

# **May Gurney**

**OMNIBUS FRAMEWORK CONTRACT 2009 - 2013**

**CONTRACT DOCUMENT**

Volume 1

## SUBCONTRACT DOCUMENTS

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**PART TWO**  
**CONDITIONS OF SUBCONTRACT**



## CONDITIONS OF SUBCONTRACT

The *conditions of subcontract* are as follows including the following amendments and additions

### Supplier ( subcontract ) Framework Contract

#### Actions 10

10.1 The *Contractor* and the *Supplier* shall act as stated in this contract and in a spirit of mutual trust and co-operation.

#### Identified and defined terms 11

11.1 In these conditions of contract, terms identified in the Contract Data are in italics and defined terms have capital initials.

11.2

- (1) The Parties are the *Contractor* and the *Supplier*.
- (2) Framework Information is information which specifies how the Parties work together and is in the document which the Contract Data states it is in.
- (3) A Work Package is work which is to be carried out under this contract.
- (4) A Package Order is an instruction to carry out a Work Package.
- (5) A Time Charge Order is an instruction to provide advice on a proposed Work Package on a time charge basis.

#### Communications 13

13.1 Each instruction, submission, notification, reply and other communication which this contract requires is communicated in a form which can be read, copied and recorded.

13.2 A communication has effect when it is received at the last address notified by the recipient for receiving communications or, if none is notified, at the address of the recipient stated in the Contract Data.

#### The Parties' obligations 20

20.1 When the *Contractor* requires work to be carried out within the *scope*, he selects a supplier using the *selection procedure*.

20.2 The *Supplier* obeys an instruction which is in accordance with this contract and is given to him by the *Contractor*.

20.3 The *Supplier* attends meetings with the *Contractor* and others as stated in the Framework Information.

#### Time Charge Order 21

21.1 If he requires advice from the *Supplier* for a proposed Work Package, the *Contractor* issues a Time Charge Order to the *Supplier*.

#### Package Order 22

22.1 After he selects the *Supplier*, the *Contractor* instructs him to submit a quotation for a proposed Work Package and provides the additional Contract Data specific to the Work Package.

22.2 The *Supplier* submits a quotation in accordance with the *quotation procedure*. The *Supplier* submits details of his assessment with the

quotation. The assessment is made using the *quotation information*. The *Contractor* replies to the submission within one week of receiving the quotation. His reply is

- issue of a Package Order accepting the quotation,
- an instruction to submit a revised quotation or
- a notification that the proposed Package Order will not be issued to the
- *Supplier*.

22.3 If a quotation is to be revised, the *Contractor* advises the *Supplier* of the reasons for not accepting the quotation and the *Supplier* submits a revised quotation within one week of receiving the *Contractor's* reply.

22.4 The *Supplier* does not do any work included in a proposed Work Package until he has received a Package Order.

### **Completion 30**

30.1 After the *end date*

- the *Contractor* may not issue a Time Charge Order or Package Order
- the *Supplier* completes time charge work and Work Packages ordered before the *end date*.

### **Termination 90**

90.1 Either Party may terminate their obligations under this contract at any time by notifying the other Party.

90.2 After a Party has notified termination,

- the *Contractor* may not issue a Time Charge Order or Package Order and
- the *Supplier* completes time charge work and Work Packages ordered before the notification.

### **Amendments and additions**

#### **Core Clauses**

At the end of Sub-Clause 10.1, insert:

“Nothing in this contract shall create a partnership or joint venture between the *Contractor* and the *Supplier*, nor shall the *Contractor* or the *Supplier* be the agent of the other.”

Add as Sub-Clause 10.2:

“If the *Supplier* is a joint venture of two or more persons, all such persons are jointly and severally bound to the *Contractor* for the purposes of this contract. The persons designate one of such persons to act as a partner in charge with authority to bind the joint venture. The composition or the constitution of the joint venture is approved by the *Contractor* and is not altered without the prior consent of the *Contractor*.”

Add as Sub-Clause 10. 3:

“Without prejudice to any rights or remedies either of the parties may possess, this contract shall (subject to earlier termination under the terms of this contract) continue in full force and effect for an initial period of one 1) year from the Commencement Date. The *Contractor* may, at its sole discretion, extend the operation of this contract by one further year by giving the *Supplier* written notice no later than three months before the expiry of the initial period of this contract.

In Clause 11.2(3) after: “carried out” insert:

“pursuant to a Package Order as provided for”.

:

After 11.2 (5) insert the following additional definitions

<b>“Annual Works and Services Value”</b>	means the aggregate amount assessed by the <i>Contractor</i> as due to the <i>Supplier</i> under all Package Orders and Time Charge Orders in any year after the Commencement Date during the term of this contract.
<b>“Authorised Signatories”</b>	means the authorised signatory of each of the <i>Contractor</i> and the <i>Supplier</i> as notified in writing from time to time by the <i>Contractor</i> and the <i>Supplier</i> , respectively.
<b>“CDM Regulations”</b>	means the Construction (Design and Management) Regulations 2007 and the Health and Safety Commission’s Approved Code of Practice together with any guidance or requirements issued from time to time by the Health and Safety Executive, as all of the above may be amended, revised or supplemented from time to time.
<b>“Commencement Date”</b>	means the date of this Framework Contract.
<b>“Documents”</b>	means data, records, reports, documents, manuals, designs, drawings, plans, specifications and other works or materials of any nature in any form or medium (excluding proprietary software).
<b>“EIR”</b>	means the Environmental Information Regulations 2004.
<b>“Final Account”</b>	means the account showing the final amount payable in relation to the relevant Package Order or Time Charge Order.
<b>“FOIA”</b>	means the Freedom of Information Act 2000 and any subordinate legislation made under this Act from time to time together with any guidance and/or codes of practice issued by the Information Commissioner in relation to such legislation.
<b>“FOIA Information”</b>	has the meaning given under section 84 of the FOIA.
<b>“Guarantor”</b>	means the ultimate holding company or companies of the <i>Supplier</i> .
<b>“Intellectual Property Rights”</b>	means any current and future legal and equitable interests in patents, trade marks, design rights, copyright, know-how and other similar rights, whether or not registered or capable of registration.

- “NEC ECC”** means the NEC3 Engineering and Construction Contract Third Edition issued by the Institution of Civil Engineers, London with amendments in the form set out in Part 5 of this contract.
- “NEC ECSC”** means the NEC3 Engineering and Construction Short Contract Third Edition issued by the Institution of Civil Engineers, London with amendments in the form set out in Part 6 of this contract.
- “NEC PSC”** means the NEC3 Professional Services Contract Third Edition issued by the Institution of Civil Engineers, London with amendments in the form set out in Part 4 of this contract.
- “Relevant Supplier Personnel”** means those Supplier Personnel engaged at the commencement of the Restricted Period wholly or mainly in the performance of the Service of the Works or any part of them.
- “ Replacement Services”** means any service or works which the *Contractor* procures in substitution for the Service of the Works or part thereof following the termination or partial termination of this contract or any Package Order or Time Charge Order or removal of such Service or Works or part thereof from the scope of any Package Order or Time Charge Order (as the case may be), whether provided by the *Contractor* itself and/or by any third party.
- “ Replacement Supplier”** means any provider of the Replacement Services appointed by *Contractor* from time to time.
- “Request for Information”** has the meaning given under section 8 of the FOIA.
- “Restricted Period”** means any period of notice to terminate either this contract, a Package Order, a Time Charge Order, the Works or the Services or any part thereof and where notice to terminate this contract is given by the *Contractor* this period shall be taken to mean the period between the communication from the *Contractor* to the *Supplier* to terminate this contract and its actual termination.

- “Service”** means any service provided or to be provided by the *Supplier* pursuant to this contract and under a Time Charge Order or Package Order.
- “Service Cessation”** means the expiry of the term of this contract or any Package Order or Time Charge Order or any other cessation of the Works or the Service or part thereof in accordance with this contract or any Package Order or Time Charge Order.
- “Supplier Personnel”** means all employees, agents or consultants of the *Supplier* and/or any subcontractor from time to time including this individuals wholly or mainly engaged in the provision of the Services or the Works.
- “TUPE”** means the Transfer of Undertakings (Protection of Employment) Regulations 2006 as amended.
- “Working Day(s)”** means any day other than a Saturday or Sunday or a public or bank holiday in Great Britain.
- “Works”** means any works provided or to be provided by the *Supplier* pursuant to this contract and under a Package Order or Time Charge Order.

