests shall be carried out every 50m of carriageway which may be reduced in frequency if there is no result less than 80 MPa after 5 tests at least 10m apart.
19. Unless otherwise stated in Appendix 7/1, when used in the carriageway the materials shall not be frost susceptible if used within 450mm of the designed final surface when tested in accordance with Clause 801.17.

At least 2 weeks before the laying of material is to commence, details shall be submitted to the Engineer of the sources of material, and the methods intended to be used".

SERIES 700 ROAD PAVEMENTS - GENERAL

Clause 701K Pavement Construction

- (i) Sub-clause 1
delete "from one of the permitted options described in Appendix 7/1".
insert "as shown in the Contract"
- (ii) Sub-clause 1
after "1000 Series"
insert "and Appendix 7/1."
- (iii) Add the following after Sub-clause 2:-
"3 Where concrete or clay block pavers are used in carriageways they shall comply with Clauses 702, 1107 and 1108."

Clause 706K Excavation, Trimming and Reinstatement of Existing Surfaces

- (i) Delete sub-clauses 5 and 6
- (ii) Renumber existing sub-clauses 7 to 11 as 5 to 9

Clause 709K Cold Milling (Planing) of Bituminous Bound Flexible Pavement

- (i) sub-Clause 9 line 3
delete "Appendix 2/3"
and substitute "Appendix 7/2"

SERIES 800 ROAD PAVEMENTS - UNBOUND HYDRAULICALLY BOUND AND OTHER MATERIALS

Clause 801K General Requirements for Unbound, Hydraulically Bound and Other Materials

- (i) Add the following at the end of sub-clause 16:
"For commercial vehicle footway crossovers and other areas with less than five commercial vehicles per day (e.g. Home zones, car parks or town centre pedestrianisation projects) the thickness of the frost protection layer shall be 300mm."

Clause 803K Granular Sub-base Material Type 1

- (i) Add the following after sub-clause 5:
"6. Crushed blast furnace slag shall not contravene the Environment Agency requirements with respect to pollutants.
7. The material shall be laid and compacted at a moisture content within the range 1 per cent above and 1 per cent below the optimum percentage determined in accordance with BS 1377 Test 14."

SERIES 900 ROAD PAVEMENTS - BITUMINOUS BOUND MATERIALS

Clause 901K Bituminous Base and Surfacing Materials

Add after sub-clause 18

"19. Where longitudinal joints are to be cut one of the following methods is to be used:

- (a) cutting wheel fitted to a roller when the surface course is warm
- (b) saw cutting when the surface course is cold".

20. "Transverse Joints shall be cut by sawing, and only when the surface course is cold.

Setting or Resetting Ironwork

21. Manhole covers and other ironwork shall be set or reset to the final level prior to the laying of the uppermost surfacing course (exclusive of surface treatment).

22. Gully frames shall be set or reset 6mm below the level of the final surface and other ironwork set or reset flush with the final surface."

Quality Assurance

23. Asphalt shall be supplied by CE marked plants operating at OCL level A.

24. The supplier shall provide and agree details of the procedures in cases where OCL A is not achieved."

Clause 903K Placing and Compaction of Bituminous Mixtures

After sub-clause 29 add the following sub-titles and sub-clauses 30 to 31:-

"Setting or Resetting Ironwork

30. Manhole covers and other ironwork shall be set or reset to the final level prior to the laying of the uppermost surfacing course (exclusive of surface treatment).

31. Gully frames shall be set or reset 6mm below the level of the final surface and other ironwork set or reset flush with the final surface."

Clause 915K Coated Chippings for Application to Premixed Surfacing

(i) Add the following to the end of sub-clause 1: "and Appendix 7/1."

(ii) Add after sub-clause 3 the following:-

"4. The ten percent fines value shall be determined in accordance with BS 812:Part 111. The aggregate shall be deemed to comply if the mean of the 3 most recent consecutive results, from tests relating to the material to be supplied, and carried out within the previous 6 months by a testing laboratory approved by the Engineer, is within the range described in Appendix 7/1."

Clause 919K Surface Dressing: Recipe Specification

(i) In sub-clause 8 line 1 after "..... street furniture" and before "shall be" insert the following:

"including but not limited to: ironwork, road studs, bridge joints and loop feeders".

- (ii) Add sub-clauses 19 to 26 after sub-clause 18.
- "19. Transverse and associated road junction markings as listed in Appendix 12/3 shall be masked or treated in such a way, prior to the application of the binder, that surface dressing will not adhere and shall be uncovered before the road is opened to traffic.
20. If required by the Engineer the Contractor shall verify the rate of spread of binder on a daily basis by dipping the tank or other approved means. Binders offered by the Contractor shall be listed in Appendix 7/21. In addition to the testing regime set out in Appendix 1/5 the Contractor shall, whenever spraying has ceased for a period of 1 hour or more, check the uniformity of spraying by taking pressure readings and check the proper functioning of the nozzles using the jet test.
21. The Contractor shall, from the commencement of application Works on Site to one month following the end of the Contract Period, maintain the ability to supply and apply clean rock dust passing a 3.35mm BS sieve. When instructed by the Engineer, the Contractor shall apply the rock dust by mechanical spreader to any areas of surface dressing laid during the Contract Period.
22. The Contractor's Agent and Foreman shall be capable of being contacted at all times during the working hours by the Engineer at an office telephone or by means of a mobile telephone or two-way radio system approved by the Engineer.
23. All reasonable precautions shall be taken to control the speed and movement of traffic in order to avoid damage to new dressings and to obviate danger to road users. Signs bearing the legend "Loose Chippings" together with a supplementary plate stating "Max Speed 20 mph" shall be positioned at centres not exceeding 800 metres alongside roads that have been surface dressed. These signs shall be maintained in position until all loose and surplus chippings have been removed.
24. Storage facilities for chippings shall be approved by the Engineer prior to use. The Contractor shall ensure that approved storage areas have hardened bases, are clean before use and are maintained in a clean and tidy condition throughout the period of use.
25. The minimum surface temperature of the carriageway to be surface dressed shall be 15°C.
26. All arisings from sweeping prior to surface dressing or during the aftercare period shall be disposed of to a licensed tip."

Clause 942K Thin Surface Course Systems

Add after Sub-clause 11 (iii)

(iv) Where the thin surface course system is to be laid less than 30mm thick on a sub-stratum at a temperature below 4°C, the top 25mm of the surface shall be brought up to a temperature of at least 4°C immediately prior to the surfacing material being applied, using plant with heating surfaces insulated and fully enclosed.

Sub-clause 15 line 1:

Delete "On the trunk road network"

Add after Sub-clause 16

Skid Resistance Performance

17. The Contractor shall assist with the early life skid resistance by treating the surface at locations shown in the Contract. Thin surface course systems with a nominal laid thickness of 25mm or more shall be gritted with 3mm to 75 micron dust free or very lightly bitumen coated crushed rock fines at a rate exceeding 600gms/m² before final compaction is complete and rolled in. Excess material shall be removed by sweeping.

Quality Assurance

18. Material shall only be supplied from plants that satisfy the requirements of Clause 901.

SERIES 1000 ROAD PAVEMENTS - CONCRETE AND CEMENT BOUND MATERIALS

Clause 1032K Thin Bonded Repairs

- (i) Add after sub-Clause 8 the following:-
- "9. Unless cork sealants complying with Clause 1017 have been used, seal the joints in accordance with Clause 1016."

SERIES 1100 KERBS, FOOTWAYS AND PAVED AREAS

Clause 1101K Precast Concrete Kerbs, Channels, Edgings and Quadrants

Delete sub-clause 1 and substitute

- "1. Except where otherwise specified in this Clause, precast concrete kerbs, channels, edgings and quadrants shall comply with BS 7263:Part 1 and their dimensions and type designations shall be as described in Appendix 11/1. They shall be laid and bedded in accordance with BS 7533:Part 4 on a mortar bed on a concrete pavement slab, a roadbase or ST2 mix concrete foundation. The mortar bed may be omitted if concrete units are bedded onto a concrete slab or foundation that is still plastic. All precast units laid on a mortar bed or bedded onto plastic concrete shall be backed with ST2 mix concrete."

SERIES 1200 TRAFFIC SIGNS

Clause 1202K General Requirements for Permanent Traffic Signs

- (i) Delete sub-clause 7 and insert the following:-
- "7. Traffic signs shall have a location identifying mark as described in Appendix 12/1."

Clause 1204K Posts for Permanent Traffic Signs

- (i) Delete sub-clauses 1 and 2 and insert the following:-
- "1. Posts for permanent traffic signs shall be as described in Appendix 12/1."
- (ii) Renumber existing sub-clauses 3 to 6 as 2 to 5.

Clause 1205K Sign Plates for Permanent Traffic Signs

- (i) Delete the whole of sub-clauses 2, 3, and 4 and insert the following:-
- "2. The dimensions of sign assemblies will be indicated in the sign schedule.
3. The layouts of sign faces for all direction signs and certain other signs will be indicated on individual sign face design drawings.

4. All sign assemblies shall have radiused corners where detailed on the sign drawings and where required to in the Traffic Signs Regulations and General Directions (1994) working drawings.
 5. All plate signs (including light spill screens) shall be made from a single 2400mm x 1200mm sheet without joints, except that where any designed chevron type direction sign exceeds these dimensions, either vertically or horizontally, it may be made with one joint.
 6. All signs (including light spill screens) exceeding the dimensions in sub-clause 5 above and which are not designed chevron type direction signs shall be made from extruded aluminium planks as detailed in sub-clause 9."
- (ii) Renumber existing sub-clauses 5 and 6 as 7 and 8.
- (iii) Add sub-clauses 9 to 14 as follows:-
- "9. All planks shall consist of aluminium extrusions as described in BS 873, of approved cross section compatible shall be new, smooth, of even cross section, without twists or other defects. Each individual plank must be fastened to each support post, UC or UB.
 10. Plank signs up to 6.0 m wide shall have no vertical joints in the horizontal planks. Over 6.0 m wide the signs may have one or more vertical joints, the position of which is to be agreed with the Engineer. Each such sign shall then be fitted with an insert plate (to suit the plank profile) between each horizontal pair of butting planks.
 11. All sign equipment other than sign faces, reflector plates and stainless steel clips shall be coloured matt grey to BS 381C/693, unless otherwise specified. Where black posts are specified, the clips and backs of signs, caps and lanterns attached to the post shall also be coloured black to BS 4800 reference 00E-53.
 12. The Engineer may specify alternative substrate materials for certain signs. These alternatives shall be either:-
 - a) Colourcoat HP200 as manufactured by Capital Trading Co. (Coated Steels) Ltd or equivalent.
 - b) Filon Plate as manufactured by Filon Products Ltd or equivalent.

Clause 1206K Faces for Permanent Traffic Signs

- (i) Add new sub-clause 9
9. Type I alternate face material shall be "LDP Diamond Grade 3970 Series". Type II alternative face material shall be "Diamond Grade 3990 Series". Where either of these are specified in the signs schedule in Appendix 12/1 the tables in BS 873: Part 6 shall be replaced as follows:-

Tables 1, 2 and 3 of BS873: Part 6 to be replaced with the following:

Table 1 : Minimum coefficients of retroreflection in Candelas per lux per square metre

Observation Angle	Colour	Entrance Angles			
		Beta 2	0 deg		
		Beta 1	-5 deg	15 deg	40 deg
			cd/(lxm ²)	cd/(lxm ²)	cd/(lxm ²)
12'	Green		65	50	18
	White		800 (80)	660 (60)	145 (15)

	Yellow		660 (65)	450 (45)	85 (13)
	Red		215	150	25
	Blue		43 (4)	23 (3.5)	8 (0.8)
20'	Green		45	30	14
	White		550 (300)	400 (250)	95 (30)
	Yellow		450 (250)	200	75 (25)
	Red		150	95	22
	Blue		29 (15)	16 (12)	7 (1.7)
30'	Green		18	12	7
	White		200 (250)	120 (220)	75 (35)
	Yellow		160 (200)	90 (175)	60 (30)
	Red		45	25	18
	Blue		9.8 (10)	6.5 (8)	2.8 (2)

The figures in brackets refer to Type II alternative face material.

Tables 4 and 5 of BS873: Part 6 to be replaced with the following:

Table 2: Chromacity and luminance factors

	1		2		3		4		Luminance
	X	Y	X	Y	X	Y	X	Y	Factor
Red	0.690	0.310	0.595	0.315	0.569	0.341	0.655	0.345	>.03
Orange	0.610	0.390	0.535	0.375	0.506	0.404	0.570	0.429	>.12
Yellow	0.545	0.454	0.487	0.423	0.427	0.483	0.465	0.534	>.24
Blue	0.078	0.171	0.150	0.220	0.210	0.160	0.137	0.038	>.01
White	0.355	0.355	0.305	0.305	0.285	0.325	0.335	0.375	>.40
Green	0.313	0.682	0.313	0.453	0.248	0.409	0.127	0.557	>.01

Clause 1207K Construction and Assembly of Permanent Traffic Signs

(i) Delete the whole of sub-Clause 6 and insert the following:-

"6. All rivets or other devices for fixing sign plates to their framework shall be of aluminium alloy or other non-ferrous material approved by the Engineer and shall have a sufficient cross-sectional area to prevent failure from thermal stresses or wind pressure or other such stresses as may be specified. Rivets shall be spaced to suit the structural requirements of BS 873 and shall be

spaced uniformly. Fixing of channel stiffening to sign plates by means of adhesive of any type will not be accepted. It will be assumed that the proposed method of fixing has been successfully tested in accordance with, and complies fully with BS873. The manufacturer will inform the Engineer of the type of rivet fixing to be employed at the time of tendering."

- (ii) Delete the whole of sub-Clause 7.
- (iii) Delete the whole of sub-Clauses 9 and 10 and insert the following:-
 - "9. Sheet and plank signs shall be connected to posts and gantry uprights by a method approved by the Engineer. All sign fixings shall be of stainless steel complying with AISI Grade 201. Sign fixings on single posts shall be anti-rotational.
 - 10. Plank signs shall be assembled in accordance with the manufacturer's instructions, but every plank shall be fixed to each post or gantry upright by at least one clip or clamp."
- (iv) Delete the whole of sub-Clauses 11 and 12.

Clause 1208K Location and Erection of Permanent Traffic Signs

- (i) Add to the end of sub-Clause 1:

"All sign locations shall be marked out by the Contractor with pegs and/or paint. Installation work shall not commence until the Engineer has approved the setting out. For normal works the Contractor shall give the Engineer seven days' notice of the requirement to check the setting out. For urgent works, the Contractor shall give as much notice as is reasonably practicable."
- (ii) Add sub-clause 9 and 10 as follows:
 - 9 Attaching signs to walls

Where the Engineer orders signs to be fixed to existing walls, the sign shall be secured using at least four 40mm x 8 stainless steel screws.

The wall shall be drilled and fitted with proprietary plastic plugs. A neoprene washer shall be positioned between the back of the sign plate and the wall at each fixing point. The Contractor may not commence fitting a sign to a wall unless a copy of a written agreement from the owner of the wall authorising the work has been provided by the Engineer.
 - 10. Cover plates

Where the Engineer orders the fitting of a cover plate, this shall be manufactured in accordance with the detailed working drawing specifically provided by the Engineer. The plate shall be manufactured from 11 gauge aluminium sheet, and finished with reflective material in accordance with the working drawing and the specification. The plate shall be fixed to the existing sign by means of aluminium rivets, finished with a rivet cap of a colour approximating as closely as possible to the colour of the sign face material. Neoprene washers shall be positioned between the cover plate and the existing sign face at each rivet.

Clause 1212K Road Markings

- (i) Sub-clause 3: Delete table and substitute with the following:

Property	BS EN 1436 Reference	Requirement*	Value
Colour	Table 6	1 White	x, y co-ordinates given

		2. Yellow, Class Y1, Y2	x, y co-ordinates given
Luminance Factor	Table 5	1. Class B2 2. Class B1	0.3 0.2
Skid Resistance	Table 7	1. Class S3 2. Class S3	55 55
Skid Resistance	Table 7	1. Class S3 2. Class S3	55 55
Retroreflectivity	Table 2 Class of RL for dry markings	1. Class R4 2. Class R2	200 100

*note: 1 = White, 2 = Yellow

(ii) Sub-clause 6 is deleted and substituted with the following:

6. Not Used

Clause 1214K Traffic Cones, Traffic Cylinders, Flat Traffic Delineators and Other Traffic Delineators

(i) Add to the end of sub-clause 1 the following:-

"All traffic cones shall be 1 metre in height."

Clause 1216K Temporary Traffic Signs

(i) Delete the first paragraph of sub-Clause 1 and insert the following:

"1. Unless specified otherwise the temporary traffic signs shall be designed by the Contractor. They shall comply with Clause 1201, satisfy Clause 117, have the consent of the Engineer prior to installation, and comply with sub-Clauses 2 to 7 of this Clause."

SERIES 1300 ROAD LIGHTING COLUMNS AND BRACKETS AND CCTV MASTS

Clause 1301K General

Sub-clause 2 paragraph 2:

Add to the end of this paragraph:-

"Foundations for planted lighting columns shall be as shown on Standard Detail KCC/1300/001. The concrete surround to all planted columns shall be at least 100mm wide."

Clause 1302K Design of Lighting Columns, Brackets, CCTV Masts, Foundations, Anchorages and Attachment Systems

Sub-clause 2 line 1 – delete "aesthetic"

Clause 1305K Installation of Foundations, Anchorages and Attachment Systems

Planted Columns

(i) Sub-clause 1 is deleted and replaced by:-

"1. Excavation for columns or mast posts shall not be carried out by mechanical means unless previously agreed by the Engineer. A layer of ST4 concrete 75mm thick, complying with

Clause 2602, shall be placed and compacted in the bottom of the excavation up to the base of the column or mast post."

(ii) Sub-clause 3 is deleted and replaced by:-

"3. The hole into which the lighting column or cantilever mast is placed shall be backfilled with concrete."

(ii) Sub-clause 5 is deleted.

Clause 1307K Materials and Surface Finishes

Sub-clause 6 is deleted.

SERIES 1400 ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS

Clause 1401K General

(i) Add to the end of the first paragraph of sub-clause 1:-

"and the Institution of Lighting Engineers Code of Practice for Electrical Safety in Public Lighting Operations."

(ii) Add the following after sub-clause 5:-

"6. 'Appendix 14/4' shall mean 'Appendix 14/4 or 14/5' in the following clauses: 1407.1; 1409.1; 1416.5; 1418.1, 3, 5, 6 and 7; 1421.3, 4, 5, 7, 8 and 11; 1422.3 and 6; and 1423.1,"

Clause 1407K Luminares

(i) Sub-Clause 3 delete (i) and insert the following:

"a) General

i) Lighting units shall be fixed so that no part of the sign is obscured and light spill is kept to a minimum.

ii) Lighting units shall be set to give maximum efficiency of illumination to the complete area of the sign face.

iii) Lighting units on gantries shall be mounted in such a manner that shadows of structural elements are not cast onto the sign face.

b) Flood Lighting Units

Flood lighting units shall be mounted as follows:-

i) at the distance from the signs giving maximum efficiency of illumination;

ii) at a height such that the top of the unit is seen on approach at the same level as the bottom of the sign face and the top of the light screen;

iii) normal to, and on the produced centre line of the sign face unless more than one unit is required;

iv) equally spaced about the centre line of the sign face where two units are required.

c) Top Mounted Lighting Units

- i) The bracket arms for the lighting units shall be either fixed to a main post supporting the sign or to a dummy post fixed to the back of the sign.
- ii) The length of the bracket arm shall be determined by the location of the socket mounting point, area of sign and use of light spill screens unless otherwise stated in Appendix 12/1.

d) Testing

All lit and externally illuminated signs shall be tested and approved by the Area Electricity Board prior to commissioning and a test certificate must be provided to the Engineer."

Clause 1409K Photo-electric Control Units (PECUs)

- (i) Sub-clause 2 delete (i) and insert the following:
 - "(a) for road lighting luminaires, be secured to the luminaire canopy
 - (b) for Traffic Sign luminaires be secured to:
 - i) where mounted on gantries, close to feeder pillar
 - ii) top of sign post
 - iii) internally illuminated sign housing
 - or iv) luminaire of externally illuminated sign,
- as specified in Appendix 14/5.
- (c) for flood lights on separate posts, be fitted into the side of the mounting post, as high as possible."
 - (ii) Renumber existing sub-clause 4 as 6 and insert the following sub-clauses:
 - "4. Where traffic sign luminaires are a pair mounted on double arm brackets, unless otherwise specified in Appendix 14/5, each luminaire shall be fitted with a PECU"
 - "5. Traffic sign luminaires on gantries shall be group controlled by one PECU"

Clause 1412K Ballasts

Delete sub-clause 1 and insert the following:

- "1 Unless specified in Appendix 14/4 ballasts shall be of the electronic type with terminals suitably shrouded to prevent direct contact and be tap selected to the specified operating voltage of the network."

Clause 1416K Cut Outs, Fuse Holders, Fuses and Miniature Circuit Breakers (MCBs)

- (i) Delete sub-clause 3 and insert the following:-
 - "3. Cut-outs shall have separate terminals for live, neutral and earth conductors. Terminals shall be sufficient for the conductors as described in Appendix 14/4 or Appendix 14/5. They shall be clearly labelled to differentiate circuits and phases"
- (ii) Add to the beginning of sub-clause 4 the following:-

"Except as described in sub-clause 10".

(iii) Add the following sub-clauses:

"8. All terminals shall be suitably shrouded to prevent direct contact."

"9. Cut-outs to lantern on private cabling networks owned by the Highway Authority shall consist of a substantial moulded plastic, drip proof enclosure designed primarily for use in street lighting columns. They shall provide switched, double pole isolation incorporating a high breaking capacity fuse to BS 88 rated in accordance with the lamp manufacturer's recommendations. They shall be capable of providing one or two separately fused upward circuits or one upward circuit and one dedicated double pole outgoing circuit to sign etc. Terminals shall be large enough to take the steel wire armoured cable specified in straight connections or looped services and have integral brass cable glands."

"10. For secondary isolation to lanterns on an Electricity Company supply, a double pole, switched isolator incorporating a high breaking capacity type fuse to BS88 rated in accordance with the lamp manufacturer's recommendations, shall be supplied. This unit which shall be capable of being locked in the "off" position shall have shrouding or other barrier provided to prevent contact with live parts affording a degree of protection of at least IP2X and removable only by the use of a tool. If there is a need to provide a second circuit (e.g. to a sign) a double pole switched isolator having 2 x BS88 fuses shall be provided."

Clause 1417K Base Compartment Fixing Arrangements

(i) Add sub-clause 2 as follows:

"2. All luminaire control gear shall be mounted on trays as by Control Gear Systems"

Clause 1419K Wiring

(i) Delete sub-clause 4 and insert the following:-

"4. The final connection between equipment mounted in the base compartment and the cut out shall be made using PVCF double insulated 6mm² tails."

(ii) Sub-clause 7 is deleted.

Clause 1424K Inspection and Testing to be Carried out by the Contractor

(i) Delete sub-clause 6 and insert the following sub-clauses:-

"6. Before a new, rewired, altered or extended electrical installation can be connected to the supply EDF Energy requires:

(a) A copy of a properly completed Completion and Inspection Certificate based on BS 7671 (The current edition of the Institution of Electrical Engineers' (IEE) Wiring Regulations).

or

(b) An Electrical Contractor who is a member of ECA or NICEIC may, as an alternative to providing the certificate, sign and return EDF Energy's Request for Connection form (No. 1831), stating compliance with BS 7671 (some evidence of membership is required such as the registration number).

NB. One certificate or form may cover a number of supply points.

7. Subsequent to final connections being made Institution of Lighting Engineers test and inspection certificates in respect of the lighting cable network and/or the internal column/sign wiring shall be completed and two copies furnished to the Engineer."

- (ii) Renumber existing sub-clause 7 as 8.

SERIES 2000 WATERPROOFING FOR CONCRETE STRUCTURES

Clause 2003K Materials for Waterproofing Concrete Bridge Decks

- (i) Sub-clause 2 is amended as follows:-

Delete

"comply with BS 594: Part 1 recipe Type F wearing course mixture Designation 0/3 except that 5% \pm 0.5% of the total mix shall be inorganic red oxide and regarded as part of the filler content, where the additional protective layer is required to be tinted."

Insert

"be rolled asphalt surface course (performance-related design mix) to Clause 943 and Appendix 7/1."

SERIES 2100 BRIDGE BEARINGS

Clause 2104K Amendments and Additions to BS 5400: Part 9: Section 9.2: 1983

Insert the following:-

Page 11

- 7.2 Insert Additional sub-clause as follows:-

"(d) Number of tests required:-

- (1) Bearings other than elastomeric bearings. One complete bearing of each type shall be subjected to a combined vertical and horizontal load test at the serviceability limit state. A load test to ultimate limit state need only be carried out when the design of the bearing or any of its components, made from materials other than structural steel, is governed by an ultimate criterion; design of structural steel components of a bearing need not be verified by load tests at ultimate limit state. Well attested and documented evidence of previous independently supervised tests on similar bearings may be accepted as an alternative to the specified test.
- (2) Laminated elastomeric bearing 'quick production test' shall be carried out for each bearing. One in every twenty bearings of the same type shall be subjected to shear stiffness tests. In addition, where the vertical deflection of the bearing under the load is critical to the design of the structure, compressive stiffness tests should be carried out on one in every twenty bearings of the same type."

SERIES 2200 PARAPETS

Clause 2202K Metal Parapets

- (i) Delete sub-clause 4 and insert the following:-

"Approval

4. The design of metal parapets other than those described in Appendix 22/1 shall be submitted to the Engineer not later than the date stated in Appendix 22/1 for approval."

SERIES 2400 BRICKWORK, BLOCKWORK AND STONework

Clause 2401K Cement

(i) Add sub-clause 2 as follows:

"2 White or coloured Portland Cement shall comply with BS.12 and pigments shall be inorganic oxide pigments, either natural or synthetic in origin, complying with the requirements of BS 1014. Pigments whether added just before mixing or by the cement manufacturer shall be incorporated in the proportions agreed by the Engineer."

Clause 2404K Mortar

(i) Delete sub-clause 1 and insert the following:-

"1 Except for pointing as specified in sub-clause 6, cement mortar for brickwork, blockwork and stonework shall be mixed in the proportions given in Table 24/1 according to the mortar designation described in Appendix 24/1."

(ii) Add after sub-clause 5 the following:-

"6 Mortar for repointing shall be 1:1:7 (O.P.C.:hydrated lime:sand) unless otherwise described in Appendix 24/1 and shall be sprayed with water and lightly brushed to expose the aggregate not 5 hours and not more than 16 hours after laying. The actual time for this operation will vary within the range given to suit the prevailing weather conditions. The lime and sand shall be mixed at least sixteen hours before use and when required shall be mixed in proportion with Ordinary Portland Cement. The sand shall be well graded, crushed natural stone to comply with B.S. 1200, the size of the coarse particles being as large as possible in relation to the width of the joints. Hydrated lime shall comply with the requirements of B.S. 890."

Appendix F Publications Referred to in the Specification

British Standards and other publications named in the additional, substitute and amended clauses included in Appendices 0/1 and 0/2, and in the numbered appendices, are brought into the Contract by reference, but are not listed separately here.

Appendix 0/3 List of Numbered Appendices Referred to in the Specification and Included in the Contract

LIST A

Appendix 0/3 is comprised of two lists, A and B of Numbered Appendices as follows:-

List 'A' is a list of the contract specific Numbered Appendices referred to in the Specification for Highway Works

List B gives the list of contract-specific Numbered Appendices devised for the Contract.

Appendix No		Title
0/1		INTRODUCTION
0/2		Contract-specific Additional, Substitute and Cancelled Clauses, Tables and Figures Included in the Contract
0/3		Contract-specific Minor Alterations to Existing Clauses, Tables and Figures Included in the Contract
0/4		List of Numbered Appendices Referred to in the Specification and Included in the Contract
0/4		List of Drawings Included in the Contract
		PRELIMINARIES
1/1	Not Used	Temporary Accommodation and Equipment for the Overseeing Organisation
1/2	Not Used	Vehicles for the Overseeing Organisation
1/3	Not Used	Communication System for the Overseeing Organisation
1/4		Working and Fabrication Drawings
1/5		Testing to be Carried out by the Contractor
1/6	Not Used	Supply and Delivery of Samples to the Overseeing Organisation
1/7		Site Extent and Limitations on Use
1/8	Not Used	Operatives for the Overseeing Organisation
1/9		Control of Noise and Vibration
1/10		Structures to be Designed by the Contractor
1/11		Structural Elements and Other Features to be Designed by the Contractor
1/12		Setting Out and Existing Ground Levels
1/13		Programme of Works
1/14	Not Used	Payment Applications
1/15	Not Used	Accommodation Works
1/16		Privately & Publicly Owned Services & Supplies
1/17		Traffic Safety & Management
1/18		Temporary Diversions for Traffic
1/19		Routeing of Vehicles
1/20	Not Used	Recovery Vehicles for Breakdowns
1/21		Information Boards
1/22	Not Used	Progress Photographs
1/23		Risks to Health and Safety from Materials or Substances
1/24		Quality Management Systems
1/25	Not Used	Temporary Closed Circuit Television (CCTV) System for the Monitoring of Traffic
1/26	Not Used	Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Road Works (TASCAR)
1/27	Not Used	Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Road Works (TASCAR) - Particular Requirements
1/85		Night Work
1/89		Health and Safety File

Appendix No		Title
		SITE CLEARANCE
2/1		List of Buildings, etc. to be Demolished
2/2		Filling of Trenches & Pipes
2/3		Retention of Material Arising from Site Clearance
2/4	Not Used	Explosives & Blasting
2/5	Not Used	Hazardous Materials
2/6		Site Clearance Environmental Requirements
		FENCING AND ENVIRONMENTAL BARRIERS
3/1		Fencing, Gates and Stiles
		SAFETY FENCES, SAFETY BARRIERS AND PEDESTRIAN GUARDRAILS
4/1		Road Restraint Systems (vehicle and pedestrian)
4/2		Information Required to Demonstrate Compliance of Road Restraint Systems
		DRAINAGE AND SERVICE DUCTS
5/1		Drainage Requirements
5/2		Service Duct Requirements
5/3	Not Used	Surface Water Channels and Drainage Channel Blocks
5/4	Not Used	Fin Drains and Narrow Filter Drains
5/5	Not Used	Combined Drainage and Kerb Systems
5/6	Not Used	Linear Drainage Channel Systems
5/7	Not Used	Thermoplastics Structural Wall Pipes and Fittings
		EARTHWORKS
6/1		Requirements for Acceptability & Testing etc. of Earthworks Materials
6/2		Requirements for Dealing with Class U2 Unacceptable Material
6/3		Requirements for Excavation, Deposition, Compaction (Other than Dynamic Compaction)
6/4		Requirements for Class 3 Material
6/5		Geotextiles Used to Separate Earthworks Materials
6/6		Fill to Structures & Fill Above Structural Foundations
6/7		Sub-formation & Capping & Preparation & Surface Treatment of Formation
6/8		Topsoiling
6/9		Earthwork Environmental Bunds, Landscape Areas, Strengthened Embankments
6/10		Ground Anchorages, Crib Walling and Gabions
6/11		Swallow Holes & Other Naturally Occurring Cavities & Disused Mine Workings
6/12	Not Used	Instrumentation & Monitoring
6/13	Not Used	Ground Improvement
6/14		Limiting Values for Pollution of Controlled Waters
6/15		Limiting Values for Harm to Human Health and the Environment
		ROAD PAVEMENTS - GENERAL
7/1		Permitted Pavement Options Sheets
7/2		Excavation & Reinstatement of Existing Surfaces
7/3	Not Used	Surface Dressing - Performance Specification
7/4		Bond Coats, Tack Coats and other Bituminous Sprays
7/5	Not Used	In Situ Recycling: The Remix and Repave Processes
7/6	Not Used	Breaking Up or Perforation of Existing Pavement
7/7	Not Used	Slurry Surfacing Incorporating Microsurfacing (Sheets 1, 2 & 3)
7/8	Not Used	Not Used
7/9		Coldmilling of bituminous bound flexible pavement
7/10	Not Used	Not Used
7/11	Not Used	Overbanding and Inlaid Crack Sealing Systems

Appendix No		Title
7/12	Not Used	Arrester Beds
7/13	Not Used	Saw-Cut and Seal Bituminous Overlays on Existing Concrete Pavements
7/14	Not Used	Preparation of Jointed Concrete Pavements Prior to Overlaying and Saw-Cutting and Seal of Bituminous Overlay
7/15	Not Used	Saw-Cut and Seal Existing Jointed Concrete Pavements
7/16	Not Used	Cracking and Sealing of Existing Jointed Unreinforced Concrete Pavements and CBM Bases
7/17	Not Used	Cracking Plant and Equipment Progress Record
7/18	Not Used	Site Specific Details and Requirements for Cold Recycled Bitumen Bound Material
7/19	Not Used	Site Specific Details and Requirements for Recycled Cement Bound Material
7/20	Not Used	Site Specific Details and Requirements for Inducing Cracks
7/21	Not Used	Surface Dressing - Recipe Specification (Sheets 1 & 2)
7/22		Repair to Potholes
10/1	Not Used	ROAD PAVEMENTS - CONCRETE AND CEMENT BOUND MATERIALS Plant and Equipment for the Construction of Exposed Aggregate Concrete Surface
11/1		KERBS, FOOTWAYS AND PAVED AREAS Kerbs, Footways & Paved Areas
11/2	Not Used	Access Steps
12/1		TRAFFIC SIGNS Traffic Signs: General
12/2	Not Used	Traffic Signs: Marker Posts
12/3		Traffic Signs: Road Markings and Studs
12/4	Not Used	Traffic Signs: Cones, Cylinders, FTDs & Other Traffic Delineators
12/5		Traffic Signs: Traffic Signals
12/6	Not Used	Traffic Signs: Special Sign Requirements on Gantries
13/1		ROAD LIGHTING COLUMNS AND BRACKETS, CCTV MASTS AND CANTILEVER MASTS Information to be Provided When Specifying Lighting Columns & Brackets
13/2		Column & Bracket Data Sheets 1 & 2
13/3		Instructions for Completion of Column & Bracket Data Sheets
13/4	Not Used	Information to be Provided When Specifying CCTV Masts
13/5	Not Used	Typical CCTV Mast Data Sheet
13/6	Not Used	Instructions for Completion of CCTV Mast Sheets
13/7	Not Used	Information to be supplied when specifying Cantilever Masts
13/8	Not Used	Typical Cantilever Mast Data Sheets 1 & 2
13/9	Not Used	Instructions for Completion of Cantilever Masts Data Sheets
14/1		ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS Site Records
14/2		Location of Lighting Units & Feeder Pillars
14/3		Temporary Lighting
14/4		Electrical Equipment for Road Lighting
14/5		Electrical Equipment for Traffic Signs
15/1	Not Used	MOTORWAY COMMUNICATIONS Motorway Communications Cable Duct Requirements
16/1		PILING AND EMBEDDED RETAINING WALLS General Requirements for Piling and Embedded Retaining Walls
16/2	Not Used	Precast Reinforced and Prestressed Concrete Piles and Precast Reinforced

Appendix No		Title
16/3		Bored Cast-in Place Piles
16/4		Bored Piles Constructed using Continuous Flight Augers and Concrete or Grout Injection through Hollow Auger Stems
16/5	Not Used	Driven Cast-in-Place Piles
16/6	Not Used	Steel Bearing Piles
16/7	Not Used	Reduction of Friction on Piles
16/8		Non-Destructive Methods for Testing Piles
16/9	Not Used	Static Load Testing of Piles
16/10	Not Used	Diaphragm Walls
16/11	Not Used	Hard/Hard Secant Pile Walls
16/12	Not Used	Hard/Soft Secant Pile Walls
16/13	Not Used	Contiguous Bored Pile Walls
16/14	Not Used	King Post Walls
16/15		Steel Sheet Piles
16/16	Not Used	Integrity Testing of Wall Elements
16/17	Not Used	Instrumentation for Piles and Embedded Walls
16/18	Not Used	Support Fluid
17/1		STRUCTURAL CONCRETE
17/2	Not Used	Schedule for the Specification of Designed Concrete - Classification of Mixes
17/3		Concrete - Impregnation Schedule
17/4		Concrete - Surface Finishes
17/5		Concrete - General
17/6	Not Used	Buried Concrete (05/02)
		Grouting and Duct Systems for Post-tensioned Tendons
18/1		STRUCTURAL STEELWORK
		Requirements for Structural Steelwork
19/1	Not Used	PROTECTION OF STEELWORK AGAINST CORROSION
19/2	Not Used	Form HA/P1 (New Works) Paint System Sheet
19/3	Not Used	Requirements for Other Works
19/4	Not Used	Form HA/P2 Paint Data Sheet
19/5		Form HA/P3 Paint Sample Despatch List, sheets 1&2
		General Requirements
20/1		WATERPROOFING FOR STRUCTURES
		Waterproofing for Concrete Structures
21/1		BRIDGE BEARINGS
22/1	Not Used	Bridge Bearing Schedule
		Not Used
23/1	Not Used	BRIDGE EXPANSION JOINTS AND SEALING OF GAPS
23/2		Bridge Deck Expansion Joints Schedule
		Sealing of Gaps Schedule (Other than in Bridge Deck Expansion Joints)
24/1		BRICKWORK, BLOCKWORK AND STONWORK
		Brickwork, Blockwork and Stonework
25/1	Not Used	SPECIAL STRUCTURES
25/2	Not Used	Requirements for Corrugated Steel Buried Structures
25/3	Not Used	Requirements for Reinforced Soil and Anchored Earth Structures
25/4	Not Used	Requirements for Pocket - Type and Grouted Cavity Reinforced Brickwork
		Retaining Wall Structures

Appendix No		Title
25/5	Not Used	Environmental Barriers
26/1		MISCELLANEOUS
26/2		Ancillary Concrete
26/3	Not Used	Bedding Mortar
		Cored Thermoplastic Node Markers
30/1		LANDSCAPE AND ECOLOGY
30/2		General, sheets 1, 2 & 3
30/3		Weed Control
30/4		Control of Rabbits and Deer
30/5		Ground Preparation
30/6		Grass Seeding, Wildflower Seeding and Turfing
30/7		Planting, sheets 1 & 2
30/8	Not Used	Grass, Bulbs and Wildflower Maintenance
30/9		Watering
30/10		Establishment Maintenance for Planting
30/11		Maintenance of Established Trees and Shrubs
30/12		Management of Waterbodies
		Special Ecology Measures

LIST B: List of Contract - Specific Numbered Appendices Devised for the Contract

Appendix No.	Title
None.	-

Appendix 0/4 List of Drawings Included in the Contract

The latest revision shown on the Drawing Issue Sheet appended to the front of this document shall be deemed to be the most current drawing and shall supersede any drawing included in this appendix and referenced in this document.

Contract-specific Drawings Supplied to each Tenderer

Drawing No.	Rev	
Series 100		
38800-2002-0100-01	C01	Site location plan
38800-2002-0100-02	C01	General arrangement
38800-2002-0100-03	C01	Existing ground levels sheet 1 of 2
38800-2002-0100-04	C01	Existing ground levels sheet 2 of 2
38800-2002-0100-05	C01	Setting out information sheet 1 of 2
38800-2002-0100-06	C01	Setting out information sheet 2 of 2
38800-2002-0100-07	C01	Highway long section
38800-2002-0100-08	C01	HS1 access long section
38800-2002-0100-09	C01	Cross section - A2260 - Chainage 0.000 to 70.000
38800-2002-0100-10	C01	Cross section - A2260 - Chainage 80.000 to 150.000
38800-2002-0100-11	C01	Cross section - A2260 - Chainage 160.000 to 161.133
38800-2002-0100-12	C01	Cross section - Springhead Bridge Link - Chainage 0.000 to 50.000
38800-2002-0100-13	C01	Cross section - Springhead Bridge Link - Chainage 60.000 to 110.000
38800-2002-0100-14	C01	Cross section - Springhead Bridge Link - Chainage 120.000 to 190.000
38800-2002-0100-15	C01	Cross section - Springhead Bridge Link - Chainage 200.000 to 270.000
38800-2002-0100-16	C01	Cross section - Springhead Bridge Link - Chainage 280.000 to 291.230
38800-2002-0100-17	C01	NU14 proposed diversion general arrangement
38800-2002-0100-18	P06	Agreements general arrangement
38800-2002-0100-30	C01	Material Testing Requirements
38800-5003-0100-001	C03	Bridge General Arrangement
38800-5003-0100-002	C01	Illustrative Construction Sequence
38800-5003-0100-003	C01	Outline Superstructure Construction Sequence

Drawing No.	Rev	
38800/2012/001	C	Utility Provision Layout
Series 200		
38800-2002-0200-01	C01	Site clearance sheet 1 of 2
38800-2002-0200-02	C01	Site clearance sheet 2 of 2
Series 300		
38800-2002-0300-01	C01	Fencing and safety barriers sheet 1 of 2
38800-2002-0300-02	C01	Fencing and safety barriers sheet 2 of 2
Series 400		Not used
Series 500		
38800-2002-0500-01	C01	Surface water drainage sheet 1 of 2
38800-2002-0500-02	C01	Surface water drainage sheet 2 of 2
Series 600		
38800-2002-0600-01	C01	Earthworks layout - existing material - cut & replace
38800-2002-0600-02	C01	Proposed earthworks layout
38800-2002-0600-03	C01	South abutment earthworks long section
38800-2002-0600-04	C01	North abutment earthworks long section
Series 700		
38800-2002-0700-01	C01	Carriageway and footway pavements sheet 1 of 1
38800-2002-0700-02	C01	Carriageway and footway pavements sheet 1 of 2
38800-2002-0700-03	C01	High friction surfacing
38800-2002-0750-01	C01	Carriageway and footway pavements sections
38800-2002-0750-02	C01	Carriageway and footway pavements sections
Series 800		Not used
Series 900		Not used
Series 1000		Not used
Series 1100		
38800-2002-1100-01	C01	Kerbing sheet 1 of 2
38800-2002-1100-02	C01	Kerbing sheet 2 of 2

Drawing No.	Rev	
38800-2002-1150-01	C01	Kerbing construction details
Series 1200		
38800-2002-1200-01	C01	Road markings and traffic signs
38800-2002-1200-10	C01	Detailed traffic signal design
Series 1300		
38800-2002-1300-01	C01	Street lighting sheet 1 of 2
38800-2002-1300-02	C01	Street lighting sheet 2 of 2
Series 1600		
38800-5003-1600-001	C02	Concrete Piling Setting Out and Details Sheet 1 of 2
38800-5003-1600-002	C02	Concrete Piling Setting Out and Details Sheet 2 of 2
38800-5003-1600-010	C02	Sheet Piles Setting Out and Details
38800-5003-1600-011	C02	Footpath Retaining Wall Sheet Piles Setting Out and Details
38800-5003-1600-012	C01	Footpath Retaining Wall Pilecap Concrete Outlines
38800-5003-1600-013	C01	Footpath Retaining Wall RC Details Sheet 1 of 3
38800/5003/1600/BBS/013	C01	Footpath Retaining Wall Bar Bending Schedule
38800/5003/1600/014	C01	Footpath Retaining Wall RC Details Sheet 2 of 3
38800/5003/1600/BBS/014	C01	Footpath Retaining Wall Bar Bending Schedule
38800/5003/1600/015	C01	Footpath Retaining Wall RC Details Sheet 3 of 3
38800/5003/1600/BBS/015	C01	Footpath Retaining Wall Bar Bending Schedule
Series 1700		
38800-5003-1700-001	C01	North Abutment Concrete Outlines, sheet 1 of 5
38800-5003-1700-002	C01	North Abutment Concrete Outlines, sheet 2 of 5
38800-5003-1700-003	C01	North Abutment Concrete Outlines, sheet 3 of 5
38800-5003-1700-004	C01	North Abutment Concrete Outlines, sheet 4 of 5
38800-5003-1700-005	C01	North Abutment Concrete Outlines, sheet 5 of 5
38800-5003-1700-006	C01	North Abutment R.C. Details, sheet 1 of 5
38800-5003-1700-BBS-006	C01	North Abutment Bar Bending Schedule
38800-5003-1700-007	C01	North Abutment R.C. Details, sheet 2 of 5
38800-5003-1700-BBS-007	C01	North Abutment Bar Bending Schedule
38800-5003-1700-008	C01	North Abutment R.C. Details, sheet 3 of 5
38800-5003-1700-BBS-008	C01	North Abutment Bar Bending Schedule
38800-5003-1700-009	C01	North Abutment R.C. Details, sheet 4 of 5

Drawing No.	Rev	
38800-5003-1700-BBS-009	C01	North Abutment Bar Bending Schedule
38800-5003-1700-010	C01	North Abutment R.C. Details, sheet 5 of 5
38800-5003-1700-011	C01	Central Pier Concrete Outlines, sheet 1 of 2
38800-5003-1700-012	C01	Central Pier Concrete Outlines, sheet 2 of 2
38800-5003-1700-013	C01	Central Pier R.C. Details, sheet 1 of 2
38800-5003-1700-BBS-013	C01	Central Pier Bar Bending Schedule
38800-5003-1700-014	C01	Central Pier R.C. Details, sheet 2 of 2
38800-5003-1700-BBS-014	C01	Central Pier Bar Bending Schedule
38800-5003-1700-016	C01	North Abutment Access Steps
38800-5003-1700-017	C01	South Abutment Access Steps
38800-5003-1700-021	C01	South Abutment Concrete Outlines, sheet 1 of 4
38800-5003-1700-022	C01	South Abutment Concrete Outlines, sheet 2 of 4
38800-5003-1700-023	C01	South Abutment Concrete Outlines, sheet 3 of 4
38800-5003-1700-024	C01	South Abutment Concrete Outlines, sheet 4 of 4
38800-5003-1700-025	C01	South Abutment R.C. Details, sheet 1 of 4
38800-5003-1700-BBS-025	C01	South Abutment Bar Bending Schedule
38800-5003-1700-026	C01	South Abutment R.C. Details, sheet 2 of 4
38800-5003-1700-BBS-026	C01	South Abutment Bar Bending Schedule
38800-5003-1700-027	C01	South Abutment R.C. Details, sheet 3 of 4
38800-5003-1700-BBS-027	C01	South Abutment Bar Bending Schedule
38800-5003-1700-028	C01	South Abutment R.C. Details, sheet 4 of 4
38800-5003-1700-BBS-028	C01	South Abutment Bar Bending Schedule
38800-5003-1700-031	C01	NE Approach parapet foundations
38800-5003-1700-032	C01	NE Approach parapet foundations RC Details
38800-5003-1700-033	C01	NW Approach parapet foundations
38800-5003-1700-034	C01	NW Approach parapet foundations RC Details
Series 1800		
38800-5003-1800-001	C01	Bridge Deck General Arrangement
38800-5003-1800-002	C01	Bridge Deck R.C. Details, sheet 1 of 2
38800-5003-1800-BBS-002	C01	Bridge Deck Bar Bending Schedule
38800-5003-1800-003	C01	Bridge Deck R.C. Details, sheet 2 of 2
38800-5003-1800-BBS-003	C01	Bridge Deck Bar Bending Schedule
3880-5003-1800-010	C01	Bridge Deck Steelwork Sheet 1 of 4
38800-5003-1800-011	C01	Bridge Deck Steelwork Sheet 2 of 4
38800-5003-1800-012	C01	Bridge Deck Steelwork Sheet 3 of 4

Drawing No.	Rev	
38800-5003-1800-013	C01	Bridge Deck Steelwork Sheet 4 of 4
Series 2100		
38800-5003-2100-001	C01	Bridge Bearings & Taper Plate Details
Series 2500		
38800-3501-2500-001	C02	Reinforced Soil Slope, Plan and Elevations
38800-3501-2500-002	C03	Reinforced Soil Slope, Sections
38800-3501-2500-003	C02	Reinforced Soil Slope, Schedule
Series 3000		
38800-2002-3000-01	C01	Proposed landscaping layout sheet 1 of 2
38800-2002-3000-02	C01	Proposed landscaping layout sheet 2 of 2
Series 5000		Not used

0/4.2 Standard Drawings Supplied to Each Tenderer

Drawing No	Title
KCC/SD/500/001	Precast Concrete Circular Chambers Types 1 & 2 - For Depth from Ground Level to Pipe Soffit - Not Exceeding 3.05 metres
KCC/SD/500/002	Precast Concrete Circular Chambers Types 3 & 4 - For Depth from Ground Level to Pipe Soffit - 3.05 to 6.0 metres
KCC/SD/500/005	Chamber and Soakaway Depth Warning Signs
KCC/SD/500/006	Backdrop Connection
KCC/SD/500/009*	Precast Concrete Gully
KCC/SD/500/020	Junction Box Type 1
KCC/SD/500/021	Junction Box Type 2
KCC/SD/500/022	Junction Pit Type 1
KCC/SD/500/023	Junction Pit Type 2
KCC/SD/500/024*	Ducts in Footways
KCC/SD/500/025	Ducts in Carriageways
KCC/500/053	Adjustment of Ironwork Typical Details in Carriageway
KCC/700/002/B*	Permanent Reinstatement Road Type 2A
KCC/700/021/B	Formation of Joints between Proposed and Existing Surfaces
KCC/SD/700/022/C*	Interface with Existing Pavement Construction

KCC/SD/1100/001	Precast Concrete Kerb, Quadrant, Channel and Edging
KCC/SD/1100/003	Timber Edging
KCC/SD/1100/007A	Typical Layout of Signal Controlled Pedestrian Crossings
KCC/1100/011/G	Footway Construction Details
KCC/SD/1200/001C*	Concrete Bases for Sign Posts
KCC/SD/1200/002B*	Concrete Bases for Sign Posts & Bollard (Electrical)
KCC/SD/1200/005	Sign Erection Details
KCC/SD/1200/007A	Traffic Signal Controller Cabinet Installation
KCC/SD/1200/008A	Feeder Pillars For Power Supply and Telecommunications
KCC/1200/009/B*	Sign Erection Details
KCC/1200/017C	Details of Locations Identifying Markings (L.I.M.s) on Sign Posts
KCC/1200/028D	Traffic Signal Pole Retention Socket
KCC/1200/041	Traffic Detector Loops Single Carriageway
KCC/1300/001/B*	Typical Street Lighting Column Detail
KCC/SD/1400/001 to 040	Various

* These standard details are subject to change by KCC

0/4.3 Inspected by Tenderers

The following drawings are made available for inspection by tenderers at: Peter Brett Associates, Calgarth House, 39-41 Bank Street, Ashford, Kent TN23 1DQ during the tender period and at the following times: 09h00 and 17h30 Monday to Friday (excluding bank holidays).

Drawing Number	Title
None	

0/4.4 Brought Into the Contract by Reference

HCD published by The Stationery Office (formerly HMSO) as Volume 3 of the Manual of Contract Documents for Highway Works contains the following drawings brought into the Contract by reference. Unless otherwise stated below the whole drawing is brought into the Contract.

Drawing No.	Title	Date	Aspect/Alternative(s) required if not whole Drawing
F1 A	Surface Water Drains – Trench and Bedding Details	Dec 91	Type 'S' and Type 'Z'
HCD H3	Timber post and 4 rail fence	May 04	'4' rail fence
HCD 20	Steel double field gate	May 04	-

Appendix 1/4: Working and Fabrication Drawings

Series	Description of Works	Minimum period for submission of drawings
300	Hinged, framed, lockable galvanised steel mesh panel covering access to abutment gallery	4 weeks
300	Framed demountable galvanised steel mesh security panels	4 weeks
300	Galvanised steel tubular handrail	4 weeks
400	Parapets and vehicle restraint systems	4 weeks
500	Secondary steelworks to support services and ducting	4 weeks
500	Subsurface drainage	4 weeks
1600 1800	Pile reinforcement cages	2 weeks
1800	Primary structural steelwork	8 weeks
2100	Bridge Bearings	8 weeks
2300	Movement Joints	4 weeks

Appendix 1/5 Testing to be carried out by the Contractor

- 1) Testing shall be carried out in accordance with Table 1/5 of this Appendix. Table 1/5 is based on the Table NG 1/1 of the 'Notes for Guidance on the Specification for Highway Works', published by the Stationery Office (formerly HMSO) as Volume 2 of the Manual of Contract Documents for Highway Works.
- 2) In addition to the testing requirements in Table 1/5, testing in relation to carriageway and footway materials shall also be undertaken in accordance with Kent County Council's Material Testing Requirements shown on drawing 38800/2002/0100/30.
- 3) Method Statement - The Contractor shall supply a method statement stating how testing will be managed and how trends and non-compliance will be dealt with.
- 4) Unless otherwise stated in Table 1/5 all sampling and testing in this Appendix shall be undertaken by the Contractor's independent laboratory. If additional sampling and testing is required by the Project Manager in excess of that stated in this Appendix or elsewhere in the Specification due to non-compliance with the Specification, then the full cost of the additional sampling and testing shall be borne by the Contractor.
- 5) Tests comparable to those specified in this Appendix will be necessary for any equivalent work, goods or materials proposed by the Contractor (see sub-clause 105.4).
- 6) Where a test relates to work, goods or materials which are not required for the Works it shall be deemed not to apply.
- 7) Unless otherwise shown in this Appendix, tests for work, goods or materials as scheduled under any one Clause are required for all such work, goods or materials in the Works.
- 8) (N) indicates that a UKAS accredited laboratory sampling and test report or certificate is required. For all geoenvironmental/chemical tests a MCERTS test report or certificate is required. For geoenvironmental/chemical analysis the Contractor shall provide the Project Manager with full details of proposed laboratories, including copies of accreditation for tests, and details of limits of detection for the Project Managers approval. Such details should be provided to the Project Manager at least two weeks prior to commencement of earthworks testing. Please note that for comparative purposes the test methodologies, limits of detection and sample preparation and extraction details will need to be identical to those previously adopted for the investigation and assessment stage. Reference to the test standards and the types of tests specified in this Appendix may change due to the continuing introduction of European Standards. This shall be considered normal practice and shall not warrant any increase in submitted sampling/test rates.
- 9) Visual and olfactory assessments are to be carried out by the Contractor. Any potentially contaminative or unsuitable materials (including asbestos or asbestos containing materials) are to be segregated and quarantined and the 'qualified person' shall undertake further assessment. Should any of the contamination testing exceed the acceptability criteria outlined in Appendix 6/14 or 6/15, the materials from which the testing was undertaken are to be segregated and the Contractor shall await further instructions from the Project Manager.
- 10) Sampling handling, preservation and testing protocols shall be to current industry standards and full sample tracking shall be implemented. Samples for contamination testing shall be placed in correct sample containers and stored in cool boxes upon collection and transferred to a fridge on site at the earliest opportunity.
- 11) Any imported earthworks material shall be source approved in accordance with requirements of Appendix 1/5 and Appendix 6/1 prior to being imported to site. Contamination testing to be

undertaken in accordance with the requirements of Appendix 6/14 and 6/15. The Acceptability Testing is required to confirm that the fill material being used remains acceptable for use throughout its importation and placement. The sampling of the fill material for Acceptability Testing shall take place as the material is placed on site and before compaction.

- 12) Compliance Testing, at the rates detailed in Table 1/5, is required to confirm that the acceptable fill material has been compacted in accordance with the requirements in Table 6/1. On site validation sampling and testing may be permitted subject to the approval by the Project Manager of methods and appropriate calibration of material to laboratory test results.
- 13) The Contractor shall be deemed to allow a quantity of testing for audit purposes of up to 10% of the full testing regime required under Appendix 1/5.
- 14) Results of any performance testing required, shall normally be supplied within 48 hours of the test being carried out. Presentation of the results shall be in accordance with BS 1377 with the following additions, location, chainage, depth or coordinates and reduced levels, indication of weather and site conditions at the time of test for all field and in-situ tests. The copies of the test results shall be signed by the Contractor's responsible Engineer/technician. Plans indicating test location and depth shall also be presented with a summary report every two weeks. The plans should also be provided in AutoCAD format to the Project Manager.
- 15) Preliminary records of compaction related tests shall be provided within 5 working days of sampling. 0%, 5% and 10% air void lines are to be produced on compaction test results using a particle density based on laboratory tests for materials. The Contractor shall submit two copies of all test results to the Project Manager within five working days of the completion of the test.
- 16) All test failures or observed anomalies shall be notified to the Project Manager immediately in order that timely action to resolve the problem can be implemented.
- 17) On completion of the works, an Earthworks Validation Report shall be prepared by the Contractor presenting a record of the works carried out, full records of all loads delivered to and removed from site, and full records of all monitoring, acceptability and compliance testing. The Earthworks Validation Report shall be presented in a single document together with a copy of the report in pdf format on CD, and digital data in AGS4 format. A draft report is to be provided within two weeks of completion of the earthworks.
- 18) Cube strength tests are not required for concrete complying with Clause 2602.

TABLE 1/5: Testing to be carried out by the Contractor

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 100					
109	Noise Control	Leq and L max	As required in Appendix 1/9		Standard as per Appendix 1/9
	Vibration Control	Peak particle velocity	As required in Appendix 1/9		Standard as per Appendix 1/9
Series 300					
306	Permanent fencing				Quality Management scheme applies
	Concrete components	Cover to reinforcement	1 per consignment (maximum 1 per 100 components) (BS1722)		
308	Gates and stiles				Quality Management scheme applies
	Reinforced concrete posts	Cover to reinforcement	1 per consignment (maximum 1 per 100 components) (BS3470)		
308 and 311	Preservation of timber	Full sapwood penetration	As required in sub-Clause 311.2 (v)	Required for each batch	Quality management scheme applies

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 400					
402	Welding	Welding procedures (Manufacturer's tests)	(Every seven years)	Required	Requirements here are applicable only to systems not falling under the Construction Products Regulation (CPR). Quality management scheme applies
		Welder qualification (Manufacturer's tests)	As required in sub-Clause 402.6(iii)		
		Production testing (Manufacturer's tests)	As required in sub-Clause 402.6(iv)		
	Welded joints	Destructive testing	[See sub-Clauses 402.6(v) and 402.6(vi)]		
	Wire rope terminals	Tensile tests (Manufacturer's tests)	(Annually and when production technique changed)	Required	To provide evidence of tests by a testing laboratory [See NG 403.15] Requirements here are applicable only to systems not falling under the CPR.
403	Anchorage and attachment systems for use in drilled holes	Ultimate tensile load (Manufacturer's tests)		Required	To provide well attested and documented evidence [See NG 403.5]
404	Anchorage in drilled holes	Loading test on site	As required in contract specific Appendix 4/1	Required	
	Post foundations			Required	
406	Vehicle parapets			Required	Quality management scheme applies - applicable only to systems not falling under the CPR.
407	Anchorage and attachment systems for use in drilled holes	Ultimate tensile load (Manufacturer's test)		Required	To provide well attested and documented evidence for systems not falling under the CPR. [See NG 407.2]
409	Vehicle parapet posts	Production testing as specified in BS 6779-1 1998 (Amd No 14290, 21 March 2003) (Manufacturer's tests)		Required	Certification in accordance with Clause 409 is required for systems not falling under the CPR.
410	Anchorage in drilled holes	On-site tensile load test	As required in contract specific Appendix 4/1	Required	To the manufacturer's specification

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 500					
501	Pipes for drainage and service ducts				Product certification scheme or equivalent applies for products not falling under the Construction Products Regulation (CPR).
	Vitrified clay				
	Concrete-PC/SRC	Not exceeding 900mm dia			
	Concrete-Prestressed				
	PVC-U				
	Plastics. See Appendix 5/1				
	Other materials			Required	BBA certification
503	Pipe bedding	Grading and fines content	1 per week (min of 3)	Required	
		Water-soluble sulfate (WS) content (N)	5 per source		
		Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)	5 per source		
		Resistance to fragmentation (N)	1 per source		
505	Filter medium backfill	Plastic index (N)	1 per source	Required	
		Resistance to fragmentation (N)	1 per source		
		Water-soluble sulfate (WS) content (N)	5 per source		
		Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)	5 per source		
		Grading and fines content	1 per week		
		Permeability (N)	1 per source		
506	Sealing existing drains				
	Concrete	Acid-soluble sulfate (AS)	5 per source	Required	
	Grout				

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
500 Series (continued)					
507	Chambers				Product certification scheme applies
	Precast concrete				
	Corrugated galvanized steel	(Manufacturer's tests)		Required	Product certification scheme applies
	Manhole steps				
	Steel filaments				
	Covers, grates and frames				Product certification scheme applies
	Cover bolts				Quality management scheme applies
508	Gullies and pipe junction				Product certification scheme applies
	Precast concrete				
	Clay				
	Cast iron and steel				
509	Watertightness of joints	Air test	All pipelines with watertight joints	Required	

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
500 Series (continued)					
512	Backfill to pipe bays	Grading	1 per 50 tonnes (min of 3)		Product certification scheme applies
		Water-soluble sulfate (WS) content (N)	5 per source		
		Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)	5 per source		
513	Permeable backing to earth retaining structures	Plastic index (N)	1 per source		Product certification scheme applies
		Water-soluble sulfate (WS) content (N)	5 per source		
		Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)	5 per source		
		Resistance to fragmentation (N)	1 per source		
		Grading	1 per 200 tonnes (min of 3)		
		Permeability (N)	1 per source		
	Precast hollow concrete blocks	(Manufacturer's tests)		Required	
516	Combined drainage and kerb systems	Load test			
518	Thermoplastics structured wall pipes and fittings	(Manufacturer's tests)		Required	Product Acceptance Scheme or equivalent applies

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 600					
	Acceptability Testing				
601, 631 to 637, 640	Class 1 - General Granular Fill	Grading	Source approval (3 tests) and then every 500 m ³	Required	Source approval and twice a week or at the minimum frequencies as stated whichever the greater.
		Dry density/moisture content relationship and particle density	Source approval (3 tests) and Every 2000 m ³		
		Moisture Content	Source approval (3 tests) and Every 500 m ³		
		Contamination Suite	Note 2		
		Effective angle of internal friction and effective cohesion	Source approval (3 tests) and then every 2000 m ³		
	Class 4 - Fill to Landscaped Areas	Grading /mc/MCV (N)	Daily		
		Contamination Suite	Note 2	Required	
	Class 6 – Selected Granular Material	Grading / uniformity coefficient	1 per 400 tonnes*	Required	
		PI/LL(N)	Daily*		
		Omc/mc, mc or MCV (N)	1 per 400 tonnes*		(Not for Class 8F4 and 6F5)
		Water soluble sulphate (VVS) (N)	Weekly*		(At least 5 tests per source for sulphur compounds over the course of the contract in accordance with TRL Report 447, tests 1-5)
		pH/chloride ion content (N)	Weekly*		
		Resistivity (N)	(As required)		
		Contamination Suite - See Table 1/5a	See Table 1/5a		
		Effective angle of internal friction and effective cohesion	Source approval (3 tests) and then every 1000 m ³		
		pH/chloride ion content (N)	Weekly*		
		Undrained and drained shear parameters (N)	(as required)		(Cross reference should be made to any requirements in Appendix 6/1)
		Contamination Suite	Note 2	Required	
602	Materials within 450mm of finished road level	Frost heave	1 per source and then any change in consistency of material	Required	

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
600 Series (continued)					
	Compliance Testing				
609 621	Geotextiles	Tensile Properties	1 per grade per source	Required	Quality scheme applies. Any specific requirements are given in Appendix 6/5 or 6/9 as appropriate.
		Permeability			
		Pore size			
	Geogrids	Tensile Properties	1 per grade per source	Required	Quality scheme applies. Any specific requirements are given in Appendix 6/5 or 6/9 as appropriate.
		OMC / MDD	Every source and then every 2000m ³		Compaction test to suit class of material
		Sand Replacement Method and Moisture Content	Every 250m ³ or 1 per day		See Appendix 6/3
		In-situ CBR	1 every 50m of formation		
612 and Appendix 6/3	Subgrade	Hand Vane	10m grid on exposed formation	Required	See Appendix 6/3
613	Formation and Subformation	In-situ CBR	1 every 50m of formation	Required	
622 638 639	Earthworks for reinforced soil and anchored earth structures			Required	
	Reinforcing elements	Coeff. of friction	Each type of element with each type of fill		
	Drainage layers	Grading	1 per 400 tonnes or as required		
626	Gabions - Fill	Grading	1 per 400 tonnes or as required	Certification Required	Details of source and test certification for properties stated in Appendix 6/10.
		LA Coefficient			
	Gabion Mesh	(As appropriate to properties stated in Appendix 6/10)	1 per 400 square metres		

Table 1/5 Series 600 Notes:

1. Unless otherwise stated above, all sampling and testing in this Appendix shall be carried out by the Contractor. The Contractor shall **be deemed to allow a quantity of testing for audit purposes of up to 10%** of the full testing regime required under Appendix 1/5.
2. Contamination testing to be undertaken in accordance with the requirements of Appendix 6/14 and 6/15
Frequency of testing to be:
 - For natural materials that are imported to site, 1 suite from the first 100m³ from any one source, thereafter every 2000m³ from any one source
 - For man-made/processed materials that are imported to site, 1 suite from the first 100m³ from any one source, thereafter every 500m³ from any one source.
 - For site derived materials, 1 suite from the first 100m³ from any one source and thereafter every 500m³ from any one source unless directed otherwise by the Project Manager.
3. Tests comparable to those specified in this Appendix will be necessary for any equivalent work, goods or materials proposed by the Contractor (See Sub-clause 105.4).
4. Unless otherwise shown in this Appendix tests for work, goods or materials as scheduled under any one Clause are required for all such work, goods or materials in the Works.
5. Unless otherwise shown in this Appendix test certificates for work, goods or materials as scheduled under any one Clause

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material Test	Frequency of Testing	Test Certificate Comments
Series 800			
801, 803, 804, 805, 806	General requirements for unbound mixtures for adjacent to cement bound materials, concrete pavements, structures or products	Water-soluble sulfate (WS) content (N)	1 per 400 tonnes or per location if less than 400 tonnes
		Oxidisable sulfides (OS) content and total potential sulfate (TPS) content (N)	1 per 400 tonnes or per location if less than 400 tonnes
	Unbound mixtures beneath surface of a road or paved central reserve	Frost heave (N)	1 per source
		Grading and fines content	1 per week
		Plastic index (N)	
		Resistance to fragmentation (N)	6 monthly
		Resistance to wear - micro-Deval test	
		Resistance to freezing and thawing (magnesium sulfate soundness) (N)	1 per source
		Water absorption (N)	As required
		Volume stability of blast furnace slags	6 monthly
		Volume stability of steel (BOF and EAF) slags	6 monthly
		CBR (N)	1 per source and then monthly
		OMC/mc (N)	
		Density (N)	
		Water absorption (N)	

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 900					
901, 925, 937, 938, 943	Aggregates for bituminous materials			Required	National quality management sector schemes apply.
		Resistance to fragmentation (hardness)	Resistance to fragmentation (N)		
		Resistance to freezing and thawing (durability)	Soundness (N)		
			Water absorption (N)		
		Cleanliness	Sieve test (mass passing 0.063 mm sieve) (N)		Monthly
		Shape	Flakiness index (N)		Monthly
		Blastfurnace slag	Bulk density (N)		1 per 500 tonnes
			Soundness (N)		Once every 4 months
			Dicalcium silicate disintegration (N)		1 per 500 tonnes
			Iron disintegration (N)		
		Steel slag	Bulk density		1 per 500 tonnes
			Volume stability (N)		1 per 500 tonnes
		Coarse aggregate for surface courses	Resistance to polishing (PSV) (N)		1 per source
			Resistance to surface abrasion (AAV) (N)		1 per source
	Binders for bituminous materials	Penetration (N)		Required	National quality management sector schemes apply. Modified binders should have a BBA HAPAS Roads and Bridges Certificate. In the event that no such Certificates have been issued, then in the interim, only modified binders undergoing BBA assessment should be considered for approval by the Overseeing Organisation.
		Softening point (N)			

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 900 (continued)					
903 to 907, 909 to 912, 914, 916, 925, 926, 929, 930, 937, 938, 941, 943, 946 to 948	Bituminous mixtures	Grading (N)	For Audit Test purpose only		National Highway Sector Schemes apply.
		Binder Content (N)			
929	Base and Binder Course Asphalt Concrete (Design Mixtures)	Permanent Works - In situ air void content (N)	[As required]	Required	
		Permanent Works - Refusal air void content (N)			
		Permanent Works - Deformation resistance			
		Deformation resistance (design)		Required	The test certificate is the CE Mark for the mixture
921	Surface macrotexture	Volumetric Patch (N)	As required in sub-Clause 921.3 SK	Required	
924	High friction surfaces	Quality control checks	As required in sub-Clause 924.5	Required	BBA HAPAS Roads and Bridges certification (or equivalent) applies
		System coverage	As required in sub-Clause 924.6		
	Aggregate	Resistance to polishing (PSV) (N)	1 per source and as required for coated chippings in sub-Clause 915.2	Required	
942	Thin surface course systems	General properties		Required	The test certificate is in the form of a BBA HAPAS Certificate

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 900 (continued)					
920	Bond coats, tack coats and other bituminous sprays				
	Binder	Product identification	1 per product per source	Required	Tests are expected to be repeated every two years
		Vialit cohesion	1 per product per source	Required	Tests are expected to be repeated every two years
		Accuracy of spread	1 for each binder and sprayer per month	Required	Not more than 6 weeks prior to start of work and one per month
		Rate of spread	1 per week		
		Penetration at 25oC and 5oC (N)	Every manufactured batch		Manufacturer's QA test results may be submitted
998 AK	Geotextile Reflective Crack Control Membrane	Strength			Certificate to be provided from each production run
		Elongation			
		Rate of spread of binder	1 per 3000m²		Manufacturer's QA test results may be submitted
		Carpet Tile			
		Binder Properties	1 per contract		

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1000					
1001, 1030, 1044	Cement				
	Portland cement CEM I				
	Portland blastfurnace cement				
	Blastfurnace cement CEM III/A				
	Portland pfa cement CEM II/B-V				
	Pozzolanic cement CEM IV/A				
	Portland cement with microsilica				Product Acceptance Scheme applies for microsilica
	Pulverised-fuel ash				
	Ground granulated blast furnace slag				
	Admixtures				
	Mixing water	Sulfate content (N)			
	Aggregates	Resistance to freezing and thawing - magnesium sulfate soundness (N)			
		Water absorption (N)			
		Flakiness index (N)			
		Shell content (N)			
		Resistance to fragmentation (N)			
		Resistance to polishing (PSV) (N)			
		Resistance to abrasion (AAV) (N)			
		Grading and fines content (N)			
		Chloride content (N)			
		Total sulfur (TS) and acid-soluble sulfate (AS) content (N)			

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1000 (continued)					
		Flint coarse aggregate containing white flints	Water absorption (N)		
		Sand (ie fine aggregate)	Acid-soluble material (N)		
		Blastfurnace slag	Bulk density (N)		
			Dicalcium silicate disintegration (N)		
			Iron disintegration (N)		
			Total sulfur (TS) and acid-soluble sulfate (AS) content (N)		
		Pulverised-fuel ash			
1002, 1003, 1004, 1044	Pavement concrete	Air content test (N)	As required in Table 10/10	Required	Product certification scheme or equivalent applies
1005	Consistence (Workability)	Degree of Compactability (Compaction Index) (N)	As required in Table 10/10	Required	
1026, 1044	Surface macrotexture	BS EN 13036-1 Volumetric Patch Technique (N)	1 per day (set of 10)*	Required	
1030	Wet lean concrete	Density	As required in Table 10/9	Required	
		Cube strength (N)			

Table 1/5: Testing to be carried out by the Contractor (continued)

Series 1100					
1101	Precast concrete kerbs, channels, edgings and quadrants	Bending strength	Minimum of 8 per 1000 units of each product (BS EN 1340)	Required	
1104	Precast concrete flags	Bending strength	Minimum of 8 per 1000 m ² of each product (BS EN 1339)	Required	
Series 1200					
1202	Permanent traffic signs			Required	Quality management scheme applies. Certification that the traffic sign is capable of passing the tests in BS 873 : Part 1 is required
1212	Road Markings				National quality management sector scheme applies. Procedures are given in BS EN 1824
		Tests specified in BS EN 1824		Required	
		Glass Beads	Arsenic trioxide content, Lead content and Antimony content (N)	One per contract and/ or per specific source of supply	Required
1217	Traffic signals				Quality management scheme applies. Statutory type approval of equipment applies
	Cables				Product certification scheme applies
	Controllers <i>[Other equipment]</i>	Tests specified in Appendix 12/5	Each controller before delivery to Site and again after installation		
	Cabling	Test a, b, c, e, f, g, h, j as defined in sub-Clause 1424.2	Each traffic signals installation	Required	Certification that the installation complies with BS 7671 (the IEE Wiring Regulations) is required

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1200 (continued)					
1218	Detector loops				
	Cable			Required	Certification that completed cables comply with specification TR 2029 is required
	Epoxy Resin			Required	Certification that the epoxy resin complies with specification MCH 1540 is required
	Feeder cable			Required	Certification that completed cables comply with specification TR 2031 is required
	Joints	Pull test (4 kgf)	Each crimp		
	Installation	Series resistance	Each loop	Required	Certification in accordance with specification
		Insulation resistance			MCH 1540 is required
1305	Anchorage for use in drilled holes	Tensile load (Manufacturer's tests)		Required	To provide well tested and documented evidence
1306	Anchorage in drilled holes to columns and masts with flange plates	Loading test on site	Each location		To the manufacturer's specification

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1400					
1421	Cable				Product certification scheme applies
1424	Lighting Units	Tests specified in Clause 1424	Each unit	Required	Product certification scheme applies Certification that the installation complies with BS 7671 (the IEE Wiring Regulations) is required
	Networks	Tests specified in Clause 1424	Each network	Required	Certification that the installation complies with BS 7671 (the IEE Wiring Regulations) is required

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1600					
1608 1616	Integrity testing Dynamic testing		All bored and cast reinforced concrete piles	Required	See Appendix 16 for specific requirements
1618	Support fluids	To be proposed by the contractor			

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1700					
1707	Hardened concrete – Identity Testing	Cube strength (N) – as described in contract specific Appendix 17/4	Prestressed concrete two cubes from 12 m ³ or 2 batches whichever represents the lesser volume	Required	Contractor to cast and test sufficient additional cubes to demonstrate cube strength before transfer [See Clause 1724]
			Reinforced concrete two cubes from 24 m ³ or 4 batches whichever represents the lesser volume		
			Mass concrete-two cubes from 50 m ³ or 50 batches whichever represents the lesser volume		See also Table NG 17/2
			Additional cubes for special purposes		
		Density	As required		
	Fresh concrete – Identity Testing	Consistence (slump or flow) (N)	Each batch	Required	See sub-Clause 1707.2
		Air content	Each batch		
		Density	As required		
		Water/cement ratio			

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1700 (continued)					
1710	Concrete packing Mortar packing Epoxy resin bonding agent				Contractor to make available records of tests by the manufacturer. See sub-Clause 1710.8
	Precast concrete not conforming to any Product Standard or to BS EN 13369	Cube strength (Manufacturer's tests)			
1711	Grouting and Duct Systems for Post-tensioned tendons				Product acceptance scheme or equivalent applies
		Full scale trials, where required in the contract			See sub-Clause 1711.1 and Appendix 17/6
		Duct assembly verification tests			See sub-Clause 1711.4 and Appendix 17/6
		Fluidity	In accordance with BS EN 447 and BS EN 446		See sub-Clause 1711.2 and sub-Clause 1711.3
		Bleeding			
		Volume change			
		Cube strength			
		Sieve			
		Density			
		Time Setting			
1712	Reinforcement				
	Steel bars			Required (BS 4449)	Product certification scheme or equivalent applies
	Steel wire			Required (BS 4482)	
	Steel fabric			Required (BS 4483)	
	Stainless steel			Required (BS 6744)	

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1700 (continued)					
1713	Fabricated reinforcement			Required (BS 8666)	Certification that fabricated reinforcement complies with the routine inspection/testing requirements of BS 8666 is required if the fabrication is not covered by a product certification scheme or equivalent
1716	Reinforcement jointing systems	Permanent elongation characteristic strength (Manufacturer's tests)		Required for each type of connection	Product acceptance scheme or equivalent applies
1717	Reinforcement – Welding	Welding procedure approval (BS EN ISO 17660)	As required in BS EN ISO 17660		Tests should be carried out by an independent testing body
		Welder approval (BS EN ISO 17660)			

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1700 (continued)					
1724	Post-tensioning anchorages	Tests in accordance with BS EN 13391 (Manufacturer's tests)		Required (BS EN 13391)	Product certification scheme or equivalent applies
1726	Stainless steel bar			Required (BS 6744)	Product certification scheme or equivalent applies
1727	Inspection and testing of structures and components				[Tests should be scheduled as appropriate and requirements given in contract specific Appendix 17/4]
Series 1800					
1805	1805.2 Metallic products			Required according to BS EN 1090-2:2008+A1:2011, Table 1	Tests/Mill certificates to verify steel used conforms with the steelwork specification provided on the Contract drawings
	1805.3.4 Special properties of constituent products	Testing to identify internal discontinuities or cracks in zones to be welded as specified in Appendix 18/1	As required in Appendix 18/1		
1806	1806.4.4 Check of the capability of cutting processes that are likely to produce local hardness	Testing in accordance with BS EN ISO 6507	As required		
	1806.5.4 d) Check of the hardness and geometry of hollow section components subject to bending by cold forming	Check of the hardness, testing in accordance with BS EN ISO 6507	As required		
1807	1807.4.1.2 Qualification of welding procedures (Processes 111, 114, 12, 13 and 14)	Tests specified in BS EN ISO 15614-1 or BS EN ISO 15613	As required in BS EN ISO 15614-1 or BS EN ISO 15613		Results to be reported in accordance with BS EN ISO 15614-1 or BS EN ISO 15613

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1800 (continued)					
	1807.4.1.2 (3 Qualification of welding procedures for joints with restricted access	Tests specified in BS EN ISO 15613	As required in BS EN ISO 15613		Results to be reported in accordance with BS EN ISO 15613
	1807.4.1.3 Qualification of welding procedures for other welding processes	Tests specified in the standards listed in BS EN 10902:2008+A1:2011, Table 13	As required in the standards listed in BS EN 10902:2008+A1:2011, Table 13		Results to be reported in accordance with the standards listed in BS EN 1090-2:2008+A1:2011, Table 13. Note the requirement in BS EN 1090-2:2008+A1:2011, 7.5.12 relating to stud weld procedure testing.
	1807.4.1.4 Validity of welding procedure qualification	Additional tests specified in BS EN 1090-2:2008+A1:2011, 7.4.1.4 for a welding procedure qualified in accordance with BS EN ISO 15614-1, which is undertaken by a welding process that has not been used	As required in BS EN 1090-2:2008+A1:2011, 7.4.1.4		Results to be reported in accordance with BS EN ISO 15614-1
	1807.4.1.4 (1) Validity of welding procedure qualification	Welding production test in accordance with the qualification standard for the process concerned	As required		Results to be reported in accordance with the qualification standard for the process concerned
	1807.4.2 Qualification of welders and welding operators	Tests specified in BS EN 287-1 (welders) or BS EN 1418 (welding operators)	As required in BS EN 287-1 or BS EN 1418 as appropriate	Required	Certificate to be in accordance with BS EN 287-1, Annex A or BS EN 1418, Annex C as appropriate
	1807.4.2 Qualification of welders of hollow section branch connection with angles less than 60°	Specific qualification test. Tests specified in BS EN 287-1.	As required		

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1800 (continued)					
	1807.4.2 (1) Qualification of welders of joints with restricted access	Specific qualification test. Tests specified in BS EN 287-1.	As required	Required	
	1807.5.1.1 Verification that joint preparation in steel grades higher than S460 are free from cracks	Testing in accordance with BS EN 571-1 (penetrant) or BS EN 1290 (Magnetic particle)	As required		
	1807.5.1.1 (1) Qualification of welding procedures where prefabrication primers are to be left on the fusion faces.	Tests specified in BS EN ISO 15614-1 or BS EN ISO 15613 using such prefabrication primers	As required in BS EN ISO 15614-1 or BS EN ISO 15613		Results to be reported in accordance with BS EN ISO 15614-1 or BS EN ISO 15613
	1807.5.4 (1) Welding of joints in hollow sections, full penetration butt welds with restricted access	Pre-production weld test conforming to BS EN ISO 15613.	As required		
	1807.5.6 (3) Verification of ground surface are free of cracks following removal of temporary welded attachments	Testing in accordance with BS EN 1290 (Magnetic particle)	As required		
	1807.5.9.2 (1) Verification of the absence of surface cracking in continuity welds in permanent steel backing	Testing in accordance with BS EN 571-1 (penetrant) or BS EN 1290 (Magnetic particle)	As required		
	1807.5.18 Welding of bridge decks	Production tests in accordance with BS EN 1090-2:2008+A1:2011, 12.4.4 c)	As required		

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
1808	1808.5.3 (1) k value check for the Torque method	Test in accordance with BS EN 1090-2:2008+A1:2011, Annex H	Daily		
	1808.5.4 (2) k value check for the combined method	Test in accordance with BS EN 1090-2:2008+A1:2011, Annex H	Daily		
	1808.5.5 (1) Preload check for HRC method	Test in accordance with BS EN 1090-2:2008+A1:2011, Annex H	Each assembly lot	Required	
	1808.9 Use of special fasteners and fastening methods	Procedure tests for special fasteners and fastening methods as specified in Appendix 18/1	As required in Appendix 18/1		
1810	1810.1 (5) Slip resistant connections	Slip factor test in accordance with BS EN 1090-2:2008+A1:2011, Annex G	Required on all main beam splice faying surfaces	Required	
	1810.1 (10) Verification of the preparation carried out before overcoating galvanized components	Test as specified in Appendix 18/1	As required in Appendix 18/1		
1812	1812.2.1 (1) Specific testing of constituent products not covered by standards.	Tests as specified in Appendix 18/1	As required in Appendix 18/1		

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
	1812.2.1 (2) Mechanical fasteners	Sample testing as specified in 1812.2.1 (2)	As required in 1812.2.1 (2)		Results to be reported in accordance with 1812.2.1 (2). Testing not required if mechanical fasteners supplied by a NHSS 3 registered Organisation. See 1800.5.2
	1812.2.1 (3) Mechanical fasteners	Suitability testing as specified in 1812.2.1 (3)	As required in 1812.2.1 (3)		Results to be reported in accordance with 1812.2.1 (3).
	1812.4.1 Inspection before and during welding	None destructive testing methods selected in accordance with BS EN 12062	As required in BS EN 1090-2:2008+A1:2011, 12.4.1		
	1812.4.2.2 Inspection after welding – Scope of inspection	Supplementary none destructive testing determined by the manufacturer, according to the nature of the work in normal production.	As required in BS EN 1090-2:2008+A1:2011, 12.4.2.2	Required	See 1812.4.2.2 (6)
	1812.4.2.2 (1) Inspection after welding – Specific inspection of welds	Supplementary none destructive testing in accordance with 1812.4.2.2	As required by 1812.4.2.2 (1) to (5)		
	1812.4.3 (1) Welded shear studs	Production tests as specified in BS EN ISO 14555, 14.2	As required in 1812.4.3 (1)		Results to be documented in accordance with 1812.4.3 (4)
	1812.4.3 (2) Welded shear studs	Hammer test as specified in 1812.4.3 (2)	Every welded shear stud		
	1812.4.3 (3) Welded shear studs	Simplified production tests as specified in BS EN ISO 14555, 14.3	As required in 1812.4.3 (3)	Required	Results to be documented in accordance with 1812.4.3 (4)

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
	1812.4.4 (1) Production tests on welding	Production tests on welding as specified in 1812.4.4 (1)	As required in 1812.4.4 (1)	Required	Results to be reported in accordance with the relevant standard
	1812.4.4 (2) Production tests on welding using run-off coupon plates	Production tests on run-off coupon plates as specified in 1812.4.4 (2)	As required in 1812.4.4 (2)		
	1812.7.4 Other acceptance tests	Test requirements for components erected to a specific load as specified in Appendix 18/1	As required in Appendix 18/1		
Series 1900					
1903	Abrasives	Grading	As required		See NG 1903
	Abrasives	Hardness	As required		See NG 1903
1909	Galvanised Coatings	Tests specified in BS EN ISO 1461	As required		
	Thermally sprayed aluminium metal coatings	Tests specified in BS EN ISO 2063	As required		
	Aluminium coating material			Required in accordance with BS EN ISO 14919	
1910	Thermally sprayed aluminium metal coating	Pull off adhesion test in accordance with ASTM D4541-Type III	At the start of the works and [specify subsequent intervals]		
	Thermally sprayed aluminium metal coating (excepted areas)	Grid test specified in BS EN ISO 2063	As required		<i>[Any additional tests should be scheduled in Appendix 19/5]</i>

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1900 (continued)					
1911, Table 19/2B	Hot dip galvanised coating to fasteners	Tests specified in BS EN ISO 10684	As required		[Any additional tests ... Appendix 19/5]
1912 1912SE	Paints - 'A' and 'B' samples	Provision of samples for 'A' and 'B' sample tests			Samples selected in accordance with Clauses 1912 and 1912SE
	Paints - 'A' and 'B' samples	Specific gravity	As required by rate of 'A' and 'B' sampling		See NG 1912, 3; Appendix 19/4, Note 4; Appendix 19/4SE, Note 4; NG 1912.3NI, 3 and Appendix 19/4NI
	Paints - 'A' and 'B' samples	Colour match	As required by rate of 'A' and 'B' sampling		See NG 1912, 3 and NG 1912NI, 3
1914	Coating system minimum film thicknesses	Minimum dry film thickness measurements. In accordance with BS EN ISO 2808, BS3900-C5	Required – representative testing		
	Coating system adhesion	Pull off adhesion test in accordance with ASTM D4541 – Type III	Required – representative testing		
	Coating system defects	Visual assessment supplemented by appropriate testing	Required		
	Coating system defects – pinholing or porosity	Low or high voltage detectors in accordance with ASTM G62-07	Required – representative testing excluding corners, bolted joints or welds		
Series 2000					
2003	Permitted waterproofing systems	BBA Certificate to be provided and testing as required by manufacturer's instructions to be carried out	As required by manufacturer's instructions	Required	Product Acceptance Scheme or equivalent applies
	Additional bituminous protection		1 per 15 tonnes*		
	Stability value		1 per 15 tonnes*		
	Cut back bitumen				

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Material	Test	Frequency of Testing	Test Certificate	Comments
Series 1900 (continued)					
Series 2100					
2101	Bridge bearings				
	Bearings (other than Elastomeric bearings)	Load testing – serviceability limit state	As required in contract specific Appendix 21/1		
		Load testing – ultimate limit state			
		Other tests specified in contract specific Appendix 21/1			
	Elastomeric bearings	Compressive test	As required in contract specific Appendix 21/1		
		Stiffness test			
		Shear stiffness test			
		Other tests specified in contract specific Appendix 21/1			

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Test Material	Frequency of Testing	Test Certificate	Comments
Series 2400				
2401	Masonry cement		Required (BS EN 413-1)	Quality management scheme applies
		Chloride content	Monthly	Required Test to be carried out by the manufacturer and results included on the test certificate
2402	Sand		Required per consignment (BS EN 13139)	
		Chloride content	Monthly	Test to be carried out by the manufacturer and results included on the test certificate
2403	Water	Tests specified in BS EN 1008		
2404	Mortar admixtures		Required (BS EN 934-3)	
2405	Lime		Required (BS EN 459-1)	
2406/ 2417	Bricks			
	Clay	(Soluble salt content Efflorescence Compressive strength Water absorption Initial rate of suction) (BS EN 771-1/TRL Report 447)		Tests/samples (in accordance with BS EN 771-1/TRL Report 447)
	Calcium silicate		Required (BS 187)	
2410, 2411	Stainless steel			
	Wire/fabric		Required (BS EN 10088-1)	
	Bars		Required (BS 6744)	
	Ready mixed mortars		Required (BS 4721)	
	Mortars	1 set of tests per mix		

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Test Material	Frequency of Testing	Test Certificate	Comments
Series 2500				
2501	Materials for corrugated steel buried structures exceeding 900 mm clear span or internal diameter			Type approval applies
	Steel components		Required as appropriate to the standard or specification listed in the type approval Certificate	
	Zinc coating			
	Protective coating			
	Paved invert system			Product Acceptance Scheme or equivalent applies
2502	Materials for reinforcing elements, prefabricated facing and capping units, and washers			Product Acceptance Scheme or equivalent applies
	Carbon steel strip		Required (BS 1449: Part 1.1 or BS EN 10025-1 and BS EN 10025-2)	Silicon content and mechanical properties to be stated on the certificate
	Stainless steel strip		Required (BS EN 10029, 10048, 10051, 10258 and 10259)	Mechanical properties to be stated on the certificate
	Reinforcing bar for anchor elements		Required (BS 4449)	Tests scheduled under Clauses 1717 and 1909 are required for welding and galvanizing of anchor elements
	Materials for fasteners			
	Stainless steel			
	Bolts, screws and nuts			

Table 1/5: Testing to be carried out by the Contractor (continued)

Clause	Work, Goods or Test	Material	Frequency of Testing	Test Certificate	Comments
Series 2600					
2601	Bedding mortar materials			Required for each batch	Certification in accordance with Clause 2601 is required
	Bedding mortar	Flow cone test	Each batch		Laboratory tests
		Flow between glass plates			
		Compressive strength			
		Expansion test			
		Water absorption			
		Elastic stability	1 per source		
		Flow cone test Compressive strength	Each load		Site control tests
2604	Plastic coating to fencing posts, gates and ancillaries			Required (BS 1722: Part 16) applicator is required	Certification by powder manufacturer and coating
2607	Granolithic concrete				Testing to be in accordance with Clauses 1702, 1703, 1707 and 1710
Series 3000					
3001	General				Inspection Reports as required in contract specific Appendix 30/1
3005	Grass seeding, Wildflower seeding and turfing	Rate of spread of fertiliser	1 per 1000 square metres		
		Rate of spread of seeding	1 per 1000 square metres		
		Chemical analysis of fertiliser	1 per source		
		Grass seed germination and purity (Official Seed Testing Station tests)	1 per source and mix variety	Required prior to sowing	

Appendix 1/7 Site Extent and Limitations on Use

1/7.1 Extent of Site

The extent of the Works locations shall be as shown on the 100 Series drawings.

All existing boundaries that form the Limit of the Site and which are unaffected by the works are to be preserved and remain in place unless otherwise specified on the drawings.

The Contractor shall note that for the purposes of the Conditions of Contract, the areas needed for the erection of temporary and permanent traffic signs and removal of existing traffic signs outside the Site limit shown are deemed to be part of the Site.

1/7.2 Limitations on the use of the Site

The establishment of a site compound to accommodate the Contractor's offices shall be within the Site area.

The Contractor shall be responsible for obtaining all necessary planning and other permissions in respect of alternative sites for the establishment of a site compound

If the Contractor deems the Site to be insufficient for the storage of materials, the Contractor will be responsible for seeking a suitable location.

Traffic management for the temporary and permanent works and associated with the access to the site during construction will be subject to the requirements of Appendix 1/17.

The constraints/requirements relating to Archaeology for the site are detailed in the Archaeological Supporting Statement November 2016 prepared by CGMS Ltd.

See Appendix 30/12 for details of the Ecological constraints/requirements for the site

Appendix 1/9 Control of Noise and Vibration

1/9.1 Noise

- a) The Ebbsfleet Development Corporation has powers relating to planning. Other than the transfer of certain planning functions, the Local Authorities referenced below are responsible for the provision of the usual council services in the Ebbsfleet Development Corporation's area. The Site is located in the Ebbsfleet Development Corporation's area. The site is also located in two Local Authorities areas.
- b) The Local Authorities having responsibility for the area are:
- i) Dartford Borough Council

Tel: 01322 343434

Address:

Civic Centre
Home Gardens
Dartford
Kent DA1 1DR
 - ii) Gravesham Borough Council

Tel: 01474 337000

Address:

Gravesham Borough Council
Civic Centre
Windmill Street
Gravesend
Kent
DA12 1AU
- c) The following measures are given as a guide; however, it is for the Contractor to decide whether to seek the Local Authority's formal consent to his proposed methods of work and to the steps he proposes in order to minimise noise. The Local Authority may impose similar conditions to Contractor's offices, workshops, maintenance compounds and batching plants contiguous with the Site.
- d) The normal working hours within the Site shall be Monday to Friday between 0700 and 1900 hours and Saturday between 0700 and 1300 hours, with no working on Sundays or public holidays. Authorised night working (ie those required to comply with the requirements of Appendix 1/17) shall be Monday to Friday between 2100 and 0700. Exceptionally, consent for work outside these hours may be given after any necessary consultation. 14 days' notice is required from the Contractor when seeking such consent.
- e) The noise levels (see Note (i) below) scheduled below for periods outside the normal working hours will only be permitted when consent has been given to exceptional working.
- f) The ambient noise level, L_{eq} (see Note (ii) below), from all sources when measured 2.0m above the ground at the noise control stations as defined in e) below shall either not exceed the appropriate level given in the Schedule or not exceed by more than 3 dB(A) the existing ambient noise level, L_{eq} (see Note (iii) below), at the control station measured over the same

period, whichever level is the greater. The maximum sound level at any noise control station shall not exceed the level given in the Schedule. Exceptionally the Contractor may be given permission to carry out works which exceed the noise levels in the Schedule, provided that 56 days' notice of the date and timing of these works is given to the Engineer and the Contractor demonstrates that he intends to take all reasonable measures to mitigate the noise nuisance. After consultations with the Local Authority and any other interested bodies a decision will be given within 42 days of receipt of the notice.

- g) For the purposes of this Appendix, a noise control station shall be taken as any point adjacent to the Site. If no site is clearly identified in the Contract, a noise control station shall be taken as any point 1m from the facade of any building near the Works.
- h) If complaints of noise are received, the Contractor shall immediately take all measures necessary to demonstrate to the Engineer that the requirements in d) above are being complied with.
- i) The Contractor shall provide the Engineer with the results of such monitoring within 24 hours of notification of the complaint
- j) Where the results of any monitoring indicate non-compliance with the limits stated above, the Contractor shall immediately change his method of working, or to alternative plant, or to any combination of both. The Contractor shall further demonstrate that any new arrangements will satisfy the noise limits before fully recommencing operations.
 - a. The Contractor shall maintain a record of all complaints received with regard to noise and shall promptly notify the Engineer of all such complaints.

1/9.2 Schedule for Total Noise Levels at Control Stations

Period	Hours	Ambient Noise Level Leq measured at Control Station: dB (A)	Period of Hours over which Leq is applicable	Maximum Sound Level (see Note (iv) below) measured at Control Station dB (A)
Mondays to Fridays	0700 - 1900 (N)	72	12	85
	1900 - 2100	62	any 1 hour	70
Saturday	0700 - 1300 (N)	72	6	85
	1300 - 2100	62	any 1 hour	70
Sunday and Public Holidays	0700 - 0900	47	any 1 hour	55
	0900 - 1700	62	any 1 hour	70
	1700 - 2100	47	any 1 hour	55
Nights - unauthorised	2100 - 0700	47	any 1 hour	55
Nights - Authorised	2100-0700	72	12	85
All unattended plant outside normal working hours		47	any 1 hour	50

NOTES:

- i) Noise levels relate to free field conditions. Where noise control stations are located 1 m from facades of buildings, the permitted noise levels can be increased by 3 dB(A).
- ii) The ambient noise level, Leq, at a noise control station is the total Leq from all the noise sources in the vicinity over the specified period.
- iii) The existing ambient noise level, Leq, at a control station is the total Leq from all the noise sources in the vicinity over the specified period prior to the commencement of the Works. It is the Contractor's responsibility to measure the ambient noise level prior to the commencement

of Works and in the presence of the Engineer. Should the Contractor fail to undertake such measurements, the Engineer may choose to adopt the levels from the schedule above as the ambient noise levels, or such other figures as the Engineer may specify.

- iv) Maximum Sound Level is the highest value indicated on a sound level meter which meets the requirements of BS EN 60651 type 1 or 2 set to SLOW response and frequency weighting A or an integrating - averaging sound level meter to BS EN 60804.
- v) In the Column headed "Hours" (N) represents the normal working hours for the Site.

1/9.3 Vibration

- a) The adjacent Network Rail/High Speed 1 railway is a sensitive receptor to vibration. The Contractor shall liaise and agree their method of working with the Project Manager to meet the requirements of Network Rail/High Speed 1 Ltd.
- b) In addition, the Contractor shall ensure that the vibration limits stated below are complied with
- c) Peak particle velocity (ppv) generated by operations on site shall not exceed 5 mm/s at the closest point of any building.
- d) If complaints of vibration within any adjacent property are received then the Contractor shall immediately take all measures necessary, to demonstrate to the Engineer, that the requirements of 3) above are being complied with.
- e) The Contractor shall provide the Engineer with the results of such monitoring within 24 hours of notification of the complaint.
- f) Where the results of any monitoring indicate non-compliance with the limits stated above, then the Contractor shall immediately change his methods of working, or to alternative plant, or to any combination of both. The Contractor shall further demonstrate that any new arrangements will satisfy the vibration limits before fully recommencing operations.
- g) The Contractor shall maintain a record of all complaints received with regard to vibration and shall promptly notify the Engineer of all such complaints.
- h) Particle velocity, as a function of time, shall be measured simultaneously for the x, y and z directions.
- i) In general, the requirements of the monitoring system shall comply with BS 7385 Part 1 and shall provide a dynamic range appropriate for "machinery outside" as specified in Table 1. g) In general the requirements of the monitoring system shall comply with BS7385 Part 1 and shall provide a dynamic range appropriate for "machinery outside" as specified in Table 1.

Appendix 1/10 Permanent Works to be Designed by the Contractor

Work Item or Element	Location	Design Specification
Secondary steelworks to support services and ducting	Between main steelwork girders No. 5 & 4 and between girders No. 3 & 2	Drawings 38800/5003/0100/001 38800/5003/1800/010 as listed in Appendix 0/4
Movement joints	Joints between North and South abutment ballast walls and superstructure	Drawings 38800/5003/0100/001 38800/5003/1700/002 38800/5003/1700/022 as listed in Appendix 0/4
Subsurface Drainage	Subsurface deck drainage system on superstructure deck	Drawing 38800/5003/0100/001 as listed in Appendix 0/4
Bridge Bearings	North abutment, South abutment and pier crosshead bearings	Appendix 21/1 Drawings 38800/5003/1800/010 38800/5003/2100/001 As listed in Appendix 0/4
Hinged, framed, lockable galvanised steel mesh panel covering access to abutment gallery	North and South abutments	Drawing 38800/5003/0100/001 as listed in Appendix 0/4
Framed demountable galvanised steel mesh security panels	North and south abutment inspection gallery's	Drawing 38800/5003/0100/001 as listed in Appendix 0/4
Galvanised steel tubular handrail	North and South Abutment approach steps and on top of North abutment facing reinforced soil embankment	Drawings 38800/5003/0100/001 38800/5003/1700/005 38800/5003/1700/016 38800/5003/1700/017 38800/5003/1700/023 38800/5003/1700/024 as listed in Appendix 0/4
GRP permanent bridge deck formwork	Bridge deck formwork	Drawings 38800/5003/0100/1700 38800/5003/1800/001 as listed in Appendix 0/4

Appendix 1/11 Temporary Works Design

Work Item or Element	Location	Design Specification
Temporary restraints to the steelwork during construction for equilibrium and steelwork stability	Crosshead locations and abutment bearing locations	To be provided as per outline requirements given on drawings 38800/5003/0100/001 and 38800/5003/0100/003 as listed in Appendix 0/4

Appendix 1/12 Setting Out and Existing Ground Levels

1/12.1 Pre-commencement survey

Prior to commencement of the Works, a joint detailed survey of adjacent property is to be carried out by the Contractor and a representative of the Engineer. Wherever possible, this should also include any applicable property owner/trader. The survey is to be carried out not less than 3 days prior to commencement of the Works.

The survey shall be in the form of an individual photographic record and specific noting of any obvious existing defects (e.g. cracked carriageway or potholes).

The Contractor shall produce 3 copies of the survey records, 2 copies of which shall be supplied to the Engineer.

1/12.2 Setting out information

- a) Reference data (String Reports) for setting out the Works and details of existing survey station points are given on Drawing Nos. 38800/2002/100/05 to 06. Full details of the reference strings are provided in the separate Setting Out Report.
- b) Details of proposed and existing ground levels in the form of cross sections, referenced by string line, are given in the Series 100 drawings.
- c) Setting out details are available from the Overseeing Organisation in the form of:
 - i) GENIO file for the design model
 - ii) String reports in Excel format
- d) The Contractor shall ensure that prior to the commencement of the work the base survey data is co-ordinated with the development on Springhead Park.

1/12.3 Specific Requirements for Setting Out

- a) The Contractor shall, in accordance with the information included in the Contract, with the approval of the Engineer, set out, mark and maintain until they are no longer required, all reference lines, templates, bench marks and markers, permanent or temporary, necessary for the setting out and checking of the Works. The Contractor shall keep updated schedules and drawings of such information which he shall supply to the Engineer as the setting out proceeds.
- b) Where setting out markers are likely to be disturbed during the Works, the Contractor shall, subject to the prior approval of the Engineer, transfer such markers to an adjacent point.
- c) The Contractor shall not commence either general site clearance or fencing before obtaining the approval of the Engineer to the setting out of the Site boundaries.
- d) Contract Bench Marks shall be agreed on Site. Prior to any work being carried out on the carriageway, the Contractor shall establish temporary bench marks throughout the Site at not more than 100 metres apart, and agree the levels of these temporary bench marks with the Engineer using the Contract Bench Marks as datum.
- e) Contract Bench Marks shall be established for each section or phase of the Works such that access to them is within the Site.

- f) If any of the bench marks become displaced during the Contract then the Contractor shall re-establish them immediately at his own expense and provide the Engineer with the amended co-ordinate and level values.
- g) **Markings for Setting Out Purposes**
- i. An Agreement has been made between The Kent County Council and all the Statutory Undertakers that operate in Kent upon the paint colour and letter codes to be used for the marking of all temporary reinstatements and setting out details.
 - ii. The Colour white shall be used for all paint markings for setting out purposes put down by the Contractor and all site staff. For information purposes the Statutory Undertakers in Kent shall be using the following colours:-

Authority	Paint Colour	Letter Code
Water	Blue	W
Electricity	Red	E
Telecom	Silver Grey	T
Gas	Yellow	G
Cable TV	Green	V

1/12.4 Existing Ground Levels

Details of the existing ground levels are given on Drawing Nos 38800/2002/100/03 to 04 (Topographical Survey).

1/12.5 Recording of Existing Details

Items to be removed and subsequently replaced shall be surveyed and their locations recorded by reference to temporary bench marks.

In the case of any ambiguity in the setting out information, the Contractor shall request clarification from the Engineer in writing at the earliest opportunity.

Appendix 1/13 Programme of Works

1/13.1 Programme

The Contactor shall provide a programme that complies with Schedule 3, NEC Conditions of Contract Clause 31.

The Contractor shall provide the programme in a form of a bar chart, produced as a result of a 'critical path analysis' and must abide by the constraints below. It shall show the level of detail appropriate to each stage of the Works and all activities and restraints, each of which shall be given a short title. All events shall be numbered and annotated with earliest and latest event dates.

At the time of presentation of the Programme the Contractor shall also provide the following:

Method Statements

General descriptions of the arrangements and methods of construction and operation

Contractor's Licensed Tip(s)

The names and addresses of all the Contractor's tips (including carriers) of where he intends to dispose of all materials surplus to the Contract.

Works shall be carried out during normal working hours as described in Appendix 1/9, except where working restrictions detailed in this Appendix and Appendix 1/17 require alternative working times, or the Engineer agrees to an alternative method of working.

1/13.2 Constraints

The Contractor shall take into account the constraints and conditions stated in the Contract which include but are not limited to the following:

The 'working day' and restricted working hours;

The noise and vibration control limits;

The limitations on the use of the site as detailed in Appendix 1/7;

Traffic safety and management measures including pedestrian movement and access to private and business premises, which should be, without exception, maintained at all times;

General notice requirements for traffic management installation and layout changes;

Work to Privately and Publicly Owned Services and Supplies as detailed in Appendix 1/16;

Liaison with other Contractors executing on-site works;

Liaison with all other interested parties – such as frontagers/traders;

Liaison with adjacent land owners and developers and any 'collaboration' agreements provided by EDC.

The prevalence of existing Statutory Undertaker's plant and apparatus and other cables, services and the like in footways, islands and other areas of excavation;

Phasing or work detailed within this Appendix

Disruption to vehicle access to residential or business properties must be agreed with the Engineer. Access must be maintained out of working hours or when no work is being carried out.

The constraints/requirements relating to Archaeology are detailed in the Archaeological Supporting Statement November 2016 prepared by CGMS Ltd.

See Appendix 30/1 for details of planting constraints such as when planting can take place.

See Appendix 30/12 for details of the Ecological constraints/requirements.

Constraints/requirements relating to seasonal/weather dependent works such as pavement activities.

Phasing of the Works

The work shall be carried out in phases as to minimise the impact on traffic as far as practicably possible. Temporary road closures for vehicular traffic will require agreement with Kent County Council. All phasing and temporary works are to be to the agreement of the Engineer and Kent County Council. The Contractor shall be responsible for applying for permits.

Adverse Weather/Abnormal Traffic

In the event of adverse weather conditions, abnormal traffic or an emergency, the Engineer reserves the right (in the interest of safety) to suspend the Works without prior notice and remove the Contractor from the highway.

Emergency and Routine Maintenance

Reasonable access shall be given for other bodies to carry out emergency and/or routine maintenance works and investigations as the Engineer considers necessary. However, these works will be carried out so as not to affect the Contractor's programme.

Exposed Joints

No exposed longitudinal or transverse joints will be permitted outside the normal working hours if traffic management is to be removed.

1/13.3 Level of detail for the programme

The level of detail shall not be less than the following:

- a) Site mobilisation (including the identification of Statutory Undertaker's plant and apparatus;
- b) Installation of traffic management measures;
- c) Site Clearance;
- d) Each Structure
 - i. Piling;
 - ii. Substructure;
 - iii. Superstructure;
 - iv. Finishings.
- e) Excavation and Earthworks;

- f) Statutory Undertaker's Works (as detailed in Appendix 1/16.6);
- g) Sub-formation and capping;
- h) Drainage and ducting Works;
- i) Major works to privately and publicly owned services and supplies (including those required by EDC on strategic supply routes
- j) Pavement Works;
- k) Kerbing Works;
- l) Footway Works;
- m) Traffic Signals (installed by others);
- n) Street furniture;
- o) Road Markings;
- p) Topsoiling;
- q) Finishing and de-mobilisation/handover
- r) Health and Safety File
- s) any further breakdown as required by the Engineer from time to time.

1/13.4 Schedule of Resources

Further to the requirements above, the Contractor shall provide a schedule of plant (including capacities) and labour resources and output in support of each activity shown in the programme.

1/13.5 Monthly Programme

The Contractor shall provide the Engineer with a Programme of Works in the form of a bar chart on a month by month basis.

The programme shall show all significant activities including preparatory works.

Appendix 1/16 Privately and Publically Owned Services and Supplies

1/16.1 General

This Appendix contains details of services and supplies affected by the Works, details of preliminary arrangements that have been made with Statutory Undertakers and others for the alteration of services and supplies affected by the Works, and details of any orders already placed.

The Contractor shall make arrangements with the Statutory Undertakers and others concerned, for the co-ordination of his work with all work which needs to be done by them or their contractors concurrently with the Works. Compliance with the periods of notice given in this Appendix does not relieve the Contractor of his obligations.

Private Services to individual properties have not generally been listed or shown on the drawings. The Contractor shall make arrangements with the Statutory Undertakers and others concerned for the phasing of all necessary disconnections and diversions of private services affected by the Works.

Disconnected apparatus can be removed by the Contractor only with the prior approval of the Authority concerned.

1/16.2 Schedule of Statutory Undertakers and Other Authorities

The names, addresses and telephone numbers of the authorities serving in the locality, other than those having Special Requirements given in the Conditions of Contract, are listed below:

Name	Address /Telephone Number	Contact
Ebbfleet Development Corporation	North Kent Police Station, Thames Way, Northfleet, Gravesend, Kent, DA11 8BD 0303 444 2586	
Kent County Council Highways	Kent County Council Highways Transportation and Waste Invicta House Maidstone Kent ME14 1XX Tel 03000 418181	
Kent County Council Streetworks Co-ordinator	TBA	TBA
Highway England – Network Control Centre	Tel: 0845 6000414	
Police Area	North Kent Police Station Thamesway, Northfleet, Gravesend, Kent DA11 8BD Tel: *(01622) 690690.	*These calls are answered by the Kent Police Force Communications Centre in Maidstone. You will be diverted to the person best able to respond to your call.
Fire	General enquiries Tel 01622 692 121	
Ambulance	South East Coast Ambulance Service Tel 0300 1230999	
HS1 Ltd	HS1 Ltd 12th Floor One Euston Square 40 Melton Street London NW1 2FD	Planning & Consents Manager

Network Rail (High Speed) Ltd	Henhurst Road Cobham Gravesend Kent DA12 3AN	Asset Protection Engineer (High Speed)
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1/16.3 The names, addresses and telephone numbers of the authorities serving in the locality are listed below.

Company	Address	Tele No.	Fax No.
UK Power Networks Connections Local office	Connections Projects South UK Power Networks Birchold Road Parkwood Maidstone Kent ME15 9XH		
New Connections/Diversion Applications	Connections Gateway Metropolitan House Darkes Lane Potters Bar Hertfordshire EN6 1AG		
Southern Gas Networks (SGN) New Connections	SGN Connections St Lawrence House Station Approach Horley Surrey TH6 9HJ		
Diversion	Southern Gas Networks Leasons Hill St Marys Cray Orpington Kent BR5 2TN		
South East Water New Connections and Diversion	Developer Services Rocfort Road Snodland Kent ME6 5AH		

Southern Water New Connections and Diversions	Developer Services Southern Water Southern House Sparrowgrove Otterbourne Hampshire, SO21 2SW	Tel: 0330 303 0119	
BT New Connections	PP1 Crayford TE Southwold Road Bexley DAS 1LZ	Tel: 0800 731 6962	

1/16.4 Services and Supplies Affected by the Works

Location	Description	Group *	Drawing No.	Notice Required to Commence	Time for Completion
BT	Protection of apparatus	(e)		TBA	TBA
	Provision of service ducts along the bridge structure	(e)	38800/2012/0 01	TBA	TBA
UKPN	Provision of spare ducts installation along the bridge structure	(e)	38800/2012/0 01	TBA	TBA
	Electrical disconnections and new connections (to be agreed)	(c)		TBA	TBA
Southern Water	Provision of raising pressure mains along the bridge structure and installation of chambers	(e)	38800/2012/0 01	TBA	TBA
Other Authorities/ Bodies/ Individuals:	Environment Agency – protection of controlled water from pollution	(e)		n/a	n/a

NOTES:

- (a) Work expected to be completed before the commencement of the Works.
- (b) Work required after commencement of the Works which does not require prior work by the Contractor.
- (c) Work required after commencement of the Works which does require prior work by the Contractor. (As Appendix 17 states, the Contractor is to provide Traffic Safety and Management to all services and supplies affected by the Works).
- (d) Work expected to be in progress at the commencement of the Works.
- (e) Work to be wholly undertaken by the Contractor.

1/16.5 Details of any other preliminary arrangements that have been made and / or of any orders already placed

The anticipated requirements for utility apparatus are shown on drawings 38800/2012/001. Liaison with the statutory undertakers and Ebbsfleet Development Corporation is currently being undertaken.

Appendix 1/17 Traffic Safety and Management

1/17.1 Responsibility for Traffic Safety and Management

The Contractor is responsible for the traffic safety and management and associated works as described in Clause 117 and this Appendix, including complying with the requirements and advice in the following publications:

Safety at Street Works and Road Works - A Code of Practice - issued jointly by the Department of Transport, the Scottish Office and the Welsh Office.

The Contractor is responsible for liaising with and obtaining agreements for traffic management with the relevant authorities. Agreements include (not exclusively) lane closures, temporary traffic regulation orders and diversion routes for public roads, private roads and other ways affected by the Works.

In accordance with sub-clause 117.3, the Contractor shall submit his proposals for traffic safety and management to the Local Authority not later than 3 months before he intends to bring any such proposals into operation.

1/17.2 Definitions

Generally, the terms used are as described in the Traffic Signs Manual Chapter 8 Section D1.5: with the addition of the following:

The word "should" where used in the Traffic Signs Manual Chapter 8 shall be regarded as a requirement of the contract.

"Running Lane for Emergency use" shall be defined as a clear route through the Works for use by the Police, emergency and breakdown services.

'Traffic Safety and Management System' shall be defined as any system comprising the use of signs, lamps, cones and other aids to traffic movement placed on or adjacent to the Public Highway or Private Accesses.

Peak times are as follows:

Day	Time
Mon-Fri	06:00 – 09:30 16:00 – 19:00
Saturday	-
Sunday	-

1/17.3 General Requirements

- All plant and materials shall be removed from the carriageway and verge to the Contractor's store off site before the Traffic Management Systems are removed. If temporary signs and cones are required to be re-installed in the same location within 24 hours the Contractor may lay his signs down flat in the verge and remove cones and signs to the verge. All signs and cones treated in this manner shall be left so that they do not cause a hazard to any motorist that may leave the trafficked lanes as a result of an accident etc. Frames for signs shall not be leant against safety fences or bridge parapets etc. and shall have any legs pointing away from oncoming traffic.
- While the Traffic Management Equipment is installed on the carriageway, the Contractor shall ensure that such equipment, (including any diversionary signs off site), is inspected at intervals of no longer than 4 hours, including times when no construction work is in progress, in which case

Traffic Management shall be removed within 30 minutes of inactivity unless otherwise agreed with the Engineer.

- Any Traffic Safety and Management Equipment that has become displaced and/or damaged in any way shall be repositioned and/or renewed immediately. In addition to patrolling, any defects in the Traffic Safety and Management Systems reported to the Contractor (by, for example, the Police, the Project Manager or Supervisor) shall be rectified within 2 hours of that notification.
- The Traffic Management System shall be designed and maintained in accordance with the requirements of Chapter 8 of the Traffic Signs Manual. The personnel responsible for carrying out Traffic Management inspections shall be equipped with a communication system enabling contact with the responsible person at all times.
- A written patrol log, (See table 1.17.1 or similar approved by the Engineer), shall be completed per patrol by the Traffic Management Contractor identifying the time of each inspection and any corrective action taken. It shall highlight that all mandatory speed limit signs were in place at the time of inspection. The Contractor shall provide such information to the Engineer on request and it may be used in the event of any police prosecution of an offence.
- The Contractor shall supply and maintain temporary lighting at work areas and standing areas during night-time working. The lighting shall be designed to suite the site conditions and shall be of sufficient intensity to illuminate any hazards for the safety of all traffic and site personnel but shall not dazzle adjacent traffic. This lighting shall in any case be a minimum of 15 lux at road level. All lighting shall be available at all times for use during adverse weather conditions or as directed by the Engineer. Gas bottles are prohibited for illuminating signs. The Contractor shall consider Network Rail's requirement when using any lighting, including for vehicles and signs, near the railway.
- Only vehicles essential for carrying out the works shall be permitted within any works area. Any vehicle deemed by the Engineer to be non-essential, especially private cars, and any vehicle not complying with Clause 117, shall not be permitted to remain within the works area. Vehicles travelling within the works area shall observe a speed limit of 15mph at all times and the Contractor shall ensure prominent signs are displayed throughout the site showing this restriction.
- All vehicles travelling within the works area shall be equipped with a flashing amber lamp of sufficient intensity to be clearly visible in daylight. The flashing lamp must be visible for 360 degrees and must not be obscured by any parts of the vehicle structure or load. Certain vehicles shall require more than one lamp. Hazard warning lights, in lieu of roof mounted amber flashing lights, shall not be used.
- Any vehicle reversing within the site must use an audible warning device and must be escorted by a banksman at all times.
- During periods of inactivity, the Contractor shall provide and erect information signs visible to the public. The signs shall be annotated as detailed in accordance with the Interim Advice Note 64/05. The signs shall be repeated at 200m intervals along the length of inactive site.
- The Traffic Management Contractor shall hold full sector scheme (UKAS) accreditation for 12A and 12 B installations. During Traffic Management Operations Traffic management staff shall have a 12A accredited Foreman present on site at all times.
- During the installation and removal of traffic management systems, operatives and Forman shall have 12D accreditation.
- The Contractor shall assist the Police in moving wide and/or abnormal loads through the site by modifying the traffic signing as necessary. Any traffic signs so moved shall be replaced immediately the wide and/or abnormal load has passed through the Works.

- Temporary changes in carriageway level such as transverse joints and ironwork in the carriageway shall be suitably ramped with a fine cold shaping material at a gradient of 1 in 40 or flatter relative to the plane of the road surface and signed accordingly (diagrams 7010 and 7013).
- All temporary traffic signs and frames shall be labelled with the Traffic Management Sub Contractor's name.

1/17.4 Specific Requirements

The Traffic Management Contractor shall design the Traffic Management System in specific phases compatible with his contract programme and shall comply with the specific requirements detailed below:

- Vehicular and pedestrian access shall be maintained to adjacent properties at all times, unless otherwise agreed by the Engineer for short periods and by prior arrangement with the owner/occupiers. This is to include temporary arrangements for deliveries, refuse collection, etc.
- Suitable vehicular and pedestrian access is to be maintained at all times for the HS1 Ltd/Network Rail railway access.
- Arrangements for security and control of the HS1 Ltd/Network access and the railway is to be agreed with HS1/Network Rail. The works will involve temporarily removing /altering /installing new features such as gates, fences and vehicle restrain systems. The temporary works are likely to involve securing the access from unauthorised personnel and vehicles including errant vehicles. The Contractor shall be responsible for ensuring the access is secure to meet the requirements of HS1 Ltd/Network Rail.
- The minimum width of running lane during any alternate single way working shall be 3.25m unless by prior agreement with the Engineer.
- The maximum length of alternate single way working shall be 300m between signal heads. The Contractor will be permitted one section of alternate single way working at any one time.
- The Contractor shall allow for manual control of the traffic signals during peak hours, as defined in Appendix 1/9. The Engineer may instruct the Contractor to increase the hours of manual control if required due to increased traffic flows.
- When no work is in progress, i.e. at night-time or other times as directed by the Schemes Engineer, cones shall, where possible, be moved back to the edge of the works in order to maximise the width of running lane.
- For the sole purpose of surveying the existing carriageway, stop/go boards may be used during off peak hours only with a maximum control length of 50m, provided that no other traffic control system is in use.
- Any existing road marking that conflict with a proposed Traffic Management System shall be removed by mechanical means or forced air abrasive (shot blasting) only or a method approved by the Engineer.
- When the Works necessitate a reduction in carriageway width, or other temporary diversions are implemented, existing road markings shall be either masked or removed and temporary markings in accordance with Clause 1212 applied as necessary to adequately define the temporary traffic lanes.
- The Contractor is to provide Traffic Safety and Management to all services and supplies affected by the Works as listed in Appendices 1/16.

In line with the above, any amendments to actual work implementation such as traffic management overruns, cancellations or postponed start times should also be reported immediately.

1/17.5 Pedestrian Safety and Management

- No pedestrian facilities shall be removed until either a temporary footway, has been provided or other suitable alternative arrangements put in place to the satisfaction of the Engineer.
- Pedestrian barriers shall be either reduced or zero trip hazard barriers.
- Temporary service trenches running across the footway shall be suitably plated and ramped.
- All excavations adjacent to the footway shall be adequately guarded, (dependent upon the depth of excavation).
- Work carried out to footways shall be reinstated to at least base course level prior to moving onto the next section. All covers shall be well ramped and made safe.
- Pedestrians could be present on site. The works shall have suitable barriers erected to protect pedestrians from the works and materials using a suitable barrier system. In the event that a pedestrian is encountered in the works area they should be shepherded out of the site as soon as possible.

1/17.6 Traffic Safety and Management System

The Contractor shall provide to the Engineer copies of typical diagrammatic layouts and details of the Traffic Management Systems as indicated below:

- Traffic management proposals shall be in accordance with the Traffic Signs Manual: 2009 Chapter 8 and to the approval of the local Authority and Police.
- The Contractor shall provide full details of the location and annotation of all temporary signs, including temporary covering of all or part of permanent signs not appropriate to the traffic management system.

Use of coloured cones within the Traffic Management system:

Coloured cones shall be employed within the Traffic Management System as detailed below:

- Green cones with white sleeves shall be installed to indicate the works access. Cones shall be installed 'off carriageway' to comply with the requirements of Chapter 8.
- Blue cones with white sleeves shall be used to indicate overhead obstructions, (i.e. bridge decks), and blue cones with yellow sleeves shall be used to indicate overhead services. The yellow sleeve shall indicate the type of services overhead.

High visibility safety (rope) line with breaks at 9m centres (minimum) and including a retroreflective component shall be installed on:

- High speed roads - from 36m (minimum) in advance of the works to 18m (minimum) beyond the works area.
- Low speed roads – from 9m in advance of the works to 9m beyond the works.

Where the traffic management system proposed includes a full road closure, the closure entry point shall be manned by Gatemen at all times.

The Contractor is responsible for the Traffic Safety and Management System and associated work, as described in Clause 117 and this Appendix.

The Contractor shall provide, erect and maintain such traffic signs, road markings, lamps, barriers and traffic control signals and such other measures as may be necessitated by the works in accordance with the following standards:

Traffic Control Systems shall be installed in accordance with the following standards:

- The recommendations contained in Chapter 8 of the Traffic Signs Manual 2009 "Traffic Safety Measures and Signs for Road Works and temporary Measures" published by Her Majesty's Stationary Office and any amendments thereto.
- The recommendations contained in the County Surveyors' Society, DoT Notes for Guidance, Safety at Roadworks 3rd Edition and any amendments thereto.
- Department for Transport publication "Safety at Street Works and Road Works".
- TA 61/94 Currency of the Traffic Signs Manual
- TD 49/07 Requirements for Lorry Mounted Crash Cushions
- IAN 64/05 Driver Information Signs at Road Works
- IAN 150/12 Temporary traffic Management Sign Simplification – Guidance at road works using relaxation layout traffic management
- IAN 163/12 Alternative Entry Taper at relaxation scheme temporary traffic management on high speed roads

The Contractor shall not commence any works which affect the public highway until the Engineer's consent to the proposed Traffic Management System has been granted. No item of plant or personnel, other than that required for the installation of Traffic Management System, shall be permitted to enter the closed off lanes until such time as the traffic management has been fully installed and in operation.

1/17.7 Traffic Safety and Control Officer

The Contractor shall appoint a Traffic Safety and Control Officer and Deputy who shall be direct Employees (and not a sub-Contractor) and who shall be entirely responsible for any Traffic Safety and Management System including the running lane for emergency use as follows:

- a) liaison with the Engineer and where specified, with the Police;
- b) arranging and agreeing systems;
- c) setting out of the systems;
- d) controlling traffic and supervising any vehicle or item of plant whilst reversing;
- e) ensuring all systems requirements are met;
- f) inspection and maintenance of all Traffic Safety and Management equipment;
- g) arranging duties for watchmen and for patrolling and inspection of the Site;
- h) arranging and ensuring that at all times including weekends and public holidays the Contractor's communications base, equipped with radio and/or telephone, is manned by competent personnel;
- i) dealing with traffic in emergencies, including notifying the Police immediately of any accidents and the like;

- j) reinstatement or temporary alterations to Traffic Safety and Management Systems as requested by the Police in the event of an emergency.
- k) liaison with the Highway Authority (both Kent County Council Highways and, if required, the Highways England) on all matters concerning roadwork's coordination;

The Contractor shall supply to the Engineer the name and telephone number of the Traffic Safety and Control Officer and his Deputy. This information shall be provided on the form headed "Emergency Call-Out Scheme - Contact Names & Telephone Numbers" contained in this Appendix, not later than 5 days prior to the Date for Commencement of the Works.

1/17.8 Safety Zone

Safety Zones shall be kept clear of personnel, plant and materials at all times. The safety zones shall be physically marked out by cones on the traffic boundaries. A continuous physical barrier is to be erected on the Works or inner boundary where the work area is adjacent to a live pedestrian route. The barrier shall be sufficient to keep pedestrians out and prevent inadvertent straying by site personnel. The method of physically marking the boundaries will have been chosen on the basis of an appropriate risk assessment. The minimum lateral clearance shall be as laid down in the Traffic Signs Manual Chapter 8 Section D3.2 unless otherwise determined by the Engineer. The minimum longitudinal clearance shall be as laid down in the Traffic Signs Manual Chapter 8 Table 3.1.

1/17.9 Traffic Safety and Management Patrols

During the period when any Traffic Safety and Management Systems are in operation on the Site the Contractor shall be responsible for patrolling in accordance with the requirements set out below.

The Site shall be patrolled at the frequencies laid down in the Table below. Any Traffic Safety and Management Systems that have become displaced and/or damaged in any way shall be repositioned and/or renewed immediately. In addition to patrolling, any defect in the Traffic Safety and Management Systems reported to the Contractor by either the Police or the Engineer shall be rectified within two hours of that notification. If the Contractor fails to rectify the defect within the two-hour period, then the Engineer or Highway Authority may mobilise their Emergency Service for the area and shall recharge the Contractor accordingly for the time of that visit even if no work is carried out.

The Contractor shall provide two able and competent watchmen for the purposes of patrolling the Site and attending to signs, lamps, cones and any other aids to traffic movement. To enable patrolling of the Site to be carried out the Contractor shall provide a vehicle suitable for the Site conditions. During periods of bad weather additional personnel and transport may be required.

Patrolling Frequencies

Road Category	Frequency/day	At Intervals of not less than	Between the hours of
All other Roads Mondays to Fridays	1 time		19:00 to 22:00
All other Roads Saturdays, Sundays and Public Holidays	2 times		07:00 to 09:00 and 17:00 to 19:00

Note that the frequencies for Saturdays, Sundays and Public Holidays on All Other Roads shall also apply to days where no work is being carried out on the Site, subject to Traffic Management being in place.

The Contractor shall ensure that a sufficient stock of spare signs, lamps, cones and other aids to traffic movement are available on Site to immediately make good all reasonably foreseeable damage to the Traffic Safety and Management Systems.