At the end of Clause 11.2 add the following:

“(6) If the *Contractor* requires any Service from the *Supplier* in connection with any Works, the *Contractor* shall be entitled to procure all or any of such Service as part of the Package Order or by way of a separate Time Charge Order or by any combination by the two.”

Add the following Sub-Clauses to Clause 11:

- 11.3 (a) Subject to any Time Charge Orders or Package Orders issued pursuant to this contract, this contract constitutes the entire agreement between the parties. In the event of any discrepancy, ambiguity or inconsistency between the terms and conditions in this contract and those of any Time Charge Order or Package Order, the terms and conditions in this contract shall take priority.
- (b) No variation of this contract shall have effect unless agreed in writing by the *Supplier* and the *Contractor*.
- (c) Delete the text of Clause 20.1 and replace with “Not used”.

Add as Clause 21.2:

“21.2 The Time Charge Order under this clause 21 shall be in the form set out in Part 4 of Schedule 1 of the Framework Information incorporating the terms set out therein, being the NEC PSC, as amended and set out in Part 4 of this contract, for the provision of Services and shall be signed by the Authorised Signatories. Should the Authorised Signatories fail to sign the Time Charge Order, the provision of such Services shall incorporate the terms identified in the Time Charge Order and, in any event, shall include the terms referred to above.”

Add as Clause 21.3:

“21.3 In the NEC PSC referred to in Sub-Clause 21.2 references to the “*Consultant*” are references to the “*Supplier*” in this contract.

In Clause 22.1 delete:

“After he selects the *Supplier*, the” and replace with: “The”.

Replace “him” with “the *Supplier*.”

Add at the end of Sub-Clause 22.4:

“The *Supplier* hereby agrees to provide any and all Works and/or Services in accordance with any Package Orders and/or Time Charge Orders made by the *Contractor*.”

Add as Clause 22.5:

“22.5 The Package Order under this clause 22 shall be in the form set out in Part 5 of Schedule 1 of the Framework Information incorporating the terms set out therein for the provision of Works and/or Services, based on value and complexity with the following only being a guide . The Contractor shall determine which contract shall be used :

- (a) the NEC ECSC, as amended and set out in Part 6 of the Framework Contract, only where the total value of the proposed Work Package is below £40,000 (unless the *Contractor* requires the application of the NEC ECC terms referred to in (b) below); and
- (b) the NEC ECC, as amended and set out in Part 5 of the Framework Contract, where either the total value of the proposed Work Package is £40,000 or above or the *Contractor* otherwise requires the application of such terms.

and shall be signed by the Authorised Signatories.

Should the Authorised Signatories fail to sign the relevant Package Order, as detailed above, the provision of such Works and/or Services shall incorporate the terms identified in the Package Order and in any event, include the relevant terms set out in Part 5 or 6 of this contract as appropriate.”

Add as Clause 22.6:

“22.6 In the NEC ECSC and the NEC ECC referred to in Sub-Clause 22.5 references to the “*Contractor*” are references to the “*Supplier*” in this contract.”

Add as Clause 23:

**23 Annual Works**

- (a) Nothing in this contract shall prevent the *Contractor* in its absolute discretion from entering into contracts with other suppliers for works and services of the types covered by this contract.”

Add as Clause 24:

“The parties shall not be bound by or be liable for any statement, representation, promise, inducement or understanding made in or during the *quotation procedure* unless and to the extent that such matters are then incorporated into documents which become part of the Package Order(s) and/or Time Charge Order(s) as the case may be.”

In Clause 30.1 at the beginning of the second bullet point insert:

“Subject to clause 90”

In Clause 30.1 second bullet point insert at the end:

“and the terms of this contract shall remain in full force and effect in respect of such Package Order and/or Time Charge Order”.

Delete Clause 90.1 and replace with:

“The *Contractor* shall be entitled to terminate this contract at any time by notifying the *Supplier*. The *Supplier* may terminate this contract where the *Contractor* has failed to pay any sums validly due under any Time Charge Order or Package Order (except where such sums have not been paid due to the *Contractor*'s right of set-off pursuant to Clause 92 of this contract or where the *Contractor* has withheld payment pursuant to the terms of the relevant Time Charge Order or Package Order). The *Supplier* must first give twenty six (26) weeks notice to the *Contractor*, and the contract shall then terminate on the expiry of such twenty six (26) weeks period if the sums validly due and the subject of the notice have not been paid.

Add as Clause 91:

**“Parent Company Guarantee 91**

**91.1** Where the *Contractor* requires the *Supplier* to provide any parent company guarantee(s) the *Supplier* shall obtain (at its own cost) and provide to the *Contractor* on or before the date of this contract any parent company guarantee(s) from the Guarantor in the form at Part 6 of Schedule 1 to the Framework Information duly executed by the parties to it (other than the *Contractor*) in relation to the *Supplier's* obligations and liabilities under or in connection with this contract and all Package Orders and/or Time Charge Orders.”

Add as Clause 92:

**“Set-Off 92**

**92.1** Where under this contract or any Package Orders and/or Time Charge Orders any sum(s) of money is recoverable from or payable by the *Supplier* each such sum may be deducted from or set off against the amount of any sum or sums then due or which may at any time after become due to the *Supplier* under this contract or any Package Order(s) and/or Time Charge Order(s).”

Add as Clause 93:

**“Assignment 93**

**93.1** The *Supplier* does not without the prior written consent of the *Contractor* assign, novate or otherwise transfer any benefit or obligation in a part or the whole of this contract and/or any Package Orders and/or Time Charge Orders.”

Add as Clause 94:

**“Contracts (Rights of Third Parties) Act 1999 94**

**94.1** Without in any way detracting from or affecting any enforceable rights or benefits which third parties might have under or as a consequence of any Package Orders or Time Charge Orders and/or any collateral warranties provided, pursuant to any Package Orders or Time Charge Orders, it is not intended that anything contained in this contract should confer any enforceable rights or benefits by virtue of the Contracts

(Rights of Third Parties) Act 1999 or otherwise upon third parties who are not parties to this contract.”

Add as Clause 95:

**“ADDITIONAL CONDITIONS 95**

95.1 Without prejudice to the obligations contained in the Core Clauses of this contract, the *Contractor* and the *Supplier* also agree to comply with the terms and conditions contained in the following additional conditions (“**Additional Conditions**”).”

## **Additional Conditions**

### **1 Intellectual Property**

- 1.1 The *Supplier* assigns to the *Contractor* and the *Contractor* owns all present and future Intellectual Property Rights in all Documents created by the *Supplier*, the *Supplier*'s subcontractors and subconsultants in relation to this contract and under any Package Order or Time Charge Order. The *Supplier* obtains from the *Supplier*'s subcontractors and subconsultants equivalent rights over the material prepared by the subcontractors and subconsultants. The *Supplier* makes available to the *Contractor* all such Documents for use. Where any Documents created by the *Supplier* or the *Supplier*'s subcontractors and subconsultants are held on computer or in other machine readable format, the *Supplier* provides a licence for and supplies any software necessary to enable the *Contractor* and his representatives to access and use the Documents.
- 1.2 The *Supplier* warrants that the *Contractor*'s exercise of any such Intellectual Property Rights shall not infringe the Intellectual Property Rights of any third parties and the *Supplier* shall indemnify the *Contractor* against any claims, damages, losses, costs or expenses suffered by the *Contractor* (or its assignees or licensees) as a result of the *Contractor*'s exercise of such Intellectual Property Rights.
- 1.3 The *Supplier* has the right to use the Documents only to satisfy its obligations under this contract and any Package Order or Time Charge Order. The *Supplier* may make this right available to the *Supplier*'s subcontractors and subconsultants for the same purpose. On completion of the Works or Services, the *Supplier* returns all the Documents to the *Contractor*.