The Contractor shall after each patrol of the Site enter into the log book held on Site a record of each patrol made. The log shall be a similar format to table 1/17/1 and include the date and time of each patrol and record the particulars of any problems encountered and the remedial work carried out. The log book shall be retained on Site for inspection by the Engineer at any time.

1/17.10 Timing of Operations

The Engineer may permit the pre-placement of traffic signs prior to the Date for Commencement of the Works. Such signs shall be placed, and suitably covered prior to the commencement of the Works, in agreed locations so as not to cause hindrance to passing motorists and pedestrians.

Notwithstanding the provisions of the Conditions of Contract installation of or alteration to the Traffic Safety and Management System shall only be carried out during the following times:

Day	Between the hours of
Monday to Fridays	00:00 hrs to 06:00 hrs 10:00 hrs to 16:00 hrs 20:00 hrs to 24:00 hrs
Saturdays	00:00 hrs to 10:00 hrs 20:00 hrs to 24:00 hrs
Sundays and Public Holidays	00:00 hrs to 10:00 hrs 20:00 hrs to 24:00 hrs

1/17.11 Maintenance Requirements

The Contractor shall sweep, patch, repair gullies, remove debris, restore road surface to its original condition and maintain the trafficked carriageway surfaces within the Traffic Control Area to allow traffic to pass safely within the speed restrictions of the site.

The Contractor shall also ensure that the Traffic Control Area and approaches are kept free of litter and refuse to the standards detailed in the Environmental Protection Act and within the stated timescales.

The condition of carriageway surfaces, drainage and street furniture within the site shall be examined at the same interval as the Traffic Management systems indicated in Paragraph 1/17.8(c). All defects shall be notified to the Project Manager.

1/17.12 Control of Dust and Mud on the Road

The Contractor shall ensure that all roads, accesses and rights of way, leading to, from or crossing the site remain free from mud, slurry or other hazardous substance that is deposited through works operations. Any such substance deposited on any such road shall be removed immediately.

All carriageways are to be swept by mechanical sweeper immediately prior to any lane being reopened to traffic, and immediately prior to the entire Traffic Management System being removed.

The Contractor shall ensure that all necessary steps are taken to avoid creating a dust nuisance. If in the opinion of the Engineer the Contractor is not dealing adequately with the control of dust the Engineer may instruct the Contractor to carry out such additional measures as deemed necessary at the Contractor's own expense.

The Contractor shall ensure that all vehicles making deliveries to the site shall be enclosed or sheeted to prevent dust or other deleterious matter being deposited on the highway or blown from the vehicles. On the return journey, any vehicles from which dust could still arise shall also be sheeted.

The Contractor shall ensure that no water is disposed of from any source in a manner which allows it to flow, or be pumped in a pipe or otherwise, across the surface of any Public Highway.

Measures shall be taken to ensure that temporary discharges into new or existing drainage systems or watercourses, whether intentional or accidental, shall be adequately trapped to remove oil, silt and other pollutants.

1/17.13 Temporary Lighting

Temporary lighting as described in Appendix 14/3 shall be provided and maintained by the Contractor if the existing street lighting has been disconnected and the new street lighting is not operational, in the following situations during the hours of darkness and at times of poor visibility to illuminate:

- the junction area including traffic management that is in place;

- all Working Spaces wherever work is in progress;

- all locations where the merging and/or diverging of traffic lanes or lane switching forms part of the Traffic Safety and Management System;

- Working areas when night works are to be undertaken

1/17.14 KCC Permit (road space) requirements

KCC operate a permit system as prescribed by part 3 of the Traffic Management Act 2004 (TMA) in order to improve authorities' abilities to minimise disruption from street and highway works instead of informing a street authority about its intention to carry out works in the area. The Contractor shall apply for permits to work on the highway.

The Contractor shall arrange for and implement permits in accordance with the Kent Permit Scheme, a full copy of which is provided in ANNEX A to this appendix. A brief overview of the scheme is given below for information.

A basic principle when applying for a permit is: the greater the likely disruption the sooner the application should be made. Kent County Council will need time to consider the implications of an activity. Promoters should recognise that statutory application periods are a minimum and whenever possible longer application periods should be given. If there are no objections to a promoter proceeding before the end of the full prescribed application period consent may be given to an early start. Kent County Council as a permit authority request early warning of immediate activities on streets it has designated as vulnerable to traffic disruption. In these cases, the promoter should ring the authority's specified number as soon as activities become necessary or, at the latest, as soon as they begin.

When a permit is submitted, the highway authority will require:

- Accurate and timely information on what is proposed and when it is happening;
- Reasonable time to consider whether any changes are required to minimise disruption before it agrees to the proposals; All parties to co-operate to achieve the 'minimum disruption'.

Permit applications are to be made to the Kent County Council electronically. In certain circumstances paper applications (submitted electronically) will be acceptable. KCC highways will require the contractor to submit one permit per USRN for each phase of works.

The Contractor should note that Provisional Advanced Authorisations (PAAs) to provisionally reserve occupation of the highway have been made by the Employer.

1/17.15 Portable Traffic Signals

The use of portable traffic signals will need to be agreed with the Local Authority as part of the Contractors Traffic Management proposals. The following information is provided as guidance.

The following minimum periods of notice to give approval for the use of portable traffic signals shall apply:

1. sites requiring simple two way shuttle arrangements7 days
2. sites such as junctions requiring more than 1. above21 days

Should emergencies occur during or outside normal office hours, the Area Streetworks Team must be contacted prior to the actual installation of traffic signals to ensure adequate supplementary traffic management measures are carried out.

Traffic control signal equipment and operational facilities shall comply with the Department of Transport's Specification MCE0111 "Traffic Signal Control Equipment for use at Roadworks", the current Traffic Signs Regulations and General Directions and the requirements laid down in the Traffic Signs Manual Chapter 8, Topic 4, Sections 4.2.5 to 4.2.8.

The Contractor shall satisfy the Engineer that immediately before delivery to Site the apparatus has been inspected and tested as described in the Traffic Signs Manual Chapter 8 Appendix 5 Section 3. Only then shall the apparatus be installed on the Site. The installation shall be carried out by a competent operative.

(vii) The operative in overall control of the roadworks shall fully understand the signing requirements and the correct operation of the signals. The Contractor shall ensure that the operative has attended a training course on the use of portable traffic signal equipment as described in the Traffic Signs Manual Chapter 8 Appendix 5 Section 2.

Traffic signals shall be vehicle actuated and shall also be capable of being operated on fixed time and manual modes.

Wherever possible temporary traffic signals shall be operated off mains supply.

Any alternate single way traffic working shall be controlled by traffic signals. The maximum length of alternate single way traffic working controlled by signals shall be as follows unless otherwise agreed:

1. with only one length of single way traffic working at any one time a length of 200 metres.
2. with two lengths of single way traffic working at any one time a length of 150 metres for each length of working. If two sets of signals are to be used, then a clear two-way traffic length of at least 300 metres must be maintained between the two sets.

Where a 3-phase operation of traffic signals is necessary approval must be obtained from the local Streetworks Coordinator. A minimum of 3 weeks' notice is required together with details. The maximum length of single way working with 3-phase traffic signal operation will be significantly reduced from 200 metres.

Single way operation will not be permitted over any holiday period

1/17.15 Traffic Orders - Notice required by Highway Authority

Notice required by Kent County Council

Kent County Council will require the following periods of notice to enable it to arrange for:-

- | | | |
|------|--|----------|
| i. | making a Provisional Advance Authorisation application | 12 weeks |
| ii. | amending or making temporary traffic road orders | 12 weeks |
| iii. | authorising use of non-prescribed signs | 6 weeks |

- iv. moving signs to be compatible with the state
 - a. of the Works as described in Clause 117.11..... 6 weeks
- v. amending or making mandatory speed limit orders... 12 weeks

1/17.16 Details of Events that could have a bearing on the Works

Local Events: None known at this time.

Other Highway Schemes: Spine Road Phase 2 by the developer Countryside Properties PLC.

17.17 Public & Private Roads and Other Ways affected by the Works

Description	24 hour AADT (two way)	85 Percentile Speed of Cars [mph]	Speed Limit		Types of Traffic Control	Whether to be kept open or closed (See footnote to the table)
			Existing	Proposed		
A2260	14,000	Unknown	40 and 50mph	40 mph	Lane closure, full overnight closures may be required	Open unless agreed with the Local Authorities ¹
NU14 Public Right of Way	-	-	-	-	Permanent diversion to be provided as part of the Works. Temporary diversion will be required as part of the Works.	Open unless agreed with the Local Authority
NU20 Public Right of Way	-	-	-	-	Temporary diversion may be required as part of the Works.	Open unless agreed with the Local Authorities

Footnotes:

1. Local Authorities may include Highways England if diversion routes are required to use routes maintained by Highways England.

Highways, including footpaths, cycle tracks and bridleways, as described above or listed in Appendix 1/19 are the responsibility of:

Authority: Kent County Council

Address: Kent County Council Highways Transportation and Waste
Invicta House
Maidstone
Kent
Me14 1XX

Telephone No: 03000 418181

Spine Road Phase 2 is the responsibility of:

Authority : Countryside Properties PLC

Address: St John's House
Suffolk Way
Sevenoaks
Kent
TN13 1YL

Telephone No: 01732 747010

1/17.18 Remedial Works and Work Carried out after Completion.

The Contractor shall obtain prior approval from the Streetworks Coordinator and the Engineer for the Traffic Safety and Management proposals and timing of all operations covering all work, remedial or otherwise, to be carried out after completion.

1/17.19 Driver Information Signs at Roadworks

The Contractor shall supply and erect Driver information signs at locations to be agreed with the Engineer. Signs shall be maintained in a clean and legible condition for the duration of the works. Within one day after the completion of the works they shall be removed (or as otherwise specified). Signs shall be in accordance with the Traffic Signs Manual Chapter 8; D4.12.

Verges shall be levelled and cleared of vegetation to accommodate all temporary signs in an upright position and to achieve satisfactory visibility. The Contractor shall ensure that vegetation is maintained accordingly for the duration of the temporary sign installations. Clearance of vegetation shall be kept to a minimum necessary to achieve a satisfactory visibility. Verges to be cleared within 450mm of the trafficked lane.

The Contractor shall be responsible for covering (in a manner approved by the Engineer) and uncovering any existing signs which become inaccurate or misleading as a result of the introduction of any traffic management system. The material used to cover the signs shall be opaque. Hessian shall not be used for this purpose.

The Signs shall be erected on 'A' frames and ballasted with sand filled bags placed on the lower level cross bars. The Signs shall be positioned at locations as agreed with the Engineer and repositioned as appropriate and maintained in a secure, clean and legible condition for the duration of the Works.

The faces of the Signs shall be retro-reflective to Class 2 of BS 873 1983.

1/17.20 Advance warning signs to Diagram 7003.1

Signs shall be erected on the near side verge at the location of the start of the works on either side of the carriageway.

The signs are to be erected at least 2 weeks prior to the commencement of the works and removed when the work commences.

Text x-height shall be as noted in the sign dimension table below

Middle Panel text to read:

**Work starts
here
[Date]
[Duration]
(Date and duration to be agreed)**

Lower Panel text to read:

Delays possible

Sign Dimensions

The dimensions of the signs are shown below:

	CATEGORY OF ROAD	Main Sign x-height mm	Distance Plate x-height mm	Height of Triangle mm
1	All purpose road (single or dual) Speed limit 30/40 mph	100	80	600
2	All purpose road (single or dual) Speed limit 50 mph	125	100	750
3	All purpose road (single or dual) National speed limit	200	150	1500

1/17.21 General

Where cold milling (planing) is carried out on a carriageway open to traffic, temporary ramping to ensure the safe passage of vehicles shall be provided.

The Contractor shall maintain the site, working areas and public Highway adjacent in a tidy and dust/debris free condition at all times.

1/17.22 "Emergency Call-Out Scheme - Contact Names & Telephone Numbers" form

Site Locations: A2260 Ebbsfleet Gateway

Contractor:

DATE	PATROL FREQUENCY (4 HRS)	DIRECTION	DEFECTS FOUND	REMEDIALS	INITIALS

Signed _____ Date _____ Time _____

Appendix 1/17 Annex A - Kent Permit Scheme

Appendix 1/18 Temporary Diversion for Traffic

General Requirements

- i. The Contractor shall allow for the installation and removal of any Traffic Safety and Management System involving restrictions or diversions to be carried out under the supervision of the Police.
- ii. The Contractor is responsible for the design, construction, operation, maintenance and removal of measures to maintain the flow of traffic as part of any temporary diversion outside the Site boundaries.
- iii. The Contractor's proposals for the above shall be submitted to the Local Authority not less than 48 hours prior to the time when the Contractor proposes to carry out such measures. The timescales in 1/17.1 and 1/18.2 are still applicable for agreeing the proposed traffic management with the relevant Local Authority.
- iv. Installation of or alteration to the Traffic Safety and Management System for temporary diversions of traffic shall only be carried out during the following times:-

Day	Between the hours of
Monday to Fridays	00:00 hrs to 06:00 hrs 10:00 hrs to 16:00 hrs 20:00 hrs to 24:00 hrs
Saturdays	00:00 hrs to 10:00 hrs 20:00 hrs to 24:00 hrs
Sundays and Public Holidays	00:00 hrs to 10:00 hrs 20:00 hrs to 24:00 hrs

1/18.2 Temporary Diversions Proposed by the Contractor

a) Notice Requirements

See Appendix 1/17.15 for details of notice requirements

Appendix 1/19 Routeing of Vehicles

1/19.1 Permitted Access Routes To and From the Site

Access to the Site for the Contractor's plant, his supplier's and his subcontractor's plant shall only be the routes described in the Contract.

The Contractor shall agree access routes across private land with the relevant freeholders and lease holders. The cost of such routes shall be borne by the Contractor.

The Contractor shall consider the 'Collaboration' agreement agreed by the Employer.

1/19.2 The Use of the Permanent Works by Construction Traffic

- a) The structures and finished pavement forming part of the Permanent Works shall only be used to carry constructional traffic when measures approved by the Engineer have been taken to protect them from damage.
- b) The Contractor shall submit information and supporting calculations at least 4 weeks before it is proposed to use any of the structures or finished pavement forming part of the Permanent Works to carry constructional traffic outside the current Motor Vehicle (Construction and Use) Regulations. The proposals shall not be implemented by the Contractor without the written approval of the Engineer.
- c) The use by constructional traffic of the Permanent Works over or adjacent to railway tracks or property, public highways, or navigable waterways, will only be permitted when suitable protective measures to the Engineer's approval have been implemented. The cost of all such measures shall be borne by the Contractor.
- d) The approval of the Engineer to proposals to use structures or finished pavement forming part of the Permanent Works for constructional traffic shall not relieve the Contractor of his responsibilities under the Contract.

1/19.3 Movement of Machinery and Plant across Public Roads

- a) Where haul routes cross public vehicular rights of way, any traffic signals provided for control shall comply with Chapter 8 of the Traffic Signs Manual.
- b) At least 3 weeks before the Contractor proposes to make a haul route crossing of any public vehicular right of way he shall submit proposals to the Engineer for his approval.
- c) Labour, plant and materials shall be kept within the confines of the Working Area and shall not use areas of carriageway within the Site that are open to the public except in the following circumstances:-
 - (i) Labour and plant required for traffic management purposes;
 - (ii) Labour, plant and materials being moved to and from the Working Area by suitable vehicles.
- d) No item of plant or vehicle associated with the carrying out of the Works shall be operated on carriageway lanes open to the public in such a manner that it would disrupt the normal flow of traffic.

- e) Track laying vehicles and plant will only be permitted to work or run on the sections of carriageway which are to be reconstructed or overlaid provided that the surface over which movement is to take place is protected to the satisfaction of the Engineer.
- f) The Contractor shall provide sleeper or other approved protection to all drains or ducts wherever he requires to move plant or vehicles across such drains or ducts and shall reinstate at his own expense any such drain or duct which becomes damaged or disturbed.
- h) The Contractor shall provide proposals for the approval of the Engineer for measures to protect existing street features such as street furniture, traffic calming features and residential accesses open to the public.

Appendix 1/23 Risks to Health and Safety

1/23.1 General

See the Designer Risk Management Schedule included in the Pre-Construction Information for details of known specific or extraordinary hazards and risks.

1/23.2 Measures to be taken to protect members of the public from Materials or Substances

The Contractor is to provide adequate debris screening to prevent injury or a dust nuisance during all operations but especially those such as breaking, excavation and spraying.

See also the requirements for the provision of pedestrian barriers around all working areas as detailed in Appendix 1/17

Appendix 1/24 Quality Management

1/24.1 General

The Contractor shall institute and operate a Quality Management system in accordance with the Conditions of Contract.

1/24.2 Construction Compliance Certificate

- a) The Contractor shall be responsible for the Construction Compliance activity for the entire structure in accordance with BD 2/12
- b) The Contractor shall prepare and sign Construction Compliance Certificate(s) in the format specified in Annex C6 of BD 2/12
- c) The Contractor shall obtain the counter signatures for the Construction Compliance Certificate(s) from the Works Examiner and Technical Approval Authority as required
- d) The Contractor shall issue a copy of the completed Construction Compliance Certificates to the Works Project Manager

Appendix 1/85 Night Work

1/85.1 General

No work will be carried out during the night except where listed below, are necessary to comply with Clause 117, Traffic Safety and Management, and the additional requirements as defined in Appendix 1/17.

Night works may be required for:

- i. Carriageway resurfacing and associated works on the A2260 Ebbsfleet Gateway

The statement made above does not relieve the Contractor of his responsibility for "Timing of Operations" shown in Appendix 1/17.

1/85.2 Requirements

For the purpose of this Appendix the night is defined as the period between 2000 hrs and 0600 hrs.

Appendix 1/89 Health and Safety file

1/89.1 General

- e) The Contractor is to arrange for and provide all information necessary to allow preparation and completion of the Health & Safety file. This shall include all alterations to the design as implemented and also any hazards that remain that were previously unknown (i.e. unknown utilities) and any other residual hazards.
- f) As-built records provided shall also include any areas of 'non-conforming' works/materials left in the Works as agreed with the Project Manager.
- g) Records may be in the form of hand sketches or annotated drawings.
- h) The information shall be provided within 2 weeks of Completion.

Appendix 2/1 List of Buildings, etc to be Demolished or Partially Demolished

Items to be removed are shown on the 200 Series drawing. Reinstatement of existing surfaces following removal of fences, traffic signal detector loops etc. shall be in accordance and compatible with adjacent construction types. The list shown on the drawing lists the buildings, structures and superficial obstructions which shall be demolished or partially demolished together with any further requirements.

Reference No.	Description	Requirements
FE1	Timber Fence	Timber fence including posts and foundation to be taken down and removed to Contractor's tip
FE2	Chain Link Fence	Chain Link fence including posts and foundation to be taken down and removed to Contractor's tip
VRS1	Safety Fence (Open Box Beam)	Safety fence including posts and foundation to be taken down and removed to Contractor's tip
VRS2	Safety Fence (Corrugated Beam)	Safety fence including posts and foundation to be taken down and removed to Contractor's tip
DL	Traffic Signal Detector Loops	Existing speed assessment detector loops for the International Way junction traffic signals to be removed and replaced with new speed discrimination loops. Refer to drawing 38800/2002/1200/10 for details.
G	Gate	Gate including posts and foundation to be taken down and removed to Contractor's tip

Notes

Refer to Appendix 3/1 for the requirements of temporary fencing regarding ensuring security for the site and HS1.

2/1.1 Traffic Signs

- a) The existing traffic signs to be taken down are as shown on the Series 1200 drawings. Refer also to Traffic Sign Take Down schedule in Appendix 12/1.
- b) The Contractor shall be responsible for agreeing and organising the existing electricity supplies to illuminated signs to be disconnected prior to the item being removed.

Appendix 2/2 Filling of Trenches and Pipes

2/2.1 General

All work to be undertaken in accordance with the Specification for Highway Works (SHW).

Disused soil and surface water drains, sewers, cables and ducts shall be removed or left in accordance with clause 201.4.

All trenches shall be backfilled in accordance with clause 201.4.

Vegetation

Trees, bushes and hedges identified on the Drawing shall be uprooted or cut down as near to ground level as possible and all felled timber disposed of by the Contractor unless otherwise described in Appendix 2/3.

All trimmings from vegetation clearance to be taken to contractor's tip.

Retention of pipes, services etc. within 1 m of formation

All statutory undertaker mains and service pipes are to be retained unless shown otherwise on the Contract Drawings

Method of Filling Voids

Unless otherwise specified on the Drawings all voids shall be backfilled to the appropriate Clause in the 600 Series of the Specification.

Appendix 2/3 Retention of Material Arising from Clearance

2/3.1 Schedules of Material to be Retained

Materials that are to be retained and taken to the Contractors site compound and carefully stored until required for reuse.

Signs to be retained for reuse shall be identified in Appendix 12.

Appendix 2/6 Site Clearance Environmental Requirements

2/6.1 Ecological site clearance restrictions or measures

Refer to Appendix 30/12 for Ecological site clearance requirements.

2/6.2 Archaeological site clearance restrictions or measures

- a) As referred to in Appendix 1/7 and 1/13 the restrictions relating to Archaeology are detailed in the Archaeological Supporting Statement November 2016 prepared by CGMS Ltd.
- b) The Contractor shall undertake the mitigation measures in accordance with the Archaeological Supporting Statement.

Appendix 3/1 Fencing

3/1.1 Temporary fencing

- c) The Contractor shall provide temporary fencing and gates when necessary to secure the site, ensure safety and provide the works.
- d) The Contractor shall consider the access and security requirements for the HS1/Network Rail access when determining where to provide temporary fencing and gates.
- e) The Contractor will make provision for providing temporary vehicular restraint fencing to secure the HS1/Network Rail access/railway.
- f) The Contract shall agree the access and security arrangements with the Project Manager prior to the commence of the works.

3/1.2 Permanent fencing

- a) Fencing shall be provided as shown on the 300 Series drawings. Height to match existing.
- b) Concrete footings shall be provided for the post and rail fencing as shown on HCD drawing number H3.
- c) Gates shall be provided as per the 300 Series drawings.

Appendix 4/1 Road Restraint Systems

4/1.1 Vehicle Restraint Systems

The location of and type of barriers and transitions, parapets and terminals are shown on drawing numbers 38800/2002/0300/01 and 38800/2002/0300/02.

The barrier, transition and terminals and corresponding connections shall be proprietary products by Hill and Smith or similar approved as shown on drawing numbers 38800/2002/0300/01 and 38800/2002/0300/02.

The parapet and corresponding connections shall be the proprietary product by Varley and Gulliver or similar approved as shown on drawing 38800/5003/0100/01.

Appendix 4/2 Information Required to Demonstrate Compliance of Road Restraint Systems

The Contractor shall follow the MCHW Series NG 400 guidance to demonstrate compliance of the proposed road restraint systems with BS EN 1317-1, BS EN 1317-2, BS EN 1317-3 and DD ENV 1317-4:2002.

Appendix 5/1 Drainage Requirements

5/1.1 General

The drainage services are shown on drawing numbers 38800/2002/500/001 & 002.

5/1.2 Pipe and Bedding Combinations

Unless otherwise stated, all surface water drains shall be concrete, vitrified clay to BS EN 295 or Plastic pipes complying with the following requirements:

- a) Thermoplastic structured wall pipes for surface water drains shall have pipe stiffness, creep ratio and impact resistance as required by Clause 518.

Unless otherwise stated, pipe bedding, haunching and surrounding material shall comply with:

Where cover to top of pipe equal to or greater than 1200mm - Type S

Where cover to top of pipe is less than 1200mm - Type Z

5/1.3 Jointing of Pipes

Joints in surface water drains shall have watertight joints and shall be tested in accordance with clause 509

Rigid joints shall not be used

5/1.4 Backfilling of Trenches

Trenches shall be backfilled in accordance with Clause 505.

5/1.5 Gullies and Pipe Junctions

Proprietary junctions shall be used for all gully connections to pipelines up to 300mm internal diameter.

All gully gratings and frames shall be non-rocking, cast iron, to BS EN124, Class D400 with a 900cm² minimum area of waterway and a minimum frame depth of 150mm. The gratings shall be pedestrian safe with Type P Hydraulic capacity.

5/1.6 Connecting to Existing Surface Water Drains Chambers & Channels

As shown on the drawings, in some locations existing drainage outfalls are to be adapted and re-used for new gully and chamber positions.

All connections to existing outfalls, discharge points and pipes shall be to a method approved by the Engineer.

The Contractor shall make allowance for a reasonable element of investigation to trace/accommodate existing drains to which existing drainage discharges to.

Connections shall generally be made by cutting cleanly back to sound pipe material and, where practical, using either a male/female pipe collar arrangement or a proprietary sleeve system.

Existing drainage to be cleaned in accordance with Clause 521 shall be as shown on the drawings in the 500 Series. The pipe material of the drainage system to be cleaned is unknown.

5/1.7 Chambers, Covers and Ironwork

Where necessary, all ironwork/covers shall be raised or lowered to suit adjacent/ surrounding surface levels.

Gullies shall be trapped and as specified on drawing number KCC/SD/500/009.

All covers and frames shall be cast iron, non-rocking, to BS EN124, Class D400 with a clear opening of 600mm diameter and a minimum frame depth of 150mm.

When setting, raising or lowering ironwork, new brickwork is to be used from the top of gully pot/biscuit unless agreed with the Engineer. Level difference that does not fall to an entire course of brickwork is to be made up by the use of tile or cut Engineering bricks and NOT excessively thick mortar.

5/1.8 Cleaning/proving of Gullies, Catchpits, Soakaways and Oil Separators

All drains shall be checked by drawing through each completed length of pipe a spherical mandrel of a diameter 10mm less than the smallest internal pipe diameter.

Further to Clause 520K, on completion of the whole of the Works all gullies and drains, both those affected by the Works and those within the general site boundaries shall be flushed from end to end and to each outfall point with water and left free from obstructions.

Following the completion of the works all drains shall be CCTV surveyed in accordance with Clause 509 for their complete length between chambers. A copy of the video shall be provided in a Win Can compatible format to the Project Manager.

5/1.9 Kerb Drains

- a) Kerb drainage is to be provided at the location shown on drawing 38800/2002/500/01 and 02. The kerb drain is to be Envirobridge half battered 150 x 210 units by Pipeline and Drainage Systems Ltd (or approved equivalent), installed with a 100mm kerb face.
- b) Intermediate, End Rodding Access Units and End Rodding Access and Outlet Units, are to be provided as shown on the drawing 'Deck Drain Rev 1'.
- c) 2m Expansion Joint Detail units shall be used to cross the bridge joint as shown on the drawing 'Deck Drain Rev 1'. Drawing EKB_EXP_JNT shows a standard detail for the 2m Expansion Joint Detail units.
- d) The End Rodding Access and Outlet Unit are nominally identified as chambers as shown on the drawing 38800/2002/500/01 and the chamber schedules. All units are to be installed to the manufacturer's specification.
- e) The drawing 'Deck Drain Rev 1' also shows the material schedule to be used.

5/1.9 Gully schedule

Gully No	Chainage	Gully No	Chamber No	Pipe Details	Length (m)	Remarks
				Diameter (mm)		
G1	11.223	Precast Concrete Gully	C1	150	6.868	
G2	11.831	Precast Concrete Gully	C1	150	6.331	
G3	22.758	Precast Concrete Gully	C1	150	3.901	
G4	21.843	Precast Concrete Gully	C2	150	3.422	
G5	14.488	Precast Concrete Gully	C2	150	3.420	
G6a	74.984	Precast Concrete Gully	C3	150	5.513	Chainage using MCX1 string.
G6b	87.41		Existing surface water pipe		3.581	Chainage using MCX1 string. 45 degree oblique angled junction into existing pipe (225mm diameter).
G7	58.603	Precast Concrete Gully	C4	150	5.309	
G8	79.718	Precast Concrete Gully	C4	150	19.400	
G9	69.477	Precast Concrete Gully	C4	150	14.388	
G12	206.710	Precast Concrete Gully	S2.004	150	10.997	Runs into pipe.
G13	207.455	Precast Concrete Gully	S29	150	12.818	
G14	206.751	Precast Concrete Gully	S2.004	150	2.918	Runs into pipe.
G15	207.587	Precast Concrete Gully	S2.004	150	3.832	Runs into pipe.
G16	209.810	Precast Concrete Gully	S29	150	3.806	
G17	209.941	Precast Concrete Gully	S29	150	12.179	
G18	224.871	Precast Concrete Gully	S2.005	150	10.734	Runs into pipe.
G19	230.142	Precast Concrete Gully	S2.005	150	4.317	Runs into pipe.
G20	242.797	Precast Concrete Gully	S20	150	0.847	
G21	251.607	Precast Concrete Gully	S1.018	150	4.523	Runs into pipe.
G22	261.142	Precast Concrete Gully	S1.018	150	1.503	Runs into pipe.
G23	270.918	Precast Concrete Gully	S1.018	150	3.375	Runs into pipe.

NOTES

1. Gully offset to be taken at Kerbline
2. Pipe lengths taken from the centre of the kerb edge
3. Gully chainage using MC01 string unless otherwise stated

5/1.10 Chamber/Pipe schedule

MANHOLE REFERENCE	CHAINAGE	OFFSET (m) SEE NOTE 2	COVER LEVEL (m) SEE NOTE 3	MH DEPTH TO SUMP INVERT SEE NOTE 5 (m)	MH DEPTH TO SOFFIT (m) SEE NOTE 6	MANHOLE DIA (mm)	DOWNSTREAM MANHOLE REFERENCE	PIPE OUT				Pipe In			REMARKS
								PN	IL (maOD)	DIA (mm)	PIPE LENGTH (m)	PN	IL (maOD)	DIA (mm)	
C1	18.673	9.539	13.075	2.100	1.275	1200	C2	D1.000	11.575	225	19.793	-	-	-	
C2	18.606	10.254	12.800	2.124	1.299	1200	C3	D1.001	11.451	225	11.150	D1.000	11.451	225	
C3	8.270	14.438	12.775	2.050	1.225	1200	O1	D1.002	11.325	225	19.123	D1.001	11.325	225	
O1	X = 561612.264 Y = 173649.606		12.550	2.025	1.200	-	-	-	OUTFALL	-	-	D1.002	11.131	225	Proposed to connect to existing highway surface water drainage chamber in footway. Existing chamber assumed to be 1050mm diameter. Existing inlet and outlet pipe inverts assumed to be 11.115.
C4	60.394	9.025	13.300	2.025	1.200	1200	C5	D2.000	11.875	225	25.429	-	-	-	
C5	29.044	12.316	13.250	6.631	5.806	1200	O2	D2.001	7.219	225	28.696	D2.000 (to backdrop see notes)	11.592 (top of backdrop invert level)	225	Pipe P2.000 proposed to connect to C5 via a backdrop to KCC/SD/500/006 (internal pipe diameter of backdrop to be 225mm). Top of backdrop invert level = 11.592 Bottom of backdrop invert level = 7.619 Backdrop fall = 3.973m Chamber to be type 4 to the standard detail KCC-SD-500-002.
O2	29.952	16.354	6.750	5.627	-	-	-	-	OUTFALL	-	-	D2.001 (to backdrop see remarks)	5.675 (top of backdrop invert level)	225	Proposed to connect to the existing HS1/Network Rail surface water drainage chamber via a backdrop to KCC/SD/500/006 (internal pipe diameter of backdrop to be 225mm). Existing HS1/Network Rail chamber assumed to be 1200mm diameter. Top of backdrop invert level = 5.675 Bottom of backdrop invert level = 2.223 Backdrop fall = 3.452m (assumed invert level of Outfall 02 600mm diameter outgoing pipe = 1.623)
S19	287.276	1.475 (S)	11.775	2.250	1.650	1350	S20	S1.018	10.125	450	45.139	S1.017	10.125	450	2.0m long 600mm diameter articulated pipe is to be installed from C6 to the Site Boundary as shown on the Series 500 drawing.
S20	242.228	1.514 (S)	8.900	2.250	1.650	1350	S30	S1.019	7.250	450	8.943	S1.018	7.250	450	

MANHOLE REFERENCE	CHAINAGE CO-ORDINATES	OFFSET (m) SEE NOTE 2	COVER LEVEL (m) SEE NOTE 3	MH DEPTH TO SUMP INVERT SEE NOTE 5 (m)	MH DEPTH TO SOFFIT (m) SEE NOTE 6	MANHOLE DIA (mm)	DOWNSTREAM MANHOLE REFERENCE	PIPE OUT				Pipe In			REMARKS
								PN	IL (maOD)	DIA (mm)	PIPE LENGTH (m)	PN	IL (maOD)	DIA (mm)	
S21	82.257	3.403 (N)	12.875	See remarks	-	-	S22	S2.000	12.780	See remarks	97.548	-	-	-	Combined kerb drainage unit "EnviroKerb End Rodding Access Unit", see Appendix 5/1.9 for details
S22	179.925	3.584 (N)	8.515	See remarks	-	-	S23	S2.001	8.365	150	2.487	S2.000	8.420	See Remarks	Combined kerb drainage unit "EnviroKerb End Rodding Access Outlet" unit, see Appendix 5/1.9 for details
S23	181.958	4.628 (N)	8.575	2.100	1.500	1200	S27	S2.002	7.075	300	7.898	S2.001	7.225	150	
S24	91.576	3.350 (S)	12.575	See remarks	-	-	S25	S3.000	12.480	See remarks	92.745	-	-	-	Combined kerb drainage unit "EnviroKerb End Rodding Access Unit", see Appendix 5/1.9 for details
S25	184.040	3.656 (S)	8.365	See remarks	-	-	S26	S3.001	8.215	150	3.727	S3.000	8.270	See Remarks	Combined kerb drainage unit "EnviroKerb End Rodding Access Outlet" unit, see Appendix 5/1.9 for details.
S26	187.114	2.015 (S)	8.450	1.950	1.350	1200	S27	S3.002	7.025	225	7.540	S3.001	7.100	150	
S27	190.384	4.792 (N)	8.325	2.100	1.500	1200	S28	S2.003	6.825	300	5.673	S2.002	6.825	300	
												S3.002	6.900	150	
S28	196.396	4.898 (N)	8.200	2.300	1.700	1350	S29	S2.004	6.500	450	17.656	S2.003	6.650	300	
S29	215.239	7.507 (N)	8.210	2.357	1.757	1350	S30	S2.005	6.453	450	26.203	S2.004	6.453	450	
S30	242.228	7.385 (N)	9.075	3.309	2.709	1350	S31	S1.020	6.366	450	7.322	S1.019	6.366	450	
												S2.005	6.366	450	
S31	242.228	14.706 (N)	8.500	2.833	2.233	1500	O3	S1.021	6.267	525	22.380	S1.020	6.342	450	
O3	X = 561739.395 Y = 173469.814 (Centre of the headwall's rear wall)			-	-	-	-	-	4.000	-	-	S1.021	4.000	525	Outfall 3 shall be a precast concrete headwall suitable for the pipe diameter by Stanton Bonna or similar approved. Headwall to be installed to supplier's specification except 75mm thick stone pitching to be applied to the apron by being set in and bedded on 75mm thick grade GEN3 (ST4) concrete.

NOTES

- Chambers shall be type 2 in accordance with the standard detail KCC-SD-500-001 (for chamber depths not exceeding 3.05m from ground level to pipe soffit) unless otherwise stated.
- Offsets stated are from the MC01 chainage line to the chamber centre unless stated otherwise (N) = North of the centreline, (S) = South of the centreline. Co-ordinates are for the chamber centres.

3. Cover levels stated above are approximate. They shall be set to the level of the final surface.
4. The invert levels for the connections for gullies shall be derived from the minimum falls stated in the gully schedule.
5. Depths stated for manholes include a 600mm sump below the invert of the outgoing pipe.
6. Depth stated is to the soffit level of the outgoing pipe.
7. Outfall 01 and 02 information is based on HS1/Network Rail as-built records.
8. Chamber and pipe numbers with the suffix 'S' match the site wide drainage model that is for both the Springhead Bridge Link and the Spine Road Phase 2 schemes.

Appendix 5/2 Service Duct Requirements

5/2.1 General

- a) The locations of duct installations are shown on Series 1200 and 1300 drawings. The drawing 38800/2012/001 shows the utility provision layout. Ducts for traffic signal installations are shown on drawing number 38800/2002/1200/10.
- b) Covers located within the footway area shall be re-orientated to provide continuation of footway surface course materials within the area of service covers.
- c) For trench reinstatement in existing pavements see Appendix 7/2.

5/2.2 Duct Construction

- a) Ducts for private electricity supplies, including for traffic signal installations and street lighting installations, shall be orange uPVC to BS EN 500086-2-4. The ducts shall be high or medium density and have a wall thickness of not less than 5mm
- b) Ducts shall be constructed in accordance with drawing numbers KCC/SD/500/024 and KCC/SD/500/25.
- c) Ducts shall have 'STREET LIGHTING' or 'TRAFFIC SIGNALS' (as appropriate) printed in 9mm white lettering at intervals of not more than 1000mm. When laid, the wording shall be uppermost.
- d) Under kerb ducts for traffic signal installations shall be 100mm diameter orange PVC-U to BS EN 50086-2-4. The ducts shall be of normal duty and pliable. They shall be bedded and surrounded with 100mm of ST1 concrete. The exact line of the ducts shall be marked on the kerb in order to locate them when slot cutting for the loop detectors.
- e) Other ducts shall be of the following colours:
 - i. Black: Electricity - Board supply.
 - ii. Orange: Electricity - Private electric cables

5/2.3 Duct Markers

Unless otherwise agreed with the Engineer each duct, or group of ducts, shall be marked with a permanent marker block as shown on HCD drawing I1.

Permanent marker blocks are not required for traffic signal installations.

5/2.5 Junction/draw pit

The inscription on the covers shall be as follows:

For-street lighting chambers 'STREET LIGHTING'
For traffic systems chambers 'TRAFFIC SIGNALS'

BT will provide and install BT's own covers. The Contractor shall arrange the installation with BT when required during works. Contact details and reference number to follow.

Where chambers are within areas of footway construction with paving units the covers shall be recessed. Except for those covers belonging to Southern Water, these will be standard covers. Refer to Appendix 11/1.9 for surfacing material details.

5/2.6 Junction Pit/Box

The type of chamber to be used for the termination of pipes for service ducts shall be as shown in Drawing numbers KCC/SD/500/020 to KCC/SD/500/023.

Appendix 6/1: Requirements for Acceptability and Testing Etc. of Earthworks Materials

- (1) The Contractor is to submit an Earthworks Quality Control Method Statement for approval by the Project Manager not less than 10 working days prior to the start of Earthworks.
- (1) Acceptable limits and criteria for the Permitted Classes of fills appropriate to the Contract are detailed on Table 6/1 of the SHW, the modified Table 6/1 included in this Appendix and Appendices 6/14 and 6/15 of the Specification. The Contractor is responsible for appropriate sampling and testing, including testing to determine the concentration of potential contaminants, to classify and determine the acceptability of earthworks materials based on the specified limits and criteria.
- (2) Permitted Constituents of fill materials shall be any natural materials or combinations of natural materials other than chalk and material designated as Class 3. No Class 3 materials are to be used in the works. Should the Contractor expose chalk materials then the Contract Administrator shall be informed immediately for further instruction with respect to excavation, handling or reuse of the material.
- (3) Where fill materials include recycled crushed concrete, the Contractor shall determine the nature of the ground and groundwater beneath and surrounding the areas of proposed fill with respect to sulphur, sulphates, and any other potentially deleterious materials, in accordance with TRL 447 and other relevant guidance, and shall assess in accordance with TRL 447 and other relevant guidance the suitability of using materials containing recycled crushed concrete in the proposed areas.
- (4) The Contractor is responsible for ensuring all statutory and regulatory requirements for the receipt and use of all materials either excavated from the site or imported onto the site are observed. The Contractor is responsible for ensuring a record of each load delivered and accepted is kept giving: (i) date, (ii) nature and quality, (iii) place of origin, (iv) quantity by weight/volume, (v) carrier, (vi) supplier. The Contractor is responsible for ensuring a visual and olfactory assessment is carried out on every load, on initial receipt and after deposition, to ensure compliance with the Acceptance Criteria; the findings of the assessment shall be recorded with the record sheet for the load.
- (5) Samples for classification and acceptability testing shall be taken at the point of excavation for on-site materials and at the point of deposition for imported materials. If the material has altered its classification or become unacceptable for whatever reason, the Contractor shall repeat the classification and acceptability tests. The frequency and scope of acceptability testing requirements shall be according to Appendix 1/5 of the Specification. The frequency of testing should be treated initially as being the minimum required. Where materials are known to be marginal or if initial test results show them to be such, the frequency of testing should be increased. However, where material properties are consistently in excess of specified minimum requirements or well below specified maximum limits, then the frequency of testing may be reduced, subject to acceptance by the Contract Administrator.
- (6) Material excavated and designated for reuse shall be transported either directly for placement or to an appropriate area for temporary stockpiling. Any reusable arisings shall be tested and classified in accordance with Appendix 1/5 and 6/14. Clearly defined segregated stockpiles are required for different waste types. The Contractor's attention is drawn to the requirements of Clauses 601 and 602 of the Specification regarding the separation and segregation of materials classified as either acceptable or unacceptable Class U2.
- (7) If in the opinion of the Contract Administrator the material has altered from the classification made by the Contractor, or become unacceptable for whatever reason, he may require the Contractor to repeat the classification and acceptability tests given in Table 6/1 of this Appendix.

or remove such unacceptable material where placed in the works. The rate of further testing required shall be sufficient to ensure the correct classification of materials taking into account the variation of their properties.

- (8) The fill materials shall be inert as defined in Clause 7(4) of the Landfill (England and Wales) Regulations 2002. The fill materials shall be tested to determine the concentration of potential contaminants in accordance with the methodology and limits of detection included in Appendices 6/14 and 6/15 of this Specification. The materials shall be classified as Unacceptable Material Class U2 when the concentrations of potential contaminants exceed the acceptability limits given in Appendices 6/14 and 6/15 and shall be dealt with in accordance with Appendix 6/2. The frequency and scope of acceptability testing requirements shall be to Appendix 1/5 of this Specification.
- (9) Materials shall only be classified as Class U1B or U2 when the concentrations of potential contaminants exceed the acceptability limits given in Appendices 6/14 and 6/15 and shall be dealt with in accordance with Appendix 6/2. The Contractor shall be responsible for any necessary pre-treatment and/ or processing of unacceptable material or surplus acceptable material deemed not acceptable for use in the Permanent Works, prior to disposal of materials offsite.
- (10) All excavated materials identified for disposal shall be either excavated for immediate disposal, where the waste classification of such materials has been predetermined or placed in stockpiles prior to processing and final classification. Where required, unacceptable material shall be processed by mechanical, chemical or other means to render the materials suitable for disposal or further consideration for reuse in the works. Clearly defined segregated stockpiles are required for different waste types. The Contractor's attention is drawn to the requirements of Clauses 601 and 602 of the Specification regarding the separation and segregation of materials classified as either acceptable or unacceptable Class U2. Material excavated and designated for reuse shall be transported to the appropriate area for filling or temporary stockpiling. Any reusable arisings shall be tested and classified in accordance with Appendix 1/5.
- (11) There are no specified requirements for processing to render unacceptable material Class U1A or Class U1B acceptable. There are no specified requirements for the removal off site of excavated acceptable or unacceptable material requiring processing or retention on site of surplus material. The Contractor shall be responsible for removal and / or processing of unacceptable material or surplus acceptable material deemed not acceptable for use in the Permanent Works.
- (12) The Contractor shall take all necessary measures (both temporary and permanent) to ensure that the presence or ingress of groundwater, surface water, or infiltration water and the effects of weather does not compromise the integrity of earthworks. Operations shall not take place during adverse weather conditions.
- (13) Acceptable or unacceptable fill, other than contaminated material may be used in landscape areas. This excludes the environmental, noise bunds, or any other earthworks of structural nature, where the fill parameters are determined through stability or bearing capacity requirements. Class 5 and Class U2 materials shall not be used as landscape fill.

Table 6/1 (Modified) Acceptable Earthworks Materials

Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)					Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits			
						Lower	Upper		
1A	Well graded granular material	General Fill	Any materials or combinations of materials other than material designated as Class 3. Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates); A (construction and demolition recycling industries)	Grading	BS 1377 : Part 2	Table 6/2	Table 6/2	Table 6/4 Method 2 to achieve 95% MDD (Note 6)	
				Uniformity coefficient	Note 4	10	-		
				Moisture content	BS 1377 : Part 2	omc - 3%	omc + 2%		
				Effective Angle of Friction(ϕ) and cohesion (c')	Clause 636	$(\phi) = 36^{\circ}$ $(c') = 0 \text{ kPa}$			
1B	Uniformly graded granular material	General Fill	Any materials or combinations of materials other than material designated as Class 3. Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates); A (construction and demolition recycling industries)	Grading	BS 1377 : Part 2	Table 6/2	Table 6/2	Table 6/4 Method 3 to achieve 95% MDD (Note 6)	
				Uniformity coefficient	Note 4	-	10		
				Moisture content	BS 1377 : Part 2	omc - 3%	omc + 2%		
				Effective Angle of Friction(ϕ) and cohesion (c')	Clause 636	$(\phi) = 36^{\circ}$ $(c') = 0 \text{ kPa}$			

Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)				Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits		
						Lower	Upper	
1C	Coarse granular material	General Fill	Any natural materials or combinations of natural materials other than material designated as Class 3. Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates) A (construction and demolition recycling industries)	Grading	BS 1377 : Part 2	Table 6/2	Table 6/2	Table 6/4 Method 5 to achieve 95% MDD
				Uniformity coefficient	Note 4	5	-	
				Effective Angle of Friction(ϕ) and cohesion (c')	Clause 636	(ϕ) = 36° (c') = 0 kPa		
				Los Angeles Coefficient	Clause 635	-	50	
4	Various	Fill to Landscaped Areas	Any natural materials or combinations of natural materials other than chalk and material designated as Class 3, or listed in Clause 601.2.	Grading	BS 1377 : Part 2	-	125 mm	Clause 620
				Undrained shear strength or Moisture Content	Hand Vane or BS 1377 : Part 2	30 kPa -	- 1.6 x omc	
5A	Topsoil or turf existing on site	Topsoiling	Topsoil or turf designated as Class 5A in the contract	Grading	Clause 618	-	Cl 618	-
5B	Imported Topsoil	Topsoiling	General Purpose grade complying with BS 3882	Grading	Clause 618	-	Cl 618	-

Springhead Bridge Link
Scheme Specification

Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)				Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits		
						Lower	Upper	
6A	Selected well graded granular material	Below Water	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete other than argillaceous rock, chalk, well burnt colliery spoil or any combination thereof. Recycled Aggregate Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates – except shale, siltstone or slate) A (construction and demolition recycling industries)	Grading	BS 1377: Part 2	Table 6/2	Table 6/2	No compaction
					BS EN 933-2 (imported onto site)	Table 6/5	Table 6/5	
				Uniformity coefficient	Note 4	10	-	
				Effective Angle of Friction (ϕ) and cohesion (c')	Clause 636	$(\phi) = 35^\circ$ $(c') = 0 \text{ kPa}$		
				Plasticity Index	BS 1377: Part 2	Non Plastic		
6B	Selected coarse granular material	Starter Layer	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete other than argillaceous rock, chalk, well burnt colliery spoil, slag or any combination thereof. Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates – except shale, siltstone or slate) A (construction and demolition recycling industries)	Grading	BS 1377: Part 2	Table 6/2	Table 6/2	Table 6/4 Method 5
					BS EN 933-2 (imported onto site)	Table 6/5	Table 6/5	
				Plasticity Index	BS 1377: Part 2	Non Plastic		
				Los Angeles Coefficient	Clause 635	-	50	

Springhead Bridge Link
Scheme Specification



Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)				Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits	Upper	
6C	Selected uniformly graded granular material	Starter Layer	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete other than argillaceous rock, chalk, well burnt colliery spoil, slag or any combination thereof. Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 12620 from one or more of the following source codes Notes 9, 10 and 11: P (natural aggregates – except shale, siltstone or slate) A (construction and demolition recycling industries)	Grading	BS 1377: Part 2	Table 6/2	Table 6/2	Table 6/4 Method 3
					BS EN 933-2 (imported onto site)	Table 6/5	Table 6/5	
				Uniformity coefficient	Note 4	-	10	
				Plasticity Index	BS 1377: Part 2	Non Plastic		

Springhead Bridge Link
Scheme Specification



Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)				Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits		
						Lower	Upper	
6F1	Selected granular material (fine grading)	Capping	Any material, or combination of materials – including recycled aggregates with not more than 50% by mass of recycled bituminous planings and granulated asphalt, but excluding materials contaminated with tar and tar-bitumen binders, unburnt colliery spoil, argillaceous rock and chalk. Where material in this Class is imported onto site it shall be classified as Class 6F4 and comply with the requirements for that material	Grading	BS 1377 : Part 2 (On site materials only)	Table 6/2	Table 6/2	Table 6/4 Method 6
				Optimum moisture content	BS 1337 : Part 4 (vibrating hammer method)	-	-	
				Moisture content	BS 1377 : Part 2	omc - 2%	omc	
				Los Angeles Coefficient	Clause 635	-	60	
				Class Ra (Asphalt) Content	Clause 710	-	50%	
				Bitumen Content (Note 8)	BS EN 12697-1 or BS EN 12697-39	-	2%	
6F2	Selected granular material (coarse grading)	Capping	Any material, or combination of materials - including recycled aggregates with not more than 50% by mass of recycled bituminous planings and granulated asphalt, but excluding materials contaminated with tar and tar-bitumen binders, unburnt colliery spoil, chalk and argillaceous rock. Where material in this Class is imported onto site it shall be classified as Class 6F5 and comply with the requirements for that material.	Grading	BS 1377 : Part 2 (On-site materials only)	Table 6/2	Table 6/2	Table 6/4 Method 6
				Optimum moisture content	BS 1337 : Pat 4 (vibrating hammer method)	-	-	
				Moisture content	BS 1377 : Part 2	omc - 2%	omc	
				Los Angeles Coefficient	Clause 635	-	50	
				Class Ra (Asphalt) Content	Clause 710	-	50%	
				Bitumen Content (Note 8)	BS EN 12697-1 or BS EN 12697-39	-	2%	

Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)				Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits		
						Lower	Upper	
6F3	Selected granular material (coarse grading)	Capping	Any material, or combination of materials with not less than 50% by mass of recycled bituminous plantings and granulated asphalt, but excluding materials contaminated with tar and tar-bitumen binders, unburnt colliery spoil and argillaceous rock. Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from the following source codes, see Notes 9, 10 and 11: A1 (reclaimed asphalt) A4 (mixed recycled aggregate) Aggregates from source code A4 shall contain at least 50% of constituents in Class Ra (bituminous materials).	Grading	BS 1377 : Part 2 (On-site) BS EN 933-2 (Imported onto site)	Table 6/2	Table 6/2	Table 6/4 Method 6 Maximum compacted layer thickness shall be less than 200mm
				Optimum m.c.	Clause 613	-	-	
				Moisture content	BS 1377 : Part 2	omc - 2%	omc	
				Class Ra (Asphalt) Content	Clause 710	50%	-	
				Bitumen Content (Note 8)	BS EN 12697-1 or BS EN 12697-39	-	10%	
6F4	Selected granular material (fine grading) – imported on to the Site	Capping	Unbound mixture complying with BS EN 13285 containing aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates – except chalk, shale, siltstone or slate) A2 (crushed concrete)	Size designation and overall grading category	BS EN 13285 – 0/31.5 and G _E	Table 6/5	Table 6/5	Table 6/4 Method 6
				Maximum fines and oversize categories	BS EN 13285 – U _{F15} and OC ₇₅	Table 6/5	Table 6/5	
				Loa Angles coefficient	BS EN 13242 – L _{A50}	-	60	
				Moisture content	BS EN 1097-5	omc - 2%	Qmc	

Springhead Bridge Link Scheme Specification

Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)			Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits Lower Upper	
6F5	Selected granular material (coarse grading) – imported on to the Site	Capping	Unbound mixture complying with BS EN 13285 containing aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates – except chalk, shale, siltstone or slate) A2 (crushed concrete)	Size designation and overall grading category	BS EN 13285 – 0/80 and G _E	Table 6/5	Table 6/4 Method 6
				Maximum fines and oversize categories	BS EN 13285 – UF ₁₅ and OC ₇₅	Table 6/5	
				Loa Angles coefficient	BS EN 13242 – L _{A50}	50	
				Moisture content	BS EN 1097-5	omc - 2% omc	
6G	Selected granular material	Gabion Filling	Natural gravel, crushed rock, crushed concrete, or any combination thereof other than argillaceous rock, chalk and material designated as Class 3	Grading	BS 1377: Part 2 (On-site)	see Appendix 6/10	None
					BS EN 933-2 (Imported onto site)		
6I	Selected well graded granular material	Fill to reinforced earth and anchored earth structures	Natural gravel, natural sand, crushed rock, crushed concrete or any combination thereof. None of these constituents shall include any argillaceous rock, chalk, slag or well burnt colliery spoil. Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, Notes 9, 10 and 11: P (natural aggregates – except shale, siltstone or slate) A2 (crushed concrete)	Los Angeles coefficient	Clause 635	- 50	Table 6/4 Method 2
				Grading	BS 1377: Part 2 (On-site)	Table 6/2	
					BS EN 933-2 (Imported onto site)	Table 6/5	
				Uniformity coefficient	Note 4	10 -	
				Moisture content	BS 1377: Part 2	omc - 3% omc + 2%	
				Effective Angle of Friction (φ) and cohesion (c')	Clause 636	(φ) = 38° (c') = 0 kPa -	

Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)					Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits			
						Lower	Upper		
6J	Selected uniformly graded granular material	Fill to reinforced soil and anchored earth	<p>Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete or any combination thereof, except that chalk shall not be combined with any other constituent.</p> <p>None of these constituents shall include any argillaceous rock, slag, chalk or well burnt colliery spoil</p> <p>Recycled aggregate except recycled asphalt.</p> <p>Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11:</p> <p>P (natural aggregates – except shale, siltstone or slate)</p> <p>A2 (crushed concrete)</p>	Grading	BS 1377 : Part 2	Table 6/2	Table 6/2	Table 6/4 Method 3	
				Uniformity coefficient	Note 4	5	10		
				Moisture content	BS 1377 : Part 2	omc - 3%	omc + 2%		
				Effective Angle of Friction (ϕ) and cohesion (c')	Clause 636.5	$\phi = 38^\circ$ $(c') = 0 \text{ kPa}$	-		
				pH value	BS 1377 : Part 3	4	9		
6N	Selected well graded granular material	Fill to structures	<p>Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete or any combination thereof, except that chalk shall not be combined with any other constituent.</p> <p>None of these constituents shall include any argillaceous rock, slag, chalk or well burnt colliery spoil</p> <p>Recycled aggregate except recycled asphalt.</p> <p>Where material is imported onto site which is not 'as dug' it shall be</p>	Grading	BS 1377 : Part 2 (On-site)	Table 6/2	Table 6/2	End Product 95% MDD of BS 1377: Part 4 (vibrating hammer method)	
					BS EN 933-2 (imported onto site)	Table 6/5	Table 6/5		
				Uniformity Coefficient	Note 4	10	-		
				Los Angeles Coefficient	Clause 635	-	40		
				Effective Angle of Friction (ϕ) and cohesion (c')	Clause 636.5	$\phi = 36^\circ$ $(c') = 0 \text{ kPa}$	-		

Class	General Description	Typical Use	Permitted Constituents (Note 1)	Material Properties Required for Acceptability (Note 2)				Compaction Requirements (Note 3)
				Property	Defined and Tested in Accordance with	Acceptable Limits		
			aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates – except shale, siltstone or slate) A2 (crushed concrete)	Moisture content	BS 1377 : Part 2	omc - 3%	omc + 2%	
6P	Selected granular material	Fill to structures	Natural gravel, natural sand, crushed gravel, crushed rock, crushed concrete or any combination thereof, except that chalk shall not be combined with any other constituent. None of these constituents shall include any argillaceous rock, slag, chalk or well burnt colliery spoil Recycled aggregate except recycled asphalt Where material is imported onto site which is not 'as dug' it shall be aggregate conforming to BS EN 13242 from one or more of the following source codes, see Notes 9, 10 and 11: P (natural aggregates – except shale, siltstone or slate) A2 (crushed concrete)	Grading	BS 1377 : Part 2	Table 6/2	Table 6/2	End Product 95% MDD of BS 1377 Part 4 (vibrating hammer method)
					BS EN 933-2 (imported onto site)	Table 6/5	Table 6/5	
				Uniformity Coefficient	Note 4	5	-	
				Los Angeles Coefficient	Clause 635	-	60	
				Effective Angle of Friction (φ) and cohesion (c')	Clause 636.5	(φ) = 36° (c') = 0 kPa		
				Moisture content	BS 1377 : Part 2	omc - 3%	omc + 2%	

Notes to Table 6/1:

1. Permitted constituents shall all be subject to requirements of Clause 601 and Appendix 6/1.
2. Material properties required for acceptability shall be in addition to requirements on use of fill materials in Clause 601 and testing in Clause 631.
3. Compaction requirements shall be as defined in Clause 612.
4. Uniformity coefficient is defined as the ratio of the particle diameters D_{60} to D_{10} on the particle distribution curve where D_{60} and D_{10} equal the particle diameter at which, respectively, 60 and 10% of the soil by weight is finer.
5. Optimum moisture content and Maximum Dry Density determined in accordance with BS 1377 : Part 4, 4.5 kg rammer method.
6. Optimum moisture content and Maximum Dry Density determined in accordance with BS 1377 : Part 4, 2.5 kg rammer method.
7. Optimum moisture content and Maximum Dry Density determined in accordance with BS 1377 : Part 4, vibrating hammer method.
8. Bitumen Content shall not apply if Class A (asphalt) content is less than 20%.
9. Where material source codes are referenced these are as listed in Table 6/7.
10. Where materials are required to be aggregates conforming to BS EN 13242 materials certificated as being compliant with BS EN 13285 are acceptable for use provided that they meet all the specification requirements and the Declaration of Performance for constituent parts to BS EN 13242 are provided to the Overseeing Organisation.
11. Materials shall comply with the current Environmental Regulations at the time of use. Reference shall be made to Annex ZA (informative) of BS EN 13242.

Appendix 6/2 Requirements for Dealing with Class U1B/U2 Unacceptable Material

- (1) The following site investigation information is available for the site
- Additional Geotechnical Ground Investigation. Peter Brett Associates LLP Reference 20423/008 Issue 2. Dated August 2008
 - Factual Report on Ground Investigation. Fugro Engineering Services Limited. Reference WAL080033 Dated October 2008
 - Volume 1 Geotechnical and Geoenvironmental Ground Investigation Reference 6918/228/DE01/JRP14/AOD01/RHT08/CNE01. Dated December 2003
 - Addendum No.1 Volume 1 Geotechnical and Geoenvironmental Ground Investigation Reference 6918/228 Dated June 2004.
 - Phase 1 Residential Development, Springhead Ebbsfleet Supplementary Geotechnical Investigations 15295/006/CH/CNE/PJ/RF Dated April 2008.
 - Ebbsfleet South, Kent Geotechnical Desk Study and Interpretative Report. Whitby Bird. Reference 3010 Dated 2003.
 - Ebbsfleet South Kent. Factual Report on Ground Investigation. Foundation & Exploration Services Ltd. reference B39023 Dated August 2003

The Contractor shall be deemed to have read the relevant site investigation logs and test results, relevant drawings, have visited the site, and have consulted all available information concerning the site conditions, prior to submitting his tender. The Contractor is given due opportunity to take his own samples and undertake such laboratory testing as he deems necessary, and as such he shall be deemed to have done so prior to submitting his tender.

- (2) The Contractor shall report immediately to the Project Manager any Class U1B and U2 Unacceptable Material found within the works. Unacceptable material Class U1B and U2 shall not be permitted to remain on site. The Contractor shall agree with the Project Manager methods for the safe removal of the material. The Contractor's attention is drawn to the requirements of Clauses 601 and 602 of the Specification regarding separation and segregation of materials classified as either acceptable or unacceptable. The Contractor shall ensure that machine drivers and supervisory personnel shall closely observe the working faces and arisings from excavations for unusual materials such as:
- Odorous solids or liquids;
 - Friable, fibrous or 'dusty' material, in particular asbestos;
 - Accumulations or seepages of liquids which are: Tarry or oily Fuming or bubbling
 - Coloured. Any changes in colouration of the ground materials or groundwater after exposure or excavation.
- (3) Upon discovering any unusual materials, work at that position shall stop and the Project Manager shall be informed immediately.
- (4) The Project Manager shall instruct the Contractor regarding the excavation and disposal of any unusual materials which have been discovered. As it may be an offence under the

Environmental Protection Act 1990 and associated statutes for certain materials to leave the site without notifying the appropriate Authorities, the Project Manager shall direct the Contractor to stockpile unusual materials in a separate well defined area, remote from the areas of working and in a safe manner.

- (5) If, in the Project Manager's opinion, unusual materials encountered during excavation cannot be transferred to the designated 'stockpile' without compromising, or fear of compromising the health and safety of site personnel or causing an environmental hazard, work shall cease in the affected area whilst specialist advice is sought. Examples of such materials would be friable asbestos and drums whose physical condition is such that their disturbance may result in the loss of their contents. Rejected material will be transported to an appropriate stockpile for disposal.
- (6) The Contractor is responsible for dealing with Class U1B and Class U2 unacceptable material including where required:
- a) Classification of Class U1B and Class U2 material by appropriate chemical testing including WAC testing.
 - b) Preparation of method statements for dealing with any Class U1B and Class U2 materials
 - c) Keeping records of the location, volumes, extent, nature and test results for all Class U1B and Class U2 materials encountered.
 - d) Agreement of special requirements for dealing with unacceptable materials with the Environmental Health Officer, Environment Agency and other statutory bodies.
 - e) Agreement of special requirements for dealing with leachate and contaminated water with the Environmental Health Officer, Environment Agency and other statutory bodies.
 - f) Dealing with unacceptable materials whether by excavation and disposal, treatment, sealing or other means.
 - g) Dealing with leachate and contaminated water whether by pumping and disposal, treatment or other means, including the provision of special drainage where required.
 - h) Compliance with all Duty of Care and waste regulation obligations.
- (7) Where Class U1B and Class U2 material is excavated, the material shall not be left exposed overnight and the Contractor is responsible for providing temporary cover. Cover may be provided by Class U1B materials or other material determined by the Contractor as agreed with the Project Manager. This shall be placed to give a cover of not less than 150 mm. All temporary cover shall be removed in advance of the permanent works and disposal off site accordingly.
- (8) The Contractor is to ensure that all Class U1B and U2 materials are disposed of at an appropriately licensed landfill or processing facility approved by the Environment Agency in a safe and competent manner and in accordance with relevant Statutory Regulations. The Contractor shall keep records/transfer notes of all waste materials removed from this site and shall include the volume of waste material, the description of the waste material, date of removal, the destination of the waste material and the carrier. The Contractor is required to submit copies of this information to the Project Manager as soon as it becomes available.
- (9) It is the responsibility of the Contractor in consultation with the Environment Agency to locate suitably licensed disposal facilities. The results of previous chemical testing of soil samples from the site are provided in accompanying documentation to assist in this process. Any further waste classification tests required by the EA or landfill operator are deemed included within the Tender figure.