- 1.4 As contemplated by the Copyright, Designs and Patents Act 1988, to the extent the *Supplier* or the *Supplier's* subcontractor or subconsultant is the author of Documents which comprise Intellectual Property Rights, the *Supplier* waives and shall ensure that the *Supplier's* subcontractor or subconsultant waives its rights against the *Contractor*, the *Contractor's* assignees and licensees to the extent that the exercise of such rights would prevent or impede the *Contractor's* exercise of the Intellectual Property Rights.

## **2 Collateral Warranties**

- 2.1 In relation to any Package Order or Time Charge Order, where the *Supplier* is to execute and provide a collateral warranty it shall be in the form set out in Part 1 of Schedule 6 of Framework Information with such amendments as the *Contractor* may reasonably require.
- 2.2 In relation to any Package Order or Time Charge Order, where the *Supplier* is to procure a collateral warranty from any subcontractor or subconsultant, it shall be in the form set out in Part 2 of Schedule 6 of the Framework Information with such amendments as the *Contractor* may reasonably require.

## **3 CDM Regulations**

- 3.1 Where and to the extent that the CDM Regulations apply to any Works or Services under any Package Order or Time Charge Order, the *Supplier* is appointed as “principal contractor”, and, to the extent specified in the Contract Data specific to that Package Order or Time Charge Order, the “CDM co-ordinator” and/or “designer” (as those terms are defined in the CDM Regulations) and performs all the functions and obligations of these appointments. The *Supplier* hereby confirms and agrees that in relation to the preparation of any design in any Works or Services for which he is responsible under this contract:
- (a) he shall (and shall ensure that all subcontractors, subconsultants or suppliers who undertake any responsibility in relation to the preparation, development and completion of such design or any part thereof shall) carry out and fulfill in all respects the duties of a designer under the CDM Regulations;
  - (b) he has or shall be deemed to have made all due allowance in the programming, planning and pricing of any Package Order or Time Charge Order for compliance with this clause.
- 3.2 The *Supplier* warrants and undertakes that he is competent for the purposes of the CDM Regulations and that he has allocated and will continue to allocate adequate resources to comply with the duties and obligations imposed on him by the CDM Regulations.

- 3.3 Where the *Supplier* is not or ceases to be the principal contractor, the *Supplier* shall (and shall ensure that all subcontractors, subconsultants or suppliers shall) comply with its duties and obligations as a contractor under the CDM Regulations and, to the extent that the *Supplier* is not appointed as the CDM co-ordinator, liaise and co-operate fully with the CDM co-ordinator.
- 3.4 The *Supplier* shall not commence any work on site until an adequate construction phase plan is in place, as required by the CDM Regulations.

#### **4 Freedom of Information**

- 4.1 The *Supplier* understands and acknowledges that the *Contractor* is subject to the requirements of the FOIA and EIR and agrees to assist and co-operate with the *Contractor* to enable the *Contractor* to comply with its information disclosure obligations.
- 4.2 The *Supplier* shall and shall procure that any subcontractor of any tier of the *Supplier* shall provide all necessary assistance as reasonably requested by the *Contractor* to enable the *Contractor* to respond to a Request for Information within the time for compliance set out in section 10 of the FOIA.
- 4.3 The *Contractor* shall be responsible for determining in its absolute discretion whether any information is exempt from disclosure in accordance with the provisions of the FOIA or the EIR and for determining, at its absolute discretion, the FOIA Information to be disclosed in response to a Request for Information.
- 4.4 The *Supplier* understands and acknowledges that the *Contractor* may be obliged to disclose FOIA Information without consulting or obtaining consent from the *Supplier*, or without taking the *Supplier's* views into account.
- 4.5 The *Supplier* shall not respond directly to a Request for Information unless expressly authorised to do so by the *Contractor*.
- 4.6 The *Supplier* shall ensure that all FOIA Information is retained for the agreed information periods as set out below and shall permit the *Contractor* to inspect such records as requested from time to time:
- (a) In relation to each Package Order - six years following the Final Account or such later date as identified in clause (c).

- (b) In relation to each Time Charge Order - six years following the Final Account or such later date as identified in clause (c).
- (c) In relation to this contract and any Package Order or Time Charge Order - six years following expiry or earlier termination of this contract.
- (d) The provision of this clause 4 shall survive the termination or expiry of this contract.

## **5 Confidentiality**

- 5.1 The *Supplier* shall take all reasonable steps, by instruction, display of notices or other appropriate means, to be agreed periodically with the *Contractor*, to ensure that all staff employed on any work and/or services in connection with this contract and any Package Order or Time Charge Order have notice that these provisions apply to them and will continue to apply to them:
- (a) after the end of or termination of this contract, any Package Order or any Time Charge Order; and
  - (b) after termination of their employment.
- 5.2 The *Supplier* shall not disclose this contract, any Package Order or Time Charge Order or any provision thereof or any information or documentation provided under or pursuant to the same to any person other than a person engaged in connection with this contract or any Package Order or Time Charge Order or to any insurer and only then to such extent as may be necessary for the performance of this contract or any Package Order or Time Charge Order, except with the written consent of the *Contractor*. Such disclosure shall be made in confidence and shall be limited to disclosure necessary for the purposes of this contract and/or any Package Order or Time Charge Order.
- 5.3 The *Supplier* shall not make use of this contract, any Package Order or Time Charge Order or any information issue or furnished by or on behalf of the *Contractor* otherwise than for the purposes of this contract, any Package Order or Time Charge Order except with the written consent of the *Contractor*.
- 5.4 Where the *Supplier*, in carrying out his obligations under this contract or any Package Order or Time Charge Order, is provided with information from or by the *Contractor* or by a third party on behalf of the *Contractor*, the *Supplier* shall not disclose or make use

of any such information otherwise than for the purpose for which it was provided, unless the *Supplier* has sought and obtained the consent of the *Contractor*.

5.5 Notwithstanding any of the provisions of this clause, nothing herein shall prevent disclosure of information:

- (a) by either party to his professional advisers, provided that the *Supplier* shall have procured their agreement to be bound by provisions no less onerous than the provisions of this clause with respect to such information; or

- (b) when such disclosure is a requirement of law placed upon the party making the disclosure, including any requirements for disclosure under the FOIA, Code of Practice on Access to Government Information or the EIR pursuant to clause 4 (Freedom of Information); or
  - (c) relating to the outcome of the procurement process for this contract as may be required to be published in the Official Journal of the European Union or elsewhere provided that this is in accordance with the requirements of EC Directives or United Kingdom Government policy on the disclosure of information relating to Government contracts; or
  - (d) by or on the part of the *Contractor* to any other department, office or agency of the Crown, or to any person engaged by the *Contractor* in connection with this contract.
- 5.6 The *Supplier* shall ensure that all staff, whether employed by him, or by a subcontractor, or self-employed, are under an obligation of confidence owed not only to the *Supplier* but also the *Contractor* not to disclose any information acquired during the course of their employment otherwise than in the proper discharge of their duties or as authorised by the *Contractor*.
- 5.7 Notwithstanding any other term of this contract, this clause 5 shall survive the expiry or, if earlier, termination of this contract and each Purchase Order and Time Charge Order for a period of six years.

## **6 Data Protection**

- 6.1 In relation to all Personal Data (as defined in the Data Protection Act 1999) in relation to this contract, any Package Order or Time Charge Order, the *Supplier* shall at all times comply with the Data Protection Act 1999 as a data controller if necessary, including maintaining a valid and up to date registration or notification under the Data Protection Act 1999 covering the data processing to be performed by the *Supplier* in connection with this contract and any Package Order or Time Charge Order.
- 6.2 The *Supplier* shall procure that any subcontractor shall only undertake processing of Personal Data reasonably required in connection with this contract and any Package Order or Time Charge Order.

**7**

**8 Construction Industry Scheme**

- 8.1 For the purposes of this Clause the *Contractor* is “a Contractor” for the purposes of the Income and Corporation Taxes Act 1988 and the Income Tax (Sub-Contracts in the Construction Industry) Regulations, 1993 (as amended by the Income Tax (Sub-Contracts in the Construction Industry) (Amendment) Regulations 1998) (together referred to as “the Act”).
- 8.2 The *Contractor* is not obliged to make any payment under any Package Order or Time Charge Order unless he is reasonably satisfied that, at the time of making the payment, the *Supplier* is the holder of a current and valid certificate issued by the Inland Revenue in one of the forms provided by the Act (CIS 4 or CIS 5 or CIS 6).

- 8.3 The *Contractor* makes the deduction provided by Sections 559(4) and (4A) of the Income and Corporation Taxes Act 1988 (referred to in this clause as the “Statutory Deduction”) from payments due to the *Supplier* under any Package Order or Time Charge Order in accordance with the requirements of the Act and provides the *Supplier* with a taxed payment voucher in the form prescribed by the Act, unless the *Supplier* produces to the *Contractor* prior to the making of the first payment under any Package Order or Time Charge Order and thereafter on reasonable request either:-
- a current and valid certificate in form CIS 5 or CIS 6, issued by the Inland Revenue in the form provided by the Act or
  - a certifying document created on the *Supplier's* headed stationery (not being a fax or photocopy) in the form prescribed by the Act,
  - in either case entitling the *Supplier* under the Act to be paid without the Statutory Deduction.
- 8.4 If the *Supplier* receives any payment from the *Contractor* without the Statutory Deduction, the *Supplier* supplies (if the Act so requires) forthwith to the *Contractor* a properly completed and signed voucher in respect of such payment in the form prescribed by the Act.
- 8.5 Where the *Supplier* is the holder of a certificate in form CIS 4, the *Supplier* states in any application for payment, the amount included in such request or account which represents the true and accurate direct cost to the *Supplier* and any other person of materials and goods used in executing the Works or Services.
- 8.6 The *Supplier* indemnifies the *Contractor* against any damage, loss and/or expense suffered or incurred by the *Contractor* arising out of or in connection with any breach by the *Supplier* of his obligations under this clause and/or under the Act.
- 8.7 Where any error or omission has occurred in calculating or making the Statutory Deduction the *Contractor* corrects that error or omission by repayment to, or by deduction from payments to, the *Supplier* as the case may be subject only to any statutory obligation on the *Contractor* not to make such correction.
- 8.8 If compliance with this clause results in the *Contractor* or the *Supplier* in not complying with any other provision of the contract, then the provisions of this clause prevail.

## **9 Change of Control**

- 9.1 The *Supplier* shall inform the *Contractor* immediately of any material change in the ownership of the *Supplier* or the Guarantor meaning a change in the beneficial ownership of 10 per cent or more of the *Supplier's* or the Guarantor's issued share capital, or the creation of a trust or any sub-participation in relation to such shares and of any proposed change of control of the *Supplier* or the Guarantor.
- 9.2 The *Supplier* shall obtain the *Contractor's* written approval prior to any change of control of the *Supplier* or the Guarantor. Change of control of the *Supplier* or the Guarantor means:
- 1 an event where any single person or group of persons acting in concert (within the meaning of the City Code on Take-Overs and Mergers) acquires control of the *Supplier* or the Guarantor or any interest in the relevant share capital (as defined in Section 198(2) of the Companies Act 1985) of the *Supplier* or the Guarantor as a result of which that person or group of persons has an interest in more than 30 per cent of the relevant share capital of the *Supplier* or the Guarantor; or
  - 2 a change of the general partner of the *Supplier* or the Guarantor, or
  - 3 a change of the legal structure of the *Supplier* or the Guarantor; or
  - 4 an event where any single person or group of persons acting in concert (within the meaning of the City Code on Take-Overs and Mergers) acquires Control (as defined in section 840 Income and Corporation Taxes Act 1988) of the *Supplier* or the Guarantor.

## **10 Nuisance and Trespass**

- 10.1 The *Supplier* shall:
- (a) at all times prevent any public or private nuisance (including, any nuisance caused by noxious fumes, noisy working operations or the deposit of any material or debris on the public highway) or other interference with the rights of any adjoining or neighbouring landowner, tenant or occupier (including occupiers of completed sections of any Works) or any statutory undertaker arising out of the carrying out of the Works;

- (b) at all times prevent the escape of any dangerous, harmful or damaging substance on any site or from such site and, further, prevent any escape (of whatever nature) which causes any injury, damage or actionable loss;
- (c) assist the *Contractor* in defending any action or proceedings which may be instituted in relation to such nuisance, interference or escape; and
- (d) indemnify the *Contractor* from and against any and all expenses, liabilities, losses, claims and proceedings whatsoever resulting from any such nuisance, interference or escape, save and to the extent that such nuisance, interference or escape is caused by or as a result of an instruction of the *Contractor*.

10.2 The *Supplier* shall ensure that there is no trespass on or over any adjoining or neighbouring property arising out of or in the course of or caused by the carrying out of the Works. If the carrying out of the Works is likely to necessitate any interference with the rights of adjoining or neighbouring owners or occupiers, the *Supplier* shall, at the request of the *Contractor* and at no cost to the *Contractor*, assist the *Contractor* in obtaining any prior written agreement of such owners and/or occupiers to such interference.

## **11 Professional Indemnity Insurance**

11.1 Without prejudice to the *Supplier's* obligations under this contract, any Package Orders and Time Charge Orders or otherwise at law, the *Supplier* shall effect and maintain in full force and effect for a period commencing on the date of this contract and expiring no earlier than 12 years from the date of completion of the final Package Order or Time Charge Order issued under this contract, professional indemnity insurance with a limit of indemnity of not less than five million pounds (£5,000,000) for each and every claim in respect of any claims against the *Supplier* provided that such insurance continues to be available in the insurance market at commercially reasonable premium rates and on commercially reasonable terms. Any increased or additional premium required by reason of the *Supplier's* own claims record or other acts, omissions, matters or things particular to the *Supplier* shall be deemed to be within commercially reasonable rates.

11.2 The insurance required by this Clause 11 is to be maintained with a reputable insurance company or underwriter licensed to carry on business in the United Kingdom and shall not be subject to any material excess or unusual exclusions.

11.2 When required to do so by the *Contractor*, the *Supplier* shall provide to the *Contractor* satisfactory documentary evidence that the insurance required by this Clause 11 is being maintained, and the *Supplier* hereby warrants and undertakes to the *Contractor*

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that, if and when required in order to maintain such insurance in full force and effect, this contract or any Package Order or Time Charge Order has been or shall be disclosed to the Supplier's professional indemnity insurers.

## **12 Other Insurance**

12.1 Without prejudice to the *Supplier's* obligations under this contract, any Package Orders and Time Charge Orders or otherwise at law, the *Supplier* shall insure:

- (a) any and all Works, plant and materials for not less than the replacement cost and the costs of demolition, removal of debris and professional fees and profit (including £500,000.00 for plant and materials provided by the *Contractor*). This insurance is to be effective from the date of issue of each Package Order.
- (b) the *Supplier's* equipment for not less than the full replacement value, including delivery to site. For each item of *Supplier's* equipment, the insurance shall be effective while it is being transported to the site and until it is no longer required as *Supplier's* equipment.
- (c) against each party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under (a) or (b) above) or to any person (except persons insured under (d) below), which may arise out of the *Supplier's* performance of any Time Charge Order or Package Order with a limit of indemnity of not less than twenty five million pounds (£25,000,000) for each and every claim.
- (d) against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the *Supplier* or any other of the *Supplier's* personnel with a limit of indemnity of not less than twenty five million pounds (£25,000,000) for each and every claim. The *Contractor* shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the *Contractor* or of the *Contractor's* personnel. The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works.
- (e) in respect of personal injury or death and property damage relating to any and all motor vehicles used by the *Supplier* on such terms and in such amounts as may be required by any Applicable Law.

**PART SEVEN**  
**FRAMEWORK INFORMATION**

## **FRAMEWORK INFORMATION**

The following Framework Information is intended to provide the *Supplier* with the general background and principles of the operation of the contract.

The Information is to be read in conjunction with all other parts of the contract.

### **1.0 BACKGROUND**

#### **1.1 General**

British Waterways (BW), the *Employer*, intends to have works of engineering construction and maintenance undertaken across its network over the period of time from 2009 to 2013.