- (10) All excavation arisings shall be either loaded directly into lorries for immediate disposal where the waste classification has been predetermined and/or stockpiled in a methodical order. Each stockpile shall be identified according to assumed or confirmed categorisation, source, type and deposition date, and details of any analyses. Stockpiles shall be physically separated to avoid cross contamination and temporary road access provided for placement and loading.
- (11) All contaminated stockpiles shall be placed on impervious surfaces to collect drainage and prevent loss of entrained water and leachate to ground. All temporary stockpiles shall be located on impervious surfaces to prevent rainwater leaching of contaminants to ground. All drainage shall be collected and disposed off-site to a suitably licenced facility.
- (12) The locations of local stockpiles shall be approved by the Contract Administrator at least 5 working days before excavation commences. The Contractor shall ensure that the stockpiles will not contaminate or increase the contamination in the areas where they are located. If the Contractor proposes to provide a barrier below the stockpiles to prevent downward migration of contamination he shall supply the Contract Administrator with details of the barrier for approval 5 working days before excavation commences.
- (13) Prior to the commencement of works, the Contractor is required to consult with all relevant authorities; in particular the local Environment Agency (EA) and the Contaminated Land Officer/Environmental Health Officer with respect to contamination protection measures and waste disposal operations at the site. The Contractor shall provide specific information, including a full method statement of the nature, logistics and programming of the works (as required by current legislation) prior to commencement.
- (14) The Contractor shall prior to, during and on completion of relevant stages of work keep records/transfer notes of all waste materials removed from this site and shall include the volume of waste material, the description of the waste material, date of removal, the destination of the waste material and the carrier.
- (15) The Contractor is required to submit copies of this information to the Contract Administrator as soon as it becomes available. The Contractor shall supply the Contract Administrator with the following details of appropriately licensed disposal site(s) to which waste are to be transferred at least two weeks in advance of disposal:

- Name, address and telephone number of disposal site and contact name;
- Extract of disposal site waste management licence confirming that the waste may be accepted;
- Name, address and telephone number of the appropriate Environment Agency office

In addition the Contractor shall supply the Contract Administrator within three weeks of completion of the works the following:

- Copy of consignment note for each load of material carried off site including proof of receipt of material at an appropriate landfill site.

- (16) All vehicles used to transport waste material off the site shall be registered waste carriers under the Control of Pollution (Amendment) Act 1989 and subsequent industry guidance. The Contractor shall supply to the Contract Administrator copies of waste carrier registration certification of all vehicles removing waste material on the site prior to the removal of such. The Contractor shall keep records/transfer notes of all waste materials removed from this site and shall include the volume of waste material, the description of the waste material, date of removal, the destination of the waste material and the carrier. The Contractor shall supply the Contract Administrator with a summary record of disposal at the end of each day. A cumulative ongoing total shall also be reported weekly and summarised at team meetings.

- (17) Suitable means to suppress or prevent dust must be employed when excavating, handling and transporting contaminated and potentially contaminated material on site. Containers shall be maintained in a leak proof condition and shall not be overfilled to the point where there may be a risk of spillage during transport. Vehicle wheels and bodies shall be thoroughly cleaned before travelling on site haul roads or entering uncontaminated areas of the site.
- (18) The Contractor's off-site traffic movements should not adversely affect the surrounding network. Loading of vehicles will be performed in an organised manner so as to prevent the spread of contaminants.

Appendix 6/3 Requirements for Excavation, Deposition and Compaction.

General Requirements

1. The Contractor shall only employ plant and working methods which are suited to the materials to be handled and traversed. He shall be responsible for maintaining the nature of the acceptable material so that when it is placed it remains so. Methods shall be approved in advance with the Project Manager.
2. Haulage of material to fill areas shall only proceed when sufficient spreading and compaction plant is operating at the place of deposition.
3. Edges of all layers on cuttings or areas of embankment fill shall be protected with edge bunds, to the height of dumper wheel hubs.
4. Should the Contractor stockpile materials he shall ensure that he does not adversely affect the stability of excavations, plant or surfaces and shall protect such stockpiles so as to prevent any change in the nature of materials. Stockpiles shall be located so as to prevent contamination with other materials.
5. Acceptable material surplus to the total requirements of the works and all unacceptable material shall, unless the Project Manager permits otherwise, be run to stockpiles in locations defined by the Project Manager.
6. All stockpiles are to be maintained in a neat, tidy and safe condition throughout the works to the complete satisfaction of the Project Manager. If necessary this may involve the construction of bunding/channels to control surface water and prevent materials saturation at the base of the stockpile. The Contractor's rates are deemed to include for this.
7. The Contractor shall be responsible for potential or actual damage to adjacent land, properties, services etc as a consequence of his chosen methods of working. The Contractor is to provide a method statement clearly identifying his method of working including details of plant and equipment to be used, areas of working and any moisture conditioning strategy, and monitoring and testing to be undertaken. This is to include details for segregation of unsuitable material and oversize material where encountered.

Site Preparation and Subgrade

8. Any materials remaining within the site boundary on the Contract Drawings on the Contract Commencement date, except for items identified on the drawings are deemed to be part of the works and are to be cleared and disposed in accordance with the requirements of the Project Manager. Wherever possible, recycling or reuse of these materials is to be considered.
9. All vegetation and unsuitable soft/untrafficable materials shall be removed from the works area. All vegetation will be grubbed-out and removed from areas of active working prior to any filling or excavation works. This may be achieved either in stages or as one total clearance operation prior to commencement of works. The Contractor will be responsible for ensuring that all major tree or shrub roots are removed as part of this operation. Any resulting voids shall be backfilled in accordance with the specification for filling.
10. Vegetation will be transported to stockpile as directed by the Project Manager for subsequent offsite disposal. Burning on site shall not be permitted except with the prior written permission of the Project Manager, and shall not be pre-assumed as granted. Recycling by using local authority composting facilities is the preferred method of disposal, when available.

11. Any trees or vegetation identified on the Contract drawings as being scheduled for retention shall be clearly marked and protected throughout the works by the Contractor. The Contractor will be wholly responsible for the protection of such areas and rectification of any resulting damage at his own cost.
12. Topsoil shall be stripped from areas of both cut and fill prior to commencing movement of fill and stockpiled for later re-use. On completion the topsoil shall be replaced in both areas where required (or spread / stockpiled in a separate area as indicated by the Project Manager).
13. Existing topsoil, subsoil and near-surface soils shall be excavated as required within the area of the proposed works as shown on the Drawings. The topsoil/subsoil shall be handled and stored in accordance with the requirements of BS 3882 (2007). Unnecessary and premature removal of topsoil and subsoil shall be avoided.
14. Existing hard-standing may subject to the Project Managers approval, be crushed and stockpiled on the site by the Contractor for possible future re-use during the construction works. Any concrete is to be crushed to meet the grading specification set out in Table 6/2 of the Specification for Highway Works for a Class 1A/1B, Class 6A or Class 6F1-3 material. The Contractor shall demonstrate that the material meets the specification by undertaking grading analysis of the material at a rate of one test per 100m³ of crushed material. Any concrete which is shown to be contaminated (visibly stained) shall be tested at the discretion of the Project Manager and if deemed to be unsuitable shall not be used and shall be disposed of off-site to a suitably licensed landfill, in accordance with the provisions of clauses outlined below.
15. The exposed subgrade shall be compacted in accordance with the requirements of Clause 612 (4) to (10) using Method 1 as defined in Table 6/4. Any material exposed in the subgrade having an undrained shear strength less than 75 kPa as measured by hand vane on a 10m grid, or otherwise unacceptable material shall be excavated and the resulting void backfilled with suitable material in accordance with the requirements of the Specification.
16. Excavated voids or natural voids in excavation for foundations shall be filled with ST1 concrete. Excavated voids or natural voids in excavations for utilities shall be filled with Class 6F1, 6F2, 6F4 or 6F5 material.
17. The prepared subgrade shall be subject to approval by the Project Manager prior to placing any fill material.

Groundwater and Surface Water

18. The Contractor shall take all necessary measures (both temporary and permanent) to ensure that the presence or ingress of groundwater, surface water or infiltration water and the effects of weather does not compromise the integrity of earthworks. Operations shall not take place during adverse weather conditions. The Contractors proposals for dealing with groundwater to satisfy the requirements of Clauses 602.15 to 602.17 shall be submitted to the Project Manager for approval. Groundwater control/ removal shall be maintained until such a time that termination of operations in a given area will not compromise the works in that area or adjacent areas.
19. The Contractors attention is drawn to the requirements of Clause 602.16. The Contractor shall be responsible for the collection and disposal of groundwater/surface water encountered within excavations. A method statement for dealing with groundwater shall be forwarded to the Project Manager in advance if the earthworks. The Contractor shall take all necessary measures (both temporary and permanent) to ensure that the presence or ingress of groundwater, infiltration water and the effects of weather does not compromise the integrity of earthworks.
20. The base of any excavation, or area of fill, which becomes water logged, rough or otherwise spoilt should be cleaned out and re-levelled or re-formed prior to inspection by the Project Manager.

21. The Contractor shall keep fill areas free of surface water by arranging the rapid removal of watershed onto the fill site or entering the site from any source. Lowering and maintaining the water level by appropriate measures "sufficiently" to enable the works to be constructed shall be included, including appropriate discharge provisions.
22. No disposal of any pumped groundwater or surface water encountered will be allowed to sumps, surface water sewers or water courses without prior written consent of the Environment Agency or other regulatory authority.
23. The Contractor shall include in his rates for all costs arising from the disposal of groundwater, and chemical testing in this regard, whatever provisions are made. Should any discharge of water off site exceed the levels of contamination specified as acceptable by the local water authority or Environment Agency, the Contractor shall allow for removal of contaminated water by tanker for disposal to a treatment plant or suitably licensed facility.

Excavation

24. Excavations shall be excavated to the lines and levels stated on the relevant contract drawings.
25. Excavations requiring backfilling shall remain open only for the minimum period necessary.
26. The precise profile of excavation, including the design of any temporary ground support works shall be determined by the Contractor for the ground conditions described in the site investigation reports, and any other data, and shall comply with all relevant statutory requirements. The Contractor shall be responsible at all times for maintaining stability of excavations and to prevent the ground losing its bearing capacity. Reference should be made to the Site Investigation reports and any large excavations greater than 5m in any dimension shall be inspected by a suitably qualified geotechnical engineer.
27. Where excavations are adjacent to existing excavations, foundations, structures, river walls, roadways, services, culverts, rivers, streams or building etc, and may affect these, the Contractor shall be deemed to have allowed for all temporary works, working sequences etc. necessary to provide adequate support and prevent any movement of such.
28. Details of the Contractors proposed dig profile and method of support, shall be submitted to the Project Manager at least five working days in advance of the excavation.
29. Slopes or toes of cuttings and embankments shall only be undercut when required in the Contract for trench or other excavations. The maximum length of unsupported excavation, not to exceed 5m, shall be open at any one time and shall remain open for the minimum period necessary and in any event for not greater than 24 hours, and must be backfilled with well compacted materials as soon as is practical after temporary works. The Contractor is responsible for the stability of the excavation, and the cutting and embankment slopes and shall ensure that the Permanent Works suffer no damage.
30. Terraced or benched excavations shall be used with batters as appropriate. Trench sheeting shall be utilized where appropriate. The Contractor shall be wholly responsible for the design and construction of all batters or temporary works including security, safety support and stabilisation methods. All sheeting and other excavation supports shall be removed as filling proceeds.
31. If during the course of excavation, the Contractor exposes any slip surfaces, groundwater seepages, wells, swallow holes or other underground voids he shall inform the Project Manager immediately, who will issue an instruction accordingly. Reference should be made to Appendix 6/11.

Embankments

- 32. Embankments and other areas of unsupported fill shall not be constructed with steeper side slopes or to greater widths than those shown on the Drawings except to permit adequate compaction at the edge before trimming back.
- 33. Where the existing ground surface is sloping, the existing soil shall be cut in horizontal benches in order to "key" the existing and the new fill materials together. The benches shall be at least 0.5 m high, and not more than 1.0 m high. For the proposed road embankment formation where such alignment is parallel or subparallel to the natural slope, as shown on the Contract Drawings, the subgrade sides and base of the excavation shall be tested by Hand Vane, to ascertain whether any additional depth of dig is required.
- 34. No over steeping of embankment slopes will be permitted except with the prior written permission of the Project Manager.
- 38. Embankments shall be constructed in such a way as to ensure unrestricted drainage of water from the earthworks and to prevent perched water tables within the embankments and any associated softening and/or instabilities.

Filling and Compaction

- 39. Compaction of fills is to provide an end product that meets the criteria set out within this specification. Materials placed should in any event also meet the testing required of achieving 95% MDD. The Contractor shall confirm the method of compaction including layer thickness, type of plant, number of passes and material type with the Project Manager prior to starting compaction and will keep contemporaneous records during the earthworks.
- 40. Filling shall be in accordance with the requirements of Table 6/1 and Table 6/4. It shall be in uniform layers, compacted as works proceed.
- 41. The Contractor shall demonstrate level control using a system of pegs, or other agreed method.
- 42. Spreading and compaction shall not take place during periods of wet or cold weather without the prior written consent of the Project Manager. Wet weather conditions are deemed to apply when the placed fill is at a water content such that, upon applying compaction, the material adheres to the wheels of the roller. Cold weather conditions shall be deemed to apply when the air temperature falls below 3° C.
- 53. It may be necessary to establish an appropriated filling area for wet materials. A suitable filling and compaction methodology shall be agreed with the Project Manager.
- 54. Compaction shall be completed as soon as possible after the material has been spread and in accordance with requirements for the individual materials.
- 55. The surface of any layer of material shall on completion of compaction and immediately before overlaying, be well closed free from movement under compaction plant and be free from ridges, cracks, loose materials, pot holes, ruts and other defects. All loose segregated or otherwise defective areas shall be removed to the full thickness of the layer and new material should be laid and compacted.
- 56. Care should be taken to ensure that no damage is caused to surrounding structures, walls and containment walls retaining consolidated materials or to services placed below consolidated materials. Where work is to be carried out above services liable to damage, consideration should be given to reducing the thickness of each layer and using lighter compaction equipment in accordance with the SHW Specification.

57. The final surface of the fill areas shall be rolled smooth and shall be free of ruts, depressions and debris. The surface shall be levelled to achieve the appropriate surface falls as shown on the Contract drawings.
58. Where the Contractor has prepared areas of compacted fill or final sub-grade he shall protect the area from plant or any other vehicles etc. not undertaking further works on such.
59. Final faces of cuttings which are not to receive topsoil shall be completed in accordance with Clause 603.5 except that use of an airline hose to blow away material will not be required.
60. Cuttings which are not to receive topsoil shall include gravel filled rock trap ditches and fences at the toe of the slope. Use of concrete infilling and netting or other sheet covering as detailed in Clause 603.6 will not be required unless specifically instructed by the Project Manager following inspection of the final face of the cutting.
61. Final faces of cutting which are to receive topsoil shall have isolated patches of soft, fragmented or insecure material excavated and filled by well ramming of a Class of fill with similar characteristics as the surrounding intact material as required by the Project Manager. The final face shall be harrowed to a depth of 50 mm in accordance with Clause 618.5(ii).

Compliance Testing

62. Reference should be made to Appendix 1/5 and 6/1 with respect to the compliance testing of compacted fills placed by using end product compaction.
63. Compliance testing is required to confirm the degree of compaction achieved is in accordance with the requirements of Appendix 6/1. Compliance testing shall be carried out in accordance with BS 1377: Part 9 using the sand replacement method. A Nuclear Density Meter (NDM) may be used by the contractor for internal checks however is not considered to be an acceptable form of compliance testing. Should NDM testing be undertaken it shall be used in accordance with BS 1377: Part 9. The NDM shall be subject to initial calibration and calibration checks against the results of sand replacement tests. The in-situ density test results will be reported as in situ dry density and moisture content and also in terms of percentage of maximum dry density achieved.
64. Details on the frequency of the compliance testing are given in Appendix 1/5. The testing shall be carried out to ensure that an even spatial distribution across the area of the works is achieved.
65. The degree of compaction for the earthworks shall be deemed to have been achieved if at least 9 of out 10 consecutive in-situ dry density determinations of the compacted material attain 95% of the determined maximum dry density for the material being placed, with an air voids content of up to 5% based on the particle density for each material.
66. In-situ CBR testing is required along all road formation levels following removal of the surcharge. CBRs are required every 50m and a minimum CBR value of 2.5% for the engineered fill is required.
67. In the event that the specified requirements of Table 6/1, Appendices 6/1, 6/14 and 6/15 and/or the above compaction criteria contained within this appendix are not satisfied, the complete volume of material represented by the non-conforming sample(s) and/or test(s) shall be treated in accordance with the following:
 - Materials failing to comply with the compaction requirements shall be treated by a method proposed by the Contractor;
 - Materials failing to comply with the requirements of Table 6/1 of Appendix 6/3 shall be either removed from site or treated;

- Materials failing to comply with the requirements of Appendices 6/14 and 6/15 shall be removed from site.

Appendix 6/4 Requirements for Class 3 Material

1. Should the Contractor expose chalk materials then the Project Manager shall be informed immediately for further instruction with respect to excavation, handling or reuse of the material.

Appendix 6/5 Geotextiles Used to Separate Earthworks Materials

Geotextile shall be to the approval of the Contract Administer and meet with the following properties

- (1) Geotextile used as a separator shall comply with the requirements of Clause 609.
- (2) For each proposed Geotextile material to be utilised in the works, the Contractor shall supply to the Project Manager within one week of award of Contract, details of the proposed manufacturer and product specification. This shall be accompanied by a sample of the product of not less than 300mm x 300mm in dimension.
- (3) Geotextiles for separation shall be manufactured from thermally bonded, woven or non-woven, non-biodegradable polypropylene or polyester synthetic fibres. The design life of the geotextile shall be 120 years. The durability of geotextile separators shall be evaluated in accordance with Annex B of BS EN 12349. Geotextile separating fabric shall be designed for filtration and drainage, which shall allow filtration of water, but shall protect the filled area against migration of materials from underneath or above. The Geotextiles shall have a resistance to chemical degradation and biological degradation, such that when tested in accordance with the index test methods described in BS EN 12226, the reduction in characteristic tensile strength does not exceed 25% of the original value.
- (4) All Geotextiles delivered to site shall be CE Marked in accordance with BS EN 13249 and other if appropriate to the conditions of use. All Geotextiles shall be delivered with the Accompanying Documents showing the values of all specified characteristics and marked in accordance with BS EN 30320 'Geotextiles - Identification on Site'.
- (5) The Contractor shall store and place the Geotextiles in accordance with the manufacturer's instructions.
- (6) A manufacturer's quality control assurance certificate is required for each roll of synthetic material delivered to site, demonstrating conformance with the requirements of the Specification for approval by the Project Manager prior to incorporating into the works. If a certificate is supplied for adjacent or grouped rolls, then a letter from the manufacturer shall be supplied to clarify which rolls the certificate relates to. Each certificate shall include as a minimum:
 - Name of manufacturer
 - Date of manufacture
 - Batch number
 - Roll number and identification
 - Sampling procedures and quality control test results

Appendix 6/6 Fill to Structures and Fill Above Structural Foundations

- (1) Fill to structures shall be either Class 6N or Class 6P or other acceptable material as shown on the drawings complying with the requirements of Table 6/1.
- (2) Fill to structures shall be deposited and compacted to Clause 610.
- (3) Full scale trials to determine stable slope of Class 6N or 6P are not required.

Appendix 6/7 Sub-formation, Capping, Preparation & Surface Treatment of Formation

- (1) The provision of a capping layer and thickness of sub-base shall be subject to confirmation by the Contract Administrator dependent upon CBR values measured on the prepared sub-formation or formation.
- (2) On site testing of the sub-formation, in accordance Appendix 6/3 (19), shall determine the in-situ CBR value at the time of construction. If the in-situ CBR is found to be less than the design CBR value taken to be 2.5 per cent, then the subgrade must either be improved to the design CBR or the foundation redesigned.
- (3) Preparation and surface treatment of formation in soil shall be to levels in accordance with Clause 616. Where in the opinion of the Contract Administrator/Project Manager the tolerances in Clause 616.1 cannot be achieved in the preparation of the formation in rock then the material shall be excavated to a minimum depth of 110 mm below the formation and the resulting void filled with Class 6F1, 6F2, 6F3, 6F4 or 6F5 material or other material as agreed by the Contract Administrator and compacted in compliance with Clause 608 and 612 and Table 6/4 Method 6.
- (4) The requirements for layer thicknesses shall be as described in Clause 643.9.
- (5) Where a new pavement is to be constructed on an existing sub-base with reuse of the existing sub-base, then the contractor shall undertake testing as per Appendix 7/1. The designer shall then furnish the Contractor with the design details for the pavement.
- (6) Where the Contractor proposes to use the capping or sub-base as appropriate for weather protection of the sub-formation or formation he shall provide the full thickness of capping or sub-base.
- (7) Capping shall be constructed with Class 6F1, 6F2, 6F3, 6F4 or 6F5 material complying with the requirements of Table 6/1 and Clause 613 but shall have a minimum stiffness value of 75MPa as required under IAN 73/06.
- (8) Capping material shall achieve a minimum soaked CBR of 30% when tested in the laboratory in accordance with BS 1377 Pt 4 Cl 7 when compacted to 95% of the maximum dry density achieved by BS 1377 Pt 4 Cl 3.
- (9) In cuttings and on embankments the Contractor shall construct the capping, respectively, in accordance with the requirements of Clause 613.11 and Clause 613.12 depending on the permitted Class of capping to be used, and subject to the prior approval by the Contract Administrator.

Appendix 6/8 Topsoiling

- (1) Topsoil shall be Class 5A material complying with the requirements of Table 6/1 and Clause 618. Imported topsoil Class 5B is not required.
- (2) The requirements of sub-Clause 618.3 shall apply.
- (3) Topsoil is to be removed prior to the stockpiles of materials for storage and replaced at end of storage period.
- (4) Areas of stockpiles are to be ripped to minimum 600mm depth at 600mm centres in two directions and seeded with agricultural grass/clover mix, after removal of stockpiles.
- (5) Topsoil shall be stripped, deposited and spread on the areas as detailed in this Specification. Surplus topsoil is to be disposed of by the Contractor. To minimise the risk of silt pollution, areas exposed by topsoil stripping are to include a system of temporary ditches on the downhill side to collect excess run off. These ditches will discharge in accordance with the temporary drainage strategy. Such work will not be undertaken during periods of exceptionally heavy rainfall.
- (6) Topsoil stored for periods greater than 6 months shall be in stockpiles formed to a maximum 2m in height and shall be sown with a grass/clover mix. Areas are to be maintained in order to discourage the growth and seeding of weed species. Topsoil shall be kept separate from other classes of deposited materials.
- (7) Soil spreading shall only be carried out during dry conditions (Generally April-September). Keep tracking over spread subsoil to a minimum. No work shall be carried out when rain is falling, when there has been heavy rain within the previous 24 hours or when, in the opinion of the Contract Administrator, the subsoil is likely to be damaged.
- (8) All areas to be topsoiled shall receive Treatment in accordance with Specification Clause 618 unless instructed otherwise by the Contract Administrator.
- (9) Soil placement in areas of landscape fill and areas to be returned to agriculture shall be carried out by dumper and 360-degree excavator. Topsoil shall be spread in layers not exceeding 150mm.
- (10) Depending on the length of storage of soils, follow up applications of general fertiliser may be necessary. During fallow periods prior to seeding, the ground shall be kept substantially weed free.
- (11) Grassed and soiled areas damaged by the Contractor shall be reinstated at the Contractor's own expense with topsoil and grass-seeding complying with the following:
 - where required, imported topsoil shall be Class 5B and comply to BS EN 3882 General Purpose Grade;
 - depth of topsoil to be as existing. Topsoil shall be deposited in layers not exceeding 150mm uncompacted thickness;
 - weed control, ground preparation and grass-seeding shall be in accordance with Appendices 30/2 and 30/5.
- (12) Depending on length of aftercare commitment, it may be necessary to cut grass on a regular basis.
- (13) The topsoil to be applied to any reinforced earth and soil nail structures shall immediately prior to sowing of seed including that applied by hydraulic mulch, have fertiliser incorporated

consisting of a compound of not less than 10% Nitrogen, 15% Phosphoric Acid and 10% Potash. A sample of the proposed fertiliser and specification shall be supplied to the overseeing organisation for approval prior to its use in the works. The fertiliser shall be applied at a rate of not less than 75g per m². If Hydraulic mulch is to be applied then such fertiliser may be incorporated in the mulch, otherwise the Contractor shall ensure that the fertiliser is evenly distributed in the topsoil

- (14) Grass seed, including where approved by the overseeing organisation that incorporated in a hydraulic mulch, shall be a tested mixture and certificates of germination and purity shall be provided before sowing, together with the names of varieties used in the mix.

Appendix 6/9 Earthwork Environmental Bunds, Landscape Areas, Strengthened Embankments

- (1) Landscaped areas shall be constructed using Class 4 material compacted in accordance with Clause 620.2. Method compaction to landscaped areas is not required. Landscape areas may be constructed simultaneously with adjoining embankments where approved by the Project Manager.
- (2) Minimum life expectancy of geosynthetic materials (where used) is to be 120 years.
- (3) Geogrids to be used in the reinforced soil shall be Huesker Fortrac T grids to be in accordance with BBA certificates 13/H197.
- (4) The front facing shall comprise a fine mesh geogrid being Huesker Hate 22/142 or similar at back of geogrid to retain topsoil.
- (5) Certificates shall be provided by the geogrid supplier in the form of QA procedures, latest laboratory testing undertaken and certification of the product.
- (6) Details of requirements for geogrid reinforcing are shown on the contract drawings. The following attached schedule details reinforcement lengths and layers.
- (7) Topsoil shall be removed from existing slopes where affected by the works and stockpiled for potential future use in the reinstatement. "Benching-in" of the existing embankment should be undertaken during the earthworks process, with benches to be cut to the height of each adjacent geogrid reinforcement lift layer.
- (8) The deposition and compaction carried out so that all layers of reinforcing are fixed at the required levels on top of compacted fill;
- (9) The deposition, spreading, levelling and compaction of the fill carried out generally in a direction parallel to the facing and executed in stages to alternate with the placing and fixing of the reinforcing and anchor elements and the facing elements;
- (10) The reinforcing elements kept as free as possible from damage or displacement during deposition, spreading, levelling and compaction of the fill (also the programme of filling shall be arranged so that no machines or vehicles run on the reinforcing or anchor elements);
- (11) All construction plant, and all other vehicles, having a mass exceeding 1,000 kg, shall be kept at least 1m away from the back of the facing;
- (12) Within 1m of the back of the facing, the plant used for compacting the fill restricted to the following items as described in sub-clause 612.10 and listed in Table 6/4:
 - Vibratory roller having a mass per metre width of roll not exceeding 1,300 kg with a total mass not exceeding 1,000 kg;
 - Vibrating plate compactor having a mass not exceeding 1,000 kg;
 - Vibro tamper having a mass not exceeding 75 kg;
- (13) At the contractor's option, the reinforced soil fill beyond the 1m zone referred to above, raised in thicker layers than within the 1m zone, providing this is compatible with the arrangement of the reinforcing and anchor elements and the difference in compacted level does not exceed 300mm;

- (14) During construction of the reinforced soil structure the retained fill at the rear of the geogrid reinforcement layers shall be, maintained at the same level as the adjoining reinforced soil fill;
- (15) All proprietary products to be placed in accordance with manufacturer's instructions.
- (16) All geogrids for use in the works to be stored in accordance with the manufacturers guidance and Clauses 622 and 2502.
- (17) Minimum laps between grids at each bay to be 150mm.
- (18) Stepping arrangements for existing embankment fill are indicated on drawing 38800/5003/0100/001.

Springhead Bridge
Reinforced Soil Slope 1
Schedule



Springhead Bridge
Reinforced Soil Slope 2
Schedule

Bay	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HK (m)	8.0	9.5	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	10.5	9.0	7.5	6.0	4.5
elevation																
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In this area grids will
need to be cut to fit in
front of wing wall

Face Area 909 m²
 Fortrac T155 4106 m²
 Fortrac T160 4105 m²
 Fortrac T110 2692 m²

Note lengths shown are the cut length of grids in each bay
and include for the face wrap around and 1.5m return length

Appendix 6/10 Ground Anchorages, Crib Walling and Gabions

6/10.1 Gabions

- (1) Details of requirements for gabions are shown on the contract drawings.
- (2) Gabion baskets shall be manufactured and constructed in accordance with Clause 626
- (3) All mesh for gabions shall be square welded (nominal 75 mm by 75 mm) manufactured from steel wire complying with BS EN 10218 Part 2 and BS EN 10223 Part 3, and hot dipped galvanised with zinc/aluminium alloy to BS EN 10244 Part 1 and BS EN 10244 Part 2 Table 3 (Class A).
- (4) The mesh wire shall be 4 mm diameter. All gabion edges shall be reinforced with a selvedge wire of the same specification as the body mesh specification but of a diameter greater than that used for the wire mesh. Partition panels of the same mesh specification shall be fixed during manufacture at a maximum of 1m centres on units greater than 1.5m in length.
- (5) All joints and connections of gabion units shall be formed using continuous lacing wires and/or high tensile 'c' rings attached with a pneumatic assembly tool in accordance with the manufacturer's installation guidance documents.
- (6) Zinc galvanised lacing wire shall be 2.2 mm core diameter and to the same specification as the body mesh.
- (7) All fill materials shall be sourced from a single natural source. Gabions fill shall be Class 6G material complying with the requirements of Table 6/1 for the material properties required, with grading requirements are specified in Table 6/10.

Table 6/10 - Grading Requirements

Sieve Size (mm)	Gabions % passing by mass
200	100
150	not used
125	25 – 50
100	not used
90	0 - 2
75	-
63	-
40	-

- (8) For the gabions, fill fractions that are less than 90 mm diameter shall be packed within the centre of the units to prevent loss of material when unit is handled and placed.
- (9) Prior to placement of the gabion basket the existing topsoil and subsoil shall be removed and a minimum 150mm compacted layer of Class 6F2 or 6F5 material placed and compacted to line and level sufficient to enable correct orientation of the gabion basket. Any areas of softened material exposed during footing excavation shall be over-dug, removed and replaced by compacted Class 6F2 or 6F5 material.
- (10) The source of gabion fill shall be detailed to the Overseeing Organisation a minimum of two weeks prior to import onto the site, with a representative bag sample to be provided at that time.

The Overseeing Organisation shall be given opportunity to visit the supplier prior to delivery of materials to site.

- (11) Gabions should not be overfilled, so that bulging of the sides results. Bracing wire should be installed to ensure the baskets maintain their intended shape throughout filling and subsequent permanent state.

Appendix 6/11 Swallow Holes and Other Naturally Occurring Cavities and Disused Mine Workings

Identification of Features

- (1) The Contract Administrator shall be informed within 1 hour of the discovery of any solution features in cutting slopes, subgrades and beneath drainage pipes/trenches. The solution feature shall not be covered up until it has been inspected by a representative of the Contract Administrator
- (2) The Contractor shall record, to scale, the plan extent of the feature in relation to the road alignment, including the chainage at which the feature has been encountered.
- (3) If the feature is greater than 3.0m in diameter (or if required by the Contract Administrator) further investigation using dynamic probing and/or light cable percussion boreholes may be required to assess the extent and nature of backfill to the feature
- (4) The probe holes investigation may be omitted where a detailed risk assessment, to be carried out by the Contractor, indicates that the risk to the structure associated with swallow holes or other naturally occurring cavities is negligible.

Treatment of Features

- (5) All swallow holes or other naturally occurring cavities encountered below the proposed works shall be treated to mitigate any future risk to the Permanent Works. The method of treatment shall be agreed with the Contract Administrator prior to commencing the treatment works and may include:
 - If feature less is than 3.0m in diameter – Placement of two layers of geogrid material to be laid at right angles to each other, with a layer of fill material separating.
 - If feature greater than 3.0m or if required by the Contract Administrator - Excavation of all soft and loose material from the feature and backfilling of the feature with a granular material, sealed over by a layer of clay or other relatively impermeable material such as lean-mix concrete. Two layers of geogrid to be placed as per above detail.
 - Large / deep Feature – If the feature is found to be either horizontally and/or vertically extensive then the option of a third layer of geogrid or additional works such at (i) or (ii) below may be required (subject to agreement with the Contract Administrator)
 - (i) Infill and/or compaction grouting to infill any voids and/or compact any soft or loose material within the feature.
 - (ii) Capping of the feature with reinforced ST5 concrete.
- (6) A series of linked features are likely to require work in excess of that detailed for a single feature of similar individual size detailed above.

Appendix 6/14 Limiting Values for Pollution of Controlled Waters

- (1) All fill materials shall be tested to ensure the concentrations of potential contaminants are below the guideline values for INERT waste given by:
 - DEFRA (2005) The Landfill (England and Wales) (Amendment) Regulations 2005. Statutory Instrument 2005 No 1640. Department of the Environment, Food and Rural Affairs, London.
- (2) The frequency of acceptability testing shall be according to Appendix 1/5 of the Specification.
- (3) No material exceeding these limits shall be incorporated into the works.

Appendix 6/15 Limiting Values for Harm to Human Health and the Environment

- (1) All fill materials shall be tested to ensure the concentrations of potential contaminants are **below the guideline values for commercial/industrial development** given by:

- i) EA (2009) Soil Guideline Value Reports. CLEA website. <http://www.environment-agency.gov.uk/research/planning/33714.aspx> Environment Agency, Bristol.
- j) CIEH (2009) The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment (2nd Edition). The Chartered Institute of Environmental Health, Nottingham.
- k) CL:AIRE (2013) Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report SP1010, Contaminated Land: Applications in Real Environments, London.

The guideline values shall be modified as required to restrict maximum values to below the hazardous waste criteria.

- (2) The required contamination testing suite and limiting values are given in Table 6/15a below.
- (3) The frequency of acceptability testing shall be according to Appendix 1/5 of the Specification.
- (4) No material exceeding these limits shall be incorporated into the works.

Table 6/15a: Limiting Values of Potential Contaminants in Soil

Determinand	Units	Detection Limit	Limiting Values		
			Allotments	Residential	Commercial/ Industrial
Metals/Metalloids					
Arsenic	mg/kg	1.0	43 ¹	32 ¹	640 ¹
Cadmium	mg/kg	0.1	1.8 ¹	10 ¹	230 ¹
Chromium (total)	mg/kg	0.15	1700 ^{3,4}	1700 ^{3,4}	1700 ^{3,4}
Copper	mg/kg	0.2	520 ²	2200 ^{3,4}	2200 ^{3,4}
Lead	mg/kg	0.3	80 ⁵	200 ⁵	2300 ⁵
Mercury (inorganic)	mg/kg	0.05	80 ¹	170 ¹	1000 ^{3,4}
Nickel	mg/kg	1.0	230 ¹	130 ¹	1800 ¹
Selenium	mg/kg	0.5	120 ¹	350 ¹	13 000 ¹
Vanadium	mg/kg	0.8	91 ²	410 ²	9000 ²
Zinc	mg/kg	1.0	620 ²	2000 ^{3,4}	2000 ^{3,4}
Polycyclic Aromatic Hydrocarbons ^{Note 6}					
PAH Screen	mg/kg	0.1	Note 7	Note 7	1000 ^{3,7}
Aliphatic/Aromatic Hydrocarbons ^{Note 6}					
Extractable Petroleum Hydrocarbon Screen	mg/kg	10	Note 8	Note 8	Note 8
Other					
Asbestos	%	0.001	Note 10	Note 10	Note 10

Notes

- 1 EA (2009) Soil Guideline Values
- 2 CIEH (2009) Generic Assessment Criteria
- 3 Values selected to limit concentration to below the limit for classification as hazardous waste
- 4 Values derived assuming simple oxide or metal compound using HazWaste Online Engine and Database version 01 December 2014.
- 5 CL:AIRE (2013) Development of Category 4 Screening Levels
- 6 SGV/GAC for soils with Soil Organic Matter of 1% are given as detailed in the table. If required limiting values for soils with Soil Organic Matter of 2.5% or 6% to be agreed with local authority.
- 7 If PAH screen >10 mg/kg then carry out PAH EPA 16 determination with reference to the limiting values given in Table 6/15b.

- 8 If EPH result is >100 mg/kg then carry out TPH CWG with carbon banding determination with reference to the limiting values given in Table 6/15c.
- 9 Value also subject to a maximum for the sum of aliphatics to 1000 mg/kg
- 10 Should Asbestos be identified the Project Manager should be informed immediately

Table 6/15b: Limiting Values of Polynuclear Aromatic Hydrocarbons ^{Note 6}

Determinand	Units	Detection Limit	Limiting Values		
			Allotments	Residential	Commercial/Industrial
Acenaphthene	mg/kg	0.1	34 ²	210 ²	1000 ³
Acenaphthylene	mg/kg	0.1	28 ²	170 ²	1000 ³
Anthracene	mg/kg	0.1	380 ²	1000 ³	1000 ³
Benzo(a)anthracene	mg/kg	0.1	2.9 ²	7.2 ²	170 ²
Benzo(a)pyrene	mg/kg	0.1	0.97 ²	2.2 ²	35 ²
Benzo(b)fluoranthene	mg/kg	0.1	0.99 ²	2.6 ²	44 ²
Benzo(g,h,i)perylene	mg/kg	0.1	290 ²	320 ²	1000 ³
Benzo(k)fluoranthene	mg/kg	0.1	37 ²	77 ²	1000 ³
Chrysene	mg/kg	0.1	4.1 ²	15 ²	350 ²
Dibenzo(a,h)anthracene	mg/kg	0.1	0.14 ²	0.24 ²	3.5 ²
Fluoranthene	mg/kg	0.1	52 ²	280 ²	1000 ³
Fluorene	mg/kg	0.1	27 ²	170 ²	1000 ³
Indeno(1,2,3-cd)pyrene	mg/kg	0.1	9.5 ²	27 ²	500 ²
Naphthalene	mg/kg	0.1	4.1 ²	2.3 ²	190 ²
Phenanthrene	mg/kg	0.1	15 ²	95 ²	1000 ³
Pyrene	mg/kg	0.1	110 ²	620 ²	1000 ³

Table 6/15c: Limiting Values of Carbon Banded Hydrocarbons ^{Note 6}

Determinand	Units	Detection Limit	Limiting Values		
			Allotments	Residential	Commercial/Industrial
Aliphatics					
>C5-6	mg/kg	0.1	730 ^{2,9}	42 ^{2,9}	1000 ^{3,9}
>C6-8	mg/kg	0.1	1000 ^{3,9}	100 ^{2,9}	1000 ^{3,9}
>C8-10	mg/kg	0.1	320 ^{2,9}	27 ^{2,9}	1000 ^{3,9}
>C10-12	mg/kg	1.5	1000 ^{3,9}	130 ^{2,9}	1000 ^{3,9}
>C12-16	mg/kg	1.2	1000 ^{3,9}	1000 ^{3,9}	1000 ^{3,9}
>C16-21	mg/kg	1.5	1000 ^{3,9}	1000 ^{3,9}	1000 ^{3,9}
>C21-35	mg/kg	3.4	1000 ^{3,9}	1000 ^{3,9}	1000 ^{3,9}
>C35-40	mg/kg	5.0	1000 ³	1000 ³	1000 ³
Aromatics					
>C5-7	mg/kg	0.05	13 ²	70 ²	1000 ³
>C7-8	mg/kg	0.05	22 ²	130 ²	1000 ³
>C8-10	mg/kg	0.05	8.6 ²	34 ²	1000 ³
>C10-12	mg/kg	0.9	13 ²	74 ²	1000 ³
>C12-16	mg/kg	0.5	23 ²	140 ²	1000 ³
>C16-21	mg/kg	0.6	46 ²	260 ²	1000 ³
>C21-35	mg/kg	1.4	370 ²	1000 ³	1000 ³
>C35-44	mg/kg	1.4	370 ²	1000 ³	1000 ³

Appendix 7/1 Permitted Pavement Options

7/1.1 Location

- a) Location 'X' comprises all carriageways
- b) Location 'Y' comprises all junctions

7/1.2 General Requirements

Location		X	Y
Grid for checking surface levels of pavement courses	Longitudinal dimension:	10m	2m
	Transverse dimension:	2m	2m
Surface regularity ((Clause 702.7 and 702.8 and Table 7/2)			
Category of road		A	
Interval for measurement of longitudinal regularity (measured along the centre of each lane)		10m	5m
Interval for measurement of transverse regularity		10m	2m
Whether surface texture is required		Surface macrotexture depth shall be low when tested in accordance with Clause 921 SK	

7/1.3 Table of Construction Thicknesses

Special Requirement for each constituent layer of Pavement are detailed on the schedules which follow these tables:

BITUMINOUS CARRIAGEWAY FULL DEPTH - 60 PSV (5% CBR):

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 60 PSV	40mm	7/1/1	-	14mm nominal stone size
Binder Course	929	AC 20 Dense bin 40/60	60mm	7/1/2	50 – 100mm	-
Base	929	AC 32 HDM base 40/60 des	100mm	7/1/2	75 – 150mm	-
Sub base	803	Type 1 sub base	330mm	7/1/4	-	-
Total Pavement THICKNESS 530mm						

BITUMINOUS CARRIAGEWAY FULL DEPTH - 60 PSV & 4%CBR:

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 60 PSV	40mm	7/1/1	-	14mm nominal stone size
Binder Course	929	AC 20 Dense bin 40/60	60mm	7/1/2	50 – 100mm	-
Base	929	AC 32 HDM base 40/60 des	100mm	7/1/2	75 – 150mm	-
Sub base	803	Type 1 sub base	360mm	7/1/4	-	-
Total Pavement THICKNESS 560mm						

BITUMINOUS CARRIAGEWAY FULL DEPTH – 68+ PSV (5% CBR):

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 68+ PSV	40mm	7/1/1	-	14mm nominal stone size
Binder Course	929	AC 20 Dense bin 40/60	60mm	7/1/2	50 – 100mm	-
Base	929	AC 32 HDM base 40/60 des	100mm	7/1/2	75 – 150mm	-
Sub base	803	Type 1 sub base	330mm	7/1/4	-	-
Total Pavement THICKNESS 530mm						

BITUMINOUS CARRIAGEWAY FULL DEPTH – 68+ PSV & 4% CBR:

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 68+ PSV	40mm	7/1/1	-	14mm nominal stone size
Binder Course	929	AC 20 Dense bin 40/60	60mm	7/1/2	50 – 100mm	-
Base	929	AC 32 HDM base 40/60 des	100mm	7/1/2	75 – 150mm	-
Sub base	803	Type 1 sub base	360mm	7/1/4	-	-
Total Pavement THICKNESS 560mm						

BITUMINOUS CARRIAGEWAY - A2260 WIDENING (4% CBR):

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 68+ PSV	40mm	7/1/1	--	14mm nominal stone size
Binder Course	929	AC 20 Dense bin 40/60	60mm	7/1/2	50 – 100mm	
Base	929	AC 32 Dense base 40/60 des	210mm	7/1/2	70 – 150mm (to be laid in two layers)	First layer suggested to be laid 110mm thick to match adjacent pavement
Sub base	803	Type 1 sub base	360mm	7/1/4	-	-
Total Pavement THICKNESS 670mm						

BITUMINOUS CARRIAGEWAY - A2260 0.5 m HAUNCHING (4% CBR):

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 68+ PSV	40mm	7/1/1	-	14mm nominal stone size
Binder Course	929	AC 20 Dense bin 40/60	60mm	7/1/2	50 – 100mm	
Base	1030	ST2 type concrete	210mm	-	-	-
Separation Membrane	1007	Separation and Waterproof Membrane	125 micron	-	-	-
Sub base	803	Type 1 sub base	360mm	7/1/4	-	-
Total Pavement THICKNESS				670mm		

BITUMINOUS CARRIAGEWAY RESURFACING - A2260 68+ PSV:

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 68+ PSV	40mm	7/1/1	-	14mm nominal stone size
Total Pavement THICKNESS				40mm		

BITUMINOUS CARRIAGEWAY RESURFACING - A2260 65 PSV:

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 65 PSV	40mm	7/1/1	-	14mm nominal stone size
Total Pavement THICKNESS 40mm						

BITUMINOUS CARRIAGEWAY RESURFACING - HS1 TRACKSIDE ACCESS:

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	942	Thin surface course System [TSCS] 55 PSV	40mm	7/1/1	-	14mm nominal stone size
Total Pavement THICKNESS 40mm						

BRIDGE DECK BITUMINUOUS CARRIAGEWAY

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	943	Hot Rolled Asphalt 35/14 F surf des 40/60 WTR 1 + PCC 14/20	50mm	7/1/3	-	14mm nominal stone size. Minimum thickness at any point is 40mm
Regulating and Binder Course	943	Hot Rolled Asphalt 50/14 reg/bin 40/60 WTR 1	35 – 120mm	7/1/3	to be laid in two layers to BS 594987 where greater than 65mm thick	14mm nominal stone size. Minimum thickness at any point is 30mm
Protective layer/Base	943	Hot Rolled Asphalt 50/20 bin/base 40/60 (Red tint)	45mm	7/1/3	-	20mm nominal stone size. Minimum thickness at any point is 40mm
Bridge deck waterproofing system	2003	-	-	-	-	Proprietary spray applied
Total Pavement THICKNESS varies between 130 - 215mm						

CONCRETE FLAG PAVING VEHICLE CROSSOVER (5%)

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
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Surface Course	942	450 by 450mm 'Trafica' concrete paving slab by Marshalls or similar approved	70mm	-	-	See Appendix 11/1 for details.
Laying course	-	Proprietary Modified Mortar to BS 7533-4	30mm	-	-	To paving slab supplier's specification
Base	929	AC 32 HDM base 40/60 des	100mm	7/1/2	75 – 150mm	-
Subbase	803	Type 1 sub base	330mm	7/1/4	-	-
Total Pavement THICKNESS			530mm			

MAINTENANCE BAY (5% CBR)

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	-	'Grassguard' concrete grass paving by Marshalls or similar approved	100mm	-	-	See Appendix 11/1 for details.
Laying course	-	Sand	25mm minimum	-	-	Sand to the paving suppliers specification
Subbase	803	Type 1 sub base	150mm minimum	7/1/4	-	To concrete paving suppliers specification
Total Pavement THICKNESS			275mm			

CARRIAGEWAY OVERRUN – GRANITE SETTS (4% CBR)

Pavement Layer	Clause	Material	Thickness mm	Schedule No	Permitted thickness range for aggregate size	Remarks
Surface Course	-	100 by 100	100mm	-	-	8-12 joint spacing - See Appendix 7/1.8
Laying course	-	Mortar	40mm	See Appendix 7/1.8	-	-
Base	1030	ST2	200mm	-	-	-
Subbase	803	Type 1 sub base	330mm	7/1/4	-	
Total Pavement THICKNESS 670mm						

7/1.4 Compaction of Asphalt

All base and binder course asphalt laid shall comply with sub-Clauses 903.15, 16 and 17 and BS 594987 Clause 9.5 as modified by the specific requirements for the materials as listed below.

7/1.5 Bond Coats and Tack Coats

Bond Coats shall be used between all layers. The rate of application of residual bitumen shall be as described in BS 594987 Paragraph 5.5, or as specified in the HAPAS Certificate for use with This Surface Course System, as applicable.

Tack coats as described in BS 594987 Annex J may be used for footways and other areas not subjected to vehicular traffic.

7/1.6 Joints in Surface Course

- a) Transverse Joints shall be cut by sawing, and only when the wearing course is cold.
- b) Longitudinal Joints shall be cut by one of the following methods:
 - i. cutting wheel fitted to a roller when the surface course is warm.
 - ii. saw cutting when the surface course is cold.

All joints formed by one of the above methods shall be protected from traffic and/or other damage prior to laying of the adjacent area.

7/1.7 Joints below Surface Course

Joints in all bituminous layers below the surface course shall be formed to Sub-clauses 903.22, 23 and 24 except that a calibrated indirect density meter may be used in lieu of cores.

7/1.8 Natural Granite Setts Pavement

- a) The location and details of natural granite sett pavements shall be as shown on the drawing numbers 38800/2002/0700/01 and 38800/2002/0700/02.
- b) Natural granite setts pavement design has been based on a CBR of 5%. The formation shall be tested on site and the results reported to the Project Manager prior to any subbase being laid.
- c) Natural granite setts shall conform to BS EN 1342 and meet the minimum performance requirements below: -

Deviation on Nominal Thickness	Class 2 (Hewn)
Freeze/Thaw Resistance	Class 1
Abrasion Resistance	12mm
Unpolished Skid Resistance Value	70
Polished Paver Test Value in accordance with BS 7932	60

- d) Natural granite setts shall be rough sawn on edges and lower surface and shall have a "fine picked" upper surface.
- e) A method statement for each paving type shall be provided to the Project Manager prior to any paving works commencing.
- f) Setts shall be cut neatly and accurately around obstructions. The depth of the setts shall not be reduced. Mortar fillets shall not be used.
 - i. The setts shall be washed with clean water prior to being laid.
 - ii. Prior to construction of any pavement area using setts, the Contractor shall prepare a sample area at least 3.0m x 3.0m to demonstrate that the required different bonds, edging and surrounds to furniture and manhole covers can be achieved by the methods proposed. The sample area may form part of the final works. Notice shall be given to the Project Manager of completion of the panel for inspection before the Contractor proceeds with further sections.
- g) Natural granite setts shall be laid to achieve the minimum number of cuts required and where possible avoiding the layout of units which have been cut less than 20% of their original specification size. Where necessary alternative size units area permitted as penultimate units to avoid the use of cut units less than 20% of the original size specified.
 - i) Adverse weather conditions
 - i) Natural granite paving shall not be laid or jointed if the air or surface temperature is below 3°C on a falling thermometer or below 1°C on a rising thermometer.
 - ii) Frozen materials shall not be used. Bedding mortar shall not be laid on frozen or frost covered concrete base.
 - iii) Bedding and jointing mortar shall be protected from frost damage, saturation or rapid drying out until the mortar has hardened.
 - j) After installation the surface of all natural granite paving shall be clean and free of mortar.
 - k) Bedding Mortar/Laying Course

- i) Mortar depths quoted are post compaction for moist mortar. Subject to the approval from the Project Manager, plastic mortar may be used and the post compaction depth amended to suit the requirements of BS 7533 -7 Clause 8.5
- ii) Bedding requirements with appropriate primer:-

Minimum compressive strength (A)	=	35N/mm ²
Flexural Strength (A)	=	4.5N/mm ²
Minimum adhesive strength (B)	=	2N/mm ²
Modulus of elasticity (C)	=	18,000 ± 3,500 N/mm ²
Maximum shrinkage (D)	=	Not greater than 0.10%
Frost resistance	=	Frost resistance

 - A) Measured in accordance with BS 1015-11
 - B) Measured in accordance with BS EN 1015-12
 - C) Measured in accordance with BS EN 13421
 - D) Measured in accordance with BS EN 445
- l) Jointing Mortar
 - i) Jointing mortar requirements:-

Minimum compressive strength (A)	=	40N/mm ²
Minimum flexural strength (A)	=	6N/mm ²
Minimum adhesive strength (B)	=	1.5N/mm ²
Modulus of elasticity (C)	=	20,000 ± 4,000 N/mm ²
Minimum density (A)	=	2,000 kg/m ³
Maximum shrinkage (D)	=	Not greater than 0.10%
Colour	=	Natural grey

 - A) Measured in accordance with BS 1015-11
 - B) Measured in accordance with BS EN 1015-12
 - C) Measured in accordance with BS EN 13421
 - D) Measured in accordance with BS EN 445
 - m) Bedding and jointing mortars shall be mixed and laid in accordance with the supplier's instructions.
 - n) Pavements constructed from natural stone paving shall not be trafficked until the required mortar strength has been achieved. Mortar cube compressive strength test results shall be submitted to the Project Manager prior to trafficking.
 - o) Temporary edge restraints shall be installed to prevent setts moving during construction and to preserve the integrity of the laying face at the end of the working period. The Contractor shall supply proposals to the Project Manager prior to commencing any pavement works.

7/1.9 Tests and Results

- a) Before proceeding to cover any pavement course or opening to traffic, the Contractor will demonstrate compliance with Clause 702. The Contractor shall submit results as follows:
- b) Levels (dips) taken in accordance with Clause 702.4;
- c) Rolling straight edge results for base course and wearing course taken in accordance with Clause 702.7 and carried out 0.9m off set from each lane (2 runs per lane);

- d) In the case of the pavement surface 3m straight edge results measured transversely in accordance with Clause 702.8 locations as directed by the Overseeing Organisation (number not to exceed 1 per 200sq m).
- e) The Contractor shall suggest proposals for rectifying any area which does not comply with the specification.
- f) Unless otherwise agreed with the Overseeing Organisation, remedial Works shall be carried out prior to any further layers of surfacing are undertaken.
- g) The Contractor shall notify the Overseeing Organisation at least four hours in advance of any testing he proposes to carry out in accordance with paragraph (a) above.
- h) Provided full compliance with Clause 702 is achieved, the Contractor may proceed with the next area of resurfacing after complete results have been received by the Overseeing Organisation.
- i) Minimum length for rectification of wearing course apart from those in the 700 Series shall be 15m by the full mat or lane width.

7/1.10 Thin Surface Course Systems

All surfaces shall be blinded with in accordance with clause 942K. Excess material shall be removed by sweeping.

The aggregate shall be in a surface dry condition prior to mixing.

The mix should only be stored in silos for a minimum time to prevent loss of homogeneity by binder drainage. Storage shall not exceed 3 hours.

The average in situ air void content of the mixture shall fall in the range 2 to 5% by volume.

The material shall have a texture depth after laying and a retained texture depth at the end of the maintenance period no lower than as stated above.

High Friction Surfacing:

- a) Locations for High Friction Surfaces shall be as shown on the drawing 38800/2002/0700/03.
- b) The Type Classification shall be as shown on the drawing.
- c) The minimum declared PSV of the aggregate shall be 70.
- d) The minimum AAV of the aggregate shall be as shown on the drawing.
- e) High Friction Surfaces which, after any cooling/setting period, shall give a grey finish.

7/1.11 Material Delivery and Laying Daily Record Sheet

The log sheet in Appendix 7/1.16 is to be completed by the Contractor, signed and retained at the end of every shift.

7/1.12 Thin Surface Course Systems: Information to be provided by the Contractor

The Contractor shall provide the following information with his tender:

- (i) A copy of the British Board of Agrément HAPAS Roads and Bridges Certificate or Certificates for the Thin Surface Course System or systems that are proposed for use in the works, together with a copy of the Installation Method Statement associated with each Certificate.
- (ii) For any Certificate that covers several variants of one Thin Surface Course System, proposed variant or variants of the system to be used in the Works
- (iii) If requested, or if the Thin Surface Course System is not produced under a Sector Scheme, the proposed component materials to be used in the Thin Surface Course System and their proportions for each proposed system
- (iv) Proposed source or sources of coarse aggregate together with statement of properties including Polished Stone Value, Aggregate Abrasion Value, Los Angeles Coefficient and flakiness index
- (v) If regulating material is to be used, evidence of its deformation resistance either independently or in combination with the Thin Surface Course System

7/1.13 Mixture data requirements

The following data should be provided to the Overseeing Organisation for materials designed in accordance with Clause 901.17 and Clause 929 in respect of the proposed mixture:

- (i) Saturation Ageing Tensile Stiffness (SAT S) ratio – as described in Clause 953 Information to be provided by the Contractor for Binder/Base Course Material

7/1.14 Material Schedules

Schedule 7/1/1

Pavement Layer	Clause	Material	Thickness						
Surface course	942	Thin Surface Course Systems [TSCS] Hot applied	40mm						
		<p>Special Requirements</p> <p>Site Information</p> <p>1. The site has maximum traffic of 502cv/lane/day.</p> <table><tr><th>Location</th><th>Maximum Traffic Flow (cv/lane/day - 2 years after opening)</th></tr><tr><td>A2260 Ebbsfleet Gateway</td><td>820</td></tr><tr><td>Springhead Bridge Link</td><td>25</td></tr></table> <p>2. The site stress levels are:</p> <p>The site stress level is Level 1, increasing to Level 4 at the 50m approaches to all traffic signals</p> <p>Material information</p> <p>3. The minimum declared PSV of the coarse aggregate shall be as shown on the drawing numbers 38800/2002/0700/01 and 02.</p> <p>4. The maximum AAV of the aggregate shall be as shown on the drawing numbers 38800/2002/0700/01 and 02.</p> <p>5. The nominal stone size of the aggregate shall be 14mm</p> <p>6. The wheel tracking performance level shall be Level 2 in except level 3 for the area across the bridge deck.</p> <p>7. The road/tyre noise reduction shall be Level 2</p> <p>8. The material shall be a Stone Mastic Asphalt (SMA) system or similar approved</p> <p>Installation</p> <p>9. The initial and retained macrotexture depth performance level for the site shall be as required by Appendix 7/1.2.</p> <p>10. The shall be gritted as described in Clause 942K shall be applied to the surface during installation.</p> <p>Performance Guarantee</p> <p>11. The material shall be subject to the performance guarantee as described in paragraphs 22 and 23 of IAN 154/12</p> <p>12. The material shall be subject to the surface integrity guarantee as described in paragraphs 24 and 25 of IAN 154/12</p>		Location	Maximum Traffic Flow (cv/lane/day - 2 years after opening)	A2260 Ebbsfleet Gateway	820	Springhead Bridge Link	25
Location	Maximum Traffic Flow (cv/lane/day - 2 years after opening)								
A2260 Ebbsfleet Gateway	820								
Springhead Bridge Link	25								

Schedule 7/1/2

Pavement Layer	Clause	Material	Thickness									
Binder course/Base	929/907	Asphalt concrete 20 dense material (AC 20 dense bin 40/60)	60mm									
		Asphalt concrete 32 dense material (AC 32 dense bin 40/60)	100mm, 210mm									
		<p>Special Requirements</p> <p>Aggregate.</p> <p>1. The fine aggregate may contain crushed glass.</p> <p>2. Gravel shall not be used.</p> <p>Binder</p> <p>3. Grade of binder Y40/60: a polymer modified or unmodified binder to achieve the deformation resistance requirements.</p> <p>Mixture properties</p> <p>4. The mixture properties shall comply with PD 6691 Annex B for designed binder/base course mixtures.</p> <p>5. The deformation resistance shall be Class 1 to PD 6691 Table B.4.</p> <p>6. Where mixtures are made of granite coarse and fine aggregate either 2% hydrated lime shall be added or the mix shall satisfy Clause 953.</p> <p>7. Where mixtures are also made of granite coarse and fine aggregate, the material shall satisfy the requirements for Asphalt durability in Clauses 901.17 and 18.</p> <p>Installation</p> <p>8. The rolling temperature shall be in accordance with BS 594987 Table 5.</p> <p>9. Insitu air voids shall be in accordance with Clause 929.</p> <p>10. The deformation resistance after installation shall be determined as described in Clause 929 for each site (binder course only).</p> <table><tr><th>Material Designation (PD 6691 Annex B)</th><th>Aggregate Size XX</th><th>Laid thickness range</th></tr><tr><td>AC 20 dense bin 100/150 des</td><td>20mm</td><td>45 – 130mm</td></tr><tr><td>AC 32 HDM base 40/60 des</td><td>32mm</td><td>210mm</td></tr></table>		Material Designation (PD 6691 Annex B)	Aggregate Size XX	Laid thickness range	AC 20 dense bin 100/150 des	20mm	45 – 130mm	AC 32 HDM base 40/60 des	32mm	210mm
Material Designation (PD 6691 Annex B)	Aggregate Size XX	Laid thickness range										
AC 20 dense bin 100/150 des	20mm	45 – 130mm										
AC 32 HDM base 40/60 des	32mm	210mm										

Schedule 7/1/3

Pavement Layer	Clause	Material	Thickness
Surface course	943	Hot Rolled Asphalt 35/14 surface course	50mm
Binder/Regulating course		Hot Rolled Asphalt 50/14 binder/regulating course	35-120mm
Protective layer/base		Hot Rolled Asphalt 50/20 binder course/base	45mm
		Special Requirements <ol style="list-style-type: none"> Materials shall be in accordance with clause 943 BS EN 13108-4 and BSI PD 6691 including Annex C. Resistance to permanent deformation shall be site classification no.1 in BSI PD 6691 Annex C Table C.3. <p>Mixture properties:</p> <p>Surface course:</p> <ol style="list-style-type: none"> For the Surface course, the mixture shall comply with BSI PD 6691 Annex C Section C.2.5.1.3. PCC 14/20 coated chippings shall be used in accordance with Clause 915. The minimum declared PSV of the coarse aggregate for the surface course shall be as shown on the drawing numbers 38800/2002/0700/01 and 02. The maximum AAV of the aggregate for the surface course shall be as shown on the drawing numbers 38800/2002/0700/01 and 02. <p>Binder/Regulating course and Protective layer/Base</p> <ol style="list-style-type: none"> For the Binder/Regulating course and Protective layer/Base, the mixtures shall comply with PD 6691 Annex C section C2.4. For the protective layer/base only, the mixture properties shall comply with clause 2003 to achieve a red tint. 	

Schedule 7/1/4

Pavement Layer	Clause	Material	Thickness
Sub base	803	Type 1 Sub base	320mm
		Special Requirements <p>Crushed gravel is not permitted for use without prior approval from the Engineer</p> <p>The compacted sub base material shall have a minimum CBR value of 30%</p>	

7/1.16 Material Delivery and Laying Daily Record Sheet

[illegible]

Signed:

Site Agent Supervisor for Overseeing Organisation

Appendix 7/2 Excavation, Trimming and Reinstatement of Existing Surfaces

Unless otherwise agreed with the Project Manager, where construction shall match adjacent construction types, trench reinstatements shall be as follows:

7/2.1 Drainage and Service Duct Installations

- a) Trenches may be part in existing pavement construction to be resurfaced and part in areas of full new construction.
- b) Trench excavations for drainage and service ducts in existing pavements shall be as detailed on KCC standard detail KCC/700/002, except that the surface course shall be as detailed on the 700 Series drawings.

7/2.2 Overlaying Existing Surfaces

- a) New pavement construction shall abut existing as shown on the 700 Series drawings. The A2260 Ebbsfleet Gateway existing pavement is to be planned and resurfaced as shown on the 700 Series drawings.

Approximate area of existing pavement to be planed: 810 m²

Approximate area of existing pavement to be resurfaced: 810 m²

- b) Paving courses shall be cut back as follows: X = 300, Y = 300, Z = 300 (see Standard Drawing KCC/700/022)

7/2.3 Existing Signs and Street Furniture

When existing signs or items of street furniture are removed from paved surfaces the resultant void shall be reinstated to match the surrounding surface in accordance with the appropriate standard detail.

7/2.4 Reinstatement of Other Areas

Acceptable material for backfilling under areas described in Clause 706.8 and 706K shall be Class 4 as described in Appendix 6/1

7/2.4 Joints between Different Materials and Existing Surfaces

- a) Joints are to be flush with the existing carriageway surface.
- b) Joint Seals shall be black in colour

Appendix 7/4 Bond Coats, Tack Coats and Other Bituminous Sprays

7/4.1 Location

- a) All carriageway surfaces and planed areas to receive bituminous overlays shall be prepared with a bond/tack coat as appropriate unless otherwise agreed with the Project Manager.
- b) The application of a bond or tack coat will comply with the recommendations of Road Note 39 Fifth Edition, or an equivalent proprietary system, where appropriate to such work.
- c) Unless otherwise agreed by the Overseeing Organisation the Contractor shall apply a tack coat or bond coat to base and binder course layers, which have remained uncovered by the successive covering layer for more than 3 consecutive days.
- d) The Contractor shall not apply a bituminous spray to existing cement bound materials, but use surface dressing in accordance with Road Note 39 Fifth Edition or an equivalent proprietary system.
- e) The Contractor shall apply a bituminous spray prior to the overlaying of a binder course or upper roadbase materials which has remained uncovered by the successive layer for more than 3 No. consecutive days.
- f) Bituminous sprays shall not be applied to any surface to be resurfaced more than 24 hrs in advance of the work.
- g) The Contractor shall advise of his proposals for application of bond coat to be use beneath proprietary Thin Surface Course Systems.

7/4.2 Binder Classification and Application Details of Tack coats

- a) The binder for use with the proprietary Thin Surface Course System is to be that specified in the HAPAS certificate for the Thin Surface Course System
- b) The binder shall be bitumen emulsion complying with BS 434: Part 1.
- c) The bitumen grade of classification shall be 1 (one) of the following:
 - K1-40; or
 - A1-40.
- d) The spread rate of the binder shall be as clause 920.8 and BS594987. Where proprietary Thin Surface Course System is used the spread rate is to be that specified in the HAPAS certificate for the Thin Surface Course System
- e) No blinding material will be permitted to be applied to the binder.

7/4.4 Binder Classification and Application of Bond coats

- a) Bond coat material shall be cationic emulsion. If the nominal layer thickness is less than 25mm it shall be polymer modified binder with a minimum Vialit cohesion value of 1.2 J/ cm2
- b) At the frequency stated in Appendix 1/5, test portions shall be recovered from the emulsion Bond Coat in accordance with Clause 955 (Rapid Recovery Test).

- c) The recovered binder shall be tested as follows:

Vialit pendulum cohesion curve

Penetration at 5°C (200g for 60secs.) and at 25°C (100g for 5secs.)

- a) The Contractor shall state the calculated rate of spread of residual bitumen, taking into account binder (solids) content of the emulsion. The rate shall take into account the porosity of the surface, the free binder at the surface, the amount of wear due to trafficking, the binder content of the layer to be treated and its permeability and the need for waterproofing. The Contractor shall also state the spray temperatures and pressures for the sprayer to be used with the relevant Bond coat and provide certificates of rate of spread tolerance and accuracy of spread in accordance with Clause 920. The calculated rate of spread of residual binder based on actual quantities used and binder content shall be not less than 0.6 kg/m² (i.e. for a 60% emulsion the rate of spread of emulsion required would be 1.0 litres/m²).
- b) Blinding material shall not be used. Bond coats shall not be trafficked by vehicles other than construction vehicles.

7/4.6 Restrictions

General site traffic shall not be permitted to traffic onto any tack or bond coated surface.

The Contractor shall take particular care to prevent the overspraying of kerbs, street furniture and the like when applying Tack Coats.

7/4.7 Information to be supplied by the Contractor

The Contractor shall provide the following information with his tender, or prior to the commencement of the work:

2. The product or products he proposes to use together with their data sheets, product identification data, cohesivity data as specified
3. For each product, a copy of the BS EN ISO 9001 certificate showing the name of the manufacturer, the name of the certification body and the reference number and date of the certificate.
4. The spraying equipment proposed, and a test certificate.
5. Contingency plans in the event of any breakdown.
6. The results of any other tests or other data the Contractor considers would assist the Overseeing Organisation in assessing the technical merit of the treatment such as:
 - i. Tackiness test and/or trafficability time and methods of test.
 - ii. Breaking time test results for different weather conditions and substrates.
 - iii. Test results for bond to newly laid concrete eg. from a BBA/HAPAS certificate if available. The data supplied should not be more than 6 months old.

The Contractor shall complete the schedule below; data shall not be more than 24 months old:

Binder Data Sheet – Bond Coats, Tack Coats and Other Bituminous Sprays			
Manufacturer of binder:			
Product Name:			
Binder Type:			
Batch No:			
Binder Grade (highlight as required)			
Conventional Intermediate Premium Super-Premium Non tack Other			
Binder	Source →	Recovered Binder	Recovered Binder after Ageing Test
	Test ↓	Recovered in accordance with Clause 955	Aged in accordance with Clause 955
Penetration at 25°C 0,1mm (100g and 5 secs)			
Penetration at 5°C 0,1mm (200g and 60 secs)			
Vialit pendulum cohesion see Clause 957 maximum peak value J/cm ²		The Contractor shall attach a report and graphical output to this schedule as specified in Clause 957	The Contractor shall attach a report and graphical output to this schedule as specified in Clause 957
Product identification test. The provision of data for identification and ageing is optional for unmodified bitumen emulsions to BS434 and for bitumen to BSEN 12591 and cut back bitumen to BS 3690. Complex shear (stiffness) modulus (G*) & phase angle data. See Clause 956		The Contractor shall attach a report and graphical output to this schedule as specified in Clause 956	The Contractor shall attach a report and graphical output to this schedule as specified in Clause 956
Other properties the Contractor considers useful: Minimum binder content Binder temperature range for spray application Emulsion Properties & Viscosity Break time Breaking agent type Weather limits Temp max Temp min Other			

Appendix 7/9 Cold Milling (Planing of Bituminous Bound Flexible Pavement)

Areas of cold milling/pavement treatment are shown on the 700 Series drawings.

48 hours prior to cold-milling the Contractor shall carry out a sweep of the area(s) to locate any buried metalwork within the layer to be cold-milled. The sweep shall be carried out with electronic detection equipment suitable for the purpose. The surface shall be clearly marked above all objects to show their detected extent. The objects shall be referenced and their location and depth reported to the Overseeing Organisation within 6 hours of discovery. Surfacing in the vicinity of such objects shall be excavated using pneumatic tools or other suitable methods.

See also Appendices 7/1 and 7/2 regarding materials and requirements for inlay resurfacing.

Areas of cold milling shall be deemed to be required to be "to profile" to achieve the desired/good alignment and full thickness of inlaid construction layer.

The extent of cold milling and regulating is to be ascertained on site following completion of a joint level survey.

All existing loops to be reinstated shall be surveyed prior to planing.

Appendix 7/22 Repair to Potholes

General

All loose material shall be removed before filling the hole.

All standing water shall be removed before filling the hole.

The filling material shall be compacted by a suitable means.

The surface of the compacted material shall be level with that of the adjacent road.

Road Stud Holes

Fill road stud socket with 6 mm bituminous instant road repair material or equivalent.

Holes in Paved Areas

For holes less than 0.5 m² - fill with 6 mm bituminous instant road repair material or equivalent.

For holes greater than 0.5 m² - fill with 6 mm nominal size dense bitumen macadam surface course.

Holes shall be backfilled with materials compacted to refusal with a circular headed vibrating hammer in layers not exceeding 75 mm thick.

Appendix 11/1 Kerbs, Footways and Paved Areas

11/1.1 General

- a) The locations and details for footways and paved areas are shown on the 700, 750 & 1150 drawings
- b) The locations and details for kerbs are shown on the 1100, 750 & 1150 Series drawings.
- c) The footway design has been based on a minimum CBR of 4%. The formation shall be tested on site and the results reported to the Project Manager prior to any subbase being laid.

11/1.2 Concrete Kerbs, Channels, Edgings and Quadrants

Kerbing and footway edgings shall be pre-cast concrete of the following types:

- a) General
 - i. Precast concrete kerbs, channels, edgings and quadrants shall be Bending Strength Class 1 and Weathering Resistance Class 3. Precast concrete channels shall additionally be Abrasion Resistance Class 3 and have a slip/skid resistance USRV greater than 35.
- b) Precast concrete kerbs
 - i. Precast concrete kerbing, channelling and quadrants shall be laid in accordance with Clause 1101 and Standard Drawing KCC/SD/1100/001.
 - ii. Edgings shall be precast concrete and formed and laid in accordance with Standard Drawing KCC/SD/1100/001.
- c) Conservation kerbs
 - i. Conservation kerbs, channels, edgings and quadrants shall be supplied by Marshalls or similar approved
 - ii. The Conservation kerbs shall be silver grey colour or similar approved

11/1.3 Segregated Footway/cycleway Delineation Features

- a) Segregated footways and cycleways shall be separated using Marshalls 'Cycleway Demarcation Paving' coloured white. Stop end blocks shall be placed every 3.0m as shown on drawing 38800/2002/1150/01.
- b) Figures 11/1/4a below illustrate the general layout of delineation features identified in the 1100 Series drawings. The ladder and tramline patterns shall be laid to distinguish the pedestrian and cycle routes respectively.

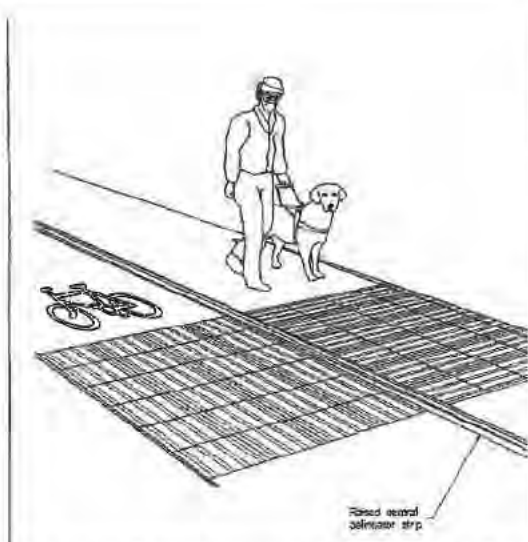


Figure 11/1/4a: General illustrative layout of delineation paving and demarcation strip on segregated footway/cycleway.

11/1.4 Tactile Paving

- a) When tactile surfaces are specified, to assist blind or partially sighted pedestrians, such surface is to be in accordance with the requirements of the "Guidance on the use of tactile paving surfaces" document as produced in 1998 by the Department of the Environment, Transport and the Regions. Uses of tactile surfaces include crossing points for pedestrians and cyclists and warning surfaces between different types of footways e.g. segregated, shared and normal footways.
- b) Slabs used for tactile paving shall be laid in accordance with the Standard Detail KCC/1100/011.
- c) Red coloured tactile 'blister' paving: to be used at controlled pedestrian crossing points. Tactile paving to be 400x400x65mm thick red coloured precast concrete slabs with 'blister' pattern tactile surface.
- d) Buff coloured 'Corduroy Hazard Warning Surface' type tactile paving: to be used between shared footways and normal footways as shown on the 0700 Series drawings. Corduroy Hazard Warning Surface tactile paving to be 400x400x50mm thick buff coloured precast concrete slabs.
- e) Buff coloured 'Segregated Cycle Track/Footway' type tactile paving: to be used between segregated footways and normal footways as shown on the 0700 Series drawings and in accordance with Appendix 11/1.3. Segregated Cycle Track/Footway tactile paving to be 400x400x50mm thick buff coloured precast concrete slabs.

11/1.5 Flag paving

- a) General:
 - i. Construction of footways and paved areas in precast concrete flags shall be in accordance with Clause 1104, BS 7533-4 and the 700, 750, 1100, 1150 Series Drawings.
 - ii. Flags shall conform to BS EN 1339 and meet the minimum performance requirements below: -

Dimensions	=	vary as below
Deviations	=	Class 3
Bending strength	=	Class 3
Weathering Resistance	=	Class 3

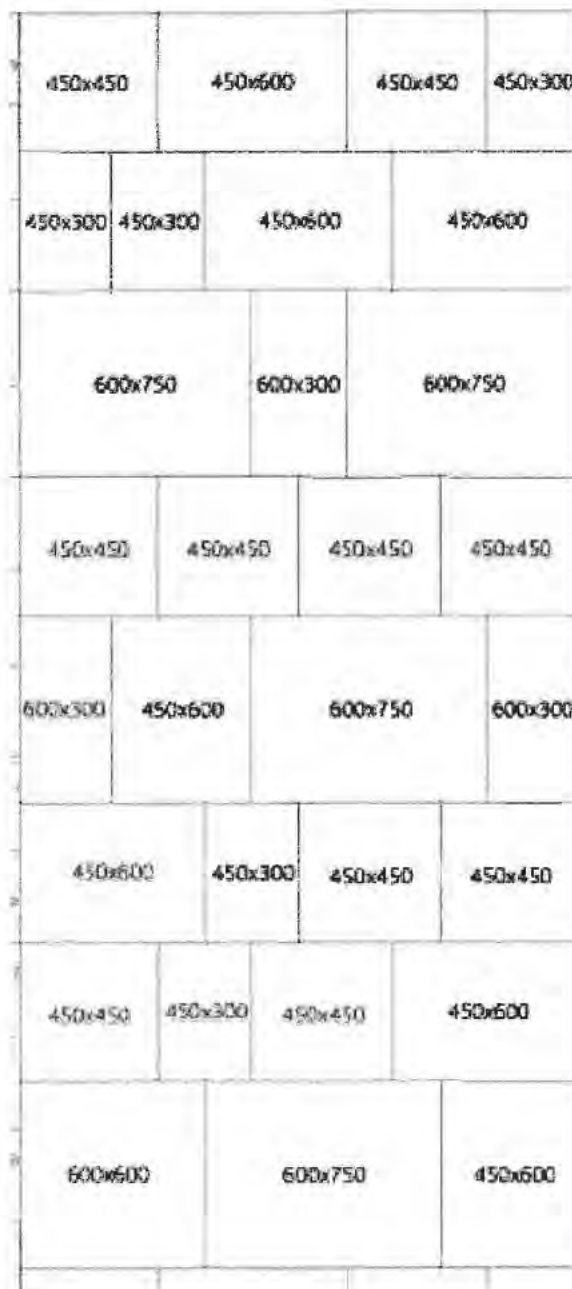
Abrasion Resistance	=	Class 3
Skid Resistance USRV	>	35

- iii. The Contractor shall allow for machine cutting of flags to edges not exceeding 15% of the original flag plan size. Flags shall be cut neatly and accurately at edges and around obstructions. Mortar fillets shall not be used
- iv. The flags shall be washed with clean water prior to being laid
- b) The Concrete Flags Paving for use in footways with pedestrian loading only shall be supplied by Marshalls or similar approved with the following requirements:
 - i. Type shall be the 'Perfecta' type 50mm thick
 - ii. The plan dimensions will vary as detail in 11/1.6
 - iii. Colour shall be natural or similar approved
 - iv. Shall be laid in accordance with the Standard Detail KCC/1100/011
 - v. The laying pattern shall be as stated in 11/1.6
- c) The Concrete Flags Paving for use in vehicle crossover shall be supplied by Marshalls or similar approved with the following requirements:
 - i. Type shall be the 'Traffica' type 70mm thick
 - ii. The plan dimensions will be 450mm by 450mm
 - iii. Colour shall be natural or similar approved
 - iv. Shall be laid in accordance with Appendix 7/1.
 - v. The laying pattern shall be stretcher bond

11/1.6 Flag paving laying pattern

The pattern required is shown on drawing numbers 38800/2002/1150/01. The pattern detail shall be confirmed with the Project Manager but shall otherwise match the following layout.

4.050m long repeat paving pattern for paving slabs within footway area.



Appendix 12/1 Traffic Signs - General

12/1.1 Permanent Traffic Signs

- a) All traffic signs, whether permanent or temporary shall comply with 'The Traffic Signs Regulations and General Directions 2016' and its amendments.
- b) The approximate location of signs, foundations, mountings and illumination requirements are shown on 1200 Series, the Sign Schedule (Appendix 12/1.10) and sign drawings. All traffic signs shall have their location agreed on site with the Project Manager prior to installation.
- c) The Signs Taken Down schedule in Appendix 12/1.9 gives details of traffic signs to be taken down.
- d) All traffic signs shall comply with BS EN 12899:2007 and its National Annex.
- e) All signs, whether constructed of sheet or extruded plank, shall be manufactured in 3mm (11 gauge) aluminium. The Contractor should determine the stiffening and framing for each sign plate used.
- f) The manufacturer's sign fabrication drawings shall be submitted to the Engineer for checking. Manufacture may not commence until the Engineer's approval has been received. The Engineer will require two weeks from the date of receipt to check the drawings.
- g) Notwithstanding the requirements of Clause 1202.8, the Contractor shall store the signs as described below:
- h) Wherever possible signs shall be stored indoors. The following procedures must be followed:
 - i. If stored indoors, the packaging (provided it is dry) need not be removed unless storage is to be for an extended period of time (more than 4 weeks). If packaging is removed, the SCW82 slip sheeting shall remain in situ to protect the sign face. In either case, the signs must be supported on wooden battens in the upright position so that they do not touch.
 - ii. If stored outdoors, all packing shall be removed and the signs placed on wooden battens in the upright position with plenty of space for free air circulation. Signs shall not be allowed to come into contact with treated wooden posts and shall not be allowed to stand in water at any time.
 - iii. Sharp or heavy objects shall not be placed on or against signs during storage.
- i) The required durability of all sign plates and faces shall be as follows:
 - i. 10 years for signs manufactured with CR2 and RA2 (BS EN 12899-1:2007) face material.
 - ii. 7 years for signs manufactured with other face material.
 - iii. 5 years for signs manufactured with other than aluminium substrate.
- j) All signs shall be supplied complete with sufficient clips, brackets and ancillary items, to suit the posts or wall to which they are to be fitted.

12/1.2 Foundations for permanent traffic signs

- a) Where signs are illuminated, provision shall be made for cable entry through the concrete base by means of a 50mm diameter flexible PVC-U duct.
- b) Posts shall be supported for a minimum of 3 days after placing the concrete and backfilling shall not take place until at least 48 hours after placing.

12/1.3 Illuminated Signs

- a) Electrical work for traffic signs shall be in accordance with the 1400 Series clauses.
- b) Where illumination of a sign is required by the Contract the appropriate lighting unit shall be selected from those listed in Appendix 14.
- c) The Contractor shall co-ordinate the connection, and any disconnection/reconnection of electrical power supplies to any signs as necessary for the execution of his works.
- d) The Contractor shall allow in his programme for any delays or notice periods that may be required by the Statutory Undertaker.
- e) Externally illuminated signs shall be constructed in accordance with Standard Drawing No. KCC/1200/009/B.
- f) Internally illuminated signs (excluding beacons, bollards and light signals) shall be mounted in accordance with Chapter 13, Section 6 of the Traffic Signs Manual unless specified otherwise.

12/1.4 Posts for Permanent Traffic Signs

- a) Posts for Permanent Traffic Signs shall be as shown in the Signs Schedule included in this Appendix and KCC Standard Details. They shall meet the following requirements:
- b) Posts shall comply with the requirements of BS EN 12899-1:2007.
- c) Tubular steel posts (TSP) shall be manufactured from steel complying with the requirements of BS EN 10210. Wide based posts shall also be to this specification. The minimum base section diameter for a wide based post is 140mm. 76mm and 89mm diameter posts shall have a maximum steel thickness of 3.2mm to comply with passive safe requirements of BS EN 12767:2007.
- d) Base plates shall be fitted to each embedded tubular post, as shown on KCC Standard Drawing Numbers KCC/1200/001/C and KCC/1200/002/B.
- e) Stainless steel (SSP) posts shall be to KCC Coastal Specification G1 Galvanised finished. Posts shall be manufactured and supplied by KCC's approved suppliers - Stanton or Fabrikat.
- f) Where a sign is erected on more than one post and is required to carry an overhead lighting unit, a length of 76 mm diameter tubular post shall be fastened with clips to at least two points on the rear of the sign leaving a 150mm projection above the post for the luminaire bracket. The length of the dummy post may vary between 750mm and 1200mm dependent upon the depth of the sign. Otherwise no part of any post shall show above the sign.
- g) Plastic post caps of the appropriate size shall be fitted to the exposed ends of all tubular steel posts. Alternatively, the post cap shall suit the style of the post specified as supplied by the post manufacturer.

- h) Types of lock to traffic sign housings shall be agreed by the Engineer and shall be supplied with two (2 No.) keys of any one type.
- i) Posts shall meet the requirements prescribed in the Sign Schedule included in the Appendix:
- j) Cleansed of grease, scale and rust, shot blasted and then galvanised; or
- k) Coated to a minimum thickness of 0.4 mm with grey PVC Vyflex as applied by Argosy Systems Ltd, or equivalent.
- l) All posts shall be fully galvanised to BS EN ISO 1461 and BS EN ISO 14713-3 unless otherwise described on the sign schedule.
- m) Galvanising shall be smooth, reasonably bright, continuous and free from imperfections such as flux, ash, and dross inclusions. If bare patches or spots due to inefficient pickling or persistent types of scale etc. are apparent, the work shall be completely stripped and re-galvanised in accordance with BS EN ISO 1461 and BS EN ISO 14713-3.
- n) The sign plates or planks shall not be fixed until three days after concreting of the posts.

12/1.5 Faces for permanent traffic signs

- a) Sign face details are shown in the sign schedule. These include the scheme reference number, sign face dimensions, reflectivity and illumination requirements.
- b) Unless otherwise stated in the sign schedule, the daylight chromaticity and luminance factors shall comply as a minimum with table 2 (CR2), and the coefficient of retro-reflection shall comply as a minimum with table 4 (RA2) of section 4.1 of BS EN 12899-1:2007.
- c) All permanent sign faces require a declaration of performance and a CE mark.

12/1.6 Installation of Permanent Traffic Signs

- a) During sign erection, measures shall be taken to ensure that signs are not abraded, impacted or otherwise marked.
- b) Tape shall not be applied to sign faces.
- c) Signs on single posts shall be fixed by a minimum of 2 clips. Such clips shall be specially designed to prevent rotation of the sign.
- d) The Contractor shall have allowed in his rates for the local trimming of vegetation (measured under General Site Clearance).
- e) Such trimming shall be undertaken by qualified persons to the approval of the Overseeing Organisation.
- f) Trimming shall permit the sign to be erected or replaced, in its correct position such that the sign face is fully visible from a point on the edge of the carriageway 25m in front of the sign.
- g) Prior to fitting any sign to any lighting column, the Contractor shall ensure that the sign is included in the technical approval of the lighting column in accordance with the Technical Approval Scheme adopted by the Overseeing Organisation and with Standard BD 94/07. No holes shall be drilled in the lighting column except those whose location and size are included in the technical approval.

- h) Traffic signs to be erected on road lighting columns shall have fixings compatible with the column cross-section and finish. Wiring shall be contained in external conduit complying with BS EN 61386.
- i) Signs shall be erected in accordance with KCC Standard Drawing KCC/1200/009/B

12/1.7 Temporary traffic signs

- a) All temporary traffic signs shall be constructed to the same standard as permanent signs. Signs can be mounted on 'A' frames where expressly stated in Appendix 1/17.
- b) Signs which are damaged or have lost their reflectivity shall not be used.
- c) Temporary "NEW ROAD LAYOUT AHEAD" and "NEW TRAFFIC SIGNALS AHEAD" signs are to remain in place for a maximum period of six months from scheme completion. The Contractor shall remove and dispose of these signs at the end of the 6 month period.

12/1.6 Erection of Bollards

- a) Bollards are to be erected at the locations shown 1200 Series drawings.
- b) The type of non-illuminated bollards shall be Metro Plus anti- twist by TMP Solutions or similar approved.
- c) All proposed bollards are to be installed with a minimum of 450mm clearance from the kerb face to the outside edge of the bollard. The new bollards are to be fed from the or new private supply taken from the nearest lighting column.

12/1.7 Cleaning of Signs

- a) Signs shall be cleaned immediately prior to commissioning. Existing signs shall be cleaned only when instructed by the Engineer.
- b) The cleaning shall be carried out in the manner described in Chapter 12(3) of the Traffic Signs Manual. The type of detergent used shall be to the approval of the Engineer.
- c) The inside of translucent panels of all internally illuminated signs shall be polished using anti-static fluid.

12/1.8 Location of Identity Marks

- a) The backs of traffic signs shall have a location identifying mark as defined by the reference number as required by the local authority Kent County Council.
- b) The Contractor shall be responsible for agreeing the reference numbers with the local authority Kent County Council.

12/1.9 Traffic Take Down Sign Schedule

Sign	Sign Face Details							Installation		Post Details				Lighting Details			Foundation Details			Notes		
	Diagram Number (TSRGD 2016)	Reference Number	Variant Type	Width (mm)	Height (mm)	Area (m ²)	X-height (mm)	Reflectivity	Illumination	Lateral clearance from carriageway (min)	Mounting height (mm)	Number	Length (mm)	Size (mm)	Section	Post Spacing	Type	Wattage (W)	Control		Detail	Width (mm)
TD1	See Notes		See Notes	EX	EX	EX	EX	EX	-	-	-	2	4390	89	CHS	-		-			-	Existing directional information sign – map type to be taken down and set aside for reuse in reference TS1. Existing posts to be removed to Contractor's tip.
TD2	670		50	EX	EX	EX	EX	EX	Yes	-	-	1	3800	76	WBP		Existing electrical supply to be disconnected	-			-	Existing dimensions are assumed. The take down and remove to tip off site of the sign and post includes the electrical equipment and foundations.
TD3	670		40	EX	EX	EX	EX	EX	Yes	-	-					Mounted back to back with TD2					-	Existing dimensions are assumed. The take down and remove to tip off site of the sign and post includes the electrical equipment and foundations.

Sign	Sign Face Details							Installation		Post Details				Lighting Details			Foundation Details			Notes			
	Diagram Number (TSRGD 2016)	Reference Number	Variant Type	Width (mm)	Height (mm)	Area (m²)	X-height (mm)	Reflectivity	Illumination	Lateral clearance from carriageway (min)	Mounting height (mm)	Number	Length (mm)	Size (mm)	Section	Post Spacing	Type	Wattage (W)	Control		Detail	Width (mm)	Depth (mm)
TD4	670		50	EX	EX	EX	EX	EX	Yes	-	-	1	3800	76	WBP			Existing electrical supply to be disconnected			-		Existing dimensions are assumed. The take down and remove to tip off site of the sign and post includes the electrical equipment and foundations.
TD5	670		40	EX	EX	EX	EX	EX	Yes	-	-					Mounted back to back with TD2					-		Existing dimensions are assumed. The take down and remove to tip off site of the sign and post includes the electrical equipment and foundations.

12/1.10 Traffic Sign Schedule

Sign	Sign Face Details							Installation		Post Details				Lighting Details			Foundation Details			Notes		
	Diagram Number (TSRGD 2016)	Variant Type	Width (mm)	Height (mm)	Area (m²)	X-height (mm)	Reflectivity	Illumination	Lateral clearance from carriageway (min)	Mounting height (mm)	Number	Length (mm)	Size (mm)	Section	Post Spacing	Type	Wattage (W)	Control	Detail		Width (mm)	Depth (mm)
TS1	See Notes	See Notes	EX	EX	EX	EX	EX	-	See notes	1500	2	4390	89	CHS	1690	-	-	-	-	300	1100	Existing directional information sign – map type from TD1 to be re-erected at the proposed location on the new posts 1.0m offset behind existing vehicle restraint system.
TS2	See Notes	See Notes	1780	865	1.54	110	RA2	-	See notes	1500	2	2665	76	CHS	776	-	-	-	-	800	300	Directional information sign – flag type – right turn to TSRGD Schedule 12, Part 2, Item 3 (Type B). Sign to be erected on new posts 1.0m offset behind existing vehicle restraint system.
TS3	See Notes	See Notes	2630	1130	2.96	110	RA2	-	450	1500	2	3580	89	CHS	1690	-	-	-	-	300	950	Directional information sign – flag type – left turn to TSRGD Schedule 12, Part 2, Item 3 (Type B). Sign to be erected on new posts 1.0m offset behind existing vehicle restraint system.

Sign	Sign Face Details								Installation		Post Details				Lighting Details			Foundation Details			Notes	
	Diagram Number (TSRGD 2016)	Variant Type	Width (mm)	Height (mm)	Area (m²)	X-height (mm)	Reflectivity	Illumination	Lateral clearance from carriageway (min)	Mounting height (mm)	Number	Length (mm)	Size (mm)	Section	Post Spacing	Type	Wattage (W)	Control	Detail	Width (mm)		Depth (mm)
TS4	956	-	450	450	0.16	-	RA2	-	See notes	2140 (50mm above TS5)	1	3340	76	CHS	-	-	-	-	-	450	750	New sign to be erected on new post at rear of shared footway / cycleway, 1.0m offset behind existing vehicle restraint system. Sign to be erected 50mm above sign TS5.
TS5	See Notes	-	615	270	0.17	60	RA2	-	-	1820 (50mm above TS6)	To be mounted on the same post as TS4				To be mounted on the same post as TS4				To be mounted on the same post as TS4			Cycle route direction flag – left turn to TSRGD Schedule 12, Part 2, Item 8 (Type B). Sign to include symbols TSRGD Schedule 12, Part 11, Item 3. The national cycle route number shall be “1”. Sign to be erected on same post as sign TS4 & TS6. Sign to be erected 50mm above sign TS6.

Springhead Bridge Link
Scheme Specification



Sign	Sign Face Details							Installation		Post Details				Lighting Details			Foundation Details			Notes		
	Diagram Number (TSRGD 2016)	Variant Type	Width (mm)	Height (mm)	Area (m ²)	X-height (mm)	Reflectivity	Illumination	Lateral clearance from carriageway (min)	Mounting height (mm)	Number	Length (mm)	Size (mm)	Section	Post Spacing	Type	Wattage (W)	Control	Detail		Width (mm)	Depth (mm)
TS6	See Notes	-	615	270	0.17	60	RA2	-	-	1500	To be mounted on the same post as TS4										Cycle route direction flag – right turn to TSRGD Schedule 12, Part 2, Item 8 (Type B). Sign to include symbols TSRGD Schedule 12, Part 11, Item 3. The national cycle route number shall be "1". Sign to be erected on same post as sign TS4 & TS5.	
TS7	957	-	450	450	0.16	-	RA2	-	See notes	2300	1	3500	76	CHS	-	-	-	-	-	450		750
TS8	670	30	600	600	0.28	-	RA2	LED	See notes	2300	1	3800	76	WBP	-	LED	3	PEC	F	450		750
TS9	670	40	600	600	0.28	-	RA2	LED	-	2300	To be mounted back to back with TS8				New sign to be erected on new post at rear of segregated footway / cycleway.			New sign to be erected on new wide based post at rear of footway.				-

Sign	Sign Face Details							Installation		Post Details				Lighting Details			Foundation Details			Notes		
	Diagram Number (TSRGD 2016)	Variant Type	Width (mm)	Height (mm)	Area (m²)	X-height (mm)	Reflectivity	Illumination	Lateral clearance from carriageway (min)	Mounting height (mm)	Number	Length (mm)	Size (mm)	Section	Post Spacing	Type	Wattage (W)	Control	Detail		Width (mm)	Depth (mm)
TS10	957	-	450	450	0.16	-	RA2	-	See notes	2300	1	3500	76	CHS	-	-	-	-	-	450	750	New sign to be erected on new post at rear of segregated footway / cycleway.
TS11	670	30	600	600	0.28	-	RA2	LED	See notes	2300	1	3800	76	WBP	-	LED	3	PEC	F	450	750	New sign to be erected on new wide based post at rear of segregated footway / cycleway.
TS12	670	40	600	600	0.28	-	RA2	LED	-	2300	To be mounted back to back with TS11				-	LED	3	PEC	-	-	-	Sign to be erected back to back on post with sign TS11.
TS13	670	50	600	600	0.28	-	RA2	LED	See notes	2300	1	3800	76	WBP	-	LED	3	PEC	F	450	750	New sign to be erected on new wide based post at rear of shared footway / cycleway.
TS14	670	40	600	600	0.28	-	RA2	LED	See notes	2300	To be mounted back to back with TS13				-	LED	3	PEC	-	-	-	Sign to be erected back to back on post with sign TS13.

Sign	Sign Face Details							Installation		Post Details				Lighting Details		Foundation Details		Notes					
	Diagram Number (TSRGD 2016)	Reference Number	Variant Type	Width (mm)	Height (mm)	Area (m ²)	X-height (mm)	Reflectivity	Illumination	Lateral clearance from carriageway (min)	Mounting height (mm)	Number	Length (mm)	Size (mm)	Section	Post Spacing	Type		Wattage (W)	Control	Detail	Width (mm)	Depth (mm)
TS15	670		50	600	600	0.28	-	RA2	LED	See notes	2300	1	3800	76	WBP	-	LED	3	PEC	F	450	750	New sign to be erected on new wide based post, 1.0m offset behind existing vehicle restraint system.
TS16	670		40	600	600	0.28	-	RA2	LED	See notes	2300	To be mounted back to back with TS13					LED	3	PEC	-	-	-	Sign to be erected back to back on post with sign TS15

New sign to be erected on new wide based post, 1.0m offset behind existing vehicle restraint system.

Sign to be erected back to back on post with sign TS15

Traffic Sign Schedule notes

- Dimensions given in millimetres unless otherwise stated.
- Signs to be in accordance with the Traffic Signs Regulations and General Directions 2016 (as amended). All signs to meet CE mark requirements and stamped accordingly.
- Lateral clearance of sign to carriageway to be measured from outside edge of sign face.
- Reflectivity - signs to be class RA2 reflective to BS EN 12899-1:2007, unless specified otherwise.
- Illumination – see Appendix 12/1 for details of electrical equipment for lit traffic signs.
- Sign Installation – Lateral clearance is measured from edge of carriageway to nearest edge of sign. Mounting height quoted dimension is the minimum clearance between ground level and the bottom edge of the sign face. Signs to be installed as KCC/SD/1200/005.
- Posts – see Appendix 12/1 for details of posts for traffic signs.

Appendix 12/3 Road Markings and Studs

12/3.1 Permanent Road Markings

- a) Details of all required road markings and studs are shown on 1200 Series drawings.
- b) All markings shall be white unless otherwise shown on the drawings.
- c) Markings shall be screed applied thermoplastic material, with Qd or B performance classes of Q4 or B3 respectively, to BS EN 1824. Markings shall be reflectorised and shall incorporate studs in accordance with the Traffic Signs Regulations and General Directions 2016 and subsequent amending regulations.
- d) Where markings are to be provided at sites of High Friction Surfaces, those markings shall be applied before installation of the treatment. The lining is to be masked out during the installation of the treatment. After application of the treatment, the road markings should be reapplied to match the level of the finished surface.

12/3.2 Temporary Road Markings

- a) Temporary road markings shall be removable.

12/3.2 Removal or Concealment of Road Markings

- a) Removal of Permanent Road Markings

Where the removal of permanent road markings is required, they shall be completely removed by mechanical scabbling, forced air abrasive (shot blasting) or other method approved by the Overseeing organisation. Hot compressed air (HCA) lance shall not be used on bituminous running surfaces. Obliteration of road markings using paint will not be permitted.

- b) Temporary Obliteration

Where existing road markings on bituminous pavements are to be temporarily obliterated for traffic management or any other purpose the markings shall be completely covered by proprietary preformed removable black masking material which shall be able to withstand the traffic load upon it for the required period. Upon removal of the black masking material covering the original markings are to be upgraded to the standard apparent before the temporary obliteration.

Appendix 12/5 Traffic Signals

Refer to the enclosed document "Appendix 12/5 – Project Specific Comments"

Appendix 12 Annex A – Traffic Systems General Specification

Appendix 13/1 Lighting Columns

13/1.1 Requirements for Lighting Columns and Brackets

- a) Details of road lighting columns, brackets and luminaires shall be as shown on the 1300 Series drawings and in accordance with the 'Kent County Council Street Lighting Column and Bracket Specification' as ANNEX A to this appendix.
- b) Completed Data Sheets as Appendix 13/2 shall be returned with the tender. The information provided by the Contractor shall be sufficient to enable evaluation of the Tenders and assessment of the suitability of the equipment offered.
- c) Location Markings shall consist of digits 50 mm in height on a self-adhesive grade two reflective material, black on yellow background with a nominal location 1.8m above ground level. The numbers on the columns shall be positioned as on Drawing No. KCC/1300/001.
- d) Lighting columns and brackets shall be suitable for luminaires offered on the 1300 Series drawings.
- e) Street lighting columns located on the bridge, references LC04 to LC08 on the 1300 Series drawings, shall be fitted with back lighting shields to the lantern and/or light column manufacturer's specifications. As per the requirements in Appendix 30/12, the back lighting shields shall be installed following the Institute of Lighting Professionals guidance GN01:2011 'Guidance notes for the reduction of obtrusive light'. Back lighting shields are to minimise light spilling Southwards into the river basin (away from the Springhead Bridge Link).
- f) The access doors of street lighting columns located on the bridge, references LC04 to LC08, shall also be 1.4m high as stated on the 1300 Series drawings and drawing 38800/5003/0100/001. The access doors of lighting columns on the bridge shall also be fitted with safety chains to the supplier's specification.

13/1.1 Requirements for Lighting Columns and Flanged Bases

Where a lighting column is provided with a flange plate for holding down bolts the size of the washers shall meet the following criteria:

- a) For standard size holes as specified in Clause 1309 normal diameter washers shall be used.
- b) For oversized holes and short slotted holes both in accordance with BS 5950 Pt. 1 (2000) Table 33 large diameter washers shall be used.
- c) For holes or slots outside the above requirements special washers shall be provided which shall be at least 10 mm thick and cover the hole or slot completely plus a minimum 10 mm bearing onto the flange plate.

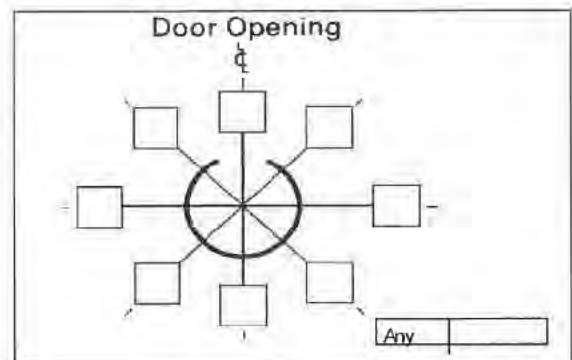
Appendix 13/2 Typical Lighting Column and Bracket Data Sheets

(SPECIFICATION FOR HIGHWAY WORKS) TYPICAL LIGHTING COLUMN AND BRACKET DATA - SHEET 1

Name of Manufacturer 	Column Reference No <input style="width: 150px;" type="text"/> Revision No <input style="width: 150px;" type="text"/> Date <input style="width: 150px;" type="text"/>
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NAME OF CONTRACT PART A General

Acceptable positions of bracket arms relative to door position



Column nominal height	<input style="width: 150px;" type="text"/> (m)						
Column material	<input style="width: 150px;" type="text"/>						
Material design strength	<input style="width: 150px;" type="text"/> (N/mm ²)						
No. of door openings	<input style="width: 150px;" type="text"/>						
Door opening size -Height	<input style="width: 150px;" type="text"/> (mm)						
-Width	<input style="width: 150px;" type="text"/> (mm)						
Cross-section of base compartment	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th style="padding: 5px;">Height (mm)</th> <th style="padding: 5px;">Width (mm)</th> <th style="padding: 5px;">Depth (mm)</th> </tr> <tr> <td style="height: 40px;"></td> <td></td> <td></td> </tr> </table>	Height (mm)	Width (mm)	Depth (mm)			
Height (mm)	Width (mm)	Depth (mm)					

Manufacturer's drawing ref. no.

Corrosion protection (steel columns only) - basic system type
(sub-Clauses 1911.9 and 1911.10)

Reference Wind Velocity $V_{ref,c}$ as defined in BS EN 40-3-1 m/s

Details of signs and attachments allowed for in the design
Area(mm²), Eccentricity (mm), Height

- Additional sacrificial steel thickness, above that needed in the design, from the bottom of the column to at least 250mm above the anticipated ground level

 (mm)

PART B Foundation Data

Planted Base Planting Depth (m)

		Standard Soil Type Factor G		
		630	390	230
Diameter of concrete surround (if any)				
Flange plate	Bolt hole centres	Bolt Hole Diameter	Design load/bolt	
	(mm)	(mm)	(N)	
Relevant forces and moments at ground level				
Line of action of max. moment relating to door opening.				
NOTE:	For flange plates with slotted holes a diagram shall be included with this Data Sheet.			

**(SPECIFICATION FOR HIGHWAY WORKS)
TYPICAL LIGHTING COLUMN AND BRACKET DATA - SHEET 2**

		Luminaire: Maximum Characteristics					
		Terrain categories as defined in BS EN 40-3-1					
Part C Acceptable Luminaires							
		I	II	III	IV		
		Luminaire Max Wt (Kg)	Maximum Windage Area (m²) for Terrain categories as defined in BS EN 40-3-1				
Post Top Column	Luminaire Connection						
	Diameter	Length					

Single Arm Bracket Column	Luminaire Lever Arm (mm)	
	Due to wt. of Luminaire	Due to windage on Luminaire

Bracket Projection (m)	Ref No	Drawing No.	Material		Luminaire Fixing Angle	Luminaire Connection		Luminaire Maximum Wt (kg)	Maximum Windage Area (m²) for Terrain categories as defined in BS EN 40-3-1			
			Grade	Design Strength (N/mm²)		Diameter (mm)	Length (mm)					

Double Arm Bracket Column	Luminaire Lever Arm (mm)	
	Due to wt. of luminaire	Due to windage on luminaire

Bracket Projection (m)	Ref No	Drawing No.	Material		Luminaire Fixing Angle	Luminaire Connection		Luminaire Maximum Wt (kg)	Maximum Windage Area (m²) for Terrain categories as defined in BS EN 40-3-1			
			Grade	Design Strength (N/mm²)		Diameter (mm)	Length (mm)					

Part D Certification

It is certified that the information given in this Data Sheet has been obtained in accordance with Departmental Standard BD 26 (DMRB 2.2.1) and the Specification.

Signed on behalf of the Contractor

Date:

Appendix 13/3 Instructions for Completion of Lighting Column and Bracket Data Sheets

13/3.1 General

1. When information is not required a dash shall be inserted in the appropriate boxes.
2. Where a Data Sheet is amended it shall be given a new revision number with a date.
3. The revision numbers shall be consecutive letters of the alphabet, commencing with "A".
4. The date of the revision shall agree with the date of the Contractor's signature.
5. The column, or bracket material shall be steel, aluminium, reinforced or prestressed concrete, glass fibre reinforced plastic or any other suitable material.
6. The material design strength shall be the minimum specified in the design. Where more than one material is used values for all materials shall be given.
7. All relevant entries shall be made on the Data Sheet before the document is certified by the Contractor.

13/3.2 Column Data

8. (11/04) The column nominal height shall be selected from clause 2 or 3 of BS 5649-2 : 1978 as appropriate.
9. The number of door openings shall agree with the manufacturer's drawing.
10. The cross-section of the base compartment shall be indicated by a dimensioned diagram/sketch.
11. The acceptable positions of bracket arms relative to the door position shall be indicated on the diagram. Where all positions are acceptable the box noted "ANY" shall be ticked.
12. Where concrete is necessary around the planted base in accordance with sub-Clauses 1305.3 and 1305.4 the minimum diameter shall be entered.
13. For flange bases all forces and moments used in the design of the foundations, anchorages and attachment systems shall be given.
14. The corrosion protection system used on the column when new shall be recorded. Where additional steel is provided for sacrificial purposes the amount shall be recorded.
15. (05/01) The signs and attachments surface area, eccentricity from the centre line of the column to the centre of area of the sign and height above ground level to the centre of area of the sign shall be stated.

13/3.3 Bracket Data

16. (05/01) The luminaire lever arms, weight and maximum windage area quoted shall be based on the most adverse loading on the bracket when it is attached to any of the columns quoted in the compatible column sections.
17. (Note: The luminaire lever arms are the horizontal distances from the centre of gravity of the luminaire and, if applicable, the centroid of the windage surface area to the end of the bracket joint).

Appendix 14/1 Electrical Work for Road Lighting and Traffic Signals – Site Records

14/1.1 General

- a) As-built drawings shall be produced by the Contractor, based upon the contract drawings which will be provided by the Engineer and shall be in accordance with the requirements of Clause 1402. The contractor shall amend these drawing as required to suit the as build layout and construction detail.
- b) The Contractor shall supply the completed as-built records to the Engineer not later than 4 weeks after the completion of the Works.
- c) Records may be in the form of hand sketches or annotated drawings.
- d) The Contractor shall also supply test certificates which are cross-referenced to the apparatus identified on the as-built drawings.
- e) The Contractor shall supply operation and maintenance manuals to support the site records.
- f) Completion shall not be achieved until As-built records have been provided by the Contractor to the acceptance of the Engineer and the Principal Designer.

Appendix 14/2 Location of Lighting Units and Feeder Pillars

14/2.1 General

The indicative positions of Lighting Units, Feeder Pillars and Electrical Isolation Pillars are as shown on the 1200 and 1300 Series drawings. The final position of all equipment shall be marked and agreed on site by the Contractors Site Representative and the Overseeing Organisation prior to installation.

14/2.2 Electricity Supply

- a) The electricity supply for Road Lighting shall be single phase 230V -6% to + 10%.
- b) The electricity supply to Traffic Signs shall be single phase 230V -6% to + 10%.
- c) The Contractor shall liaise with the local electricity Distribution Network Operator (UK Power Networks Plc) to agree all disconnections, transfers and new services in their programme.
- d) The Contractor shall be responsible for determining the electricity cabling and supply to electrical apparatus in the highway including lighting columns/feeder pillars/illuminated traffic signs/bollards as shown on the 1200 Series drawings.
- e) The Contractor shall be responsible for agreeing and placing orders with UK Power Networks Plc for all disconnections, transfers and new electrical services.
- f) Empty ducts, are shown on the 1200 and 1300 Series drawings where electrical supplies are anticipated to cross the carriageway. Refer to Appendix 5/2 for details of ducts.

14/2.3 Feeder Pillar

The details of feeder pillars required are shown on the 1200 and 1300 Series design drawings and detailed in Appendix 14/3.

Appendix 14/3 Temporary Lighting

14/3.1 General

- a) Temporary Lighting shall be provided and maintained where permanent lighting within the Site is temporarily interrupted by the Works and at all locations referred to in Appendix 1/17. The Contractor shall ensure that each unit is separated from traffic by a line of cones at not greater than 1.2 m centres or other approved method. Each unit shall be supported so that it is vertical and stable at all times.
- b) Temporary lighting shall be provided by high mast lighting towers of minimum height 10 metres to ensure clear illumination at the location specified. There shall be a minimum of 2 No. lighting towers at each junction, 1 No. at each traffic merge or diverge location and a sufficient number at work areas to meet the standards below.

14/3.2 Standards

The minimum average intensity of uniform illumination provided by temporary lighting shall be 2 candelas per square metre. Where permanent lighting within the Site is temporarily interrupted by the Works the temporary lighting shall provide a standard of illumination not less than the permanent lighting.

14/3.3 Power Supply

- a) When mains electricity is used for temporary lighting purposes, all cables and connections must be suitable, adequately protected and their positions marked accurately. A maximum of 110 volts supply shall be used for this purpose which must be centre tapped to earth.
- b) Where the power source to the lighting is a generator the Contractor shall ensure that no leakage or spillage of fuel occurs so as to cause damage to the public Highway. Should such damage occur the Contractor shall make good the area affected at no expense to the Employer. For reliability the generator shall be rated at approximately twice the value of the lighting load.

Appendix 14/4 Electrical Equipment for Road Lighting

Details of luminaires and ancillary equipment for road lighting are shown on the 1300 Series drawings.

14/4.1 Feeder Pillars

Feeder Pillars shall conform with requirements shown on the following list (excepting 609c for gantries).

- a) Shall be manufactured by Charles Endirect, Haldo, Lucy, Pudsey Diamond or similar approved.
- b) Have 25% spare space on the backboard except where existing pillars are to be refurbished.
- c) Cabinet to be constructed from cast iron or 5mm sheet steel and galvanised.
- d) 3mm hot dipped galvanised steel to BSEN ISO1461
- e) Circuit diagrams and cable labelling shall be provided for each feeder pillar. This shall be drawn or engraved on suitable permanent material.
 - i. All feeder pillars to have two spare ways suitable for connecting 25mm² 2 core PVC/SWA/PVC cable.
 - ii. Door keys shall be provided for all pillars.

14/4.2 Cables and Cable Joints

- a) Any private cables shall be subject to the following requirements:
- b) Shall be 3 core steel wire armoured.
- c) Wiring between the terminal block in the lantern/external lighting unit and the components in the case of the column/post shall be polyvinyl chloride insulated and sheathed cable of 300/500 volt grade having a copper conductor size of 2.5mm². All cables shall be correctly colour coded. Unsupported lengths of wiring shall be kept to a minimum and not be allowed to come into contact with components by their freedom of movement.
- d) The Contractor must provide, as required, double insulated 6mm² tails of correct colour coding and sufficient length to reach without straining from the secondary isolation to the service cut-out.
- e) Earthing is to be provided using an earth rod at the feeder pillar, and dedicated internal conductor with SWA XLE cables
- f) Cores shall be of copper.
- g) All metal work other than that intended to carry current shall be earthed using PVC insulated copper cable colour coded green. An earth connection shall be made to the earth stud on the column.
- h) Earth leads (tails) within columns shall be of not less than 6mm² cross sectional area.
- i) Earth continuity conductors shall be of not less than a size equal to the phase conductor.
- j) Each lamp/sign circuit shall be protected by a double pole, switched isolator, such as Charles Endirect Ltd lockable safety isolator, having a high breaking capacity type fuse to BS88 rated in

accordance with the lamp manufacturer's recommendations, shall be supplied. This unit which shall be capable of being locked in the 'off' position shall have shrouding or other barrier provided to prevent contact with live parts affording a degree of protection of at least IP2X and removable only by the use of a tool. If there is a need to provide a second circuit (eg to a sign) a double pole switched isolator having 2 x BS88 fuses shall be provided.

Appendix 14/5 Electrical Equipment for Traffic Signs

14/4.4 General

- a) **The positioning of equipment described in Clauses 1411 to 1416 within the base compartment of posts [1417.1]:**
- i. Services made directly to the column by the electrical distributor will terminate at the baseboard in the distributors cut-out. Space should be left at the bottom of each baseboard to accommodate the service cut-out and service cable. Space should also be allowed for a secondary private isolation unit supplied from the service cut-out.
- b) **Requirements for wiring and installation of components within posts and Lit Sign Units [1419.1]:**
- i. The requirements for wiring and installation of components within posts and lit sign units shall be in accordance with the KCC 1200 and 1400 series standard detail drawing set: KCC/SD/1200/001 to 006 and KCC/SD/1400/001 to 040.
 - ii. Wiring between the terminal block in the lantern and the components in the base compartment of the column shall be made by 1.5mm² (Minimum c.s.a / copper conductor) three core double insulated PVC cable. All such connections shall conform to standard colour coding requirements.
 - iii. A separate earth terminal block shall be fixed to the base board of each column. All exposed and extraneous conductive parts shall be bonded to this terminal block by way of a copper green/yellow earth cable (Minimum 6mm² c.s.a / copper conductor). The column and door should be fixed with brass terminal studs, washers and nuts for the purpose of bonding. Crimped connections are to be used on the earth bond between the studs and the main terminal block. Other earthing shall be in accordance with the current edition of BS7671.
 - iv. The complete electrical installation shall comply with the current edition of BS7671 (I.E.E Requirements for Electrical Installations) and the requirements of the electrical distributor.
- c) **Special requirements for illumination and electrical work on, or to, gantries [1220.3]:**
- Not applicable.
- d) **The Contractor shall insert details below of equipment which he proposes to use in the Works and shall submit the information as soon as the Contract has been awarded.**

Clause	Item	Lamp Unit Type	Manufacturer	Catalogue or Type No	Requirements
1407	Sign illumination	3w (up to 600mm signs) 8w larger signs over 600mm	Simmons sign or other approved		LED down floods
1409	Photo-electric control units	-	Royce Thompson	Oasis 1000 / 2000	Specification: 35/18
			Royce Thompson	Microstar 2000	35/18
			Lucy Zodian	SS12HT	35/18
			Lucy Zodian	SS9 GMT	Part night
1416	Cut Out	-	Charles Endirect	LSI 2, 3 & 4 range	Lockable Safety Isolators
1419	Wiring	-	-	-	As per KCC Standard Drawings 1400 Series
1419	Cable Tails	-	-	-	As per KCC Standard Drawings 1400 Series
1420	Earthing	-	-	-	As per KCC Standard Drawings 1400 Series

14/4.5 Testing

All electrical works to be designed and tested to BS7671. Testing is to include all new electrical circuits and existing equipment retained.

Appendix 16/1 General Requirements for Piling and Embedded Retaining Walls

16.1.1 The general requirements for rotary bored cast-in-place piles and sheet piling are given by a combination of the Specification for Highway Works Series 1600 and the contract drawings. The contract drawings take precedence.

16.1.2 The general requirements for piling works encompass:

Works	Location	Relevant Drawing
Bored Cast in place piles	Springhead Bridge North abutment, South abutment and pier foundation	38800/5003/1600/001 & 38800/5003/1600/002
Permanent sheet piling works	Adjacent to Springhead North and South abutments	38800/5003/1600/010
Other sheet piling works – Contractor design as per Appendix 1/10 of this specification	Adjacent to Springhead Bridge North and South abutments and pier foundations	38800/5003/1600/010

16.1.3 Appendices 16/2, 16/5, 16/6, 16/7, 16/9, 16/10, 16/11, 16/12, 16/13, 16/14, 16/16, 16/17, 16/18 are not considered relevant to the type of piling works within this scheme.

16.1.4 The Contractor should note that there may be redundant UKPN cables on site which may be live. These should be located and tested by the contractor to ensure there is no risk to the piling operation.

16.1.5 Requirements to Supply Details of Method of Piling, the Plant and Monitoring Equipment

A minimum of two weeks prior to commencement of any piling works the Contractor shall submit a method statement to the Works Examiner for approval which shall include the following information:

- i. The sequence of piling and associated temporary works which may affect the integrity of nearby structures and/or adjacent piles.
- ii. Setting out and means of achieving specified tolerances.
- iii. Details of methods of aiding pile drivability and measures that will be taken to minimise disturbance of the surrounding ground.
- iv. Procedures for dealing with emergency situations such as obstructions and piles that are out of tolerance.
- v. All relevant details of the method of piling, the plant and monitoring equipment he plans to adopt.
- vi. Typical pile installation record sheets
- vii. Proposals to ensure a clean base to the pile bore and the integrity of the pile toe concrete.
- viii. Proposals for how the contractor will monitor and confirm that the required pile embedment into the Intact White Chalk formation has been met.

16.1.6 Where the Contractor proposes the use of alternative piling methods that satisfy the requirements of the Specification, he shall prepare and submit design calculations, details of materials to be used and a schedule of dimensions.

- 16.1.7 The Contractor shall submit two copies of all piling records to the Engineer within one working day of the completion of the pile. The information to be included on the piling records shall be as indicated by an asterisk in Table 16/1 with the following additions (i) the records of testing of the concrete and steel used in the piles, and (ii) an indication of the weather and site conditions at each stage of the pile construction. The copies of the piling records shall be signed by the Contractor's responsible engineer/technician.
- 16.1.8 The Contractor shall prepare and submit plans for making surveys and monitoring movements or vibrations of and damage criteria for adjacent structures and services. The requirements for such surveys, monitoring and dilapidation examinations shall be in accordance with the Special Requirements in the contract relating to each structure or utility and as directed by the Works Examiner.
- 16.1.9 Welding of pile reinforcement steel is not permitted unless expressly agreed with the Works Examiner.
- 16.1.10 The contractor shall submit type 2.2 inspection and testing documentation for the sheet piles in accordance with the requirements of EN 10248 and EN 10204.
- 16.1.11 Pile toe levels specified on contract drawings are based on achieving 3 x pile diameter embedment into intact white chalk and not exceeding initial cfa contractor's advised maximum pile length. Borehole records show top of intact white chalk as -11.7m a.o.d., profile across valley unknown. The contractor should provide boreholes at pile locations upon installation of construction access to confirm toe levels.
- 16.1.12 Refer to Appendix 1/9 for the requirements of working near the railway in relation to vibration.

Appendix 16/3: Bored Cast-In Place Piles

- 16.3.1 The general requirements for bored cast-in-place piles are given by a combination of the Specification for Highway Works Series 1600 and the contract drawings, the contract drawings taking precedence.
- 16.3.2 The Contractor shall prepare and submit all relevant details of any preliminary piles and/or trial bores he plans to construct.
- 16.3.3 The Method Statements to be submitted under Specification Appendix 16/1 shall include contingency measures on how to complete a pile in the event of a failure of the rig or rig instrumentation system.
- 16.3.4 The Contractor shall prepare and submit all relevant details of any support fluid he plans to adopt.
- 16.3.5 All constructed piles are to be subject to Integrity Testing as per Appendix 16/8 at the sampling rate given in Appendix 1/5.
- 16.3.6 Material sampling and testing shall be in accordance with Specification Appendix 1/5.
- 16.3.7 Concrete grades and cover to reinforcing for piles shall be in accordance with Appendix 17/1 of the Specification and the contract drawings.
- 16.3.8 The Contractor shall prepare and submit all relevant details of any inspection of the pile base he plans to adopt.
- 16.3.9 Details of the means by which the Contractor intends to ensure the correct cover to and position of the reinforcement shall be submitted with the Contractor's Method Statement, which shall be reviewed by the Works Examiner prior to the start of the relevant works on site. The Contractor shall prepare and submit all relevant details of equipment, materials and methods he plans to adopt for any grouting.
- 16.3.10 The contractor shall prepare and submit details of how the specified embedment of piles into the White Chalk Strata as specified on contract drawings will be confirmed.
- 16.3.11 Temporary casing shall be installed to such a depth as is necessary to ensure a stable bore at all times. The Contractor shall prepare and submit all relevant details of his proposal on how to complete a pile in the event of a failure of the rig instrumentation system.
- 16.3.12 Where the base level for concreting the pile is below the water level in the bore piles shall be concreted from the bottom of the pile upwards using a tremie tube system extended to the base of the pile. Before the concrete is discharged into the tremie, a granular vermiculite plug (or equivalent) is to be placed first to prevent segregation and maintain integrity of the base concrete. Where the bore is dry the contractor shall protect the unlined wall of the pile against damage from freefalling concrete by using alternative delivery tubing to the base of the pile or other agreed method.
- 16.3.13 The Contractor shall submit two copies of any grouting records to the Works Examiner within one working day of the completion of the work. The information to be included on the grouting records shall be as indicated in Clause 1603/28 with an indication of the weather and site conditions at each stage of the grouting works. The copies of the grouting records shall be signed by the Contractor's responsible engineer/technician.
- 16.3.14 The Contractor shall prepare and submit all relevant details of the supervisors' and operators' experience he plans to employ. The Contractor shall prepare and submit all relevant

details of his proposal on how to complete a pile in the event of a failure of the rig instrumentation system.

16.3.15 Concrete and mix properties are as specified on the Contract Drawings.

Appendix 16/4: Bored Piles Constructed Using Continuous Flight Augers and Concrete or Grout Injection Through Hollow Auger Stems

- 16.4.1 The general requirements for bored cast-in-place piles are given by a combination of the Specification for Highway Works Series 1600 and the contract drawings.
- 16.4.2 The Contractor shall prepare and submit all relevant details of any preliminary piles and/or trial bores he plans to construct.
- 16.4.3 All constructed piles are to be subject to Integrity testing as per Appendix 16/8 at the sampling rate given in Appendix 1/5.
- 16.4.4 Material sampling and testing shall be in accordance with Specification Appendix 1/5.
- 16.4.5 The Contractor shall prepare and submit all relevant details of the supervisors' and operators' experience he plans to employ.
- 16.4.6 The Contractor shall prepare and submit all relevant details of his proposal on how to complete a pile in the event of a failure of the rig instrumentation system.
- 16.4.7 Concrete and mix properties are as specified on the Drawings and in Appendix 17/1.
- 16.4.8 Details of the means by which the Contractor intends to ensure the correct cover to and position of the reinforcement shall be submitted with the Contractor's Method Statement, which shall be reviewed by the Works Examiner prior to the start of the relevant works on site.
- 16.4.9 The contractor shall prepare and submit details of how the specified embedment of piles into the Intact White Chalk Strata as specified on contract drawings will be confirmed.
- 16.4.10 Contractor to ensure cfa bores will be free of flowing water and engineered fill does not allow concrete and grout to flow into adjacent voids, consideration to be given to temporary casings.

Appendix 16/8: Non-Destructive Methods for Testing Piles

- 16.8.1 The constructed piles are to be subject to Integrity testing at the sampling rate given in Appendix 1/5.
- 16.8.2 The Contractor shall prepare and submit all relevant details of the integrity testing for every pile installed in the works including the following (i) the method of test to be carried out, (ii) the number, type and location of the piles to be tested, (iii) the stages in the programme of works when a phase of integrity testing is to be carried out, (iv) preparation of the pile head for testing using the vibration method, (v) the number of days to elapse between pile casting and integrity testing.
- 16.8.3 Where the Contractor proposes the use of the sonic logging method, the Contractor shall indicate (i) the number and location of piles in which ducts are to be placed and number and length of ducts to be provided in each pile, (ii) the depth of the pile over which the testing is to be carried out, the depth intervals to be not greater than 0.25 m.
- The method of testing should be specific to the type of pile i.e. rotary bored piles.
- The Low-strain integrity test (hammer based) is advised as the most suitable type of integrity testing. Other forms of testing may be considered subject to satisfactory evidence of their performance being provided.
- 16.8.4 The Contractor shall prepare and submit all relevant details of the specialist pile test company he plans to employ. They must be experienced in the form of testing and independent from the piling contractor.
- 16.8.5 At least 7 days prior to commencing testing the Contractor shall submit to the Works Examiner for approval the following information:
- (i) Details of the testing equipment and personnel carrying out the test;
 - (ii) A test method statement;
 - (iii) Examples of test results showing:
 - (a) No apparent pile defects;
 - (b) One apparent pile defect.
- 16.8.6 Any obvious faults or defects in a pile shall be reported immediately to the Works Examiner.
- 16.8.7 Preliminary results of the tests shall be submitted to the Works Examiner before the end of the day on which the tests are carried out.
- 16.8.8 Three copies of the formal report shall be submitted to directly to the Works Examiner by the Testing House within seven days of the completion of the tests.
- 16.8.9 Dynamic testing of piles shall not be permitted.

Appendix 16/15 Steel Sheet Piles

- 16.15.1 The general requirements for sheetpiles are given by a combination of the Specification for Highway Works Series 1600 and the contract drawings, the contract drawings taking precedence. The general requirements for piling works below cover the sheet piling works only.
- 16.15.2 The requirements for sheet pile driving records are as listed in clause 1615.8
- 16.15.3 There are no specific requirements for clutch sealant as the sheet pile perimeter wall does not aim to be impervious to the passage of groundwater.
- 16.15.3.1 The contractor shall submit type 2.2 inspection and testing documentation for the sheet piles in accordance with the requirements of EN 10248 and EN 10204.