The principal elements of the work are as follows:

- (i) The reduction of the historic maintenance backlog
- (ii) The continuing maintenance and improvement of assets and facilities to an acceptable condition
- (iii) Restoration schemes additionally funded by other parties
- (iv) Improvement works funded wholly or in part by other parties
- (v) Call out facility to cover emergency situations
- (vi) Small works with a value of less than £40,000

In order to implement this programme the Omnibus Framework Contract has been established.

The projects will be implemented by the issue of Package Orders and Time Charge Orders.

The geographic coverage for the works is across the BW network in England, Wales and Scotland.

The assets to be worked on include:

- Locks
- Bridges, fixed & moving, road accommodation
- Aqueducts
- Weirs
- Reservoirs & feeder channels
- Tunnels
- Shafts
- Culverts
- Retaining walls
- Embankments & cuttings
- Towpaths
- Basins
- Small canal side buildings (rarely)

The work excludes dredging, site investigation and facilities maintenance.

## 1.2 High Level Objectives

- The Contractor has a Contract with the Employer and is desirous to subcontract part of that work.
- To deliver the works in an efficient, effective, integrated and cost effective manner.
- To have a facility for dealing with major works, minor works of maintenance & repair, externally funded works and emergency works

## 1.3 Management Approach

The Subcontract will be undertaken by utilising a collaborative approach between the *Contractor* and the *Supplier*. This approach will be based on mutual trust, honesty, co-operation, integration, an open book management style, all in order to achieve an efficient and effective operating arrangement and process.

The purpose of this approach is to eliminate confrontation and adversarial attitudes in order to allow the *Contractor* and the *Supplier* to contribute to the overall success of the Framework Contract by using their respective strengths and abilities for the benefit of all.

The reasons for adopting the collaborative approach are as follows:

- To gain maximum efficiency and effectiveness out of the delivery process across the BW network
- To have a common, consistent process for the delivery of the works
- To minimise the wasted time, effort and cost associated with more traditional forms of contract
- To gain the benefit arising from the whole that is greater than the sum of the parts
- To achieve overall value from the process, where value is defined as:
  - Realistic prices for the works and overheads
  - Quality work, results and resources
  - Timely delivery
  - The highest standards of health and safety
  - Appreciation, respect and care for BW's core values, including environment, heritage, sustainability, customer care, customer service, relations with neighbours and the public
  - High standards of site set up, welfare, site management & practice
  - Zero or minimal defects
  - Innovative thinking to achieve time and cost reductions
  - Collaboration, co-operation and communication between all parties
  - Excellent supply chain management and practice
  - Excellent cost management and forecasting providing a high degree of cost certainty
  - Excellent NEC contract practice
  - The same or similar values from Subcontractors and Suppliers

#### 1.4 Management Arrangements

The contract will have a permanent Core Team comprising both *Contractor's* and *Supplier's* staff. The Core Team will be located in 4 offices providing management coverage across the *Contractor's* network.

The head office of the Core Team will be located at Canwell, Sutton Coldfield, Staffordshire and this office will double up as one of the delivery offices. The *Contractor* will provide and service this office at its own cost.

The other three delivery offices will be located in the vicinity of the following conurbations:

- Glasgow
- Warrington
- London

The *Contractor* envisages utilising some of its existing offices for these purposes however the *Contractor* is open to proposals from the *Supplier* to cohabit in one or more of the *Supplier's* relevant local offices..

##### 1.4.1 The Core Team

The Core Team will operate in the manner as detailed in section 1.3 above. The *Supplier* shall propose his key people for the Core Team in Contract Data Part Two for Time Charge Orders. The Core Team shall have the autonomy to deliver within its terms of reference. In general terms, the Core Team will oversee the development, execution and delivery of the works.

The Core Team objectives are as follows:

- To provide the highest quality service to the *Contractor*
- To provide the highest quality service to the *Supplier*
- To deliver the works in the most timely, cost effective, efficient and effective manner
- To work together in an open, honest, co-operative and trustworthy manner
- To deliver successful projects within the constraints imposed
- To achieve the highest levels of health and safety

The Core Team will be responsible for the following:

- The role of service provider to the *Contractor's* business
- The provision of Early Contractor Involvement in the development stages of a project
- The delivery of the works as identified in the individual Package Orders
- Planning and programming for the schemes
- Production and achievement of work programmes, milestones and key dates
- Reporting of outputs to the *Supplier's* office

- Reporting of outputs to the *Contractor's* office
- Preparation of *bills of quantities*
- Provision of target costs for each NEC ECC works scheme
- Provision of cost for each NEC ECSC works scheme
- The sites and the site works
- Compliance with the contract
- Reviewing performance and taking subsequent improvement actions

The BW staff within the Core Team will undertake the following roles, but not exclusively:

- Liaison and link between the Core Team and the BW Business Units
- Contract management
- CDM duties as Coordinator (where appropriate)
- Working with the *Supplier* on the overall delivery of the schemes
- Site Supervisor (where appropriate)

The parties agree to have a commitment not to change key Core Team members without a minimum of three months notice to the other party.

#### 1.4.2 Work Flow Process

For NEC ECC Package Orders under any Option the following process will generally apply:

Each BW project will be lead by a project manager from within the respective BW Business Unit (BUPM)in whose geographic area the work is situated. The BUPM will prepare a report detailing: the business need/ asset location /access requirements /BBPI scores /background information, etc. and call a Project Appraisal Meeting (PAM) to discuss and agree:

- the issue
- the *Contractor's* preferred solution to be adopted,
- the preferred methodology of working to achieve this,
- timescales for the production and collation of sufficient information to be able to establish an initial indicative budget (PAR Estimate) for the project
- the extent of support that will be required from the *Contractor's* design consultant, etc to provide detailed solutions or information
- Indicative Programme
- Issues to be resolved including
  - Legal requirements,
  - access requirements,
  - further tests etc that may need to be carried out;
  - potential Risks;
  - Site Information available/ to be obtained
  - EIA

On the majority of relevant projects the *Supplier* will be required to participate in the PAM.

It is the Contractor's intention that on the majority of relevant projects the *Supplier* will be required to co-operate with the *Contractor's* Cost Consultant and BUPM to prepare the initial PAR Estimate based upon an Estimating Cost Database derived from the Schedule of Rates and previous Package Order target costs. The *Supplier* shall develop the Estimating Cost Database in consultation with the *Contractor's* Cost Consultant and shall populate it and maintain it with input data from each Package Order target cost. On such projects the *Supplier* will also be required to participate in the project team risk workshop to identify risks, agree the project risk register and establish the project risk budget.

Where the *Supplier* has co-operated in the preparation of the PAR Estimate a KPI will apply between the PAR Estimate and target cost as described in Part Twelve of the Framework Contract.

The *Contractor* is required to approve the Project Appraisal Report (PAR) resulting from the appraisal process and containing the design solution, estimate and programme to enable the project to be progressed.

Based upon the approved Project Appraisal Report (PAR) solution, programme and estimate, the BUPM is responsible for the production of a Work Information Package (WIP) for the scheme. This will usually be achieved through the use of BW's PSC design consultancy arrangements with three consultant companies, namely Over Arup, Halcrow and Jacobs.

The *Supplier* will have an involvement in this process in consultation with the BUPM at appropriate stages of the project. This will take the form of Early Contractor Involvement or ECI, value engineering, etc.

The WIP shall capture the agreed outputs from this process, not only for the permanent works but also for the relevant temporary works specified requirements.

When complete the WIP will be delivered to the head Core Team office at Canwell. Following this the WIP will be sent on to the appropriate geographic delivery office, if this is not at Canwell.

The Core Team will review the WIP.

The *Supplier* will produce a draft estimate and programme for construction of the scheme early in the target cost process and reconcile them with the PAR Estimate and programme.

The *Supplier* will prepare a *bill of quantities* based upon the WIP and which will form the basis for the target cost.

The *Supplier* will produce a target cost for the scheme, by use of rates from the Schedule of Rates applied to items in the *bill of quantities* as detailed in Section Eleven to the Framework Contract, a programme and all other necessary statements for the works.

The Core Team will keep the BUPM advised and updated on progress during the target cost process.