Appendix 17/1 Schedule for the Specification of Designed Concrete

Requirement	Schedule					
Element	Piles	Pilecaps	Abutments, Piers, Wingwalls, Approach Parapet Foundation & Insitu Steps adjacent to abutments	Deck	Deck Parapet Edge Beams	Deck end Diaphragm
Intended Working Life of Structure	120 years	120 years	120 years	120 years	120 years	120 years
Nominal Cover to Reinforcement	90mm	60mm	60mm	45mm	60mm	60mm
Applicable Exposure Classes (excluding DC-class)	XD2	XD2	XC3/4, XD3, XF2	XC3/4, XD1, XS1	XD3, XF4, XS1	XD3, XF2
DC-class (where appropriate)	DC1	DC1	DC1	-	-	-
Compressive Strength of Concrete	C32/40	C40/50	C40/50	C40/50	C40/50	C40/50
Minimum Cement Content (kg/m ³)	360	320	380	380	380	380
Maximum Free Water/Cement Ratio	0.45	0.55	0.40	0.40	0.40	0.4
Required Group or Type and Class of Cement or Combination (where a DC-class has not been specified)	IIB-V, IIIA, IIIB, IVB-V	CEMI, CEMI-SR0, CEMI-SR3, IIA, IIB-S, IIB-V, IIIA, IIIB, IVB-V	IIB-V, IIIA	IIB-V, IIIA	IIB-V, IIIA	IIB-V, IIIA
Maximum Aggregate Size, mm	20	20	20	20	20	20
Chloride Content Class	CI 0,30	CI 0,30	CI 0,30	CI 0,30	CI 0,30	CI 0,30

Requirement	Schedule					
Element	Piles	Pilecaps	Abutments, Piers, Wingwalls, Approach Parapet Foundation & Insitu Steps adjacent to abutments	Deck	Deck Parapet Edge Beams	Deck end Diaphragm
For Heavyweight Concrete, the Target Density	-	-	-	-	-	-
Consistence Class	To be advised by Contractor	To be advised by Contractor	To be advised by Contractor	To be advised by Contractor	To be advised by Contractor	To be advised by Contractor
Special Type or Class of Cement or Combination	-	-	-	-	-	-
Required Source/Special Type of Aggregate	-	-	-	-	Freeze thaw resistant aggregates required	-
Maximum Cement Content (kg/m ³)	-	-	-	-	-	-
Required Admixture	-	-	-	-	-	-
Air Entrainment Required	No	No	No	No	No	No
Minimum and max Temperature of Fresh Concrete °C	-	-	-	-	-	-
Sampling and Testing	As Appendix 1/5	As Appendix 1/5	As Appendix 1/5	As Appendix 1/5	As Appendix 1/5	As Appendix 1/5
Other Requirements	All concrete to conform to the requirements of BS8500-2					

Appendix 17/3 Concrete - Surface Finishes

- 17.3.1 There is no requirement for a trial panel to check compatibility of surface treatments
- 17.3.2 Requirements for surface finishes are given on the Drawings as listed in Appendix 0/4
- 17.3.3 Where F4 finish is to be provided on exposed in situ concrete, the positions of internal ties which are not in rebates are to be proposed by the contractor for acceptance by the overseeing organisation.

Appendix 17/4 Concrete - General Requirements

- 17.4.1 Construction joints to be in locations as agreed with the Engineer.
- 17.4.2 Permanent formwork to be used between steel girders to form deck to be agreed with the Engineer
- 17.4.3 Stainless steel tying wire shall be used where noted on contract drawings as listed in Appendix 0/4
- 17.4.4 All reinforcement shall be grade B500B or B500C ribbed bars in accordance with BS 4449:2005.
- 17.4.5 Welding of reinforcement other than steel fabric reinforcement shall not be permitted unless expressly agreed with the Designer.

Appendix 17/5 Buried Concrete

Structure Name or Location	All structures in the Springhead Bridge Link
ACEC Class for Site	AC1 for all buried concrete
Design Chemical Class	DC - 1
Other Requirements and Design Constraints	<ol style="list-style-type: none"> 1. Provide surface waterproofing in accordance with the contract drawings. 2. Provide drainage in accordance with the contract drawings. 3. Provide waterproofing to buried parts of the structures in accordance with the contract drawings. 4. Permitted cement/combination group and other concrete mix requirements as per Appendix 17/1

Appendix 18/1 Structural Steelwork

			Drawings and Documents that give related structural steelwork	
Series 1800 Clause Reference:	Additional Information Required	Not Applicable (Ticked if not applicable)	See Drawings Listed in Appendix 0/4	See Appended Documents
1804 – Specifications and Documentation				
1804.1.1	Execution Specification, General – drawing numbers of all drawings in Appendix 0/4, and document references of all appended documents that give all the necessary requirements for the execution of the steelwork.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	BS EN 1090-2:2008+A1:2011
1805 – Constituent Products				
1805.1	Constituent Products, General – properties of products not covered by listed standards.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1805.3.1	Structural Steel Products, General – grades, qualities and, if appropriate, coating weights, finishes and any required options permitted by product standards for steel products.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1805.3.3	Surface conditions – additional requirements related to special restrictions on either surface imperfections or repair of surface defects by grinding in accordance with BS EN 10163, or with BS EN 10088 for stainless steel.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	18.1.2
1805.3.3	Surface conditions – surface finish requirements for other products.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1805.3.3	Surface conditions – where decorative or specialist surface finishes are required.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1805.3.4	Special properties – Additional requirements for special properties if relevant.	✓		
1805.4	Steel castings – Grades, grade suffixes, finishes and options for steel castings.	✓		
1805.6.3	Structural bolting assemblies for non-preloaded applications – property classes of bolts and nuts, and surface finishes for structural bolting assemblies for non-preloaded applications.	✓		

			Drawings and Documents that give related structural steelwork	
Series 1800 Clause Reference:	Additional Information Required	Not Applicable (Ticked if not applicable)	See Drawings Listed in Appendix 0/4	See Appended Documents
1805.6.3	Structural bolting assemblies for non-preloaded applications – mechanical properties for large diameter bolting assemblies.	✓		
1805.6.3	Structural bolting assemblies for non-preloaded applications – full details for the use of insulation kits.	✓		
1805.6.4	Structural bolting assemblies for preloading – property classes of bolts and nuts and surface finishes for structural bolting assemblies for preloading.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1805.6.4	Structural bolting assemblies for preloading – where stainless steel bolts can be used in preloaded applications.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1805.6.7	Foundation bolts – where reinforcing steels may be used for foundation bolts together with the steel grade.	✓		
1805.6.8	Locking devices – where locking devices are required.	✓		
1805.6.8	Locking devices – if products other than those in the referred standards are to be used.	✓		
1805.6.11	Fasteners for thin gauge components – mechanical fastener type for use in stressed skin applications.	✓		
1805.6.12	Special fasteners – special fastener not standardised in CEN or ISO standards, as well as any tests necessary.	✓		
1805.8	Grouting materials – grouting materials to be used.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1805.10	High strength cables, rods and terminations – tensile strength grade and coating of wires.	✓		
1805.10	High strength cables, rods and terminations – designation and class of strands.	✓		
1805.10	High strength cables, rods and terminations – minimum breaking load and diameter of steel wire ropes and requirements related to corrosion protection.	✓		
1805.11	Structural bearings – Schedule of design requirements and acceptance tests.	✓		
1806 – Preparation and Assembly				

			Drawings and Documents that give related structural steelwork	
Series 1800 Clause Reference:	Additional Information Required	Not Applicable (Ticked if not applicable)	See Drawings Listed in Appendix 0/4	See Appended Documents
1806.2	Identification – where soft or low stress stamps may not be used for stainless steel	✓		
1806.2	Identification – zones where identification marks are not permitted or shall not be visible after completion.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1806.4.4 (2)	Hardness of free edge surfaces – edge surfaces where the relaxation for machine plasma cutting described in 1806.4.4 (2), is not permitted.	✓		
1806.5.4 c)	Cold forming – minimum bending radii for stainless steels other than those to grades listed in 1806.5.4 b).	✓		
1806.5.4 d)	Cold forming – protective membranes for cold formed thin gauge components.	✓		
1806.6.1	Dimensions of holes – special dimensions for movement joints.	✓		
1806.6.1	Dimensions of holes – nominal hole diameter for hot rivets.	✓		
1806.6.1	Dimensions of holes – dimensions of countersinking.	✓		
1806.7 (1)	Cut outs – re-entrant corners where a smaller radius than that described in 1806.7 is permitted.	✓		
1806.8	Full contact bearing surfaces – where full contact bearing surfaces are required.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1806.9 (2)	Connections for temporary components – special requirements applying to connections for temporary components, including those related to fatigue.	✓		
1806.9 (3)	Connections for temporary components – where the removal or addition of permanent material or the introduction of permanent notches is permitted.	✓		
1806.10	Assembly check – if, and to what extent, trial assembly is to be used.	✓		
1807 – Welding				
1807.1 (1)	Welding Quality Requirements – if the BS EN ISO 3834 quality requirements shall conform to the requirements for EXC2.	✓		
1807.5.6 (1)	Temporary attachments – areas where welding of temporary attachments is not permitted.	✓		

			Drawings and Documents that give related structural steelwork	
Series 1800 Clause Reference:	Additional Information Required	Not Applicable (Ticked if not applicable)	See Drawings Listed in Appendix 0/4	See Appended Documents
1807.5.6 (2)	Temporary attachments – use of temporary welded attachments	✓		
1807.5.9.1	Butt welds, general – the location of butt welds used as splices.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1807.5.9.1	Butt welds, general – where a flush surface is required.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	
1807.5.9.2 (1)	Single sided welds – where the use of permanent steel backing is permitted.	✓		
1807.5.13	Slot and plug welds – the dimensions of holes for slot and plug welds.	✓		
1807.5.14.1	Arc spot welds – if weld washers are accepted for stainless steels.	✓		
1807.5.14.1	Arc spot welds – the minimum visible width of arc spot welds.	✓		
1807.5.15	Other weld types – requirements for other weld types.	✓		
1807.5.17	Execution of welding – requirements for grinding and dressing of the surface of completed welds	✓		
1807.7.2	Amendments to EN 1011-3 requirements – the surface finish of the weld zones on stainless steels.	✓		
1807.7.3	Welding dissimilar metals – requirements for welding different stainless steels to each other or to other metallic materials.	✓		
1808 – Mechanical Fastening				
1808.2.1	Use of bolting assemblies, General – where, in addition to tightening other measures or means are to be used to secure the nuts.	✓		
1808.2.1 (1)	Welding of mechanical fasteners – where welding of property class 4.6 nuts, bolts and washers is permitted.	✓		
1808.2.2	Bolts – minimum diameter of fasteners for thin gauge components and sheeting.	✓		
1808.2.2	Bolts – dimensions of bolts in connection utilising the shear capacity of the unthreaded shank.	✓		
1808.2.4	Washers – dimensions and steel grade of plate washers to be used with slotted or oversized holes.	✓		
1808.2.4	Washers – dimensions and steel grade of taper washers.	✓		

			Drawings and Documents that give related structural steelwork	
Series 1800 Clause Reference:	Additional Information Required	Not Applicable (Ticked if not applicable)	See Drawings Listed in Appendix 0/4	See Appended Documents
1808.3	Tightening of non-preloaded bolts – where full contact bearing is required (see 1806.8).	✓		
1808.4	Preparation of contact surfaces in slip resistant connections – requirements related to contact surfaces in slip resistant connections for stainless steels.	✓		
1808.5.1 (2)	Cover Plates in Preloaded Joints – measures permitted to limit the out-of-plane bending stiffness of cover plates.	✓		
1808.5.1 (6)	Tightening of preloaded bolts, General – preloaded bolts that shall be tightened by the torque method.	✓		
1808.7.2	Installation of rivets – where a flush surface of countersunk rivets is required.	✓		
1808.7.3	Acceptance criteria – where outer faces of plies are required to be free of indentation by the riveting machine.	✓		
1808.8.4	Fastening side laps – requirements for the side lap fasteners as structural fasteners in stressed skin applications.	✓		
1808.9	Use of special fasteners and fastening methods – requirements for procedure tests.	✓		
1808.9	Use of special fasteners and fastening methods – requirements for use of hexagon injection bolts.	✓		
1809 – Erection				
1809.4.1(1)	Reference system – the reference temperature for setting out and measuring the steelwork if different from 15°C.	✓		
1809.5.3	Maintaining suitability of supports – if compensation for settlement of supports is required.	✓		
1809.5.4	Temporary supports – where levelling nuts on foundation bolts under the base plate are required to be removed.	✓		
1809.5.4	Temporary supports – where packings for bridges may be left in position.	✓		
1809.5.5(1)	Grouting and sealing – requirements for the treatment of steelwork, bearings and concrete surfaces before grouting.	✓		
1809.5.5	Grouting and sealing – the method of sealing the edges of a base plate if no grouting is needed.	✓		
1810 – Surface Treatment				

			Drawings and Documents that give related structural steelwork	
Series 1800 Clause Reference:	Additional Information Required	Not Applicable (Ticked if not applicable)	See Drawings Listed in Appendix 0/4	See Appended Documents
1810.1 (5)	Surface treatment, General – requirements for friction surfaces and class of treatment or tests required for surfaces in slip resistant connections		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011	
1810.1(7)	Surface treatment general – the extent of surfaces that are affected by pre-loaded bolts in non-slip resistant connections.	✓		
1810.1 (8)	Preparation of fasteners – if the lower embedded part of foundation bolts is required to be untreated.	✓		
1810.1 (9)	Galvanizing – Requirements for procedure qualification of the dipping process if hot dip galvanizing of components after manufacture is required.	✓		
1810.1 (10)	Galvanizing – Requirements for the inspection, checking or qualification of the preparation to be carried out before subsequent over coating, for galvanized components.	✓		
1810.2	Preparation of steel substrates – Requirements for surface cleanliness of stainless steels.	✓		
1810.2 (1)	Preparation of steel substrates – requirements for the preparation of surfaces to receive corrosion protection if they are to be different from those described in Series 1900 and/or BS EN ISO 8501-3:2007 preparation grade P3.	✓		
1810.3	Weather resistant steels – requirements for the surface treatment of non-weather resistant steels in contact with uncoated weather resistant steels.	✓		
1810.5	Galvanizing – where enclosed spaces shall be sealed after galvanizing and, if so, with what sealant.	✓		
1810.6	Sealing of spaces – where weld imperfections permitted by the welding procedure specification require sealing by application of suitable filler material.	✓		
1810.6	Sealing of spaces – the method to be used for sealing the interface if mechanical fasteners penetrate the wall of sealed enclosed spaces.	✓		
1810.6 (2)	Sealing of spaces – internal spaces that are to be hermetically sealed.	✓		
1810.7	Surfaces in contact with concrete – specific requirements for coating surfaces in contact with concrete.		38800/5003/0100/001 38800/5003/0100/003 38800/5003/1800/010 38800/5003/1800/011 38800/5003/1800/012 38800/5003/1800/013	

			Drawings and Documents that give related structural steelwork	
Series 1800 Clause Reference:	Additional Information Required	Not Applicable (Ticked if not applicable)	See Drawings Listed in Appendix 0/4	See Appended Documents
1810.9 (2)	Repairs of coatings to pre-coated constituent products – method and extent of repair after welding.	✓		
1810.10.2	Cleaning of stainless steel components – the method, level and extent of cleaning of stainless steels.	✓		
1811 – Geometrical Tolerances				
1811.1	Tolerance types – additional information related to special tolerances if these tolerances are specified.	✓		
1811.3.3	Alternative criteria – where the specified alternative criteria for functional tolerances may be applied.	✓		
1812 – Inspection, Testing and Correction				
1812.2.1 (1)	Constituent products – specific testing requirements for proprietary products.	✓		
1812.5.1	Inspection of non-preloaded bolted connections – requirements for checking the installation of an insulation system.	✓		
1812.5.2.1	Inspection of friction surfaces – requirements for the inspection and testing of preloaded bolts used for stainless steels connections.	✓		
1812.5.5.1	Special fasteners and fastening methods, General – requirements for the inspection of connections using special fasteners or special fastening methods.	✓		
1812.7.1 (1)	Inspection of trial erection – additional requirements for the inspection of a trial erection	✓		
1812.7.3.4	Location and frequency – additional measurements, other than the position of components adjacent to site interconnection nodes.	✓		
1812.7.3.4	Location and frequency – conditions other than under the self-weight of steelwork, under which positional measurements should be made.	✓		
1812.7.3.6	Definition of nonconformity – envelope of permissible positions where significant movement of a structure is anticipated.	✓		
1812.7.4	Other acceptance tests – specific requirements including tolerance range on the load, if components of a structure are to be erected to a specific load.	✓		

19/05/03 APPENDIX 19/1 (SPECIFICATION FOR HIGHWAY WORKS) Sheet No. FORM HA/PI (NEW WORKS) PAINT SYSTEM SHEET

1. CONTRACT TITLE: STRUCTURE NO.: GRID REF:				
2. DATE OF ISSUE OF DOCUMENTS TO TENDERERS:				
3. ENVIRONMENT AND ACCESSIBILITY:				
4. REQUIRED DURABILITY OF SYSTEM: NO MAINTENANCE: YEARS MINOR MAINTENANCE: YEARS MAJOR MAINTENANCE: YEARS			5. COLOUR OF FINISH:	
6. PAINT SYSTEM TO BE APPLIED OVER: AREA REF: AREA DESCRIPTION: PROTECTIVE SYSTEM TYPE: (i.e. I, II etc):				
7. DETAILS	1 st Coat	2 nd Coat	3 rd Coat	4 th Coat
Registered Description Item No. and Colour Date Registered Brand Name and Manufacturer's Ref. No. Manufacturer's Data Sheet No. Where applied How applied Min dry film thickness (mdft) Max local dft (See Cl. 1914.7) Estimated total volume of paint likely to be used. (litres) 'A' type testing required? (YES/NO) (See Cl 1912.3) 'B' type testing required? (YES/NO) (See Cl 1912.9)				
8. STRIPE COAT DESCRIPTION (Including Item No. and colour) Shop: Site:			9. PAINT MANUFACTURER'S OFFICIAL STAMP:	
10. Mdft (µm) NOTE: The minimum total dry film thickness of the paint system, neglecting primers and sealers under 30 microns, shall be 15% greater (to the nearest 25 microns) than the sum of the mdfts of the individual paint coats.			11. APPROVED BY: DATE	

Note to compiler:

(1) The above is Appendix 19/1 Form HA/PI (New Works) Paint System Sheet: a separate form should be provided for each structure, including CCTV masts, steel lighting columns and bracket arms if appropriate, with items 1 to 5 completed. Sheets should be numbered for easy identification.

(05/03) **APPENDIX 19/3**

**(SPECIFICATION FOR HIGHWAY WORKS)
FORM HA/P2 PAINT DATA SHEET**

HA Registration Date

Manufacturer :

Item No. :

Registered Description :

Brand Name and Reference No. :

Consistency and Method of Application :

Weight per 5 Litres (kg) :

Specific gravity : Colour:

For two pack paints :

Base: Activator : Mixed components:

Volume Solids % :

For two pack paints volume solids % for mixed paint :

VOC content g/l (mixed) :

Manufacturer's Minimum Dry Film Thickness Range

Recommended lower mdf : :

Recommended upper mdf : :

Full Application Instructions :

Mix ratio :

Flash Point :

		5°C	10°C	20°C	30°C
Drying Times (hours)	Surface Dry				
	Hard Dry				
Overcoating Times (hours)	Minimum				
	Maximum				
Pot Life (hours)					

Cleaning Solvent :

State effects on Drying Times of Temperatures below 20°C :

Manufacturer's Application Restrictions, e.g. for Temperatures or Humidity :

Manufacturer's General Recommendations :

105/031 **#APPENDIX 19/4**

**(SPECIFICATION FOR HIGHWAY WORKS)
FORM HA/P3 PAINT SAMPLE DESPATCH LIST: SHEET 1**

Contract Title.....

Structure Name.....Structure No.....

Client Name.....(Highways Agency or other company)

Supervising
Firm.....

Supervising Firm's Representative Name:.....Tel No:.....

Address:.....Fax No:.....

Painting Inspection Firm:.....

Samples Despatched From:.....(Note 1) Date Despatched.....

Inspector's Name:.....Tel No.....

Inspector's Signature

SAMPLES: (Numbered A1, A2 etc. or B1, B2 etc.) (Note 2)

Sample No.	Item No.	Manufacturer's Reference No.	Batch No.	Colour BS 4800 reference (Note 3)	Sp.G. (Notes 4 & 5)

Paint Manufacturer:.....

(05/03) **#APPENDIX 19/4**

**(SPECIFICATION FOR HIGHWAY WORKS)
FORM HA/P3 PAINT SAMPLE DESPATCH LIST: SHEET 2**

INSPECTOR to complete Form HA/P3 and to forward single copies to each of the following within 24 hours of despatch of samples by the Contractor to Scientifics Ltd:

- | | | | |
|---|---|---|--|
| 1 | Scientifics Ltd
500 London Road
Derby
DE24 8BQ | 2 | Highways Agency
Paint Specialist
Safety Standards and Research (SSR)
Sunley Tower
Piccadilly Plaza
Manchester
M1 4BE |
|---|---|---|--|

INSPECTOR to forward Form(s) HA/P1 Paint System Sheet(s) with the first Form HA/P3 to both addresses.

INSPECTOR to select 'A' samples and to ensure that manufacturer's labels on tins comply with the Specification.

INSPECTOR to take and mark each 'B' sample tin with Item No., manufacturer's name and brand reference No., batch No. sample No. and colour (NOTE 2).

CONTRACTOR to CLIP DOWN LIDS of all tins and to pack, address and despatch samples. In addition to address, CONTRACTOR to label each case (or tin sent loose): 'HA (State structure name) and DATE (date of despatch as noted above)'.

Notes

- 1 State whether from shop or site (give name and address).
- 2 Batch samples comprising unopened tins to be marked A1, A2, etc. Control samples in 0.5 litre tins to be marked B1, B2, etc. Samples No. to run consecutively, i.e. A1 and B1 onwards.
- 3 Colour reference to BS 4800 to be given, as stated on Form HA/P1 (New Works) Paint System Sheet, e.g. 18 B 25.
- 4 For 'A' samples specific gravity (Sp.G) to be measured by Inspector from separate tins of the same batch. For 'B' samples Sp.G. to be measured by Inspector when taking samples. Samples will be rejected unless Sp.G. is filled in above by Inspector.
- 5 If Sp.G. differs appreciably from data sheet do not despatch 'A' or 'B' samples.
- 6 Do not use this Form and send samples if the client is not Highways Agency, e.g. for a local authority contract.

Appendix 19/5 General Requirements

19/5.1 Protection against Corrosion

Steel columns and brackets shall be hot dipped galvanised to give a coating not less than 0.1mm thick.

Appendix 20/1 Waterproofing for Concrete Structures

- 20.1.1 Except where otherwise directed, all general requirements for waterproofing of concrete structures (cut-back bituminous paint) shall comply with MCHW Vol 1: Specification for Highway Works Series 2000.
- 20.1.2 Requirements for the specific waterproofing system are given on the Contract Drawings.
- 20.1.3 All concrete surfaces identified on the contract drawings as requiring cut-back bituminous paint shall be primed to the manufacturer's requirements and 2 coats of waterproofing are required unless otherwise specified.
- 20.1.4 The methods of application, rate of spread and any other specific requirements shall be to the manufacturers' recommendations

Appendix 21/1 Bridge Bearings

Bridge name or reference				Springhead Bridge Link					
Bearing identification mark				A	B	C	D	E	
Bearing reference from Bearing Articulation Diagram on drawing 38800/5003/1800/010				S6	S1	N6	S2, S3, S4, S5, N1, N2, N3, N4, N5	P1, P2, P3	
Number of				1	1	1	9	3	
Location				South East	South West	North East	North & South	Central Piers	
Function				Fixed	Guided	Guided	Free	Free	
Seating material		Upper surface		Steel (S355)	Steel (S355)	Steel (S355)	Steel (S355)	Steel (S355)	
		Lower surface		Bearing Grout (50N/mm ²)	Bearing Grout (50N/mm ²)	Bearing Grout (50N/mm ²)	Bearing Grout (50N/mm ²)	Bearing Grout (50N/mm ²)	
Allowable average contact pressure (N/sq.mm.)*		Upper face	Serviceability	-	-	-	-	-	
			Ultimate	-	-	-	-	-	
		Lower face	Serviceability	-	-	-	-	-	
			Ultimate	-	-	-	-	-	
Design load effects (kN)	Serviceability limit state		Vertical	Max.	1804	1475	987	1877	7975
				Perm-anent	800	921	603	368 to 1070	3605 to 5077
				Min	366	914	592	186	3539
			Transverse		350	637	235	-	-
			Longitudinal		1435	-	-	-	-
	Ultimate limit state		Vertical		2384	1949	1320	2467	10375
			Transverse		1916	840	338	-	-
			Longitudinal		509	-	-	-	-
Translation (mm)**	Serviceability limit state	Irreversible	Transverse		-	-	-	-	-
			Longitudinal		-	-	-	-	-
		Reversible	Transverse ±		-	-	-	North Abut: +20 -40 South Abut: +10 -10	+10 -25
			Longitudinal ±		-	+18 -18	+85 -65	North Abut: +85 -65 South Abut: +15 -15	+50 -40
	Ultimate limit state	Irreversible	Transverse		-	-	-	-	-
			Longitudinal		-	-	-	-	-
		Reversible	Transverse ±		-	-	-	North Abut: +25 -60 South Abut: +15 -15	+15 -35

Bridge name or reference				Springhead Bridge Link					
Bearing identification mark				A	B	C	D	E	
			Longitudinal ±	-	+25 -25	+130 -95	North Abut: +130 -95 South Abut: +20 -20	+75 -55	
Rotation (radians)	Serviceability limit state	Irreversible	Transverse	0.008	0.009	0.003	North Abut: 0.003 South Abut: 0.009	0.002	
			Longitudinal	0.011	0.013	0.005	North Abut: 0.004 South Abut: 0.012	0.006	
		Reversible	Transverse ±	0.003	0.005	0.003	North Abut: 0.002 South Abut: 0.004	0.004	
			Longitudinal ±	0.005	0.007	0.003	North Abut: 0.003 South Abut: 0.007	0.003	
		Maximum rate (radians per 100 kN)		Transverse	-	-	-	-	-
				Longitudinal	-	-	-	-	-
	Maximum bearing dimensions (mm)***	Upper surface		Transverse	700	560	490	380	800
				Longitudinal	700	570	530	465	800
Lower surface		Transverse	1000	350	310	325	700		
		Longitudinal	1000	350	310	325	700		
Overall height			260	117	137	112	238		
Tolerable movement of bearing under transient loads (mm)			Vertical	0.5	0.5	0.5	0.5	0.5	
			Transverse	±0.3	±0.3	±0.3	-	-	
			Longitudinal	±0.3	-	-	-	-	
Allowable resistance to translation under serviceability limit state (kN)			Transverse	Maximum allowable bearing friction on sliding surface μ max=0.03					
			Longitudinal						
Allowable resistance to rotation under serviceability limit state (kN-m)			Transverse	-	-	-	-	-	
			Longitudinal	-	-	-	-	-	
Type of fixing required			Upper face	Bolted tapered Plate	Bolted tapered Plate	Bolted tapered Plate	Bolted tapered Plate	Bolted tapered Plate	
			Lower face	Cast-in Fixing	Cast-in Fixing	Cast-in Fixing	Cast-in Fixing	Cast-in Fixing	

*Top and bottom contact pressures to be reviewed by Engineer following completion of bearing detailed design

**Longitudinal translations are in the axis parallel with the direction of the main beams and transverse translations are in the direction perpendicular to the main beams. Longitudinal positive values are in a Northerly Direction; Transverse positive values are in an Easterly Direction. For Bearing B which is aligned with the 55 degree skew the total translation along the skew is provided.

***Maximum bearing dimension based on prelim bearing design. These values are subject to bearing detailed design however they may require amendments to superstructure and abutment design if increased.

Preliminary Spherical bearing design considered during the design of the abutments and superstructure was provided by Ekspan LTD and for reference are available on the below drawings. Final bearings specification was not available at the time when these preliminary designs were provided.

	Bearing:	Drawing Number:
Bearing B	B 11GE0250/100/BS	E-S06-1-00 Rev 1
Bearing C	11GE0200/200/BS	E-S05-1-00 Rev 1
Bearing D	12GE0200/200/40/BS	E-S05-2-00 Rev 1
Bearing E	12GE0900/100/40/BS	R-S16-2-00 Rev 1

Appendix 23/2 Sealing of Joints

- 23.2.1 Where cold poured sealants are indicated on the Drawings for sealing of gaps or joints, they shall consist of gun applied two-part polysulphide complying with BS 4254 (1983).
- 23.2.2 Unless otherwise indicated on the Drawings, all gap joints sealers shall be backed with a suitably sized circular cross section rod of closed cell expanded polyethylene. Such rods shall be compressed and pushed into the joint prior to sealing.
- 23.2.3 Unless otherwise indicated on the Drawings, all joint fillers in gap joints shall consist of closed cell expanded polyethylene board or similar approved by the Designer and as detailed on the drawings of appropriate width.
- 23.2.3 All joints between steelwork and bare concrete shall be sealed using two-part gun grade polysulphide complying with BS 4254 (1983) and applied in accordance with the manufacturer's instructions.

Appendix 24/1 Brickwork, Blockwork and Stonework

24/1.1 Mortar

- a) See Appendix 7 for the mortar specification for the granite setts in the carriageway overrun construction shown on the 700 and 750 Series drawings.
- b) See 700, 750, 1100, 1150 Series drawings for the mortar specification for the paving units used in footways and vehicle crossovers.
- c) Mortar designation (i) shall be for the cycle demarcation paving units as shown in the 1100 and 1150 Series drawings.

Appendix 26/1 Ancillary Concrete

26/1.1 General

ST2 type concrete shall be used as shown in the 700, 750, 1100 and 1150 Series drawings.

Appendix 26/2 Bedding Mortar

- 26.2.1 For structures the 28 days compressive strength of bedding mortar shall be at least 50N/mm^2 unless otherwise agreed with the Designer.
- 26.2.2 For structures permanent shims are acceptable under base plates within the bedding mortar. Permanent metal shims shall consist of central steel packers.
- 26.2.3 Specific proprietary bedding mortar shall be mixed, placed and cured in accordance with the manufacturer's detailed instructions.
- 26.2.4 Lab approved tests for Bearing bedding mortar in accordance with clause 2601.4 of the Specification for Highway Works are to be provided to the designer for acceptance.

Appendix 30/1 Landscaping and Ecology

30/1.1 General

- a) The location and details of landscaping works are shown on 3000 Series drawings.
- b) Clauses 30/7, 30/8, 30/9 & 30/12 apply from New Works Establishment Period to the end of the two-year Maintenance period.
- c) See Appendix 2/6 for Archaeological requirements.

30/1.2 Peat

No peat or peat based products shall be used on this project except where previously incorporated into plant material containers/rootballs at the supplier's/grower's nursery(s).

30/1.3 Pesticide Application

Pesticide application records as Sheet 3 of this Appendix shall be submitted weekly during the period of application.

30/1.4 Bird Nesting Season

The bird-nesting season shall be taken as being from the beginning of March to the end of August, dependant on weather conditions. It shall remain the Contractor's responsibility however, to check for the presence of any breeding birds outside this period, (for instance in the event of a mild February) and seek instructions from the Overseeing Organisation if any are found.

30/1.5 Inspection Reports

- a) The Contractor shall submit Inspection Reports quarterly as Sheet 4 of this Appendix for the following activities: -
 - i. Grass, Maintenance
 - ii. Establishment Maintenance for Planting
 - iii. Maintenance of Established Trees and Shrubs
 - iv. Pest Control
- b) Inspection reports on a form as detailed in this Appendix 30/1 shall be submitted to the Overseeing Organisation for the activities carried out under Clauses 3007, 3009 at the following intervals:
- c) Grass areas and weed control
 - Inspections should take place three times in the season, generally in late April before the first cut, in July and at the end of the season in September. At these times the Contractor will report on the general condition of the grass sward and the prevalence of weed species listed in sub-Clause 30/2.1, 30/2.2
- d) In the case of activities carried out under Clause 3009:
 - i. Six times per year in the first year of the Establishment Maintenance Period;
 - ii. Four times per year in the second year of the Establishment Maintenance Period;

- e) The Establishment Maintenance Period is two years. All planting shall be carried out between November 1st and March 31 during favourable weather and soil conditions. Where possible, all planting should take place before December 31.
- f) The contractor shall give the Overseeing Organisation advance notice that he will be undertaking the following operations:
 - i. Setting out
 - ii. Application of herbicides
 - iii. Works within close proximity to the existing trees
- g) Landscape operations – planting and landscape maintenance
 - i. All landscape preparation, planting and seeding work shall be completed at the earliest practical opportunity to ensure early establishment
 - ii. The Contractor shall make all arrangements for the delivery or use of temporary or permanent buildings as required, in order to establish a temporary site nursery and to carry out the landscape Works.
 - iii. All Works shall be carried out according to the recommendations of BS 4428: 1989 'General Landscape Operations'.
 - iv. All paved and hard areas shall be kept clean and free from contamination with soil, arisings, plants and planting materials which shall be cleared after each day's work.
 - v. See Appendix 30/12 for Special Ecological Measures.

Sheet 3

LANDSCAPE WORKS – PESTICIDES RECORD

Contract Reference number:

Date of visit ./. /. .
(minimum one record/day)

Contract Name:

Name of Contractor:

Contractor's telephone no:

Operations carried out	Pesticide used	Locations of Operations
Total weed contract		
Weed control in any waterbody		
Selective herbicide to areas of grass		
Herbicide to cultivated plant beds		
Total herbicide around individual plants in grass		
Other (state purpose)		

Names of operatives on site

Qualifications of operatives named:

Supervisor

Storeman

Application by

Signed (for Contractor)

Contractor's observations on damage by others or any incidents:

.....

.....

SHEET 4: Information to be provided by the Contractor

LANDSCAPE WORKS – INSPECTION RECORD

Contract Reference number:

Date of visit/../..

Contract Name:

Name of Contractor:

Contractor's telephone no:

Operations Carried Out	Locations of Operations

Names of operatives on site:

.....

.....

.....

Contractor's observations on damage by others, additional work required or general conditions of the works:

.....

Observations of Overseeing Organisation on standard of workmanship, additional work required or general conditions of the works:

.....

.....

This maintenance visit has been satisfactorily completed

SIGNED (for Contractor)

NAME: **DATE**/../..

SIGNED (for Overseeing Organisation)

NAME: **DATE**/../..

Appendix 30/2 Weed Control

30/2.1 General

In all areas to receive grass seeding, if prior to sowing grass seed or in the period between sowing and first cut, vigorous weed growth results in weeds reaching a height in excess of 200 mm, the Contractor shall cut and/or remove such weeds. If at any time before the second cut a weed or weeds reach a height in excess of 300 mm, the Contractor shall similarly cut and/or remove such weeds. The control of injurious and invasive weeds and all other weeds shall continue throughout the contract maintenance period and for the duration of the period of establishment and maintenance. This should be carried out as necessary to obtain a weed free condition in accordance with sub-Clauses 30/2.1-30/2.6. All herbicide chemicals used must be applied as stated by approved manufacture's rate and instructions.

30/2.2 Total Weed Control to Hard Surfaces

Maintain all hard surfaces to maintain weed free conditions with spot treatment of herbicide throughout the contract.

30/2.3 Total Weed Control to Soft Surfaces

Frequency of control on topsoil and subsoil heaps and maintenance of all soft landscape areas shall be to maintain weed free conditions with spot treatment of herbicide throughout the contract.

30/2.4 Weed Control by Spot Application of Herbicide

- a) Maintain all grassed areas to maintain weed free conditions with spot treatment of biodegradable herbicide, such as glyphosate based, throughout the contract.
- b) Selective weed control shall be undertaken in grass areas to remove perennial weeds only after the grass sward is established (minimum 6 months after seeding).
- c) Weed control by spot application of herbicide shall be carried out to all grass areas as necessary to eradicate pernicious weeds only after the grass sward is established (minimum 6 months after seeding).
- d) Weed control by pulling/hand weeding shall be carried to all tree areas as necessary to maintain a weed free condition where application of herbicide may cause damage to densely populated areas or where the newly seeded grass sward that has not established (minimum 6 months after seeding).

30/2.5 Arisings from Weed Control Operations

- a) All arisings from weed control by pulling and hand weeding shall be disposed of at an approved tip.
- b) Injurious weed arisings shall be disposed of to an approved tip.

Appendix 30/3 Rabbit Control

30/3 General

Rabbit control sufficient to achieve effective control defined in specification clause 3003.7 shall apply throughout the site for the full duration of the construction until Completion.

30/2.4 Rabbit Control Throughout the Site

The Project Manager will inspect the Site together with a representative of the Contractor at monthly intervals to agree whether effective control has been achieved.

Appendix 30/4 Ground Preparation

30/4.1 Subsoil Treatment

Subsoil shall be ripped/cultivated to 300mm depth in all areas of seeding

30/4.2 Final Preparation of Soils

- a) All areas for planting and seeding shall receive final preparation and all arisings shall be removed off site.
- b) The consolidated material is to be broken up to 300mm depth and the top 50mm of all soil to be reduced to a suitable tilth. Any stones larger than 50mm in any dimension, roots, grass tufts and foreign matter shall be removed off site.

Appendix 30/5 Grass Seeding, Wildflower Seeding and Turfing

30/5.1 Season

Seeding shall be carried out during September, October, November or March, April, May.

30/5.2 Final Cultivations

All areas to be seeded shall be cultivated in accordance with specification clause 3005.2.

30/5.3 Grass Seed Mixtures

a) 'Wildflower Meadow Seeded' mixture:

- i. The Emorsgate EM2 Grass Seed Mixture or similar approved shall be used for the Wildflower Meadow Seed mixture. The composition of Emorsgate EM2 Grass Seed Mixture shall be as follows:

Constituents		
Percentage of seed mix by weight	Latin name	Common name
Wild Flowers		
0.5	Achillea millefolium	Yarrow
4.5	Centaurea nigra	Common Knapweed
3	Galium verum	Lady's Bedstraw
1	Leucanthemum vulgare	Oxeye Daisy
0.5	Lotus corniculatus	Birdsfoot Trefoil
1	Plantago lanceolata	Ribwort Plantain
0.5	Plantago media	Hoary Plantain
0.2	Primula veris	Cowslip
2	Prunella vulgaris	Selfheal
4.2	Ranunculus acris	Meadow Buttercup
1.5	Rhinanthus minor	Yellow Rattle
1	Rumex acetosa	Common Sorrel
0.1	Trifolium pratense	Wild Red Clover
Grasses		
8	Agrostis capillaris	Common Bent
40	Cynosurus cristatus	Crested Dogstail
28	Festuca rubra	Slender-creeping Red-fescue
4	Phleum bertolonii	Smaller Cat's-tail

- ii. The rate of distribution of the above mixture shall be:

Sowing rate: 4 g/m²

- iii. As supplied Emorsgate Seeds:

EMORSGATE SEEDS

Limes Farm
Tilney All Saints
King's Lynn
Norfolk
PE34 4RT



b) Proposed Verge grass seed mixture:

- i. The 'Proposed Verge' grass seed mixture shall be A18 (Road Verge and Embankments) mixture by Germinal GB Ltd or similar approved

Grass Seed Mixture : A18 (Road Verge and Embankments)

Constituents
Mixture Breakdown
CORAIL Creeping Red Fescue 30%
CADIX Perennial Ryegrass 25%
MENTOR Hard Fescue 20%
ZEPTOR Smooth-Stalked Meadow Grass 12.5%
HIGHLAND Browntop Bent 7.5%
ABERACE Miniature White Clover 2.5%
ABER@ROYAL Browntop Bent 2.5%

- ii. The rate of distribution of the above mixture shall be:

Sowing rate: 35.00 g/m²
Overseed rate: 25.00 g/m²

- iii. As supplied Germinal GB Limited,

Camp Road, Witham St. Hughs, Lincoln, LN6 9QJ
Tel: 01522 868714
Fax: 01522 868095

E-mail: 

30/5.4 Cultivations

- a) Immediately prior to sowing seed the upper 50 mm of soil shall be reduced to a fine tilth by use of a chain harrow or other suitable plant. All preparations for seeding shall comply with BS 4428:1989 and shall be carried out not less than 1 week prior to seeding. The contractor shall keep the seed bed free from weeds and rubbish during the period leading up to seeding.
- b) Fertiliser or other soil ameliorants shall be evenly incorporated into the upper 50 mm of soil during final cultivations at the rate stated by the manufacturer's instructions for 'Proposed Verge' areas shown on the 3000 Series drawings.

- c) Fertiliser, manure or lime or pesticide shall not be used for the proposed 'Wildflower Meadow Seeded' area shown on the 3000 Series drawings.

30/5.5 Seed

- a) Seed shall comprise the mixture(s) stated in clause 30/5.3 or similar approved.
- b) All seeds shall be delivered to the site in bags sealed by the supplier. A label shall be attached to each bag giving details of species and percentage breakdown. The same details shall be enclosed within the bag.
- c) The seed mixture shall meet the requirements for germination and purity laid down in BS 4428:1989 Section 5.1.

30/5.6 Conventional Sowing

- a) Sowing shall be carried out by evenly distributing the seed at a rate of not less than rate stated in clause 30/5.3.
- b) Sowing shall be immediately followed by lightly raking the surface of the soil to cover the seeds, by use of a chain harrow or other suitable plant.

30/5.7 Seed Germination

- a) The seeding shall be repeated as necessary until an evenly distributed dense sward is established over the seeded area. The Contractor shall allow for maintenance of all grass areas in accordance with Clause 3007 until this has been achieved.
- b) Establishment shall be regarded as achieved when at least 80% of quadrant sub-divisions are recorded as 'filled' when tested in accordance with Annex A3 of BS 3969.

30/5.8 Establishment Cuts

- a) During the first year after the implementation works, the 'Wildflower Meadow Seeded' meadow grassland area will be regularly cut (i.e. every 6-8 weeks) to between 100 – 200mm (no shorter than 100mm).
- b) Newly-established grass in the 'Proposed Verge' grass seeded area, whether newly-sown, shall be mown to leave a nominal 50 mm height. The first mowing shall be carried out once the grass has reached a height of 100 mm, the second and any subsequent establishment cuts when it has re-grown to 100 mm. (establishment is a minimum 6 months after seeding).
- c) Newly sown grass in the 'Proposed Verge' grass seeded area to receive 2 establishment cuts with suitable machinery to achieve desired heights specified in contract.
- d) All areas shall be left clear of grass cuttings following each mowing by raking or other method and arisings disposed off site.

Appendix 30/6 Planting

30/6.1 River basin, abutment edge and banks planting

Planting around and within the River basin, abutment edge and banks planting including reeds, rushes, sedges, water plants and wetland edge plants shall be provided in accordance with the Updated Ecological Mitigation and Monitoring Report January 2017.

Appendix 30/7 Grass Maintenance

30/7.1 General

- a) All areas of grass, including the 'Wildflower Meadow Seeded' area, shall be maintained through the New Works Establishment Period to the end of the two years Maintenance period after Completion of works.
- b) Prior to any cutting operation all stones or other harmful material from whatever source which may damage grass cutting plant or create a possible hazard to persons or property shall be removed off Site. All litter from grass cutting areas shall be removed off Site prior to grass cutting. Any movable obstructions such as seats and litterbins shall be removed to facilitate cutting and replaced prior to leaving the Site.

30/7.2 'Wildflower Meadow Seeded' maintenance

After the first year a bi-annual mowing regime shall be implement in accordance with the following:

- a) The grassland will be cut bi-annually in early spring (i.e. late March/April) and late summer (i.e. August/September) (to a minimum height of 50mm).
- b) No fertilizer, manure, lime or pesticide will be applied.
- c) Cutting will be carried out using a tractor/ride-on mower. Strimmers will be used where the grassland is too wet or inaccessible for the use of machinery.
- d) All cuttings will be removed after the arisings have been left for 2-7 days to allow seed to be shed. Excessive numbers of unwanted weed species (e.g. thistles, nettles etc.) will be avoided either through topping before flowering or using spot treatment with herbicide.
- e) Prior to each cut, all litter will be collected from the area and disposed of off-site to a licensed site.

30/7.3 Planting maintenance

- a) The River basin, abutment edge and banks shall be maintained in accordance with the Updated Ecological Mitigation and Monitoring Report January 2017.

Appendix 30/9 Establishment Maintenance Period for Planting

30/9.1 General

See Appendix 30/1 for inspection and maintenance requirements. Appendix 30/1 details the maintenance period as well as seasonal constraints.

30/9.2 River basin, abutment edge and banks planting

Planting around and within the River basin, abutment edge and banks planting including reeds, rushes, sedges, water plants and wetland edge plants shall be maintained in accordance with the Updated Ecological Mitigation and Monitoring Report January 2017.

Appendix 30/10 Maintenance of Established Trees and Shrubs

30/10.1 General

The location of existing trees, with Tree Preservation Orders, to be retained are shown on the 200 Series drawings. The Contractor shall ensure the trees are preserved in accordance with Clause 201.

Appendix 30/11 Management of Waterbodies

30/11.1 General

The management of waterbodies, such as managing reedbeds, shall be in accordance with the Updated Ecological Mitigation and Monitoring Report January 2017.

Appendix 30/12 Special Ecological Measures

30/12.1 General

The works shall be provided in accordance with the ecological measures set out in the Updated Ecological Mitigation and Monitoring Report January 2017.

3.5 Invitation to Tender

Invitation to Tender

EBBSFLEET DEVELOPMENT CORPORATION
INVITATION TO TENDER

Springhead Bridge Remedial Works

EDC_5064

[illegible]

Contents

1	THE TENDER PERIOD PROCESS	5
1.1	General.....	5
1.2	Conduct	6
1.3	Documents.....	6
1.4	Communications	7
1.5	Tender activities and indicative timescales	7
1.6	Tender Process.....	7
2	PROJECT INFORMATION.....	8
2.1	Project Background and Objective	8
2.2	The Commission	8
2.3	Site Information & Site Visit	8
2.4	Contract Timescales	8
2.5	Estimated Contract Value	8
2.6	Payment Terms.....	8
2.7	Supporting Documentation - N/A.....	8
3	SUBMISSION OF BIDS.....	8
3.1	General.....	8
3.2	Form of Tender	9
3.3	Certificate of Non-Collusion and Non-Canvassing	9
3.4	Selection Questionnaire.....	9
3.5	Quality Submission	10
3.6	Social Value Submission	10
3.7	Pricing Submission	10
4	EVALUATION PROCESS	10
4.1	General.....	10
4.2	Due Diligence	11
4.3	Stage 0: Opening Ceremony and Compliance Checks	11
4.4	Stage 1: Price and Quality Individual Evaluation	12
4.5	Stage 2: Bid Clarification	12
4.6	Stage 3: Moderation	12

4.7	Stage 4: Determining the Preferred Bidder	12
5	AWARD PROCESS.....	13
5.1	General.....	13
5.2	Bidder Eligibility	13
5.3	Contract	14
	Table 1: List of documents included with this Invitation to Tender	14
	Table 2: List of documents to be returned with the tender submission	14
9	IDENTIFYING THE PREFERRED BIDDER (Indicative Worked Example).....	16
11	QUALITY SUBMISSION REQUIREMENT.....	18
	Please refer to Annex B: Quality Questions & Response document for more information.	18
12	EVALUATION PROCESS FLOWCHART.....	18

1 THE TENDER PERIOD PROCESS

1.1 General

- 1.1.1. This Invitation to Tender (ITT) applies to the submission of tenders for this particular procurement only, as per the procurement name & EDC procurement reference stated on the front of this document.
- 1.1.2. The tender process is carried out under the **Restricted** procedure under the Public Contracts Regulations (PCR) 2015.
- 1.1.3. Ebbsfleet Development Corporation's (the "Contracting Authority") Corporate Plan can be found here <https://ebbsfleetdc.org.uk/governance/> along with all Transparent Publications here <https://ebbsfleetdc.org.uk/transparency-reports/>
- 1.1.4. The Contracting Authority invites the "Bidder", to submit a bid for the provision of **Works** for the above-named project.
- 1.1.5. The procurement process seeks to determine the most economically advantageous tender to the Contracting Authority. This will be a compliant and affordable bid which satisfactorily meets the evaluation criteria.
- 1.1.6. Bids must be submitted in accordance with the instructions provided in this document and any supporting documentation issued with this tender invitation. Bids not complying with the instructions provided may be rejected by the Contracting Authority whose decision in the matter will be final.
- 1.1.7. Bidders are to note that all information provided must be true and accurate. The Contracting Authority reserves the right to reject any bid if the Bidder provides misleading or false information.
- 1.1.8. Bidders are deemed to understand fully the processes that the Contracting Authority is required to follow under relevant UK legislation, particularly in relation to the Public Contracts Regulations 2015.
- 1.1.9. The Contracting Authority reserves the right to amend, add to or withdraw all, or any part of this invitation at any time during the procurement process.
- 1.1.10. Bidders must obtain for themselves at their own responsibility and expense all information necessary for the preparation of tenders. The Contracting Authority is not liable for any costs incurred by the Bidder as a result of the tendering procedure. Any work undertaken by the Bidder prior to the award of Contract is a matter solely for the Bidder's own commercial judgement.
- 1.1.11. The Contracting Authority and/or its advisers are not liable for any costs resulting from any amendment or cancellation of this tendering process nor any other costs, charges, fees, expenses, claims or disbursements (howsoever arising and including third party costs) incurred by those tendering for this contract opportunity.
- 1.1.12. Under the Freedom of Information Act 2000 ("FOIA") and the Environmental Information Regulations 2004 ("EIR") and the Public Contract Regulations (PCR) 2015, the Contracting Authority may be obliged (subject to the application of any relevant exemptions and, where applicable, the public interest test) to disclose information relating to the tender process including any tenders received.
- 1.1.13. If a Bidder considers any information submitted to be commercially sensitive, the Bidder should:

- clearly identify such information as commercially sensitive
- explain the potential implications of disclosure of such information
- provide an estimate of the period of time which the Bidder believes that such information will remain commercial sensitive

1.1.14. Bidders should note that where information is identified as commercially sensitive, the Contracting Authority may still be required to disclose such information under the FOIA or the EIR.

1.1.15. If a Bidder receives a request for information under the FOIA or the EIR during the procurement, this should immediately be passed to the Contracting Authority and the Bidder should not attempt to answer the request without consulting the Contracting Authority.

1.2 Conduct

1.2.1 Bidders are required to conduct themselves in good faith in all dealings in relation to this tender process. Bidders must:

- not contact any person in relation to this competition other than the Procurement Team via the In-tend portal only.
- not discuss this competition with the Contracting Authority's Procuring Manager or members of staff unless authorised by the Contracting Authority's Senior Management.
- not release information concerning the tender documents for publication in the press or on radio, television, screen or any other medium.
- not communicate to any person the bid price (even approximately) before the date of the Contract Award other than to obtain, in strict confidence, a quotation for insurance required to submit the bid.
- not disclose the fact that they are tendering or release details of the tender documents, other than on an "in confidence" basis to those who have a legitimate need to know or whom they need to consult for the purpose of preparing their tender response.
- not try to obtain any information about any other person's bid or proposed bid before the date of the Contract award.
- not make any arrangements with any other person about whether they should tender, or about their bid price.
- not offer any inducement to any member of the Contracting Authority's staff for doing or refraining from doing any act in relation to the tender.
- immediately inform the Procurement Team via the In-tend portal if they have been contacted by anybody outside of this process.

1.2.2 If a Bidder is unable or unwilling to comply with these requirements, the Bidder is required to destroy these ITT Instructions and all associated documents immediately and not to retain any electronic or paper copies.

1.2.3 If the Bidder engages in any of the activities set out above or if the Contracting Authority considers their behaviour is in any way unethical, the Contracting Authority reserves the right to disqualify them from the procurement process.

1.3 Documents

1.3.1 All documents supplied within and in conjunction with this invitation are confidential and must be used solely for the purposes of this tender.

- 1.3.2 Any drawings, prints, specifications, data, calculations and analyses issued to Bidders in relation with this tender remain the property of the Contracting Authority. All such information issued to Bidders may only be used for the purpose of tendering. Such information should not be disclosed to persons unconnected with the tender. These provisions apply equally to drawings and other information supplied for the purpose of the tender, the property rights of which vest in a third party.

1.4 Communications

- 1.4.1 All communications regarding this tender must be made with the Contracting Authority's Procurement Team only via the electronic tendering portal In-Tend [Ebbsfleet Development Corporation Electronic Procurement Portal - Home \(in-tendhost.co.uk\)](http://Ebbsfleet Development Corporation Electronic Procurement Portal - Home (in-tendhost.co.uk))
- 1.4.2 Tender clarifications must be submitted via In-Tend using Annex I: Bidder Clarifications Template provided.

1.5 Tender activities and indicative timescales

- 1.5.1 Please refer to [Annex E – Indicative Timetable](#) for the proposed indicative timetable. The timetable is provided by way of guidance only. The Contracting Authority reserves the right to amend this timetable at its absolute discretion at any time during the tendering process.

1.6 Tender Process

- 1.6.1 The Invitation to Tender will be published via the Contracting Authority's Procurement Team via the electronic tendering portal In-Tend. [Ebbsfleet Development Corporation Electronic Procurement Portal - Home \(in-tendhost.co.uk\)](http://Ebbsfleet Development Corporation Electronic Procurement Portal - Home (in-tendhost.co.uk))
- 1.6.2 During the tender period, Bidders may submit tender clarifications in relation to the particulars of the tender documents [and/or the Contract](#) requirements. Tender clarifications must be submitted to the Contracting Authority [via In-Tend](#), by the clarification deadline stated in paragraph 1.5 above and using the form supplied in Annex I: Bidder Clarifications Template. Any tender clarifications submitted after this time may not be responded to.
- 1.6.3 Tender clarifications will be responded to by the Procuring Manager/Subject Matter Expert. Clarifications and responses will be circulated to all Bidders on a non-attributable basis. If any response requires a change to the tender documents, then a tender amendment will be issued.
- 1.6.4 Tender amendments are changes to the issued tender documents. Tender amendments are made in writing and issued to all Bidders via the tendering portal. Only in exceptional circumstances will tender amendments be issued after bids have been submitted. In such circumstances, the Contracting Authority will notify all Bidders of the required action.
- 1.6.5 The tender return deadline for bids to be submitted to the Contracting Authority is stated in [Annex E – Indicative Timetable](#). Bids not received by the Contracting Authority by the tender return date and time, may be excluded from further consideration for this opportunity.
- 1.6.6 The Contracting Authority will evaluate the bids in accordance with the evaluation process outlined in Section 4 of this ITT titled "Evaluation Process".
- 1.6.7 The Contracting Authority will award the contract in accordance with the award process outlined in Section 5 of this ITT titled "Award Process".

2 PROJECT INFORMATION

2.1 Project Background and Objective

- 2.1.1 The Ebbsfleet Development Corporation (EDC) "Contracting Authority" is tasked with the creation of a 21st Century Garden City in North Kent. The Contracting Authority is sponsored by the Department for Levelling-up, Housing and Communities (DLUHC), whose powers and duties are conferred by Part XVI of the Local Government, Planning and Land 1980 Act. The Contracting Authority is facilitating the delivery at pace of up to 15,000 homes as part of a large-scale mixed-use development.

2.2 The Commission

- 2.2.1 The Contracting Authority seeks to appoint a Supplier to: [Springhead Bridge Remedial Works](#). Please refer to: [Annex A – Specification of Services](#) for the full Scope of Services and project specific requirements.

2.3 Site Information & Site Visit

- 2.3.1 Information about the site can be found in the Specification of Services document.
- 2.3.2 All Site Visits must be booked in advance by contacting the EDC Procurement Team using a Correspondence message on the InTend portal. The site visit must be scheduled in-line with the [Annex E - Indicative Timetable](#).

2.4 Contract Timescales

- 2.4.1 Indicative contracting timescales are shown in paragraph 1.5 above.
- 2.4.2 The Contract duration: from date and to date, can be found in: [Annex C – EDC Contract](#) along with confirmation of any extension provisions (if required).

2.5 Estimated Contract Value

- 2.5.1 The estimated cost for this Contract is in the range of approx. [£120k to £150k](#) (inc. VAT).

2.6 Payment Terms

- 2.6.1 Please refer to [Annex C: EDC Contract](#) for payment terms.

2.7 Supporting Documentation - N/A

3 SUBMISSION OF BIDS

3.1 General

- 3.1.1 Bids must be submitted in accordance with these Instructions and the tender documents including any tender amendments.
- 3.1.2 The bid must be based upon the [Annex A - Specification of Services](#) and must contain all the information requested otherwise it may be rejected on the basis of being unsuitable and non-compliant.
- 3.1.3 Ensure all documents listed in Section 7, Table 2: List of documents are returned with your bid submission.
- 3.1.4 The bid must be written in English and priced in UK Sterling Pounds.
- 3.1.5 Documents are to be returned in Microsoft Office compatible format.
- 3.1.6 No file is to be larger than 20MB.

- 3.1.7 Allow enough time to upload, save and submit tender return documents prior to the tender return deadline. Bids not received by the Contracting Authority by the tender return date and time may be excluded from further consideration.
- 3.1.8 The bid offer must remain valid for acceptance for a period of **90 calendar days** from the tender return date.
- 3.1.9 The Contracting Authority will safeguard all tenders received and open them once the closing date and time has passed.
- 3.1.10 Bidders must ensure that each response is self-contained and does not seek to rely upon cross-referencing to responses provided in respect of other questions. For the avoidance of doubt, unless otherwise stated, no account will be taken in the evaluation of the response to a particular question of information referenced and contained in a response or responses to other questions.
- 3.1.11 Bids must not be qualified or accompanied by statements or a covering letter that might be construed as rendering the bid ambiguous. Unauthorised alterations or additions must not be made to any component of the tender documents.
- 3.1.12 Use text appropriately as space is limited, avoid buzzwords, management speak or things of little relevance. Don't make aspirational or non-committal statements (e.g. 'we will endeavour to...', 'where possible we will...', 'when practicable we will...' etc.)
- 3.1.13 Avoid using statements with no substantiating evidence. Make firm statements avoiding phrases like 'we will endeavour to'. Include data and figures to support all claims.
- 3.1.14 Make sure diagrams, charts, fonts etc. are clear and readable. Ensure charts, diagrams etc. don't overlay, use tiny fonts etc. Responses to the Quality Assessment Areas must adhere to the page count stated in Annex B (separate document).
- 3.1.15 If a target is given, provide an approach and evidence that gives confidence that it will be met.
- 3.1.16 Demonstrate 'ownership' of actions and targets.
- 3.1.17 The Contracting Authority's decision as to whether or not a tender complies with these instructions will be final.

3.2 Form of Tender

- 3.2.1 The Bidder is required to submit a completed and signed **Form of Tender** as provided in **Annex E**.

3.3 Certificate of Non-Collusion and Non-Canvassing

- 3.3.1 Bidders are required to submit a completed and signed **Certificate of Non-Collusion and Non-Canvassing** as provided in **Annex G**.

3.4 Selection Questionnaire

- 3.4.1 The Bidder must complete and return **Annex H - Standard Selection Questionnaire** Parts 1, 2, 3 following the guidance provided in the annex.
- 3.4.2 Bidders are to identify a single point of contact within their organisation to communicate with the Procurement Team in respect of this tender. The name and details of the contact are to be provided within the annex.
- 3.4.3 Bidders should respond to all questions as accurately and concisely as possible. Where a question is not relevant to the Bidder's organisation, this should be indicated with an explanation.

- 3.4.4 Bidders must be explicit and comprehensive in their responses to this Selection Questionnaire as this will be the single source of information on which responses will be scored.
- 3.4.5 Bidders are advised neither to make any assumptions about their past or current supplier relationships with the Contracting Authority, nor to assume that such prior business relationships will be taken into account in the evaluation procedure.
- 3.4.6 Supporting information, if required, should be presented in the same order as, and should be referenced to, the relevant question.
- 3.4.7 If a Bidder responds 'Yes' to any of the questions in Part 2 of the Selection Questionnaire, the Contracting Authority reserves the right to use its discretion to exclude the Bidder.
- 3.4.8 Bidders are required to respond to Part 3, question 6, and self-certify their insurance status as instructed. Bidders are advised that compliance with the stated insurance requirements is mandatory and failure to comply with this will result in the submission being excluded from further evaluation and the Bidder will be excluded from the procurement process.

3.5 Quality Submission

- 3.5.1 The Bidder is required to submit a proposal describing how they will meet the requirement set out in the [Annex A: Specification of Services](#) and responding to each of the Assessment Areas set out in [Annex B: Quality Questions & Responses](#).
- 3.5.2 The Bidders' proposal must explicitly state any non-compliance to the Scope set out in [Annex A](#) and/or where compliance with those requirements would lead to disproportionate costs.

3.6 Social Value Submission

- 3.6.1 Please refer to [Annex J: Social Value](#) as it outlines the requirement for Bidders to provide details on how they will create measurable social value to support the Contracting Authority's targets. This annex also provides a link for the Bidder to submit their Social Value proposals.

3.7 Pricing Submission

- 3.7.1 The Bidder must provide a price quotation for delivering the Contract in accordance with the template & instructions provided in [Annex D: Pricing Schedule](#).

4 EVALUATION PROCESS

4.1 General

- 4.1.1 A flow chart of the evaluation process is outlined in Section 12: Evaluation Process
- 4.1.2 The Contracting Authority's evaluation of bids will be carried out in stages:
 - Stage 0 – Opening Ceremony and Compliance Checks (including Selection Questionnaire)
 - Stage 1 – Quality and Price Individual Evaluation
 - Stage 2 – Bid Clarifications
 - Stage 3 – Moderation
- 4.1.3 During the evaluation process, the Contracting Authority reserves the right to seek clarification in writing or by means of a clarification meeting (and confirmed in writing) from any or all of the Bidders solely to assist it in its consideration of their tender but shall be under no obligation to do so.

4.1.4 A tender may be rejected and not considered any further for this opportunity where any of the following situations apply. The Contracting Authority's decision in the matter will be final:

- The tender is not submitted in accordance with the instructions in this ITT and in accordance with any other instructions issued by the Contracting Authority in connection with this Procurement.
- The tender is qualified or accompanied by statements or a covering letter that might be construed as rendering the tender ambiguous.
- Bid includes unauthorised alterations or additions made to any component of the tender documents.
- If the tender submission fails to include all documents listed within Table 2: List of documents to be returned with the tender submission.

4.2 Due Diligence

4.2.1 Bidders to note that this sustainability check is in addition to and without prejudice to the Contracting Authority's rights to undertake due diligence in relation to a potentially abnormally low offer under the Public Contracts Regulations 2015.

4.2.2 The Contracting Authority may undertake due diligence in relation to a potentially abnormally low offer on any aspect of a tender and at any stage of the procurement process.

4.2.3 Failure to provide satisfactory evidence to support any part of this aspect of the tender may result in the tender being rejected.

4.2.4 Before the Contracting Authority rejects a tender, which contains an abnormally low offer it will:

- require that the Bidder explains (in writing) the elements of the tender which the Contracting Authority considers to be abnormally low; and
- take account of the evidence provided in response to a request in writing.

4.3 Stage 0: Opening Ceremony and Compliance Checks

4.3.1 The Procurement Team will open the bid submissions and undertake an initial compliance check on all bids to ensure all requested documentation, as listed in Table 2: List of documents to be returned with the tender submission, have been submitted, and is in accordance with Section 3 of this ITT "Submission of Bids".

4.3.2 If documents are missing and/or the submission is non-compliant, the Contracting Authority will, at its discretion, either seek clarification or disregard the bid and notify the Bidder of the decision.

4.3.3 The responses to the mandatory and discretionary rejection criteria of the Standard Selection Questionnaire will be assessed by the Procurement Team.

4.3.4 In the event of a 'yes' response being given against any of the mandatory grounds of exclusion will result in an immediate failure of the bid. The bid will be disregarded and not considered further for the opportunity.

4.3.5 In the event of a 'yes' response being given against one or more of the discretionary rejection criteria questions, with details of the relevant incident and remedial actions taken subsequently forming the information to be assessed. Following this further assessment, if the Contracting Authority is not satisfied then the tender will not be considered further.

- 4.3.6 The Selection Questionnaire contains a combination of both financial and non-financial factors and considers:
- Organisation and contact details – not assessed, for information only
 - Mandatory and discretionary rejection criteria – assessed using pass/fail criteria, in accordance with Regulation 57 of the Public Contracts Regulations 2015
 - Economic and Financial Standing – assessed using pass/fail criteria, in accordance with Regulation 58 of the Public Contracts Regulations 2015
 - Insurance - assessed using pass/fail criteria, in accordance with Regulation 58 of the Public Contracts Regulations 2015.

4.4 Stage 1: Price and Quality Individual Evaluation

4.4.1 General

- Bids will be evaluated by the same Quality Panel, and the same Price Panel.
- The Panel members will work independently and will not have access to each other's evaluation comments and/or scores.
- The Quality Evaluation and Financial Evaluation Panels will assess the bid submissions, based wholly on the contents of the tender submission which must therefore contain all the information which Bidders wish to be considered.
- A bid that fails to meet the requirements set out may not be considered further in the evaluation process.

4.4.2 Price

- Bids will be evaluated and scored according to the criteria set out in [Annex D – Pricing Schedule](#).

4.4.3 Quality

- Bids will be evaluated and scored according to the criteria set out in [Annex B – Quality Questions & Responses](#) under: [Quality Evaluation Scoring Criteria](#).

4.5 Stage 2: Bid Clarification

- 4.5.1 Any uncertainty over the meaning of the price or quality submission will be removed via bid clarifications.
- 4.5.2 The Evaluation Panels will come together to agree any part of bid that have been identified for clarification.
- 4.5.3 Clarifications will be issued to Bidders via the [inTend](#) eprocurement portal.
- 4.5.4 Upon receipt of the bid clarification responses, the evaluators will complete their individual assessments.

4.6 Stage 3: Moderation

- 4.6.1 A moderation meeting will be held with the quality and price evaluators and moderated by an independent facilitator.
- 4.6.2 The evaluators will agree moderated scores and feedback for each assessment area for each bid.

4.7 Stage 4: Determining the Preferred Bidder

- 4.7.1 The total price score and the quality score will be combined in the ratio set out in [Section 6 – Evaluation Criteria](#). The total will be expressed to two decimal places. If

any Bidders have the same combined score, the procedure for tied bids will be undertaken. This is explained in [Section 10](#).

- 4.7.2 An indicative worked example is shown in [Section 9: Identifying the Preferred Bidder Worked Example](#).
- 4.7.3 The Contracting Authority will inform Bidders whether they have been identified as the Preferred Bidder. Such notifications must not be taken as inferring acceptance of any tender.

5 AWARD PROCESS

5.1 General

- 5.1.1 The Contracting Authority will award the Contract on the basis of the bid that offers the best balance between quality and price.
- 5.1.2 The Contracting Authority reserves the right not to proceed with any proposal made in response to this invitation.
- 5.1.3 The Bidder will be notified of the outcome of the tender submission at the earliest possible time and will be given feedback.
- 5.1.4 As soon as possible once the award decision has been made, the Contracting Authority will inform the unsuccessful Bidders of its decision in accordance with Regulation 86 of the Public Contracts Regulations 2015.
- 5.1.5 Nothing in the documentation provided by the Contracting Authority to the Bidder during this procurement or any communication between the Bidder and the Contracting Authority, or its representatives, employees, agents or advisors shall be taken as constituting an offer to contract or a Contract. No tender will be deemed to have been formally accepted until the successful Bidder has received a formal Contract Award letter from the Contracting Authority.
- 5.1.6 Prior to the award of any contract the Preferred Bidder(s) must provide evidence that insurance required for the contract is in place.

5.2 Bidder Eligibility

- 5.2.1 Bidders are reminded that the eligibility requirements in [Annex H - Standard Selection Questionnaire](#) (SQ) apply to the Procurement at all times.
- 5.2.2 The Contracting Authority reserves the right to require Bidders to provide such further information as it may require as to any issues addressed in the SQ submission, including, but not limited to, the economic and financial standing of the Bidder (or anyone, more or all its consortium members as appropriate) at any stage of the Procurement and prior to the appointment of a Preferred Bidder and/or the award of the Contract.
- 5.2.3 The Contracting Authority must be notified in writing via the Portal promptly of any changes in the information that the Bidder has provided in its SQ submission (including arrangements in relation to any consortium member or entity relied upon to meet the selection requirements) at any point before Contract conclusion so that the Contracting Authority may assess whether the Bidder continues to satisfy the relevant selection requirements and should continue to qualify for participation in the Procurement. For the avoidance of doubt, the Contracting Authority reserves the right to take such action as it deems appropriate in the light of its assessment of the updated information, including (but not limited to) disqualifying the Bidder concerned from the Procurement.

5.3 Contract

5.3.1 The Contract will be between the Contracting Authority and the Appointed Supplier, please refer to [Annex C: EDC Contract](#).

6 EVALUATION CRITERIA

The evaluation scoring is out of 100% as follows:

CRITERIA	WEIGHTING %
PRICE	40%
QUALITY	50%
SOCIAL VALUE	10%
Total	100%

7 TENDER DOCUMENTS

Table 1: List of documents included with this Invitation to Tender

	Document Title
1	ITT - Invitation to Tender Document (this document)
2	Annex A: Specification of Services
3	Annex B: Quality Questions & Responses
4	Annex C: EDC Contract
5	Annex D: Pricing Schedule (Excel file)
6	Annex E: Indicative Timetable
7	Annex F: Form of Tender
8	Annex G: Certificate of Non-Collusion template
9	Annex H: Standard Selection Questionnaire
10	Annex I: Bidder Clarification template
11	Annex J: Social Value
12	Annex K: Contract Deviation Template

Table 2: List of documents to be returned with the tender submission

Bidders are to note that **all documents listed below must be completed and returned for their submission to be assessed as compliant**. Failure to do so may result in the tender submission being rejected. Documents are to be saved using the naming convention provided.

	Document Title	Naming Convention
1	Annex B: Quality Questions Responses	Name of Bidder_Annex B
2	Annex D: Pricing Schedule	Name of Bidder_Annex D
3	Annex F: Form of Tender	Name of Bidder_Annex F

4	Annex G: Certificate of non-collusion	Name of Bidder_Annex G
5	Annex H: Standard Selection Questionnaire	Name of Bidder_Annex H
6	Annex I: Bidder Clarifications (optional - only if bidder has any clarifications)	Name of Bidder_Annex H
7	Annex J: Social Value Submission (as part of the Quality submission).	Name of Bidder_Annex J
8	Annex K: Contract Deviation Template (optional - if required)	Name of Bidder_Annex K

8 QUALITY EVALUATION SCORING CRITERIA

The following scoring criteria will be applied to score each assessment criteria:

	Score	Criteria	Justification
Quality	10	Exceptional	Response is highly relevant to EDC's requirements as described in the Scope and the Bidder demonstrates a generally exceptional understanding, approach and level of detail to addressing all the points identified in the assessment area.
	8	Good	The evaluator has full confidence in the Bidder's response. Response is mostly relevant to EDC's requirements as described in the Scope and the Bidder demonstrates a generally good understanding, approach and level of detail to addressing all the points identified in the assessment area.
	6	Adequate	The evaluator is satisfied with the Bidder's response. Response is broadly relevant to EDC's requirements as described in the Scope and the Bidder demonstrates a generally satisfactory understanding, approach and level of detail to addressing the points identified in the assessment area.
	4	Insufficient	The evaluator is satisfied with the Bidder's response to an acceptable level. Response is partially relevant to EDC's requirements as described in the Scope and the Bidder demonstrates only some understanding and limited detail on the approach to addressing the points identified in the assessment area.
	2	Limited	The evaluator is satisfied with the Bidder's response but has minor reservations. Response is of limited relevance to EDC's requirements as described in the Scope and the Bidder demonstrates very little understanding and detail on the approach to addressing the points identified in the assessment area.
			The evaluator has major reservations with the Bidder's response.

- 0 No response / Non-compliant Failure to provide a response OR The response is of no relevance to EDC's requirements as described in the Scope and the Bidder is unable to demonstrate any understanding or detail on the approach to addressing the points identified in the assessment area.

The evaluator is dissatisfied with the Bidder's response.

9 IDENTIFYING THE PREFERRED BIDDER (Indicative Worked Example)

Assessment Area	Maximum Weighted Score %	Bidder 1 Weighted Score %	Bidder 2 Weighted Score %	Bidder 3 Weighted Score %
Q1 - Quality Assessment Area 1	20.00%	18.00%	20.00%	15.00%
Q2 - Quality Assessment Area 2	15.00%	10.00%	15.00%	10.00%
Q3 - Quality Assessment Area 3	10.00%	10.00%	10.00%	5.00%
Q4 - Quality Assessment Area 4	5.00%	5.00%	5.00%	5.00%
Q5 - Quality Assessment Area 5	10.00%	5.00%	10.00%	5.00%
Price	40.00%	40.00%	34.66%	30.58%
TOTAL %	100.00%	88.00%	94.66%	70.58%

10 PROCEDURE FOR IDENTIFICATION OF THE PREFERRED BIDDER IN THE EVENT OF TIED BIDS

- Each Bidder's combined score for 'Price' and 'Quality' will be added together to determine each Bidder's total overall score. The total will be expressed to two decimal places. The Preferred Bidder will be the one that achieves the highest total overall score. The remaining Bidders will be ranked accordingly.
- In the event that two or more Bidders achieve an identical total overall score (**Tied Bids**), the Bidder with the highest total 'Quality' score will become the Preferred Bidder.

3. If this fails to split the Tied Bids (because the total 'Quality' scores are identical for two or more of the Tied Bids), then the Preferred Bidder will be the Bidder who received the highest score on Quality Assessment Area One (of the Tied Bids).
4. If this also fails to split the Tied Bids, then the process set out in paragraph 3 shall be repeated for each of the remaining assessment areas in turn in the following order, until such time as there is a differentiation between the Tied Bids:

Order	Assessment Area
1	Q1 - Quality Assessment Area One
2	Q2 - Quality Assessment Area Two
3	Q3 - Quality Assessment Area Three

5. For the avoidance of doubt, the scores for Quality Assessment Area Two will only be considered if a differentiation cannot be made between the Tied Bids when the process set out in paragraph 3 is applied to Quality Assessment Area One (and so on).

Definition:

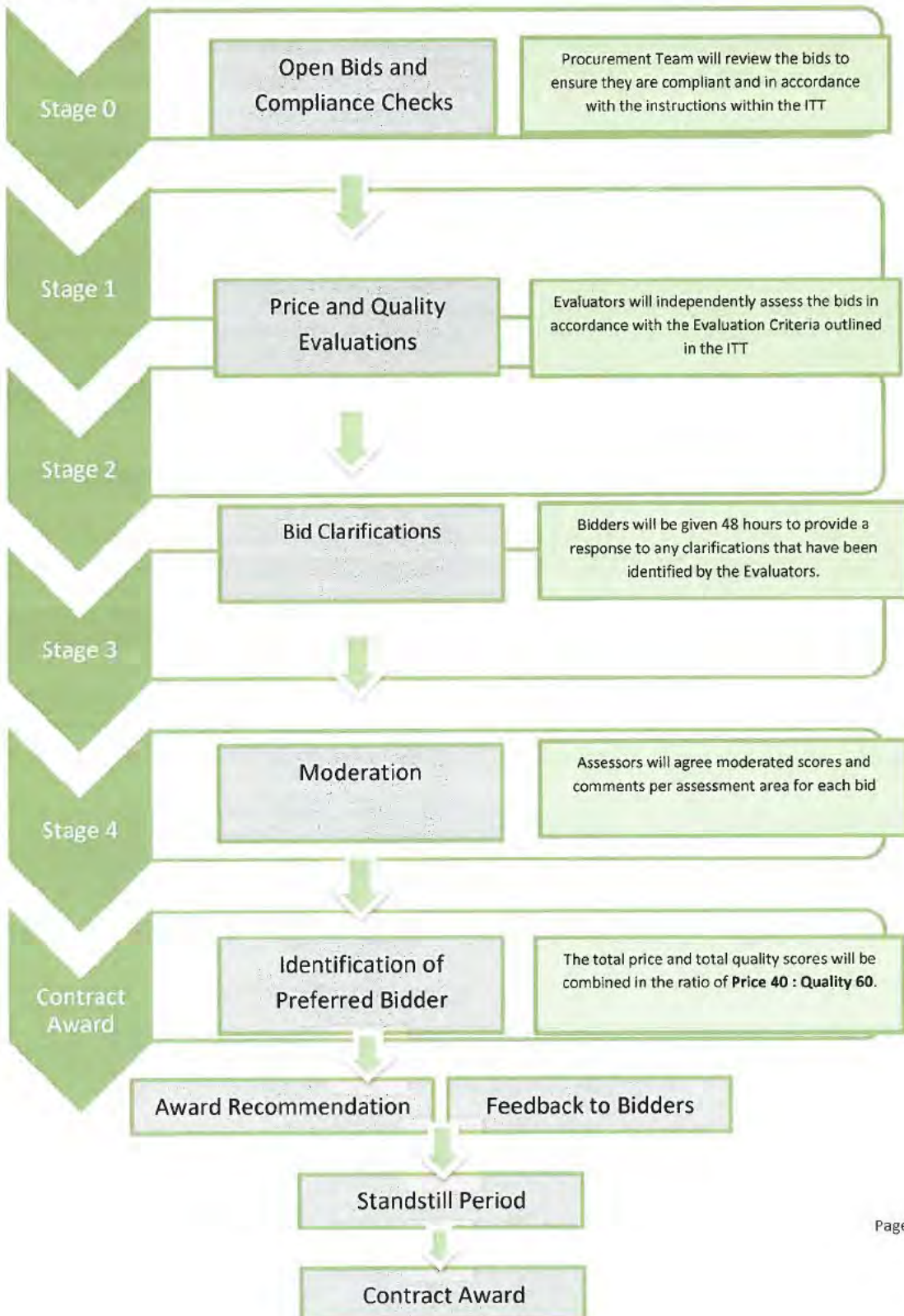
"**Tied Bids**" has the meaning given to it in paragraph 2 above.

11 QUALITY SUBMISSION REQUIREMENT

Please refer to [Annex B: Quality Questions & Response](#) document for more information.

12 EVALUATION PROCESS FLOWCHART

The flow chart outlines the indicative evaluation process and the determination of the preferred bidder:



3.6 Contractor's Tender Response



T24-0722 Springhead Bridge

Tender Submission

Prepared by: Erith Contractors Ltd
Date: 18/10/2024



Contents

Cover Letter

Annex B: Quality Question Responses

Annex D: Pricing Schedule

Programme

Traffic Management Drawings

Annex F: Form of Tender

Annex G: Certificate of Non-Collusion Template

Annex H: Standard Selection Questionnaire

Annex J: Social Value

Cover Letter



18th October 2024

EDC Springhead Bridge Remedial Works Tender
Erith reference: T24-0722

Dear Sir,

Further to the invitation to tender for the above-mentioned works, for which we thank you, we now have pleasure enclosing our tender submission, attached to this letter, duly completed for your perusal at the sum of [REDACTED]

Our submission should be read in conjunction with the following qualifications:

1. Our pricing is valid for one hundred and twenty days from the date of this letter.
2. This tender is subject to the successful conclusion of discussions about the terms and conditions of the proposed JCT Minor Works Building Contract 2024 with Amendments.
3. Erith have assumed that works can be carried out under a lane closure operation and a TTRO / road closure is not required, at the time of tender, Erith have received confirmation that this junction does not fall under the 'Kent Lane Rental Closure Scheme', should this change Erith have not allowed for these costs associated.
4. Erith have included for a provisional sum should further depth reinstatement be required to the road by the KCC representative who we assume will be present during operations, Erith cannot be held liable for failing apparatus or sub-surfaces beyond this.
5. Erith have included for a provisional sum saving should the remedial reinstatement area reduce to the original assumption, saving visits required from a high friction surfacing specialist.
6. Erith have assumed that the reinstatement works to the failed gully can be locally reinstated and full width road reinstatement is not required.
7. Erith have assumed a period of six weeks to agree plans with KCC, although this is a period subject to improvement/delay subject to road space bookings.
8. Erith has assumed works will be undertaken in one continuous visit with all works contracted to Erith; not let as a split package.
9. Should significant quantities be omitted, and or reduced from the scope Erith reserve the right to review the rates applicable within our pricing document.

We hope you deem the enclosed acceptable however, should you have any queries or require any further information, please do not hesitate to contact myself.

Yours faithfully,

For and on behalf of

ERITH CONTRACTORS LIMITED



Earthworks and Infrastructure Contract Surveyor

Annex B: Quality Question Responses



Q1 - KCC Experience

Case Study

Ebbsfleet 278 Works for Ebbsfleet Garden City

Location	Ebbsfleet, Kent
Sector	Residential
Client	Various
Scope	Infrastructure / Earthworks

To aid the connectivity of the site and to prevent congestion on the local road network we have provided a number of local road improvement schemes across Ebbsfleet Garden City. These improvements enable improved accessibility around the area for existing residents, and the Fastrack buses connecting Bluewater Shopping Centre and Ebbsfleet International.

Southfleet Road Roundabout is a new four arm roundabout constructed off line and consisted of:

- 500m two lane carriageway
- Gas main diversion
- HV and LV diversion
- Direction drill new water main
- Stormwater attenuation basins

Southfleet Road widening consisted of:

- Three entrances to Castle Hill and Ebbsfleet Green
- Two controlled pedestrian crossings
- One uncontrolled pedestrian crossing
- 600m footpath improvement
- Relocated bus stop
- Pedestrian connectivity to Ebbsfleet International

Hedge Place Roundabout improves and increases the capacity of an existing roundabout and consisted of:

- New arm providing entrance to Alkerden
- Increased size of existing arms
- Two controlled pedestrian crossings
- Gas and watermain diversion
- Gabion retaining walls

All of the many phases of these works involved extensive precontract liaison between us and KCC to ensure the necessary traffic plans satisfied all parties requirements and did not impact on other schemes in the area. Works in this area are subject to an "embargo" by Bluewater Shopping Centre meaning we have to plan our works to not have any road restrictions in December and January.

During the construction phases constant liaison and communication was maintained between us, KCC, other contractors and stakeholders.

 **Erith**



The B255 is a busy thoroughfare, leading to the Bluewater Shopping Centre to the West, the A 206 to the North and A2 to the South. Any works here impacted on the travelling public so was sensitive to all that use it, plus Local and County Councils due to its importance to the stakeholders. The closures were done in collaboration with Kent County Council highways, local stakeholders, residents, and Blue Water Shopping Centre by our NWSWA qualified Supervisor.

Erith undertook early precontract liaisons between Erith's NRSWA Supervisor, the Erith Traffic Management supplier, Local Authorities and Kent CC highways department to ensure all of the necessary traffic management plans and diversions satisfied all parties requirements and did not impact on other schemes in the area. Although the standard is 12 weeks, we allowed 16 weeks lead-in for our TTRO and submitted our Road Space bookings in a timely manner. We liaised at all stages with KCC highways to keep them informed and offered to collaboratively share our TM if it was of benefit to third parties. Early precontract liaisons were carried out between Erith's NRSWA Supervisor, our Traffic Management supplier, Local Authorities and Kent CC highways department to ensure all the necessary traffic management plans and diversions satisfied all parties requirements and did not impact on other schemes in the area. This liaison continued through the life of the project, including third parties (such as Balfour Beatty on A2 Bean and Ebbsfleet junction improvement) and allowed us offered to collaboratively share our TM if it was of benefit to third parties.

For the works Erith self-delivered most of the civil works. But there were works where we needed to co-ordinate with third parties. There were a number of diversions required to complete the works. Erith pro-actively co-ordinated with SGN, Thames Water, UKPN and BT on their diversions. As we had a presence in the area, we gave them areas for their materials and allowed them to use our Canteen and Toilet facilities, as well as assistance in accessing their areas and ensuring their diversion works didn't impact on our Future works. Our specialist suppliers consisted of our Traffic Management team, who were managed by our NRSWA supervisor for all lane closures and full closures and carried out maintenance inspections with them of the TM. Our surfacing specialist carried out all our planing, surfacing, and White Lining works. We regularly had prestart meetings before each of their phases and ensured an inspection before each visit to ensure scope was understood and any innovations, pre works or collaborative working could be undertaken. The works were supervised both by Erith and S/C supervisor to ensure the completed product adhered to Inspection and Test plans. Finally our directional drilling specialist undertook the road crossing after extensive meetings with Erith, The Erith Temporary Works Team, and client to ensure the location was suitable, look at innovation in location, and also discuss risks such as road movement. The works were supervised by Erith and S/C supervisor, with Erith constructing drive and reception pits and monitoring the carriageway for movement. To minimise impact on the travelling public, we undertook directional drilling to install a new watermain crossing, saving time on closures for a full road crossing.

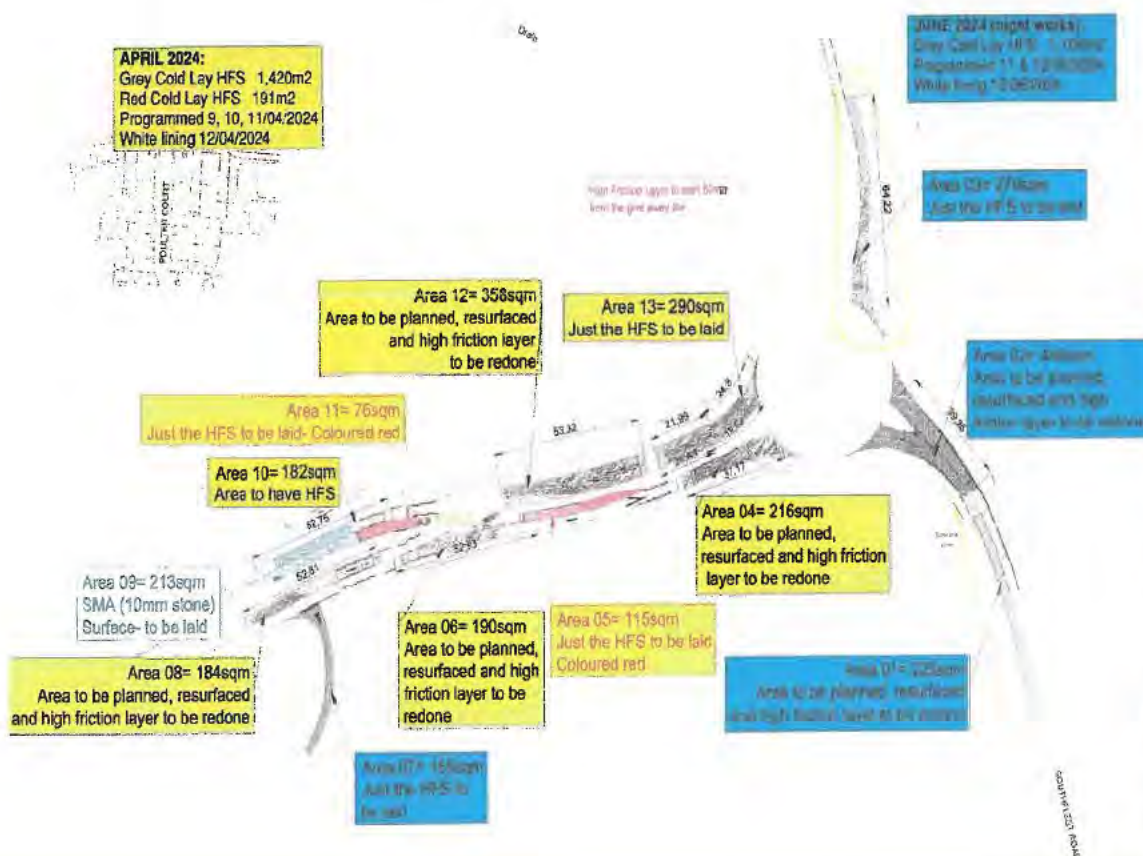


Erith regularly met and discussed their works with all effected stakeholders, businesses and third parties. Our Neighbourhood Liaison Officer constantly ensured that all those affected were informed of the works ahead of time, and any issues were dealt with as efficiently as possible. Most information was by email and letter, with a number of letters being delivered by hand where contact details were not available. Where we had night closures these were communicated in plenty of time and, where it impacted on the third party, we always looked to see what we could do to mitigate this, sometime actually during the closure. During the vegetation and ecological clearance, close cones were used to allow works to the side verges and lead-ins. During these works we also working under an Environmental watching brief to ensure the clearance works didn't cause any major ecological impact. Early installation of drainage was also done, where possible, off line to the carriageway edge, with manholes positioned with stubs to allow early connection once Traffic management was in place.

Q5. Erith undertook early precontract liaisons between Erith's NRSWA Supervisor, the Erith Traffic Management supplier, Local Authorities and Kent CC highways department to ensure all of the necessary traffic management plans and diversions satisfied all parties requirements and did not impact on other schemes in the area. All suggestions were incorporated into our final TM schemes and drawings changed to suit. We programmed areas where we could do a lot of works off line to minimise the duration of any traffic management on the carriageway. To also reduce the TM duration, we directionally drilled in a new water line, rather than an excavated road crossing. Where the TM had to be deployed, we looked for lane closures during the day to undertake the works, and only looked for full road closures at night for surfacing and some works, such as connections to roundabouts and kerb line tie-ins, but maximised these closures to achieve as much as possible during the closure. A Christmas embargo was a constraint that Erith was required to ensure that all works on the carriageway ceased, and the Traffic management removed from the carriageway. This was programmed from the start and incorporated in the works packages. To ensure that the carriageway was not a risk to traffic, areas not complete were finished with a hard stone binder to PSV 65, and temporary white lines installed. The cones were pushed into the roundabout to close cone around the roundabout, so the carriageway was clear for the embargo.



At the far end of the quarry we was employed by KCC to carry out repair works. We was required to replace the high friction surface due to cracking causing penetration through to the surface course. We plained off surface course, taking high friction layer with it, cutting out the cord loop for the traffic lights, to enable us to plain out. We than resurfaced, re-looped the traffic lights and replaced high friction surface course with new. A 40mm thick layer of 10mm aggregate was used, with the high friction surface course due to the location being on the B259 roundabout leading into Castle Hill Drive. Due to the nature and location of these works they was phased over 6 nights in June 2024. The closure and diversion notices was communicated to local stakeholders via signage as requested by KCC 2 weeks in advance. Once surfacing works was complete, new road marking and white lining was finished. All works was successfully handed back over to client.



1

Case Study

Sittingbourne S278 Works

Location	Sittingbourne, Kent
Sector	Commercial
Client	U + I PLC
Scope	Infrastructure

The first phase included the regeneration of the car park adjacent to the main line train station and enabling works to West Street, Station Street and St Michael's Road.

The second phase of the project was carried out in front of the station entrance. The works included the removal of the main roundabout and the replacement with a traffic light junction. The phase 2 works were split into 3 stages to maintain access to the railway station for pedestrians, taxis and replacement bus services.

In the third phase, the works were completed on St Michael's Street (West), Dover Street, Fountain Street and Eurolink Way/ Milton Road. All traffic diversions were in place once again to minimise driver confusion.

The scope of works included:

- Set up site compound and offices
- Set up traffic management and pedestrian routes
- Replacement of pedestrian crossings
- Removal of existing retaining walls and rebuilding as per new design
- Car park resurfacing works
- Removal and repositioning of existing services
- Removal of existing kerbs
- Removal of roundabout in front of the station entrance and replacement with traffic light junctions
- Removal of trees and shrubs
- Adaptation to underground foul drainage
- Installation of new services
- Installation of new light columns
- Adaptations to the existing road layout around the town centre



This Regeneration project, Spirit of Sittingbourne development, was carried out in a busy town centre where any disruption had a wider impact on traffic, especially A2. By breaking each of the 6 sites down into individual phases, we were able to reduce the impact on the travelling public by implementing enough traffic management that was required to do that phase and move to the next. Also the combining of phases 1, 2 and 3 into a single stage allowed works to be continuously and lineally. Where traffic Lights were required, these were manually controlled by the Traffic Management team, both at peak hours and at times when traffic began to build up. Access for pedestrians was a priority concern, and the use of Chapter 8 barriers, with cones allowed a flexible approach to major stakeholders, such as businesses, residents, and Sittingbourne train station. Access to properties were maintained, where required by the use of trench and high friction road plates. Here 9 phases were programmed to allow for the maintaining of the 2 way traffic with narrow lanes. By phasing the works, this meant that each area of TM and disruption was for the shortest duration and all North side works completed first in 4 of the 9 phases, and south side works completed in 3 of the 9 phases also allowed the impact to only effect one direction of traffic.

Effective stakeholder management, including maintaining and managing access during construction for residents, and businesses. As the sites were broken down into Phases, this allowed works and closures to be easily communicated to the local stakeholders ahead of the works by our dedicated Neighbourhood Liaison Officer and site management. Signage was placed at strategic locations, and weekly liaison, monthly progress meetings dealt with upcoming works that impacted stakeholders, and any complaints/issues. A 24 hour contact number was posted, so that any issues could be resolved. Where we impacted on business operating outside of the 9-5 window, TM was reduced where possible, and the areas made safe for traffic and pedestrians. We co-ordinated deliveries with stakeholders to ensure minimal impact and we assisted with the deliveries by escorting them within our traffic management. We considered that we received no complaints here a success of our strategy. Due to the existing Taxi Rank being within the works zone, liaison with the Highways Authority, Client and Railway Station allowed us to establish a temporary taxi rank to the Overflow car park. A temporary bus stop also had to be established in the new car park, in co-ordination with the local bus company.

Due to the works being split into 6 sites, each site was broken down into phases to reduce impact and size of TM. This gave flexibility to the duration of the closures, and thus reduced the impact on the local community. Noisy and dusty operations were carried out most during the day and controlled at source. Cutting operations were wet down before and during the operation. The use of road saws over disk cutters reduced both noise and dust. The localised use of Heras fencing containing Class A Sound Absorption Barriers as a mobile solution on top of wetting down areas during cutting works. Planing works were the first activity undertaken and completed by 10 pm to ensure minimal impact to stakeholders from noise. Vehicles were required to power down when not in use. We minimised movements and reversing where possible, plus reducing the 'drop height' of materials.



The key risks identified for the works was the safety of the travelling public, safety of the workforce, utility strikes and material delivery. Also was maintaining access to businesses and properties and maintaining of through traffic. Through the programming of the works, and breaking down of each stage into phases allowed a greater control on site. The management team would carry out morning briefings with the work force on the works daily, and any feedback or innovations carried back to the Project management team. The programme was able to evolve to encompass all risks and changes, before they were encountered, and minimise impact of those that were encountered. The permitting system for excavations included for desk study, trial holes and inspections before works begun. Although issued, the utility companies were contacted independently by Erith for updated copies. By combining where possible the use of the same excavation for new utilities and existing utility diversions reduced the risk of cable strike.

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The site accommodation utilised both solar and ethanol powered units, Erith was an early user of EVO for plant instead of diesel, in a trial that was utilised by the company as a whole going forward. Erith utilised recycled materials to the correct specification rather than relying on quarried materials. Material from excavation was reused on site for works, such as reuse of Tarmac planings for temporary footpaths and accessways. We used just-in-time techniques for material deliveries. This cut down on waste and damage from stored materials, also maximised space. By manually controlling temporary traffic lights, reduce emissions from idling vehicles.

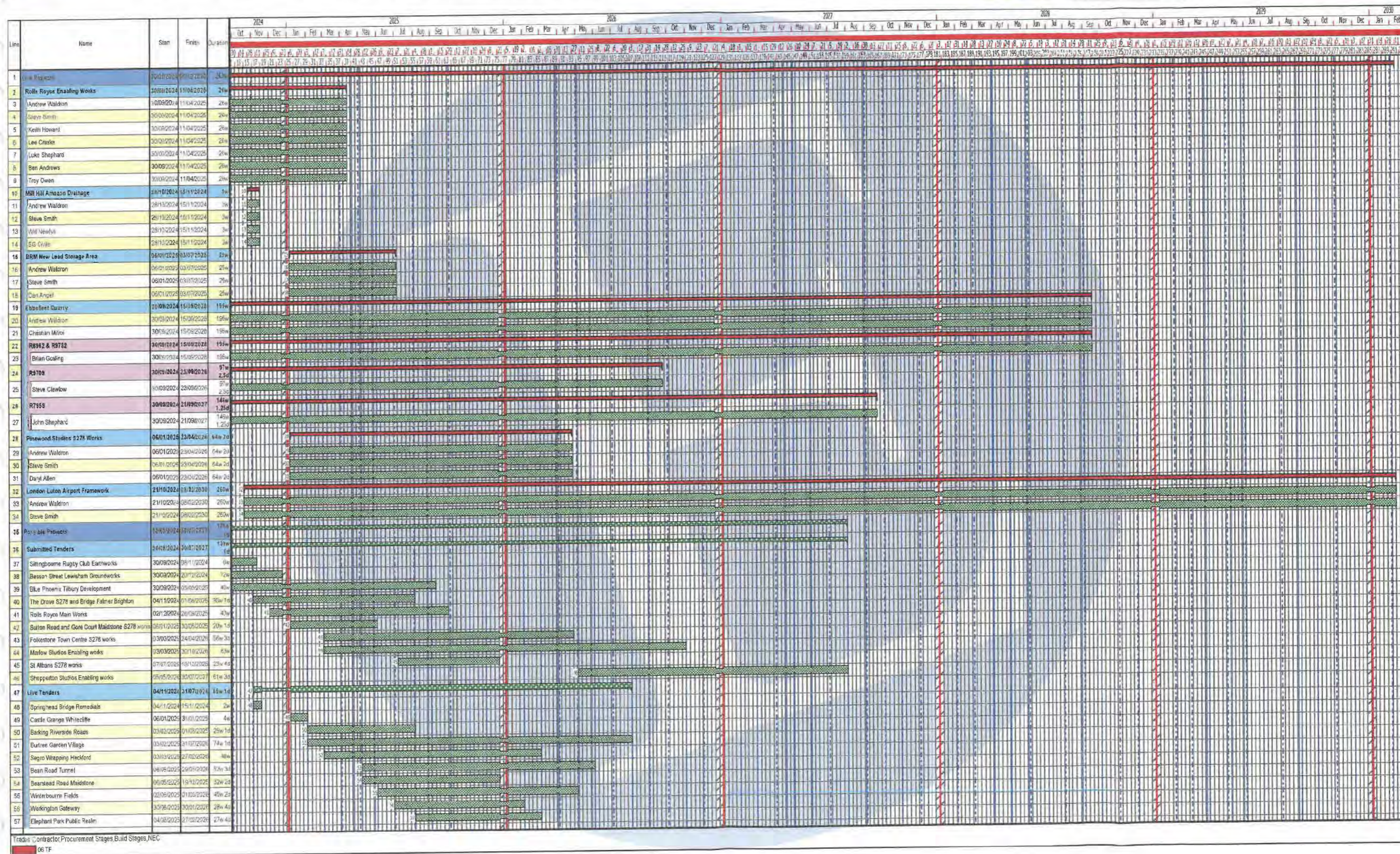
An innovation was the early installation of sleeves for lighting columns and some ducting during closures, allowing for duct installation as part of the overall utility installation, without the need for additional setting out and kerb lines were able to be set per minimum distance of the lighting column from kerb face. A further innovation was the offering of the excavations to 3rd parties for use of their works. Although not undertaken, the routes for the Virgin ducts was rationalised to allow part of it to go through existing trenches rather than have its own trench at a later date. All the diversion routes were issued ahead of time and advance warning signs in place 3 weeks in advance.

Because of the challenge to complete the phases and move the TM early on, our NRSWA Supervisor monitored the works to ensure the TM duration was minimised and moved efficiently. Also this allowed him to inspect the works and reduce reworks, another challenge we encountered early on. The latter sites we found this worked well. All the diversion routes were issued ahead of time and advance warning signs in place 3 weeks in advance. Where email addresses were not available for stakeholders, the advance letters were delivered in person allowing the team first hand interaction with all of the impacted stakeholders.

Our first challenge was the regeneration and changes to the overflow car park for Sittingbourne Railway Station. This required the maintenance of pedestrian access and access of vehicle to the main car park and access to the train station. Footpaths were maintained by the use of chapter 8 barriers allowing movement of pedestrians as works progressed, and trench covers where necessary.



Q3 - Projected Workload



Q4 - Site Resources

Operations Director

Profile

■■■■■ has gained extensive construction and management experience across a range of construction and demolition projects since studying for his Honours degree.

■■■■■ experience includes gas pipeline/station construction, groundworks and remediation works, concrete works, large earth movement and demolition of many different types of structures as project manager and contracts manager as well as involvement in tendering and pricing. In his role as operations manager, Andrew is responsible for the overall delivery of the project including health and safety, budget and programme.

Previous Experience

Didcot NE Phase 2 and 3

Three stages that include groundwater treatment and disposal, demolition, crushing, screening and testing of subsequent arisings, earthworks, land re-profiling, civil works and the design and construction of a 960m watercourse. Clearance, cut and fill of a pproximately 55,000m² of topsoil, trees and associated vegetation. Compaction, chemical and geotechnical testing of 120,500m³ of material also took place. The profiled excavation resulted in over 50,000m³ of volume of reworked natural clay.

Client: Clowes Developments (UK) Ltd

Value: £14,800,000

Alkerden Academy, Ebbsfleet

Construction of the drainage, foundations, and ground floor slab of the new secondary school in Ebbsfleet, Kent. The works involved extensive concrete and drainage works working under a very stringent QA regime and managing sub-contract trades.

Client: Galliford Try

Value: £9,000,000

Castle Hill/Western Cross Earthworks and Infrastructure

Bulk Earthworks and Infrastructure of the Eastern Valley Quarry to aid of the construction of 6500 residential units. Works include adoptable S278 works, S38 roads, new roundabouts and junctions onto the existing highways, foundations, landscaping and drainage, prior to the main infrastructure works is the four year programme in place to cut and fill in excess of 6,800,000m³ of site won material within the site to form the platform.

Client: Landsec/Camland/Homes England

Value: £80,000,000

Fulham Temporary Depot

Works included the construction of a new temporary depot under an NEC Option A Design and Build Contract. The scope of works comprised of drainage installation, deep excavation, M&E design and installation, RE and pre-cast slab installation, design; supply and installation of pre-fabricated modular building units and surface treatment.

Client: National Grid Property Holdings

Value: £1,406,614

Key Skills



Site Manager

Profile

██████ has over 25 years' experience within the industry, and is currently employed by Erith as a Site Manager. He has carried out works on a variety of projects, ranging from large scale Remediation schemes to Civils and Infrastructure works. Steve's approach to coordinating site activities revolve around safe practices and quality end results.

██████ main responsibilities as a Site Manager are to oversee site operations on a day-to-day basis ensuring operational delivery is conducted in an exemplary fashion adhering to health, safety and environmental standards.

Previous Experience

Castle Hill/Western Cross Earthworks and Infrastructure

Bulk Earthworks and Infrastructure of the Eastern Valley Quarry to aid of the construction of 6500 residential units. Works include adoptable S278 works, S38 roads, new roundabouts and junctions onto the existing highways, foundations, landscaping and drainage, prior to the main infrastructure works is the four year programme in place to cut and fill in excess of 6,800,000m3 of site won material within the site to form the platform.

Client: Landsec/Camland/Homes England

Value: £80,000,000

Elwick Place

This project involved; basement excavation, cut and fill and installation of piling mat, lime stabilisation of car park area, sewer diversion and removal of existing pipework, attenuation and SUD's installation, lift cores and RC Frame, car park construction, hard and soft landing, service connections.

Client: Lendlease

Value: £6,500,000

Southend Business Park- On-Site Roads/Off-Site Roundabout

The scope of works included the construction of a new roundabout, resurfacing a section of the carriageway which included street lighting, traffic signs, and hard and soft landscaping.

Client: Henry Boot Developments

Value: £2,500,000

Sittingbourne S278 Works

This project involved; regeneration of the car park, removal of the main roundabout, removal of existing kerbs, adaptation to underground foul services, installation of new services and light columns.

Client: U+I PLC

Value: £6,100,000



Health and Safety
Management



Leadership



Communication



Problem Solver

Site Supervisor

Profile

■■■■ is an experienced Supervisor on a range of projects, particularly on those which involve remediation schemes. His main duties include overseeing Site Operatives, ensuring that daily work briefings are efficiently communicated; the co-ordination of onsite plant and the management of day to day site activities are carried out in seamless transition.

Previous Experience

Castle Hill/Western Cross Earthworks and Infrastructure

Bulk Earthworks and Infrastructure of the Eastern Valley Quarry to aid of the construction of 6500 residential units. Works include adoptable S278 works, S38 roads, new roundabouts and junctions onto the existing highways, foundations, landscaping and drainage, prior to the main infrastructure works is the four year programme in place to cut and fill in excess of 6,800,000m³ of site won material within the site to form the platform.

Client: Landsec/Camland/Homes England

Value: £80,000,000

Sunset Waltham Cross

Site preparation, inclusive of vegetation clearance and removal of 100,000m³ topsoil, which has been retained on site for final landscaping. Bulk excavation of 86,000m³ of Enfield Silt material as on engineered fill.

Client: Revantage

Value: £18,000,000

Alkerden Academy, Ebbsfleet

Construction of the drainage, foundations, and ground floor slab of the new secondary school in Ebbsfleet, Kent. The works involved extensive concrete and drainage works working under a very stringent QA regime and managing subcontract trades.

Client: Galliford Try

Value: £9,000,000

Didcot NE Phase 2 and 3

Three stages that include groundwater treatment and disposal, demolition, crushing, screening and testing of subsequent arisings, earthworks, land reprofiling, civil works and the design and construction of a 960m watercourse. Clearance, cut and fill of approximately 55,000m³ of topsoil, trees and associated vegetation. Compaction, chemical and geotechnical testing of 120,500m³ of material also took place. The profiled excavation resulted in over 50,000m³ of volume of reworked natural clay.

Client: Clowes Developments (UK) Ltd

Value: £14,800,000

Project Role

Supervises all aspects on the project

Key Skills



Communication



Leadership



Problem Solving

Contract Surveyor



Profile

■■■■ first contacted the business in 2016 looking for a work experience placement. This period gave him an insight to the business as a whole and Alfie was offered a part time role as a Management Trainee/Assistant Site Manager to gain understanding of the day to day running of a construction project.

In 2017, ■■■■ was taken on in a full-time position as a Management Trainee/Assistant Site Manager spending one day a week through an Erith sponsored university scheme in Construction Management. During this time, he worked on various sites gaining knowledge and experience of the construction cycle and progressed to Contract Surveyor in April 2019.

Previous Experience

Fulham Temporary Depot

Works included the construction of a new temporary depot under an NEC Option A Design and Build Contract. The scope of works comprised of drainage installation, deep excavation, M&E design and installation, RE and pre-cast slab installation, design; supply and installation of pre-fabricated modular building units and surface treatment.

Client: National Grid Property Holdings

Value: £1,406,614

Southend Airport Business Park

\$278 and \$38 infrastructure works for new business park.

Client: Henry Boot Developments

Contract Sum: £2,500,000

Didcot NE

Earthworks and primary infrastructure for new L&G Housing development.

Client: L&G

Contract Sum: £6,000,000

Arthur Street

Soft strip, asbestos removal and high-reach methodology structural demolition of three tower blocks and adjacent buildings. The works involved close liaison with Network Rail due to proximity of railway bordering the site and paved the way for 320 new homes as part of the continuing regeneration of Erith.

Client: Wates Residential / Orbit Housing

Contract Sum: £1,500,000

Ebbsfleet Sewer Outfall

This encompassed 4.0km of 2 number 315mm and 2 number 200mm hdpe outfall mains under a design and build contract. Also involved; 120m direction drilled section under main A road, two breaches of the Thames defence under a FRAP protocol and demolition and reconstruction of a pedestrian footbridge.

Client: IWNL

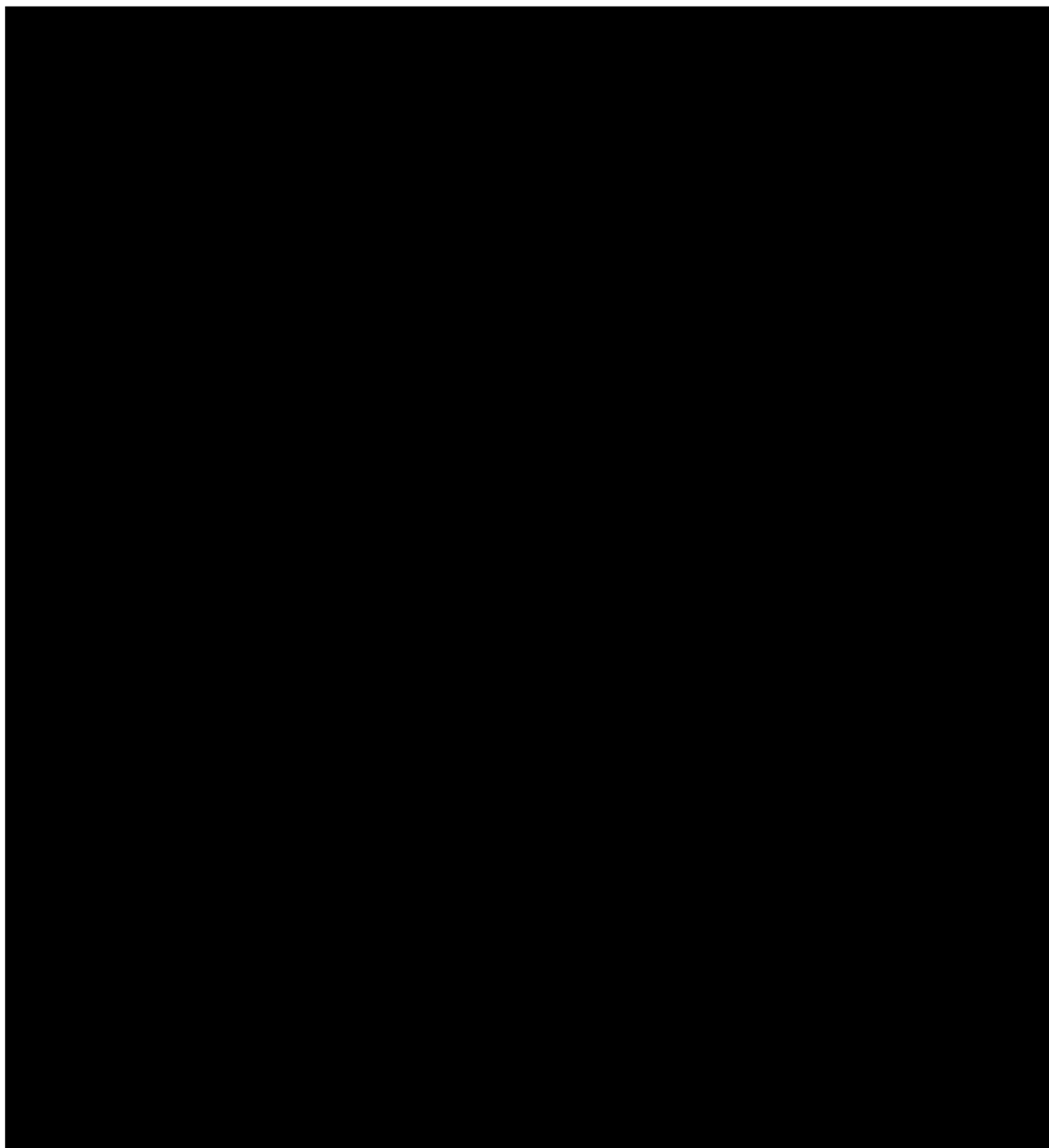
Value: £2,700,000

Key Skills



Annex D: Pricing Schedule





Programme

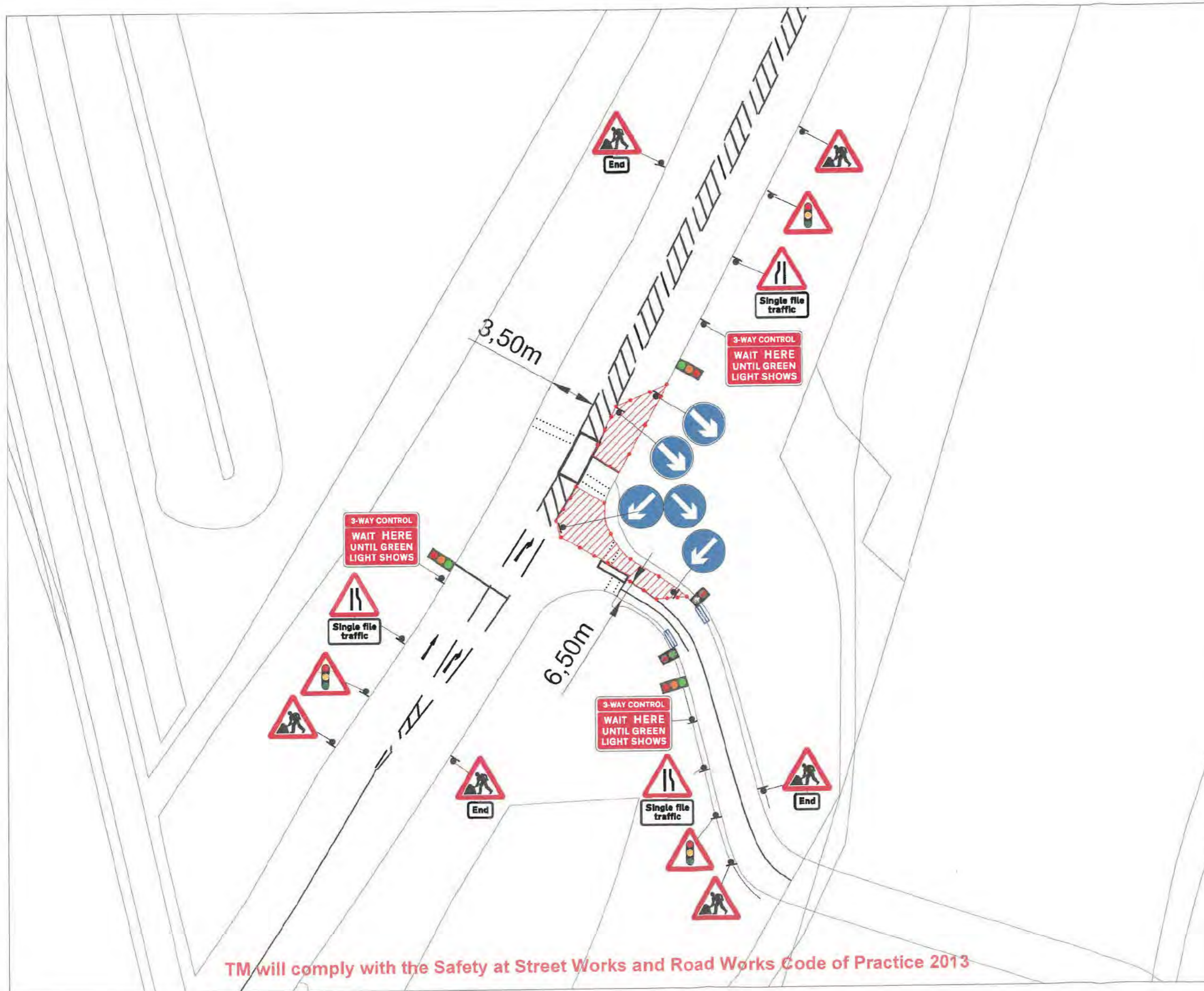


Trades Contractor, Procurement Stages



Traffic Management Slides





TM will comply with the Safety at Street Works and Road Works Code of Practice 2013

KEY

	WORKS AREA
	CONE
	SIGN
	TEMPORARY TRAFFIC LIGHTS

Qty: 1 Ref: 517 Road narrows on one side only ahead - left	
Qty: 2 Ref: 517 Road narrows on one side only ahead - right	
Qty: 2 Ref: 518 Traffic lights ahead	
Qty: 1 Ref: 543 Traffic lights ahead	
Qty: 2 Ref: 510 Keep right	
Qty: 1 Ref: 510 Keep left	
Qty: 1 Ref: 510-510 Keep left/right	
Qty: 1 Ref: 545 End zone	
Qty: 2 Ref: 1001 Road works ahead	
Qty: 3 Ref: 1011-1 3-Way Control - Wait here until green light shows	

CLIENT



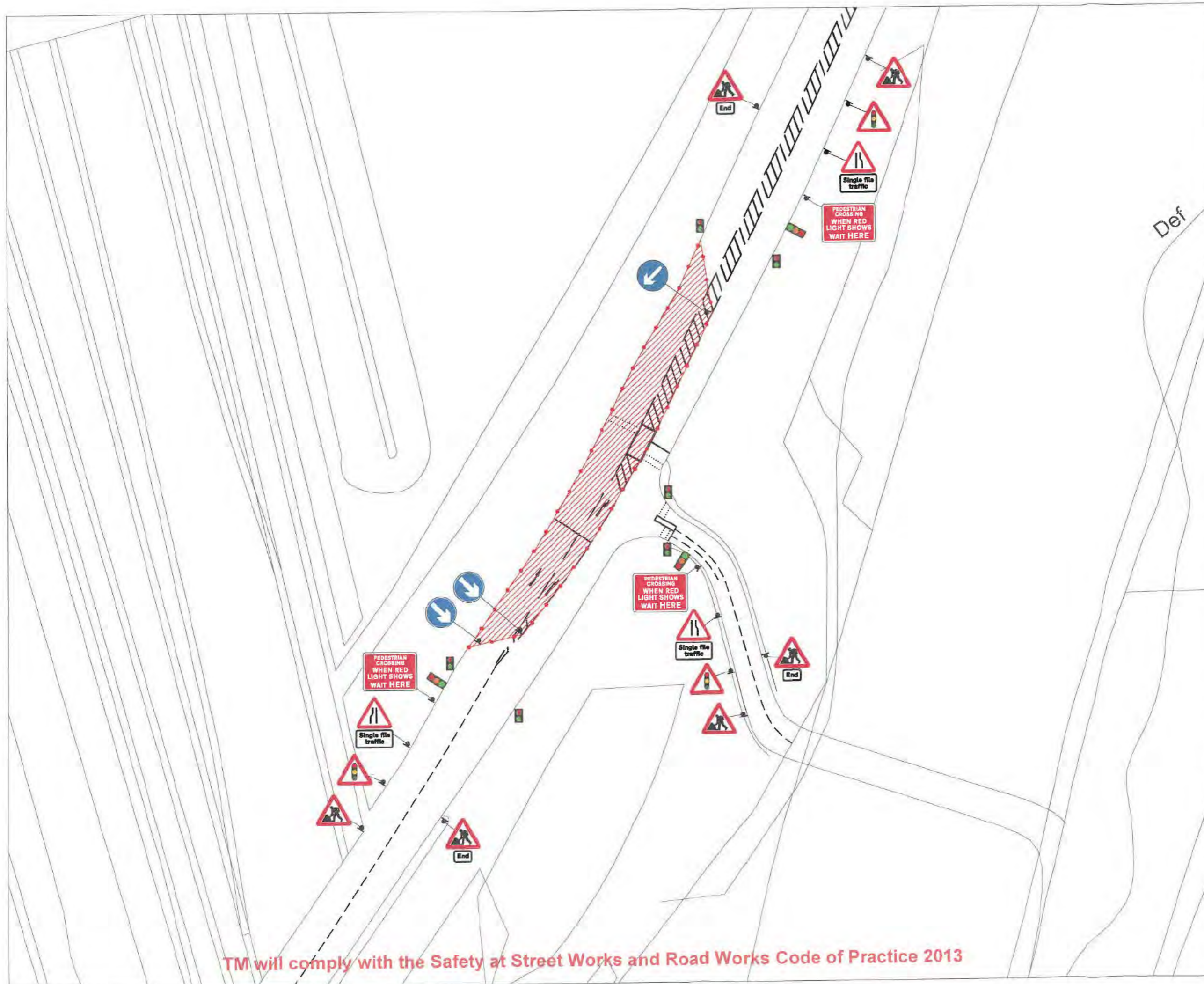
PROJECT

Springhead Bridge,
 Gravesend
 DA11 8HN
 51.438332, 0.323464

DRAWING

3 WAY LIGHTS

DATE	CAD
09/10/2024	DWG
DESIGNER	APPROVED
TS	HV
DRAWING NUMBER	
UBQ6128.TS.02	



TM will comply with the Safety at Street Works and Road Works Code of Practice 2013

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AMBERTM

TRAFFIC MANAGEMENT SYSTEMS

KEY

WORKS AREA

CONE

SIGN

PEDESTRIAN HEAD

TEMPORARY TRAFFIC LIGHTS

Qty: 2 Ref: 517 Road narrowed on one side only ahead - right	
Qty: 1 Ref: 517 Road narrowed on one side only ahead - left	
Qty: 3 Ref: 518 Single file traffic	
Qty: 5 Ref: 543 Traffic signals ahead	
Qty: 2 Ref: 510 Ahead right	
Qty: 1 Ref: 510 Ahead left	
Qty: 5 Ref: 540 End point	
Qty: 6 Ref: 7001 Road works ahead	
Qty: 3 Ref: 7012 Pedestrian crossing - advanced light control wait here	

CLIENT

PROJECT

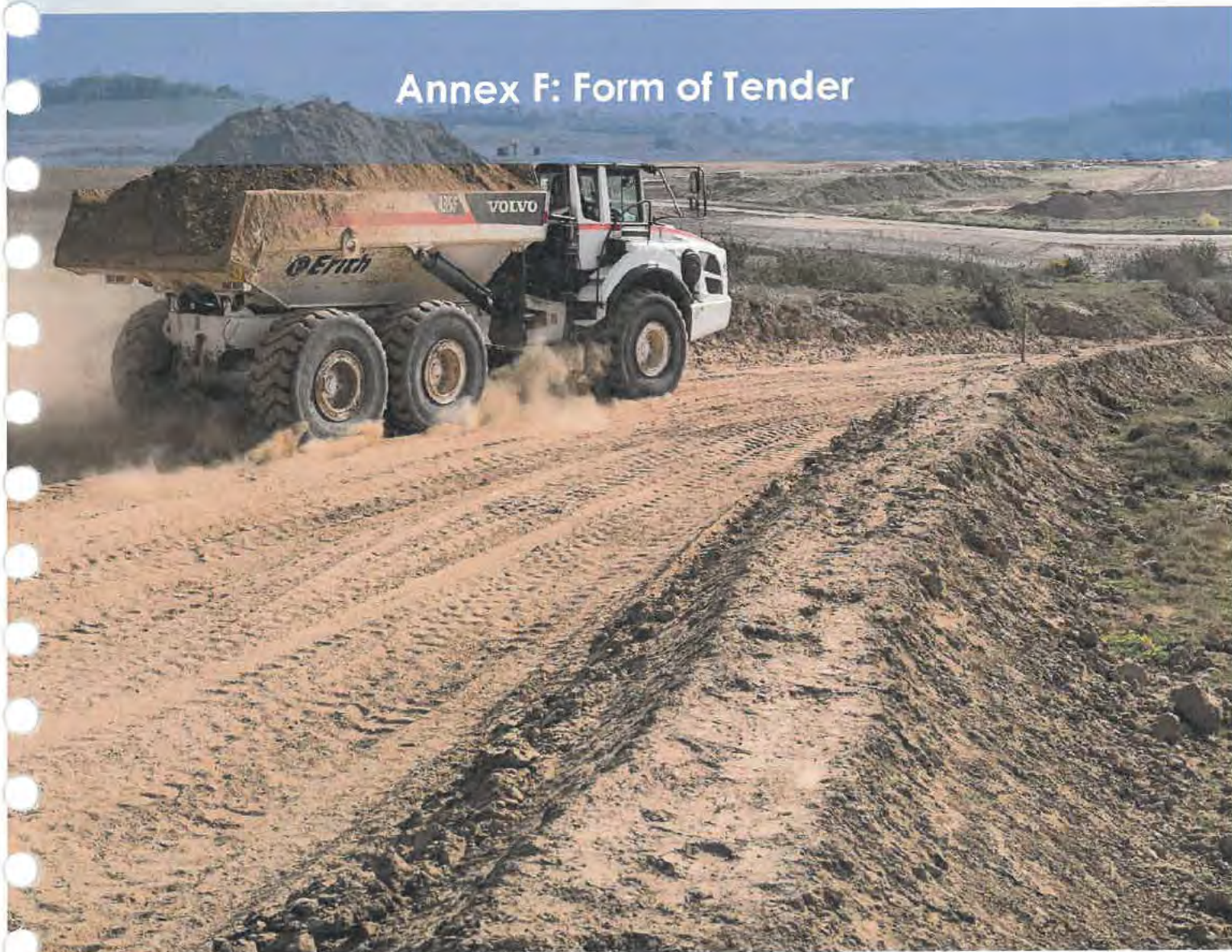
Springhead Bridge,
Gravesend
DA11 8HN
51.438332, 0.323464

DRAWING

3 WAY LIGHTS


DATE	CAD
09/10/2024	DWG
DESIGNER	APPROVED
TS	HV
DRAWING NUMBER	
UBQ6128.TS.03	

Annex F: Form of Tender



Annex F: Form of Tender
Procurement Name: Springhead Bridge - Remedial Works
Procurement Ref: EDC_5064

1. I/we have read the invitation documentation (including all associated annexes) and, subject to and upon the terms and conditions contained in the said documents, I/we offer to deliver the contract, at the rates or prices quoted by me/us in my/our tender.
2. I/we agree that any contract that may result from my/our tender shall be based upon the invitation documentation (including all relevant associated annexes) and my/our tender.
3. I/we agree that any other terms or conditions or any reservations that may be printed on any correspondence or document from me/us either in connection with this tender, or any contract resulting from this tender, shall not be applicable to the contract.
4. I/we have abided by the requirements set out in the invitation instructions.
5. The rates and prices quoted in the tender are valid for a period 90 days from the tender closing date and the tender shall remain binding and open for acceptance at any time prior to the expiration of that period.
6. The date of my/our tender is the date of this Form of Tender.
7. I/we confirm that all copy documentation submitted is identical in every respect to the original regardless of the format or media in which it is submitted and that any electronic copy has been virus checked and is clear at the time of despatch to EDC.
8. I/we understand that EDC is not bound to accept any tender it may receive and that EDC has no liability to me/us in respect of any expenses incurred by me/us in preparing and submitting my/our tender.

	Date: 18/10/2024
Signed: Name: 	Position in Company: Operations Director
Duly authorised to sign for and on behalf of: Erith Contractors Limited	
Registered Company Name: 1102060	
Phone Number: 0370 950 8800	
Company Registration Number (company, partnership, charity, etc if applicable): 1102060	

Annex G: Certificate of Non-Collusion Template



Procurement Name: Springhead Bridge - Remedial Works

Procurement Ref: EDC_5064

In recognition of the Ebbsfleet Development Corporation shall receive bona fide competitive Tenders from all those tendering.