The Core Team will review the target cost prior to presentation to the *Contractor*.

The *Contractor* will review the target cost for acceptance, rejection, or further review of risk allocation, scope of work etc.

If the scheme is to be re-scoped or revised, a revised WIP will be produced. A revised target cost will then be produced by the *Supplier* and submitted to the *Contractor* for acceptance.

On final agreement of the target cost, programme, start date and all other necessary information the *Contractor* will issue a Package Order to proceed.

The *Supplier* will initiate the construction stage for the scheme.

For minor works projects the process will be shorter and the *Supplier's* works manager for projects of this type will have direct involvement with the BUPM.

The price for the scheme is based on a target programme to which the schedule rates are applied.

(Further details are in Section1 Schedule 3 of the Schedules.)

#### 1.4.3 Early Contractor Involvement (ECI)

Early Contractor Involvement is a very important aspect of the contract. The *Supplier* will be involved during the development stages of projects in order that his construction skills, knowledge and experience can be integrated into the scheme. If necessary for the particular project, Subcontractors and Suppliers from the *Supplier's* supply chain system shall also be involved in this process in order to add value to the scheme.

The type of areas to be covered by this involvement include the following, but not by way of limitation:

- Identification of hazards and constraints
- Access, logistics, services & site boundary issues
- Temporary works
- Timings
- Design affecting construction & vice-versa issues
- Value engineering

On some projects this will also include earlier involvement in the initial project appraisal process, attendance at the Project Appraisal Meeting (PAM), participation in establishment of the Project Appraisal Report (PAR) Estimate and programme and participation the project team risk workshop and establishment of the project risk budget.

#### 1.4.4 Innovation

There is a requirement within the entire delivery process for the *Supplier* to use his skills, knowledge and experience, whenever and wherever possible, to produce innovative solutions, means and methods in areas which come under his responsibility in order to deliver added value to the project. This may be in terms of saving time and subsequently cost as a result of a more effective and/or efficient way of dealing with a particular issue. This approach should extend down the supply chain.

#### 1.4.5 Continuous Improvement

It is anticipated that the working arrangements for the Core Team will show continuous improvement in the outputs arising from their areas of responsibility. It is expected that a culture of improvement and betterment is engendered in everything that is done. Regular reviews shall be undertaken in order to put this into effect.

#### 1.4.6 Supply Chain

The overall success of the contract is dependant not only upon the *Contractor* and the *Supplier* but also on the *Supplier's* supply chain system. To this end the supply chain system for use on the contract shall exhibit similar style, ethos values and approach as those engendered within the Framework Contract. The system shall be well developed and managed in accordance with current best practice, providing adequate geographic coverage across the BW network. It is expected that the system shall be maintained and updated by a process of regular review, feedback, revision and action.

Subcontractors and suppliers are expected to be involved as and when necessary early on in the project development stages in order that additional benefit can be obtained. Payment will be made for supply chain contribution to ECI by an approved manner. The selection of subcontractors and suppliers should be based on the ability to deliver the work required to the same quality standards as those that are incorporated into this contract.

The Contractor's expectations of the supply chain also include and highlight the following:

- Collaborative arrangements over the medium or longer terms
- Competitive market rates and/or benchmarking
- Prompt payment
- Fair and reasonable treatment in accordance with subcontract terms
- Co-operation, mutual trust, honesty, openness, communication, integration
- Use of gain share / pain share arrangements as and where appropriate
- Innovation
- Risk management skills and capability
- Problem solving capability
- Highest standards of health & safety
- The best standards of management practice, including cost management
- High quality and timely service and end product, including minimal or zero defects

#### 1.4.7 Key Performance Indicators (KPI's)

The overall performance of the Framework Contract will be measured and reported by the *Supplier* in accordance with the Constructing Excellence benchmarks.

The following CE KPI's shall be used:

- Client Satisfaction – Product
- Client Satisfaction – Service
- Defects
- Predictability – Cost

- Predictability – Time
- Construction – Cost
- Construction – Time

Framework performance on the NEC ECC works projects will be measured according to the information contained in Part 12 of the contract document – Incentive Schedule for NEC ECC Package Orders.

The following KPI's are included:

- Health & Safety
- Quality
- Time
- Value
- Environment & Heritage
- Sustainability
- British Waterways – dependant on BW performance

#### 1.4.8 Office IT Arrangements

Not used

#### 1.4.9 Records and Reports

The *Supplier* shall keep full, accurate and proper records and books of account relating to the *Supplier's* element of the contract. Such books shall be promptly audited by suitably qualified accountants or clerks in accordance with standard accounting practice. The books and all documents shall be available for inspection at all times by the *Contractor* or his duly appointed agents. The *Contractor* shall have the right to make copies or to take such extracts from the books and documents as they shall see fit.

Without prejudice to the foregoing, in the event of an investigation into suspected fraudulent activity or other impropriety by the *Supplier* or any third party the *Contractor* reserves for itself, any statutory auditor of the *Contractor* or the *Contractor's* duly authorised agents the right of immediate access to the premises and relevant documents and the *Supplier* agrees to render all necessary assistance to the conduct of such investigation at all times during the currency of this contract or at any time thereafter.

The *Supplier* shall prepare and submit to the *Contractor* a monthly statement of all costs properly incurred by the *Supplier* on the contract together with such other reports as the *Contractor* may require.

The statement shall differentiate between NEC ECC works, NEC ECSC works and the *Supplier's* element of the Core Team.

The statement shall readily identify items of Disallowed Cost as well as those items which are not in either Defined Cost or Disallowed Cost.

#### 1.4.10 Employees

Each party agrees during the term of this Framework Contract not to solicit or make any offer to employ or engage directly or engage as a consultant or sub-contractor

any employee of the other party without the express consent in writing of the other party.

1.4.11 Hazardous Materials

The *Supplier* warrants and undertakes that he has not and shall not specify nor authorise, cause or allow to be used within or in relation to the works any material which is known to or is reasonably believed to pose a hazard to the health of any person or to the environment or which, at the time of specification or use in the works, is generally accepted as being deleterious. ("Prohibited Materials").

The *Supplier* shall immediately notify the *Contractor* if he suspects or becomes aware of any proposed or actual use within or in connection with the works of any of the Prohibited Materials.

1.4.12 Quality Management Systems

The *Supplier* shall undertake his management duties and roles in accordance with his accredited quality management systems including ISO's 9001, 14001, 18001 or their successors and such other quality systems as the *Supplier* may have accreditation for.

1.4.13 During the course of the contract the *Supplier* shall, whenever and wherever necessary, endeavour to maintain good relationships and co-operate with other contractors, members of the public, neighbours and other interested parties. It is anticipated that this would form a part of the *Supplier's* corporate social responsibility agenda within his management systems.

## **BRITISH WATERWAYS STANDARDS APPLICABLE TO ALL SUBCONTRACTS**

### **ENVIRONMENT, HERITAGE & SUSTAINABILITY BW POLICY STATEMENTS**

#### **Introduction & Background:**

British Waterways regards the environment, heritage and sustainability of the canal network as of prime importance in the operations of the business.

#### **Environment Policy:**

##### **1. Purpose**

BW want to conserve and enhance the environment of the waterways as an essential part of achieving its vision. It is the quality and sustainability of the waterway environment that will attract people to them and ensure they become increasingly valued as a national asset.

##### **2. Definition**

Our environment covers the physical world that is common to everybody including air, water, land, flora and fauna. Our principles address the whole of the environment and our interaction directly or through our business activities with it.

##### **3. A working, living inland waterway network**

- 3.1 BW's waterways are used for navigation and general recreation. It therefore seeks to integrate the needs of those who visit and use the network with the actions needed to conserve the wildlife which contributes to the amenity of the waterways.
- 3.2 BW aims to become the acknowledged expert in achieving the most sustainable integration of the competing needs and uses of the waterways. Compliance with legislation and regulation is a minimum requirement. We will always aim to exceed this position, continually improve our performance and consistently achieve good practice.
- 3.3 Where balances and judgements have to be made between competing resources and conflicting activities, we will take the long term and strategic view. In doing so we presume that this will favour the conservation of the environment.
- 3.4 BW will carefully manage its environmental impact, including reducing the use of non-renewable resources, minimising waste, conserving water resources, promoting biodiversity and prevention of pollution throughout its' activities. BW are committed to the efficient and beneficial use of its land resource, with conservation and enhancement of the unique waterway landscape and character.
- 3.5 Regular review of its policies, procedures and systems will ensure that BW's environmental practices and performance reflect any changes in business circumstances, relevant legal requirement and customer expectation. BW will use the principles of environmental management systems. In particular measures taken to ensure high standards of environmental performance will be verifiable and auditable. Environmental performance will be measured through objectives and targets including those within Corporate Social Responsibility Lead Indicators. BW will publicly report on progress on these Lead Indicators.
- 3.6 We will promote best practices amongst our employees, contractors, suppliers, customers and partners. We will seek suppliers, contractors and partners with standards consistent with our own.
- 3.7 This policy is available to all British Waterways employees and is freely available to members of the public.

#### **Heritage Policy:**

## **1. Introduction**

Our aim is for the heritage of the waterways to be treasured as a valued national asset. The careful protection and management of that heritage is an essential part of the ongoing work to achieve our vision.

## **2. Definition**

BW heritage assets consist of its historic canals and river navigations, and their built heritage, archaeology and historic man-made landscapes. The wider historic environment includes assets that are not directly managed by BW but are nevertheless important to the appeal and use of our waterways.

## **3. A working, living inland waterway network**

- 3.1 BW's waterways are used for navigation and recreation. We seek to integrate the needs of those who visit and use the network with a sustainable approach to effective management of the waterway heritage..
- 3.2 In line with our vision BW seeks to become the acknowledged expert in achieving sustainable integration of the competing needs and uses of the waterways. Compliance with legislation and regulation is a minimum requirement. We will aim to exceed this requirement by continually improving our performance and delivering appropriate good practice.
- 3.3 Where balances and judgements have to be made between competing resources and activities, we will take a long term and strategic view that assumes a presumption in favour of preserving the waterway heritage.

## **4. Heritage Principles**

- 4.1 Our heritage principles provide the framework within which BW manages the waterway heritage. The principles establish best practice in the maintenance and repair of historic structures, the management of historic man-made landscapes, the relationship with new development, the importance of archaeology and the use of interpretation and public events. We will monitor our activities and outputs through an annual 'State of the Waterways Heritage' report.
- 4.2 We will promote best practice amongst our employees, contractors, suppliers, customers and partners. We will seek suppliers, contractors and partners with standards consistent with our own.
- 4.3 This policy is available to all British Waterways employees and members of the public.

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### **General**

1. British Waterways will seek to manage the physical impact of human activities in order to protect the waterway heritage.
2. British Waterways will seek, through national and local planning policies, to encourage adjacent land uses and development which will not conflict with the historic environment of the waterways.
3. British Waterways will seek to become increasingly self-regulating in its management of the waterway heritage through the use of Heritage Partnership Agreements.

### **Understanding significance**

4. Before works to a historic building, structure or historic site take place, research should be undertaken to determine its significance. This research will establish heritage value and will help to guide the planning and execution of works.
5. Regard should be had for the historic functionality of waterways; eg, gauge of track, turnover bridge configuration, positioning of bollards, strapping posts and rope hooks. The heritage value of these 'functional traditions' is significant and should be secured.

#### **Historic buildings and structures**

6. All NEC ECC projects and general works should demonstrate a respect for waterway heritage, and an approach based on minimum physical intervention involving minimum loss of existing fabric should be undertaken.
7. Interventions should be reversible wherever possible.
8. Regard should be had for the contributions of different periods of work in an historic structure. The heritage value and significance of such contributions must be judged within the context to which their host structure belongs.
9. The patina of age and use forms part of the value of a historic building or structure and its removal should only be considered when it is essential to the protection of historic fabric. Falsification of patina should be avoided.
10. Most repairs and alterations should be carried out in materials that match the historic fabric. Interventions involving replacement of missing parts should be discreetly date marked to differentiate new from old.
11. Historic materials, fixtures and fittings are valuable and wherever possible should remain in situ. Where such items cannot be left in situ they should be carefully salvaged and stored for re-use in an appropriate context.

#### **Historic man-made landscapes**

12. Major projects and general works will be planned and designed so as to minimise their impact on the historic man-made landscape.
13. Consideration of landscape character and local distinctiveness will influence the design and planning of waterside development.

#### **New development**

14. New development can be acceptable in an historic setting provided it maintains an appropriate visual context of form, scale, and materials and does not reduce the significance and value of heritage assets.
15. Sustainable and compatible new uses which respect the equilibrium of the waterway heritage will be encouraged.

#### **Archaeological recording**

16. Where development or major works that affect heritage assets are taking place, physical features should be archaeologically recorded.
17. Archaeological records should be placed in local Historic Environment Records (HERS) and made publicly available.

#### **Interpretation**

18. Heritage interpretation should exploit the local distinctiveness, landscape, archaeology and cultural associations of individual historic waterways.
19. Interpretative signage should be carefully designed and integrated into historic sites with minimum intrusion.

### **Volunteers**

20. Volunteers will be encouraged to participate in a range of heritage activities including research, heritage recording exercises, and restoration projects.

### **Competent people**

21. All BW personnel will attain a specific heritage competency that is assigned to their role and responsibilities.
22. All BW personnel and contractors working on historic buildings and structures or archaeological sites will have sufficient competence and expertise.

### **Sustainability Policy:**

BW's policy statement of its aims and objectives include a commitment to:

**'Maintain and develop Britain's inland waterways in a sustainable manner so that they fulfil their full economic, social and environmental potential.'**

We will continue to develop an integrated approach to managing the inland waterways and will ensure social, economic and environmental sustainability through the following policies.

### **Our Policies:**

#### **1. Effective protection of the environment and prudent use of natural resources**

We will conserve and enhance the built and natural environment of the inland waterways, their character, history and traditions and work in partnership to minimise impacts on the wider environment. We will promote the use of the waterways for sustainable transport.

We will minimise waste and ensure the efficient use of energy, water resources and materials, based on whole life costs, and seek to source materials locally whenever appropriate. We will promote best practice amongst our staff, suppliers, customers and partners.

#### **2. Social progress which recognises the needs of everyone**

We will improve and promote the waterways as safe, accessible and enjoyable environments for all sectors of the population, and foster strong ownership and engagement by local communities.

#### **3. Sustainable economic growth and employment**

We will promote inland waterways as catalysts for urban and rural regeneration, seeking to bring economic benefits to local communities.

The financial sustainability of the business is a pre-requisite to the achievement of these policies, so that the necessary funds are available to enable BW to invest in the asset.

The three policies for sustainable development should be viewed as equally important in order that the business progresses on all fronts. On a project basis however one may outweigh the other based on an assessment of the significance of the individual attributes and opportunities to be gained.

### **SUSTAINABILITY**

### **Introduction & Background:**

BW has made a commitment to develop and maintain its waterways in a sustainable way, and indeed to carry out all areas of its work in a sustainable manner. This means that works are to be carried out by considering and balancing the followings needs:

- recognising the needs of our customers and local communities - through access, leisure, education and community involvement
- looking after the environment, heritage and fabric of our waterways
- the requirement to generate income to ensure the upkeep of our waterways
- minimising waste and using energy and resources as efficiently as possible

### **Framework Contract:**

The following measures shall be adopted for the framework contract:

#### **Carbon Footprint:**

A KPI measure will be used to incentivise reductions in carbon footprint for the site stage of all projects.

All Package Orders will include estimates of CO<sub>2e</sub> consumption for the specified works. These shall be compiled by the *Contractor*.

Estimate of CO<sub>2e</sub> to be generated in the delivery of the works will include travel of site based staff as well as other items used or consumed in the delivery of the specified works. Typically this will include site accommodation and temporary works etc.

Reductions in CO<sub>2e</sub> consumption achieved in the estimated CO<sub>2e</sub> generated during the works will entitle the Contractor to a percentage of the KPI related gain share. In the event that materials and methods employed actually increase the CO<sub>2e</sub> consumption, the Contractor shall lose this element of the KPI.