We certify that:

1. The Tender submitted herewith is a bona fide Tender that is intended to be competitive.
2. I/We declare that I/we are not aware of any connection with EDC or its advisers which could give rise to an actual, potential or perceived conflict of interest within the meaning of this ITT, save to the extent already expressly disclosed by us to EDC, and undertake to notify EDC immediately should such a conflict arise
3. I / We have not fixed or adjusted the amount of the Tender under or in accordance with any agreement or arrangement with any other person.
4. I / We have not done, and we undertake that we will not do at any time before the contract signature date any of the following acts:
 - communicate to a person other than the EDC procurement team calling for this Tender, the amount or approximate amount of the proposed Tender (except where the disclosure, in confidence, of the approximate amount of the Tender was essential to obtain insurance premium quotations required for the preparation of the Tender);
 - enter into an agreement with any person that they shall refrain from Tendering or as to the amount of any Tender submitted; and
 - offer to pay or give any sum of money or valuable consideration directly or indirectly to any person for doing or having done or causing or having caused to have done in relation to any other Tender, any act of the sort described above.
5. I / We have not canvassed or solicited any member, officer, employee, agent or consultant of Ebbsfleet Development Corporation, in connection with the award of this Tender or any other Tender or proposed award of the Tender for the supply of services and that to the best of our knowledge and belief nor has any person employed by us or acting on our behalf, done any such act.
6. We further hereby undertake that we will not in the future canvass or solicit any employee of Ebbsfleet Development Corporation, in connection with this Tender or any other Tender or proposed Tender for the supply of Services and that no person employed by us or acting on our behalf will do any such act.

IN THIS CERTIFICATE

- 'Person' includes any person, anybody or association corporate or incorporate.
- 'Any agreement or arrangement' includes any transaction of the sort described above, formal or informal and whether legally binding or not.
- 'Any canvassing or soliciting' includes any direct or indirect canvassing or any attempts to obtain information by any means.

	Date: 18/10/2024
Signed:	
Name: 	Position in Company: Operations Director
Duly authorised to sign for and on behalf of: Erith Contractors Limited	

Annex H: Standard Selection Questionnaire



Standard Selection Questionnaire

Potential Supplier Information and Exclusion Grounds: Part 1 and Part 2.

The SSQ template includes a self-declaration, made by you (the potential supplier), that none of the grounds for exclusion apply¹. If any of the grounds for exclusion do apply, there is an opportunity to explain any measures you have taken to demonstrate your reliability notwithstanding the existence of a ground for exclusion (we call this self-cleaning).

We require all the organisations that form part of your bidding group/consortium and each subcontractor that you are relying on to meet the selection criteria to provide a completed part 1 and part 2. This means that where you are joining a group of organisations, including joint ventures and partnerships, each organisation in that group must complete one of these self-declarations. Subcontractors that you rely on to meet the selection criteria, must also complete a self-declaration (although subcontractors that are not relied upon do not need to complete the self-declaration).

When completed, this form is to be sent back to the contact point given in the procurement documents along with the selection information requested in the procurement documentation.

Supplier Selection Questions: Part 3

The procurement documents will provide instructions on the selection questions you need to respond to and how to submit those responses. If you are bidding on behalf of a group/consortium or you intend to use subcontractors, you should complete all of the selection questions on behalf of the group/consortium and/or any subcontractors.

If the relevant documentary evidence referred to in the Selection Questionnaire is not provided upon request and without delay we reserve the right to exclude you from the procurement process, including where an award decision has already been notified, and award to another supplier.

Consequences of misrepresentation

If you seriously misrepresent any factual information in filling in the Selection Questionnaire, and so induce an authority to enter into a contract, there may be significant consequences. You may be excluded from the procurement procedure, and from bidding for other contracts for three years. If a contract has been entered into you may be sued for damages and the contract may be rescinded. If fraud, or fraudulent intent, can be proved, you or your responsible officers may be prosecuted and convicted of the offence of fraud by false representation, and you must be excluded from further procurements for five years.

¹ See Annex D for full list of exclusions

Annex H - Standard Selection Questionnaire

Springhead Bridge – Remedial Works

EDC_5064



Notes for completion

1. The “authority” means the contracting authority, or anyone acting on behalf of the contracting authority, that is seeking to invite suitable candidates to participate in this procurement process.

2. “You” / “Your” refers to the potential supplier completing this standard Selection Questionnaire i.e. the legal entity responsible for the information provided. The term “potential supplier” is intended to cover any economic operator as defined by the Public Contracts Regulations 2015 (referred to as the “regulations”) and could be a registered company; the lead contact for a group of economic operators; charitable organisation; Voluntary Community and Social Enterprise (VCSE); Special Purpose Vehicle; or other form of entity.

3. Please ensure that all questions are completed in full, and in the format requested. If the question does not apply to you, please state ‘N/A’. Should you need to provide additional information in response to the questions, please submit a clearly identified annex.

4. The authority recognises that arrangements set out in section 1.2 of the standard Selection Questionnaire, in relation to a group of economic operators (for example, a consortium) and/or use of subcontractors, may be subject to change and will, therefore, not be finalised until a later date. The lead contact should notify the authority immediately of any change in the proposed arrangements and ensure a completed part 1 and part 2 is submitted for any new organisation relied on to meet the selection criteria. The authority will make a revised assessment of the submission based on the updated information.

5. For part 1 and part 2 every member of your bidding group/consortium, and any subcontractor that is being relied on to meet the selection criteria, must complete and submit the self-declaration.

6. For the mandatory exclusion grounds only (Q2.1(a)), you must complete the declaration for all relevant persons and entities. There are two categories of persons and entities:

- members of your administrative, management or supervisory board; secondly, entities and persons who have powers of representation, decision or control. You must decide, depending on the nature and structure of the entity or person who is bidding, which entities and persons this applies to in your particular circumstances. Clearly, members of your administrative, management or supervisory board should be easily identifiable and will cover company directors (or equivalent for other types of corporate entities) and members of an executive board.
- the second category of those with powers of representation, decision or control, is likely to be more complicated. As an illustration, entities or persons with 25% or more shareholding (or equivalent for other types of corporate entities) are likely to have powers or representation, decision or control, although those with a lower shareholding may still have the relevant powers depending on their particular rights. Similarly, your ultimate parent company (or equivalent for other types of corporate entities) is likely to have powers of representation, decision or control. Depending on your particular structure, intermediate parent companies who do not have a direct shareholding, directors or members of an executive board of your immediate parent company (for example in the case of an SPV set up specifically to bid for a particular contract), and holders of mortgages or liens may be covered. It isn't necessary to identify which entities and persons you think are

Annex H - Standard Selection Questionnaire

covered but you must be satisfied that your declaration is made in respect of all of those that are covered.

For answers to part 3 – If you are bidding on behalf of a group, for example, a consortium, or you intend to use subcontractors, you should complete all of the questions on behalf of the consortium and/ or any subcontractors, providing one composite response and declaration.

The authority confirms that it will keep confidential and will not disclose to any third parties any information obtained from a named customer contact, other than to the Cabinet Office and/or contracting authorities defined by the regulations, or pursuant to an order of the court or demand made by any competent authority or body where the authority is under a legal or regulatory obligation to make such a disclosure.

7. The Public Procurement Review Service allows government suppliers and potential government suppliers to raise concerns anonymously about unfair public sector procurement practice. The government can then investigate and resolve these concerns for contracting authorities as listed in [Schedule 1](#) of the Public Contracts Regulations 2015. To use the Public Procurement Review Service, [read the terms](#) and email publicprocurementreview@cabinetoffice.gov.uk or phone 0345 010 3503.

Annex H - Standard Selection Questionnaire

Part 1: Your information and the bidding model.

You must answer all questions in parts 1 and 2, and you must answer all questions in part 3 as well.

Bidders must ensure that every organisation on which they will rely to meet the selection criteria completes and submits their own answers and declaration for part 1 and 2.

Section 1	Your information											
Question number	Question	Response										
1.1(a)	Name (if registered, please give the registered name)	Erith Contractors Limited										
1.1(b) – (i)	Registered address (if applicable) or head office address	Erith House, Queen Street, Erith, DA8 1RP										
1.1(b) – (ii)	Registered website address (if applicable)	www.erith.com										
1.1(c)	Trading status a) - public limited company b) - private limited company c) - limited liability partnership d) - other partnership e) - sole trader f) - third sector g) - other (please specify your trading status)	b) Private Limited Company										
1.1(d)	Date of registration (if applicable) or date of formation.	15/03/1973										
1.1(e)	Registration number (company, partnership, charity, etc if applicable).	1102060										
1.1(f)	Registered VAT number.	205 5156 86										
1.1(g) - (i)	Are you registered with the appropriate professional or trade register(s) specified for this procurement in the country where your organisation is established?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>										
1.1(g) - (ii)	If you responded yes to 1.1(g) - (i), please provide the relevant details, including the name of the register and registration number(s), and if evidence of registration is available electronically, please provide - the website address, - issuing body - reference number.	We have provided our organisation's registration details of professional bodies including registration numbers. Please see full list of our accreditations below. <table border="1"> <thead> <tr> <th>Accreditation</th><th>Reg No.</th></tr> </thead> <tbody> <tr> <td>NFDC</td><td>499</td></tr> <tr> <td>Accredited Site Audit Scheme</td><td></td></tr> <tr> <td>ARCA</td><td>4046</td></tr> <tr> <td>CECA</td><td>120</td></tr> </tbody> </table>	Accreditation	Reg No.	NFDC	499	Accredited Site Audit Scheme		ARCA	4046	CECA	120
Accreditation	Reg No.											
NFDC	499											
Accredited Site Audit Scheme												
ARCA	4046											
CECA	120											
1.1(h) - (i)	For procurements for services only, is it a legal requirement in the country where you are established for you to:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										

Annex H - Standard Selection Questionnaire

	<p>a) possess a particular authorisation, or</p> <p>b) be a member of a particular organisation,</p> <p>to provide the requirements specified in this procurement?</p>	
1.1(h) - (ii)	<p>If you responded yes to 1.1(h) - (i), please provide additional details of what is required, confirmation that you have complied with this and, if evidence of compliance is available electronically, please give the website address, issuing body and reference number.</p>	<p>Please see below our waste carriers licence and licence to undertake works with asbestos.</p>
1.1(i)	<p>Relevant classifications (state whether you fall within one of these, and if so which one)</p> <p>a) Voluntary Community Social Enterprise (VCSE).</p> <p>b) Sheltered Workshop.</p> <p>c) Public service mutual.</p>	N/A
1.1(j)	<p>Are you a Small, Medium or Micro Enterprise (SME)²?</p>	<p>Yes <input type="checkbox"/></p> <p>No <input checked="" type="checkbox"/></p>
1.1 (k)	<p>Details of Persons with Significant Control (PSC)³, where appropriate⁴:</p> <ul style="list-style-type: none"> - Name - Date of birth - Nationality - Country, state or part of the UK where the PSC usually lives - Service address - The date he or she became a PSC in relation to the company; - Which conditions for being a PSC are met: <ul style="list-style-type: none"> - Over 25% up to (and including) 50% - More than 50% and less than 75% - 75% or more <p>(Please enter N/A if not applicable)</p>	<p>Erith Holdings Limited</p> <p>N/A</p> <p>English</p> <p>England</p> <p>Erith House, Queen Street, Erith, DA8 1RP</p> <p>14/04/2026</p> <p>75% or more</p>
1.1(l)	<p>Details of your immediate parent company:</p> <ul style="list-style-type: none"> - Full name of immediate parent 	<p>Erith Holdings Limited</p> <p>Erith House, Queen Street, Erith,</p>

² See definition of SME https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

³ UK companies, Societates European (SEs) and limited liability partnerships (LLPs) are required to identify and record the people who own or control their company. Companies, SEs and LLPs are required to keep a PSC register, and must file the PSC information with the central public register at Companies House. See [PSC guidance](#). Overseas bidders are required to provide equivalent information.

⁴ Only information that relates to the persons with powers of representation, decision or control within the meaning of regulation 57(2) can be considered in relation to the mandatory exclusion grounds and other details are requested for information only.

Annex H - Standard Selection Questionnaire

	company, - Registered or head office address, - Registration number (if applicable), - VAT number (if applicable), Please enter N/A if not applicable)	DA8 1RP 02586308 997541364
1.1(m)	Details of ultimate parent company: - Full name of ultimate parent company, - Registered or head office address, - Registration number (if applicable), - VAT number (if applicable), (Please enter N/A if not applicable)	Erith Holdings Trustee Limited Erith House, Queen Street, Erith, DA8 1RP 10393503 N/A

Please note: A criminal record check for relevant convictions may be undertaken for the preferred supplier and all relevant persons and entities (as described above).

Please provide the following information about your approach to this procurement:

Section 1 (cont.)	Bidding model	
Question number	Question	Response
1.2	<p>Please indicate if you are bidding as a single supplier or as part of a group or consortium?</p> <p><i>If you are bidding as a single supplier, please go to Q 1.3.</i></p> <p>If you are bidding as part of a group or consortium (including where you intend to establish a legal entity to deliver the contract, or you are a subcontractor), please tell us:</p> <p>a) The name of the group/consortium.</p> <p>b) The proposed structure of the group/consortium, including the legal structure where applicable.</p> <p>c) The name of the lead member in the group/consortium.</p> <p>d) Your role in the group/consortium (e.g. lead member, consortium member, subcontractor).</p> <p>e) If you are the lead member in the group/consortium, whether you are relying on other consortium members to meet the selection criteria (i.e. are you relying on other consortium members for economic and technical standing and/or technical and professional ability?) and, if so, which criteria you are relying on them for</p>	Single Supplier
1.3	If you are proposing to use subcontractors/a supply chain, please	Please refer to our proposed subcontractor listing below.

Annex H - Standard Selection Questionnaire

	<p>provide the details for each one⁵.</p> <ul style="list-style-type: none"> - Name - Registration number - Registered or head office address, - Trading status <ul style="list-style-type: none"> a. Public limited company b. Private limited company c. Limited liability partnership d. Other partnership e. Sole trader f. Third sector g. Other (please specify your trading status) - Registered VAT number - SME (Yes/No) - The role each subcontractor will take in providing the works and /or supplies e.g. key deliverables - if known - The approximate % of contractual obligations assigned to each subcontractor, if known - Is the subcontractor being relied upon to meet the selection criteria (i.e. are you relying on the subcontractor for economic and technical standing and/or technical and professional ability?) and, if so, which criteria are you relying on them for? 	
1.4	<p>Lots (if applicable)</p> <p>Where applicable, please tell us which lot(s) you wish to bid for?</p>	<p>Answer</p> <p>N/A</p>

⁵ This applies to all supply chain members and/or subcontractors, where their identity is known at this stage, irrespective of whether you are relying on them to meet the selection criteria. Where a supply chain member and/or subcontractor has been identified in response to this question, any resulting subcontract entered into with that subcontractor for that part of the works, services or supplies identified in response to that question will not be subject to the requirement for contracts to advertise the subcontracting opportunity, as set out in PPN 01/18.

Annex H - Standard Selection Questionnaire

Part 2: Exclusion Grounds

Please answer the following questions in full. Note that every organisation that forms part of your bidding group/consortium, as well as every organisation that is being relied on (including subcontractors being relied on) to meet the selection criteria must complete and submit responses to part 1 and the declarations in part 2.

Section 2	Grounds for mandatory exclusion	
Question number	Question	Declaration
2.1 (a)	<p>Within the past five years, anywhere in the world, have you or any person who:</p> <ul style="list-style-type: none"> • is a member of the supplier's administrative, management or supervisory body or • has powers of representation, decision or control in the supplier⁶, • been convicted of any of the offences within the summary below and listed in full in Annex D? 	N/A
	Participation in a criminal organisation.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Corruption.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Terrorist offences or offences linked to terrorist activities.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Money laundering or terrorist financing.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Child labour and other forms of trafficking in human beings.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Any other offence within the meaning of Article 57(1) of the Directive as defined by the law of any jurisdiction <u>outside</u> England, Wales or Northern Ireland.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Any other offence within the meaning of Article 57(1) of the Directive created after 26th February 2015 in England, Wales or Northern Ireland.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2.1(b)	<p>If you have answered yes to any part of question 2.1(a), please provide further details, including:</p> <ul style="list-style-type: none"> • date of conviction and the jurisdiction, 	N/A

⁶ see Notes for Completion

Annex H - Standard Selection Questionnaire

	<ul style="list-style-type: none"> • which of the grounds listed the conviction was for, • the reasons for conviction, • the identity of who has been convicted. <p>If the relevant documentation is available electronically, please provide:</p> <ul style="list-style-type: none"> • the web address, • issuing authority, • precise reference of the documents. 	
2.1(c)	If you have answered yes to any part of the question above, please explain what measures have been taken to demonstrate your reliability despite the existence of relevant grounds for exclusion. (Self-cleaning).	N/A
Section 3 Mandatory and discretionary grounds relating to the payment of taxes and social security contributions		
The detailed grounds for mandatory and discretionary exclusion of a supplier for non-payment of taxes and social security contributions, are set out in Annex D, and should be referred to before completing these questions.		
Question number	Question	Declaration
3.1(a)	<p>Please confirm that you have met all your obligations relating to the payment of taxes and social security contributions, both in the country in which you are established and in the UK.</p> <p>If documentation is available electronically, please provide:</p> <ul style="list-style-type: none"> • the web address, • issuing authority, • precise reference of the documents 	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>Erith Contractors 2023 Accounts</p>
3.1(b)	<p>If you have answered no to 3.1(a), please provide further details including the following:</p> <ul style="list-style-type: none"> • Country concerned, • what is the amount concerned • how the breach was established, i.e. through a judicial or administrative decision or by other means. • if the breach has been established through a judicial or administrative decision please provide the date of the decision, • if the breach has been established by other means please specify the means. 	N/A
3.2	<p>Please also confirm whether you have paid or have entered into a binding arrangement with a view to paying, the outstanding sum including, where applicable, any accrued interest and/or fines.</p>	<p>Yes <input type="checkbox"/></p> <p>No <input checked="" type="checkbox"/></p>

Annex H - Standard Selection Questionnaire

Please Note: We reserve our right to use our discretion to exclude your bid where we can demonstrate by any appropriate means that you are in breach of your obligations relating to the payment of taxes or social security contributions

Section 4	Grounds for Discretionary Exclusion	
The detailed grounds for discretionary exclusion of an organisation are set out in Annex D and should be referred to before completing these questions.		
Question number	Question	Declaration
4.1	Within the past three years, anywhere in the world, have any of the situations summarised below and listed in full in Annex D applied to you?	Yes – 4.1(f)
4.1(a)	Breach of environmental obligations? To note that environmental law obligations include Health and Safety obligations. See Annex D.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(b)	Breach of social law obligations?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(c)	Breach of labour law obligations?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(d)	Bankruptcy or subject of insolvency?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(e)	Guilty of grave professional misconduct?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(f)	Distortion of competition?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4.1(g)	Conflict of interest?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(h)	Been involved in the preparation of the procurement procedure?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(i)	Prior performance issues?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(j)	Do any of the following statements apply to you?	
4.1(j) - (i)	You have been guilty of serious misrepresentation in supplying the information required for the verification of the absence of grounds for exclusion or the fulfilment of the selection criteria.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(j) - (ii)	You have withheld such information.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
4.1(j) –(iii)	You are not able, without delay, to submit documents if/when required under Regulation 59.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	You have undertaken to unduly	Yes <input type="checkbox"/>

Annex H - Standard Selection Questionnaire

4.1(j)-(iv)	influence the decision-making process of the contracting authority to obtain confidential information that may confer upon you undue advantages in the procurement procedure, or to negligently provide misleading information that may have a material influence on decisions concerning exclusion, selection, or award.	No <input checked="" type="checkbox"/>
4.2	<p>You are a relevant commercial organisation subject to Section 54 of the Modern Slavery Act 2015 if you carry on your business, or part of your business in the UK, supplying goods or services and you have an annual turnover of at least £36 million.</p> <p>If you are a relevant commercial organisation, please -</p> <ul style="list-style-type: none"> • confirm that you have published a statement as required by Section 54 of the Modern Slavery Act. • confirm that the statement complies with the requirements of Section 54. 	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p>
4.3	If you have answered YES to any of the questions in 4.1, or NO to question 4.2, please explain what measures have been taken to demonstrate your reliability despite the existence of a relevant ground for exclusion. (Self-cleaning)	Please refer to CMA and Compliance response below.

Annex H - Standard Selection Questionnaire

Part 3: Selection Questions		
Section 5	Economic and Financial Standing	
Question number	Question	Response
5.1	<p>If documentary evidence of economic and financial standing is available electronically (e.g. financial statements filed with Companies House), please provide:</p> <ul style="list-style-type: none"> • the web address • issuing authority • precise reference of the documents 	Erith Contractors 2023 Accounts
5.2	<p>If documentary evidence of economic and financial standing is not available electronically, please provide a copy of your detailed accounts for the last two years (audited if required by law).</p> <p>Also, for any other person or entity on whom you are relying on to meet the selection criteria relating to economic and financial standing, please provide a copy of their detailed accounts for the last two years (audited if required by law).</p>	N/A
5.3	<p>If you are not able to provide a response to questions 5.1 or 5.2, please provide any of the following alternatives.</p>	N/A
5.3(a)	<p>A statement of your annual turnover, Profit and Loss Account/Income statement, Balance Sheet/statement of Financial Position and Statement of Cash Flow for the most recent year(s) of trading and a bank letter outlining the current cash and credit facility position.</p>	
5.3(b)	<p>Alternative information to evidence economic and financial standing (e.g. forecast financial statements and a statement of funding provided by the owners and/or the bank, charity accruals accounts or an alternative means of demonstrating financial status).</p>	
5.4	<p>Where we have specified a minimum level of economic and financial standing and/or a minimum financial threshold within the evaluation criteria for this procurement, please self-certify by answering 'Yes' or 'No' that you meet the requirements set out.</p>	<p>Yes <input checked="" type="checkbox"/></p> <p>No <input type="checkbox"/></p>
5.5	<p>Where you are relying on another member of your bidding</p>	N/A

Annex H - Standard Selection Questionnaire

	group/consortium or any subcontractors or other security in order to meet the selection criteria relating to economic and financial standing, please confirm that the relevant person or entity is willing to provide a guarantee or other security if required	
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Section 6		Additional Questions including Project Specific Questions	
Question number	Question	Response	
6.1	Insurance Please confirm whether you already have, or can commit to obtain, prior to the commencement of the contract, the levels of insurance cover indicated in the Contract: Employer's (Compulsory) Liability Insurance Public Liability Insurance Professional Indemnity Insurance Product Liability Insurance *There is a legal requirement for certain employers to hold Employer's (Compulsory) Liability Insurance of £5 million as a minimum. See the Health and Safety Executive website for more information: http://www.hse.gov.uk/pubns/hse39.pdf	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
6.2	Data protection Please confirm that you have in place, or that you will have in place by contract award, the human and technical resources to perform the contract to ensure compliance with the UK General Data Protection Regulations and to ensure the protection of the rights of data subjects. Yes/No? - Yes		
6.3	Health and Safety - Please describe the arrangements you have in place to manage health and safety effectively and control significant risks relevant to the requirement (including risks from the use of contractors, where relevant). Please use no more than [500] words. <i>Guarantee that you may type your responses below or provide in as a clearly signposted attachment.</i> Please refer to our Health, Safety and Wellbeing Policy Statement below.		

Annex H - Standard Selection Questionnaire

Requirement under the Public Contracts Regulations 2015 (Regulation 113)		
6.4	<p>Please confirm that you have systems in place to include (as a minimum) 30-day payment terms in all your supply chain contracts and require that such terms are passed down through your supply chain.</p> <p>Please note this is a Pass / Fail</p>	<p>Yes <input checked="checked" type="checkbox"/></p> <p>No <input type="checkbox"/></p>

Annex H - Standard Selection Questionnaire

Contact details and declaration

I declare that to the best of my knowledge the answers submitted, and information contained in this complete document are correct and accurate, including parts 1, 2 and part 3.

I declare that, upon request and without delay I will provide the certificates and/or documentary evidence referred to in this document except where this documentation can be accessed by the contracting authority via a national database free of charge or the contracting authority already possesses the documentation.

I understand that the information will be used in the selection process to assess my suitability to participate further in this procurement.

I understand that the authority may reject this submission in its entirety if there is a failure to answer all the relevant questions fully, or if false/misleading information or content is provided in any section.

I am aware of the consequences of serious misrepresentation.

Signature (electronic is acceptable)



Date 18/10/2024

Contact details of those making the declaration

	Response
Contact name	
Name of organisation	Erith Contractors Limited
Role in organisation	Operations Director
Phone number	
E-mail address	
Postal address	Erith House, Queen Street, Erith, Kent, DA8 1RP

Annex D - Exclusion Grounds: Public Procurement

Mandatory Exclusion Grounds

Listed in Public Contract Regulations 2015 (as amended) R57(1), (2) and (3) and the Public Contract Directives 2014/24/EU Article 57(1).

Participation in a criminal organisation

- ❖ Participation offence as defined by section 45 of the Serious Crime Act 2015
- ❖ Conspiracy within the meaning of:
 - section 1 or 1A of the Criminal Law Act 1977; or
 - article 9 or 9A of the Criminal Attempts and Conspiracy (Northern Ireland) Order 1983,

where that conspiracy relates to participation in a criminal organisation as defined in Article 2 of Council Framework Decision 2008/841/JHA on the fight against organised crime.

Corruption

- ❖ Corruption within the meaning of section 1(2) of the Public Bodies Corrupt Practices Act 1889 or section 1 of the Prevention of Corruption Act 1906;
- ❖ The common law offence of bribery;
- ❖ Bribery within the meaning of sections 1, 2 or 6 of the Bribery Act 2010, or section 113 of the Representation of the People Act 1983.

Terrorist offences or offences linked to terrorist activities

- ❖ Any offence:
 - listed in section 41 of the Counter Terrorism Act 2008;
 - listed in schedule 2 to that Act where the court has determined that there is a terrorist connection;
 - under sections 44 to 46 of the Serious Crime Act 2007 which relates to an offence covered by the previous two points.

Money laundering or terrorist financing

- ❖ Money laundering within the meaning of sections 340(11) and 415 of the Proceeds of Crime Act 2002
- ❖ An offence in connection with the proceeds of criminal conduct within the meaning of section 93A, 93B or 93C of the Criminal Justice Act 1988 or article 45, 46 or 47 of the Proceeds of Crime (Northern Ireland) Order 1996.

Child labour and other forms of trafficking human beings

- ❖ An offence under section 4 of the Asylum and Immigration (Treatment of Claimants etc.) Act 2004;
- ❖ An offence under section 59A of the Sexual Offences Act 2003

Annex H - Standard Selection Questionnaire

- ❖ An offence under section 71 of the Coroners and Justice Act 2009;
- ❖ An offence in connection with the proceeds of drug trafficking within the meaning of section 49, 50 or 51 of the Drug Trafficking Act 1994
- ❖ An offence under section 1, 2 or section 4 of the Modern Slavery Act 2015.

Non-payment of tax and social security contributions

- ❖ Breach of obligations relating to the payment of taxes or social security contributions that has been established by a judicial or administrative decision.
- ❖ Where any tax returns submitted on or after 1 October 2012 have been found to be incorrect as a result of:
 - HMRC successfully challenging the potential supplier under the General Anti – Abuse Rule (GAAR) or the “Halifax” abuse principle; or
 - a tax authority in a jurisdiction in which the potential supplier is established successfully challenging it under any tax rules or legislation that have an effect equivalent or similar to the GAAR or “Halifax” abuse principle;
 - a failure to notify, or failure of an avoidance scheme which the supplier is or was involved in, under the Disclosure of Tax Avoidance Scheme rules (DOTAS) or any equivalent or similar regime in a jurisdiction in which the supplier is established.

Other offences

- ❖ Any other offence within the meaning of Article 57(1) of the Directive as defined by the law of any jurisdiction outside England, Wales and Northern Ireland.
- ❖ Any other offence within the meaning of Article 57(1) of the Directive created after 26th February 2015 in England, Wales or Northern Ireland.

Annex H - Standard Selection Questionnaire

Discretionary Exclusions Grounds

Listed in Public Contract Regulations 2015 (as amended) R57(8) and the Public Contract Directives 2014/24/EU Article 57(4).

Obligations in the field of environment, social and labour law.

- Where an organisation has violated applicable obligations in the fields of environmental, social and labour law established by EU law, national law, collective agreements or by the international environmental, social and labour law provisions listed in Annex X to the Directive (see copy below) as amended from time to time; including, but not limited to, the following:-
 - In the last 3 years, where the organisation or any of its Directors or Executive Officers has been in receipt of enforcement/remedial orders in relation to the Health and Safety Executive (or equivalent body).
 - In the last three years, where the organisation has had a complaint upheld following an investigation by the Equality and Human Rights Commission or its predecessors (or a comparable body in any jurisdiction other than the UK), on grounds of alleged unlawful discrimination.
 - In the last three years where the organisation has been convicted of a breach of the Health and Safety legislation.
 - In the last three years, where any finding of unlawful discrimination has been made against the organisation by an Employment Tribunal, an Employment Appeal Tribunal or any other court (or incomparable proceedings in any jurisdiction other than the UK).
 - Where the organisation has been in breach of section 15 of the Immigration, Asylum, and Nationality Act 2006;
 - Where the organisation has a conviction under section 21 of the Immigration, Asylum, and Nationality Act 2006;
 - Where the organisation has been in breach of the National Minimum Wage Act 1998.

Bankruptcy, insolvency

- Bankrupt or is the subject of insolvency or winding-up proceedings, where the organisation's assets are being administered by a liquidator or by the court, where it is in an arrangement with creditors, where its business activities are suspended or it is in any analogous situation arising from a similar procedure under the laws and regulations of any State.

Grave professional misconduct

- Guilty of grave professional misconduct

Distortion of competition

- Entered into agreements with other economic operators aimed at distorting competition.

Conflict of interest

- Aware of any conflict of interest within the meaning of regulation 24 due to the participation in the procurement procedure

Been involved in the preparation of the procurement procedure.

Annex H - Standard Selection Questionnaire

- Advised the contracting authority or contracting entity or otherwise been involved in the preparation of the procurement procedure.

Prior performance issues

- Shown significant or persistent deficiencies in the performance of a substantive requirement under a prior public contract, a prior contract with a contracting entity, or a prior concession contract, which led to early termination of that prior contract, damages or other comparable sanctions.

Misrepresentation and undue influence

- The organisation has influenced the decision-making process of the contracting authority to obtain confidential information that may confer upon the organisation undue advantages in the procurement procedure, or negligently provided misleading information that may have a material influence on decisions concerning exclusion, selection or award, or withheld such information or is not able to submit supporting documents required under regulation 59.

Breach of obligations relating to the payment of taxes or social security contributions.

- The contracting authority reserves the right to use its discretion to exclude a potential supplier where it can demonstrate by any appropriate means that the potential supplier is in breach of its obligations relating to the non-payment of taxes or social security contributions.

Additional grounds

ANNEX X Extract from Public Procurement Directive 2014/24/EU

LIST OF INTERNATIONAL SOCIAL AND ENVIRONMENTAL CONVENTIONS REFERRED TO IN ARTICLE 18(2) —

- ILO Convention 87 on Freedom of Association and the Protection of the Right to Organise;
- ILO Convention 98 on the Right to Organise and Collective Bargaining;
- ILO Convention 29 on Forced Labour;
- ILO Convention 105 on the Abolition of Forced Labour;
- ILO Convention 138 on Minimum Age;
- ILO Convention 111 on Discrimination (Employment and Occupation);
- ILO Convention 100 on Equal Remuneration;
- ILO Convention 182 on Worst Forms of Child Labour;
- Vienna Convention for the protection of the Ozone Layer and its Montreal Protocol on substances that deplete the Ozone Layer;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention);
- Stockholm Convention on Persistent Organic Pollutants (Stockholm POPs Convention)
- Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (UNEP/FAO) (The PIC Convention) Rotterdam, 10 September 1998, and its 3 regional Protocols.

Consequences of misrepresentation

Annex H - Standard Selection Questionnaire

A serious misrepresentation which induces a contracting authority to enter into a contract may have the following consequences for the signatory that made the misrepresentation: -

- The potential supplier may be excluded from bidding for contracts for three years, under regulation 57(8)(h)(i) of the PCR 2015;
- The contracting authority may sue the supplier for damages and may rescind the contract under the Misrepresentation Act 1967.
- If fraud, or fraudulent intent, can be proved, the potential supplier or the responsible officers of the potential supplier may be prosecuted and convicted of the offence of fraud by false representation under s.2 of the Fraud Act 2006, which can carry a sentence of up to 10 years or a fine (or both).
- If there is a conviction, then the company must be excluded from procurement for five years under reg. 57(1) of the PCR (subject to self-cleaning).

ISO 9001:2015

bsi.

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Erith Contractors Limited
Erith House
Queen Street
Erith
DAB 1RP
United Kingdom

Holds Certificate Number: FS 35779

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Construction activities including civil engineering, demolition, site remediation, earthworks and asbestos removal.

For and on behalf of BSI:

Mark Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 1999-06-16
Latest Revision Date: 2024-06-25

Effective Date: 2024-06-15
Expiry Date: 2027-05-14

Page: 1 of 1

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Expiry Date: 14/09/2025

ISO 14001:2015

bsi.

Certificate of Registration

ENVIRONMENTAL MANAGEMENT SYSTEM - ISO 14001:2015

This is to certify that:

Erith Contractors Limited
Erith House
Queen Street
Erith
Kent
DAB 1RP
United Kingdom

Holds Certificate Number: EMS 70478

and operates an Environmental Management System which complies with the requirements of ISO 14001:2015 for the following scope:

Construction activities including civil engineering, demolition, site remediation, earthworks and asbestos removal.

For and on behalf of BSI:

Mark Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 2005-06-01
Latest Revision Date: 2024-06-25

Effective Date: 2024-06-15
Expiry Date: 2027-05-14

Page: 1 of 1

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Expiry Date: 14/09/2025

ISO 45001:2018

bsi.

Certificate of Registration

OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM - ISO 45001:2018 (SSIP)

This is to certify that:

Erith Contractors Limited
Erith House
Queen Street
Erith
Kent
DAB 1RP
United Kingdom

Holds Certificate Number: OHS 70479

and operates an Occupational Health & Safety Management System which complies with the requirements of ISO 45001:2018 (SSIP) for the following scope:

Construction activities including civil engineering, demolition, site remediation, earthworks and asbestos removal.

Full validation of this certificate should be made via SSIP Portal www.ssiportal.org.uk.

[Previously certified to BS OHSAS 18001:2007 since 2003-06-06]

For and on behalf of BSI:

Mark Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 2019-04-15
Latest Revision Date: 2024-06-25

Effective Date: 2024-06-15
Expiry Date: 2027-05-14

Page: 1 of 1

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Expiry Date: 14/09/2025

ISO 39001:2012

bsi.

Certificate of Registration

ROAD TRAFFIC SAFETY MANAGEMENT SYSTEM - ISO 39001:2012

This is to certify that:

Erith Haulage Ltd
Ebbesfleet Operations Centre
Eastern Quarry
Widding Street
Beau
Dartford
DA2 8AH
United Kingdom

Holds Certificate Number: RTS 638966

and operates a Road Traffic Safety Management System which complies with the requirements of BS ISO 39001:2012 for the following scope:

The provision of road haulage services in relation to the haulage of waste and contaminants from remediation, demolition and asbestos sites.

For and on behalf of BSI:

Mark Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 2017-06-02
Latest Revision Date: 2023-06-09

Effective Date: 2023-06-06
Expiry Date: 2026-06-07

Page: 1 of 1

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Expiry Date: 07/06/2026



Expiry Date: 31/10/2025



Expiry Date: N/A



Expiry Date: 18/01/2025



Expiry Date: 14/09/2025



Expiry Date: 30/06/2025



Expiry Date: N/A



Expiry Date: N/A



Expiry Date: N/A

Achilles Building Confidence



Certificate of Accreditation

(CAS 1 Day Audit)

THIS IS TO CERTIFY THAT

Erith Contractors

Following the CAS 1 Day Audit, the below result was recorded

Outcome: Pass

AchillesID: 00024119
Start date of accreditation: 18 June 2024
Expiration Date: 18 June 2025



Expiry Date: 20/06/2025

Achilles Oil and Gas



Certificate of Membership

This is to certify that:

Erith Contractors

are now fully registered as a supplier on the Achilles Global Energy community which is compliant with ISO 9001 and ISO 14001 requirements.

AchillesID: 00029667
Expiration Date: 12 March 2025



Dr. Paul Stanley
Chief Executive Officer
Achilles



Expiry Date: 22/03/2025

Achilles UVDB



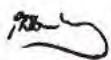
Certificate of Audit

This is to certify that

Erith Contractors

has achieved the following standards through audit for Safety, Health, Environmental and Quality practices and procedures as a registered supplier on UVDB Verity Category B2 Audit - Category B2.

UVDB Verity Category B2 Audit	Score
MSE - HEALTH & SAFETY AUDIT SCORE	100
MSE - ENVIRONMENTAL MANAGEMENT AUDIT SCORE	100
MSE - QUALITY AUDIT SCORE	100
MSE - SUSTAINABILITY AUDIT SCORE	100
SITE - HEALTH & SAFETY AUDIT SCORE	100
SITE - ENVIRONMENTAL AUDIT SCORE	100
SITE - QUALITY AUDIT SCORE	100
SITE - SUSTAINABILITY AUDIT SCORE	100



Dr. Paul Stanley
Chief Executive Officer
Achilles



AchillesID: 00024119
Expiration Date: 12 April 2025

Erith Contractors Limited conducted this audit on behalf of all UVDB Verity Category B2 Audit signatories companies.

Expiry Date: 12/04/2025

Achilles Chemicals



Certificate of Membership

Erith Contractors Ltd



Dr. Paul Stanley
Chief Executive Officer
Achilles

Expiry Date: 16/08/2024





Expiry Date: 20/06/2025



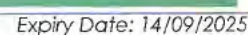
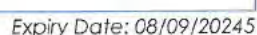
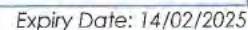
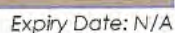
Expiry Date: 18/10/2024



Expiry Date: 30/11/2024



Expiry Date: December 2024





Expiry Date:14/09/2024



Expiry Date:08/06/2024



Expiry Date:N/A

Licence to undertake work with asbestos**Licence Number 842300294**

The Health and Safety Executive, in pursuance of the powers conferred on it by the Control of Asbestos Regulations 2012, licences

**Erith Contractors Limited
Erith House
7 Queen Street
ERITH
Kent
DA8 1RP**

("the licensee")

to undertake work with asbestos subject to the conditions below. The licence is granted from **01 January 2023** and shall remain valid until **31 December 2025** unless revoked in writing by an authorised Person.

CONDITIONS

1. This licence or a copy thereof, should be made available on request by the licensee for inspection by any person to whom the licensee submits a tender or quotation for work with asbestos and shall be available for inspection at all worksites.
2. The licensee shall give notice in writing of the work to the appropriate HSE or local authority office at least 14 days before the work is commenced, or such other period as the authority will allow. The notice shall specify the type of work to be carried out, the likely duration of the work, the address of the premises at which the work is to be carried out and the date of commencement of the work activity. The enforcing authority must be informed in writing as soon as possible if this information changes. This condition will only apply to licensable work with asbestos as defined in Regulation 2 of the Control of Asbestos Regulations 2012 or when the licensee hires out employees (at operative level) to other licensees.
3. (a) Prior to submitting the notice of work required by Condition 2 the following documents shall be prepared by the licence holder:
 - i) a suitable and sufficient written statement of the plan of work to be used.
 - ii) a suitable and sufficient written specification for the equipment for the protection and decontamination of those engaged in asbestos work and also for the protection of other persons, as appropriate to the work.
- (b) The licensee shall, on request by HSE and/or the local authority provide copies of the documents referred to in 3(a) and/or allow inspection of those documents as required.
- (c) Work carried out under the notice of work required by Condition 2 shall be carried out in accordance with the suitable and sufficient plan of work and the equipment, as specified in (a) (i) and (ii).

The plan of work and written specification must be provided on request and be available at the time of notification.

Signature



A person authorised by the Health and Safety Executive to act in that capacity

Name: **Lindsay Hope
H M Inspector of Health and Safety
Asbestos Licensing Unit**

Date: **08 November 2022**

Certificate of Registration under the Waste (England and Wales) Regulations 2011

Regulation authority

Name



Address

National Customer Contact Centre
99 Parkway Avenue
Sheffield
S9 4WF

Telephone number

03708 506506

The Environment Agency certify that the following information is entered in the register which they maintain under regulation 28 of the Waste (England and Wales) Regulations 2011.

Carriers details

Name of registered carrier

BAXLE LTD

Registered as

An upper tier waste carrier and dealer

Registration number

CBDU131320

17

Address of place of business

Thames Road
Barking
IG110HS

Telephone number

07976710322

Date of registration

1 September 2022

Expiry date of registration (unless revoked)

13 October 2025

Making changes to your registration

Your registration will last 3 years and will need to be renewed after this period. If any of your details change, you must notify us within 28 days of the change.

Subcontractor / Supply Chain								
Name	Registration Number	Head Office Address	Trading Status	Registered Vat Number	SME	Role	% Contractual Obligation	Are the subcontractor being relied on?
Centar Surfacing Limited	7884717	Winterhill House Marlow Reach, Station Approach, Marlow, Buckinghamshire, SL7 1NT	Private Limited Company	128411042	Yes	Surfacing	N/A	No
Amber RTM	5158411	19 Edinburgh Drive, Staines- Upon-Thames, England, TW18 1PJ	Private Limited Company	848434793	Yes	Traffic Management	N/A	No
Telent Technology Services Limited	703317	Point 3, Haywood Road, Warwick, CV34 5AH	Private Limited Company	239137065	Yes	Traffic Signals	N/A	No

1st October 2024.

Case 50697: Supply of construction services

The CMA investigation, Erith's cooperation, the outcome and Erith's compliance response.

1. By its decision of 12 June 2023 (the **Decision**), the Competition and Markets Authority (**CMA**) found that Erith Contractors Limited and Erith Holdings Limited (together **Erith**) infringed Chapter I of the Competition Act 1998 through Erith's participation in cover bidding arrangements relating to nine separate tenders between 2013 and 2018. The infringements occurred in the markets for the supply of demolition services and asbestos removal services within the UK. Nine other suppliers of such services were also found to have participated in such conduct.
2. The CMA found that each infringement was of a short duration and concerned single contracts, rather than the entirety of Erith's business. Furthermore, Erith was found not to be an instigator or leader in respect of any of the infringements it committed.
3. Erith acknowledges its historic participation in illegal cover bidding and compensation practices. Throughout the investigation, which started in 2019, Erith actively cooperated with the CMA by, for example, (i) making employees and directors available for voluntary interviews and (ii) agreeing to a streamlined access to file procedure, which enabled the investigation to be concluded more effectively and speedily.
4. The personnel responsible are no longer in Erith's employment and despite Erith feeling that the fine is hugely disproportionate, the agreement to pay a fine of £17,568,800 to the CMA demonstrates that Erith has taken full responsibility for its actions.
5. Erith has taken the findings of the CMA very seriously, has carefully analysed its historic misconduct, and has identified factors that enabled the wrongdoing. It has accordingly implemented concrete technical, organisational and personnel measures targeted at eliminating the conditions that enabled the misconduct. Erith is confident that these measures are sufficient to prevent further misconduct, including regulatory and criminal offences.

Remedial action and preventative measures

6. Erith has settled the CMA's fine of £17,568,800 which was imposed as a direct consequence of its historic misconduct. The settlement of the fine was concluded on the 27th September 2024.

7. Following four years of investigation and analysis of the above historic breaches, Erith has implemented the following concrete technical, organisational and personnel measures which ensure that such misconduct cannot happen again:

(a) Top level commitment

8. *Full commitment from Erith's board and directors* – full commitment has been given by Erith's board and directors to promote, support and participate in its business ethics programme. All members of the board are actively involved in agreeing Erith's objectives, continue to participate in all business ethics related training, and complete an annual commitment declaration.
9. *Appointment of compliance manager* – in May 2022, Erith appointed David Nicholls as compliance manager. David has over 30 years' experience within compliance and people services and is a qualified member of the International Compliance Association (ICA), Chartered Institute of Personnel and Development (CIPD) and Chartered Institute of Payroll Professionals (CIPP). David reports to the board, chairs the risk and compliance committee and provides regular compliance updates at board meetings.
10. *Development of a compliance portal* – Erith has invested in developing its own in-house compliance portal with an integrated third-party e-learning training platform.

(b) Risk assessment

11. *Establishment of a risk and compliance committee* – Erith has established a risk and compliance committee with representation across the business which is delivering improved collaboration and focus on both its risk-assessment work and a wider compliance remit.
12. *Ongoing risk assessments* – the business undertakes ongoing risk-assessments, identifying, analysing, and addressing its current business and regulatory risks and continuing to set measurable objectives to mitigate these risks.

(c) Proportionate Policies and Procedures

13. *Code of conduct* – In June 2022 Erith updated and re-issued its code of conduct to all employees, setting out what Erith stands for, our values and what is expected of employees individually and as a team and at every level. Erith's code of conduct contains a specific section on competition law compliance. In June 2024, Erith issued to all employee's, an updated version 2 of our code of conduct.
14. *Policies and procedures* – Erith have reviewed, updated, and re-issued its underlying business ethics policies and procedures, including fraud, anti-bribery & corruption, conflicts of interest, gifts and hospitality and

whistleblowing. These policies and procedures are being reviewed on an annual basis.

15. *Reporting* – Erith has established mandatory employee reporting in respect of key areas of business ethics, including competitor meetings, conflicts of interest, gifts and hospitality and professional memberships. Employees receive regular reminders of their responsibility to report on a timely basis. These reports are reviewed by compliance upon receipt and the registers are reviewed at a senior level each month.
16. *Supply chain* – Erith has implemented a robust onboarding process for our supply chain, to ensure all suppliers demonstrate that they share the same commitment and standards to business ethics. This is supported by Erith's additional monitoring and review activities. In March 2024, Erith's new supply chain management software went live and by linking in real-time with industry accreditors, gives Erith an instant insight of the supply chain across key areas of compliance, finance and SHEQ. In June 2024, Erith released their Supplier Code of Conduct to further drive awareness around compliance, including expectations and standards.
17. *Governance* – Erith has improved its governance around contracts and the invoicing process, to ensure better review and clear oversight and authorisation.

(d) Communications, engagement and training

18. *Onboarding process* – All new employees to the business receive Erith's code of conduct and copies of Erith's underlying policies as part of the onboarding process. Employees joining in senior management, leadership roles or those identified from our risk assessment are also enrolled onto Erith's business ethics training. This training is completed over the first six months of employment and is structured around the key elements of Erith's code of conduct.
19. *Training* – since June 2022, Erith has now delivered over 700 assessment-based compliance courses across the workforce with a focus on business ethics, including Erith's code of conduct, antibribery & corruption, and competition law. This training included refresher training at the end of calendar year 2023, on topics of competition law and gifts and hospitality. During 2024 we have continued to raise awareness across all areas of our compliance programme.
20. *Shared knowledge* – Erith has developed an in-house compliance portal, which provides an instant knowledge base for employees, delivering its eLearning solution, access to Erith's code of conduct and underlying policies, access to Erith's mandatory reporting activities, and Erith's speak-up channels.
21. *Whistleblowing* – Erith actively promotes its speak-up channels through the code of conduct, whistleblowing policy, compliance portal and through its

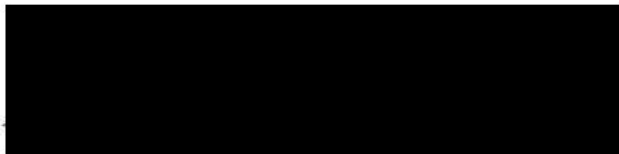
training activities. Erith places emphasis on confidentiality and non-reprisal and provides anonymous reporting channels.

(e) On-going monitoring and review

22. *Protocols and processes* – Erith have established protocols to stay on track with changes to the law, regulation, and the compliance landscape, both through its membership to the ICA and ongoing monitoring of regulators, including via daily bulletins.
23. *Business ethics* – Erith's business ethics programme is designed to be evidence-based, so the business can demonstrate through a show me, tell me approach that it does what it says it is doing. Erith uses its risk assessment work to ensure the business ethics programme continues to adapt to the business's changing risks. This also provides Erith with an improved audit focus.
24. *Monitoring and detection* – Erith use its mandatory reporting and speak-up channels, supported by its audit activity, to provide effective detect and response measures. Erith also uses these activities to focus its future awareness and training.

Further Details

To conclude we wish to assure clients and stakeholders alike that we will continue to deliver in the traditional Erith way you will have become accustomed to and please feel free to reach out to Erith should it be useful to meet to discuss the above, or if any further detail would be helpful.



Group Compliance Manager
For and on behalf of Erith Contractors Ltd

Document Ref	H&S Policy	Rev Date	09.2023
Date of Issue	09.2022	Author	SHEQ
Access Type	Public		
Ezone Location	Project file 03.02.08		

HEALTH, SAFETY AND WELLBEING POLICY STATEMENT

Erith is committed to providing a working environment which promotes and maintains the Health, Safety and Wellbeing of its staff, subcontractors and all other stakeholders engaged in or affected by our works. It aims to achieve a working environment which is free of work-related accidents, incidents, and ill-health and to this end we will pursue continuing improvements from year to year. Erith recognise that people are its most valued asset.

We undertake to discharge our health, safety, and wellbeing duties by:

- Complying with applicable legal requirements, industry best practice and other requirements to which the company subscribes regarding occupational health and safety.
- Identifying hazards in the workplace and on our sites, assessing the risks related to them and implementing appropriate preventative and protective measures.
- Providing and maintaining safe work equipment and a safe place of work.
- Consulting and encouraging participation of our employees on matters affecting their health, safety, and wellbeing, including:
 - Objectives and targets, developing safe systems of works, conducting, and contributing towards risk assessments, Developing policy etc.
- Establishing and enforcing safe methods of work.
- Appointing personnel who have the skills, abilities, and competence to undertake their role safely.
- Ensuring that tasks given to employees are within their skillset, knowledge base and that they can perform and undertake these tasks in a safe manner.
- Ensuring that technical competence is maintained through the provision of refresher training.
- Promoting awareness of health, safety, and good practice through the effective communication of relevant information.
- Ensuring all people within the business are made aware of their individual health and safety responsibilities.
- Identifying opportunities for the improvement of occupational health and safety performance, the prevention of injury and ill health through reporting near miss and safety observations.
- Providing sufficient funds and resources to meet these objectives.
- Ensuring that health, safety, and wellbeing will not be compromised for other objectives.
- Implementing a robust health risk management process to ensure that the health, including mental health, of all workers is protected and maintained, irrespective of existing health status.
- Ensuring that workers are fit to carry out their designated roles through the provision of health surveillance, and a mandatory follow-up medical regime with an occupational health nurse.
- Making accessible occupational health provisions, which will assist workers to make informed choices regarding lifestyle issues.
- Providing suitable arrangements to employees who have notified the company through the employment health questionnaire, results from health surveillance or by informing their line manager of occupational health issues.
- Identifying and implementing mitigation measures to address the risks associated with fatigue.
- Encouraging our workforce to take responsibility for all aspects of their own health. This includes accepting and acting on advice provided by an occupational health nurse, visiting their GPs; taking reasonably practicable steps to minimise their own stress levels, and seeking assistance for both physical and mental health issues.

This policy will be reviewed annually to monitor its effectiveness and to ensure that it remains relevant and appropriate to the organisation. This statement is to be read in conjunction with the responsibilities, arrangements, procedures, and guidance that together form the management system for health, safety, and wellbeing within Erith.

Signed for and on behalf of the Executive Board:



Company Chairman

25/09/2024 (maximum review period 1 year)

Annex J: Social Value



Springhead Bridge Social Value

Erith recognise that Springhead Bridge provides a unique opportunity to engage with the local environment and have a positive impact within the Dartford and Gravesham Boroughs. We will actively link the opportunities presented by this project into the needs of the local community with the overall aim being to create a positive, lasting legacy as a result of this development.

As a family business, we have a strong social conscience and are keen to provide opportunity for the communities in which we work, fully embracing the Social Value Act (2012). We will collaborate with the Local Boroughs to understand how we can help you achieve your social value ambitions, as well as environmental performance / sustainability and development of the local economy. We have recently been awarded the Business Commitment to Education and Skills in Bexley Business Excellence Awards recognising our ongoing commitment to present and future employees and our in-house training division – Erith Training Services.

We will maximise opportunities presented through out the duration of the works to promote local jobs, apprenticeship opportunities, work placement opportunities, skills and training, careers awareness and involve the local community through a series of planned engagement activities that will inspire and build aspiration among the wider stakeholder groups that will be impacted by this project. We understand the importance of employing local labour to support the delivery of the contract and we have the systems and processes in place to deliver successfully on this element of the project.

We partner with a number of job brokerage's and intend to employ local people on this contract in line with the Employment and Skills Targets set out. Erith is keen to provide employment opportunities and training to benefit local people on all new contracts which we undertake. This is in line with our policy of Corporate Social Responsibility where we have committed to actively engaging with and contributing to the communities in which we operate through local employment, partnership and sponsorship.

Now more than ever, it is essential that young people are not only being encouraged to join the construction sector but those that are currently employed in the industry are trained and up skilled to provide the workforce of tomorrow. We will be committed to securing new apprentice opportunities as well as making sure that our supply chain allows their existing apprentices to learn and grow as a result of this project. Erith would propose to work alongside local colleges such as North Kent College and Ebbsfleet Academy to provide Apprenticeship schemes and on site training. Our team are proud to have championed the demolition trailblazer apprenticeship scheme and have led the charge within the industry working collaboratively with other contractors including competitors to enable apprentices to embark on their journey in to demolition. When Erith enter into a contract we highly value local employment within the contract's community. One of our larger scale projects, London Development Programme (LDP) considered 114 suppliers which proved crucial to the general day to day running of the project.. Erith believe it is important to provide full and fair opportunities to small and new enterprises (SME's) throughout the projects we undertake. LDP utilised 89% use of SME's within its supplier deployment.

We view this as an extension of our own community and strive to create maximum integration of the local suppliers, in particular SME's, giving them the opportunity to grow and develop their businesses. With Erith being given the opportunity to work within different communities we feel that it's important to use our presence to give back and involve as many local businesses as possible, resulting in the best outcome for all involved parties.

Erith will aim to collaborate with local schools/universities for students to attend site visits, Erith will also aim to visit to school prior to explain to parents/pupils the health and safety aspects within the local proximity. Briefly touching on the traffic management plans and lorry loads to and from site.

Educational programmes are designed to give students and pupils a real insight into the world of construction as well as develop softer skills, such as confidence building, communications, presentations and team working. They prepare young people for the world of work and as part of the programme we offer employability workshops supporting young people into employment and providing available training for those that need it most first.

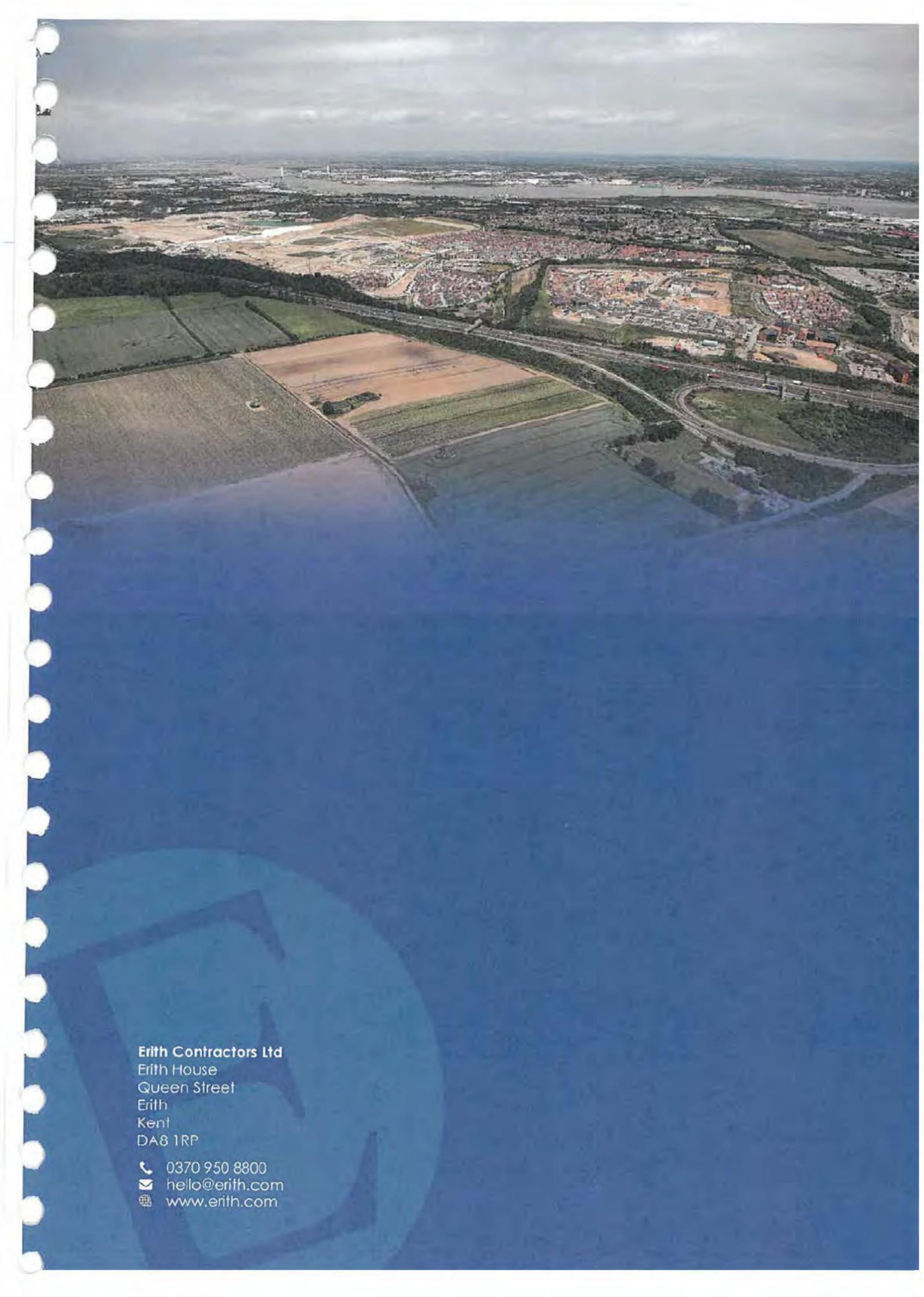
Throughout the duration of Erith's involvement in the project, the overall responsibility for the implementation of this strategy lies with the Project Managers listed, with the aid of the Site Supervisor.

Investment into the community and providing community initiatives are crucial factors in the development and prosperity of business. Our strategic objectives and targets have been set in line with UN Sustainability Goals and with an increased focus on Social Value, our approach to community engagement is a major focus. Erith as a business take great pride in our social responsibility to invest in whichever location we carry out our works. We will collaborate to understand how we can assist in delivering requirements with regards to social value and development of the local community. This can be demonstrated through our continued support for the Erith and Slade Green Foodbanks, with the recent donation of a storage unit to St Augustine's Church for the safe storage of donated food supplies. We have also set up foodbank donations on several of our projects supporting the Trussel Trust and other local community food bank projects across the country. Most recently, as part of our ongoing works in the Royal Borough of Greenwich, we made a donation of 526kg of food and volunteered our time to organise and distribute the donations to families in need. During the Covid-19 pandemic, we made a donation of laptop computers to Cherry Orchard Academy in order to benefit disadvantaged students, who may otherwise have been struggling with home-learning. The academy is situated within Ebbsfleet Garden City where we have been working since 2013. Works have included the construction of roads and infrastructure immediately surrounding the academy. We are also proud sponsors of a number of grassroots football teams in our local communities, providing essential funding to the teams for their kits, equipment, training and facilities. Some of our current sponsorships include the entire Hayden Youth Academy, Glebe Lions U9 and Dartford U11 Girls Team.

Please see below Annex J - Proxy Value Spreadsheet.

Ebbsfleet Development Corporation Localised TOMs Proxy Value

Instructions for bidders - use this spreadsheet to accompany your social value bid. Do not change any information, values or macros in any column. Add your responses to columns F and H only.					Add figures to this column	do not change	Add description of activity to this column
Theme	TOM Reference	Measure	Units		Bidder's offer in 'Units'		Description of bidder's offer
Jobs: Promote Local Skills and Employment	NT1	No. of full time equivalent direct local employees (FTE) hired or retained for the duration of the contract	no. people FTE				
	NT2	Percentage of local employees (FTE) on contract	%				
	NT3	No. of full time equivalent employees (FTE) hired on the contract who are long term unemployed (unemployed for a year or longer)	no. people FTE				
	NT4	No. of full time equivalent employees (FTE) hired on the contract who are NOT in Employment, Education, or Training (NEETs)	no. people FTE				
	NT76	No. of full time equivalent employees (FTE) hired on the contract who are registered as unemployed	no. people FTE				
	NT8	No. of staff hours spent on local school and college visits supporting pupils e.g. delivering career talks, curriculum support, literacy support, safety talks (including preparation time)	no. staff hours				
	NT10	No. of weeks of apprenticeships or T-Levels (Level 2,3, or 4) provided on the contract (completed or supported by the organisation)	no. weeks				
	NT11	No. of hours of 'support into work' assistance provided to unemployed people through career mentoring, including mock interviews, CV advice, and careers guidance	no. hrs (total session duration)*no. attendees				
	NT12	No. of weeks spent on meaningful work placements or pre-employment course; 1-6 weeks student placements (unpaid)	no. weeks				
	NT15	Provision of expert business advice to VCSEs and MSMEs (e.g. financial advice / legal advice / HR advice/HSE)	no. staff expert hours				
Growth: Supporting Growth of Responsible Regional Business	NT18	Total amount (£) spent in local supply chain through the contract	£		29350		locally sourced subcontractors and materials
Social: Healthier, Safer and more Resilient Communities	NT26	Initiatives taken or supported to engage people in health interventions (e.g. stop smoking, obesity, alcoholism, drugs, etc.) or wellbeing initiatives in the community, including physical activities for adults and children	£ invested including staff time		250		Partnership with local health services such as Mind UK, organising educational campaigns and workshops
	NT28	Donations and/or in-kind contributions to specific local community projects (£ & materials)	£ value				
	NT29	No. of hours volunteering time provided to support local community projects	no. staff volunteering hours		10		Volunteering with local food banks after the Christmas Period
	NT29a	No. of hours volunteering time provided to support health-care related charity and community projects	no. staff volunteering hours				
Environment: Decarbonising and Safeguarding our World	NT67	Donations or investments towards initiatives aimed at environmental and biodiversity conservations and sustainable management projects for both marine and terrestrial ecosystems	£		500		Donations to collaborative training within local schools to promote sustainability and education in how we do so within construction
	NT85	Resources (on the contract) dedicated to creating green spaces, improving biodiversity or helping ecosystems.	£ invested				
	NT35	Percentage of procurement contracts that include sustainable procurement commitments or other relevant requirements and certifications (e.g. to use local produce, reduce food waste, and keep resources in circulation longer.)	% of contracts				



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