Account will be taken of changes to the works (compensation events) in the calculations relating to this.

An agreed procedure will be used to measure CO<sub>2e</sub> consumption

#### **Site Waste Management Plans (SWMP):**

A KPI measure will be used to incentivise reductions in waste when comparing the pre works SWMP with the post works assessment.

Notwithstanding the imminent implementation of Site Waste Management Plans, all works procured through Package Orders will have a site waste management plan and will report waste outputs.

#### **Use of Recycled and Reclaimed Aggregates & Materials:**

The use of recycled and reclaimed materials during the site stage of the works is actively encouraged and supported by BW. Allowance should have been made in the Package Order WIP for the use of these types of materials.

Where this is not the case, the *Contractor* will be expected to raise these issues during the development stage of the project through to target cost stage and beyond.

Tonnages of recycled and reclaimed aggregates and materials shall be recorded for each Package Order.

**Timber:**

“All timber and timber materials to be from a sustainable source in accordance with British Waterway’s policy on timber (BW Direction: Procurement of Timber). All timber must be from legal sources and no timber sourced from endangered species will be used. Materials which cannot demonstrate this must not be used.

Sustainability should be demonstrated with the Forest Stewardship Council (FSC) Chain of Custody (CoC) certification with copies of valid certificates. Evidence of certificates, volumes and species is to be kept for provision to British Waterways who as members of WWF\_FTN requires it for annual auditing purposes. Information shall be provided on request to the *Contractor* and in the form of an annual calendar year summary. Contact details of nominated personnel who will hold and provide this information to be issued to the *Contractor* with a copy to the British Waterways Head of Environment.

If it can be demonstrated that FSC or the full chain is not available partial FSC CoC (e.g. not fully covering the entire chain of suppliers) or other proof of sustainability (e.g. other certification schemes) may be used with the prior written approval of the *Contractor* in consultation with the British Waterways' nominated expert, currently Katie Livesey of BRE.

In these specific approved cases, the following details shall be submitted to the *Contractor* for acceptance for each individual case:

- Species
- Volume
  
- Country of origin
- Valid CoC Certificate number
- End use (e.g. products)

A reason for not accepting the partial FSC CoC or other proof of sustainability submitted is that it would be prejudicial to British Waterway's membership of WWF\_FTN and/or policy on procurement of timber. “

**“Sustainability Register:**

The *Contractor* shall submit to the *Contractor* all information necessary to enable compliance with BW Direction: Sustainability Register and provide all necessary input to associated Sustainability Register Appraisals as set out in BW Guidance: Sustainability Registers For Operational Projects “

**CEEQUAL Assessment:**

CEEQUAL is the Civil Engineering Environmental Quality Assessment & Award Scheme. On selected projects carried out under ECC Package Orders a CEEQUAL assessment shall be undertaken for the whole project. This shall be carried out by a trained assessor as part of the *Contractor's* core team role, with associated payment via the core team arrangements.

Approximately 10% of selected schemes over £250K, as nominated by the *Project Manager* and agreed with the *Contractor*, shall be verified by CEEQUAL .

It is anticipated that there will be 2 to 4 schemes per year requiring the verification process under CEEQUAL.

**Useful Web Sites:**

DEFRA

Department for Business, Enterprise & Regulatory Reform

Environment Agency

SEPA

CIRIA

NETREGS

Carbon Trust

WRAP - Waste & Resources Action Programme

CEEQUAL

## GENERAL SPECIFICATION for SCHEDULES 1, 2 & 4

### MATERIALS AND WORKMANSHIP

#### PREAMBLE to the SPECIFICATIONS:

1. The order of priority for the Specifications is by number:- 1, 2.
2. The clause numbering system for the BW Specification 1 starts with the Class heading letters of the Civil Engineering Standard Method Measurement (CESMM). These are followed by a sequential numbering system, e.g. E.1.2.3 for Earthworks.
3. The following clause numbering systems apply to the Specification 2:
  - CESWI (Civil Engineering Specification for the Water Industry)
  - SHW (Specification for Highway Works)
  - M&E as BW reference numbers
4. Reference is made to the Piling Handbook, latest edition, for steel piling works.
5. Works undertaken via the Small Works arrangement and Schedule 4 shall be in accordance with the Specifications 1 & 2.
6. Where there is disagreement, conflict or ambiguity between the Specifications, the order of precedence shall be as follows:

BW – CESWI – SHW – Other (Piling Handbook, etc..)

#### GENERAL CONTENTS:

Specification 1 (pages 2 to 33)

Specification 2 (pages 33 & 34)

List of Reference Drawings – for the Specification and the Schedules (page 35)

## SPECIFICATION 1, MATERIALS & WORKMANSHIP

### CONTENTS of the Specification 1

#### **A General Items**

- A.1 Site accommodation, welfare and equipment
  - A.1.1 General
  - A.1.2 Site Office(s)
  - A.1.3 Security Store(s)
  - A.1.4 Toilet Blocks
- A.2 Temporary Works
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#### **E Earthworks**

- E.1 Puddle Clay
  - E.1.1 General
  - E.1.2 Properties
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  - E.1.4 Placement
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#### **FG Concrete Works**

- FG.1 Concrete Bag Walling
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#### **O Timber**

- O.1 Hardwood Timber
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#### **P Piles**

- P.1 General
  - P.1.1 Free issue piles & trench sheets
- P.2 Steel sheet piling
- P.3 Steel trench sheets
- P.4 Clearance of the canal bed
- P.5 Driving Piles
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- P.7 Piling records
- P.8 Cutting of piles
- P.9 Drilling of piles
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## R Roads & Paving

- R.1 Towpath construction
  - R.1.1 General
  - R.1.2 Brick paving
    - R.1.2.1 Edgings & upstands
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  - R.1.3 Granite setts

## U Brickwork, Blockwork & Masonry

- U.1 Brickwork
  - U.1.1 General
  - U.1.2 Protection of brickwork
  - U.1.3 Mortar Materials
    - U.1.3.1 Sand
    - U.1.3.2 Water
    - U.1.3.3 Cement
    - U.1.3.4 Lime putty
    - U.1.3.5 Hydraulic limes
    - U.1.3.6 Pulverised fuel ash
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  - U.2.1 General
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- X.1 Fencing
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  - X.2.2 Stiles, bridles gates & kissing gates
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  - X.5.2 Technical data for 300 mm roll
  - X.5.3 Supply & installation
  - X.5.4 System 1
  - X.5.5 System 2
  - X.5.6 System 3
  - X.5.7 System 4
- X.6 Replanting of reeds
- X.7 Revetment systems

**Preamble to the Specification:**

Where reference is made to British Standards, the current equivalent standard or code shall be acceptable.

When reference is made to the Works Information in the specification, this is the Works Information for the particular project to be undertaken via the framework contract.

## **BW SPECIFICATION 1 FOR MATERIALS AND WORKMANSHIP**

### **A GENERAL ITEMS**

#### **A.1 SITE ACCOMODATION, WELFARE & EQUIPMENT**

##### **A.1.1 General**

The following is not a definitive list of specified requirements but is intended to provide the basis for a modern, secure site set up including:

- Welfare and messing
- Drying
- Services, heat, light, water, ventilation
- Office equipment & facilities
- Consumables
- Health & safety
- Cleaning and maintenance
- Drainage
- Sanitation
- Etc.

There are 4 Types of site set up arrangements as follows:

- Type A, small
- Type B, medium
- Type C, large
- Type D, special unit

These are itemised in Schedule 1 of the Schedule of Rates for the contract.

The type D special Unit shall be an all-in-one facility, intended for short duration, low resource level sites, typically a foreman, ganger and 3 operatives. The unit shall be fully self contained and equipped.

Normally BW staff will not require separate site office accommodation unless specifically required and requested. Offices and facilities are to be shared. BW staff, Client project manager, core team contract manager, site supervisor (where appointed), etc. will be site visitors rather than resident on site full time.

All of the site facilities shall be cleaned daily and maintained in a clean, tidy and sanitary condition.

The Contractor, in consultation with BW, shall determine the specific requirements for each site and shall be responsible for them in every respect.

##### **A.1.2 Site Office(s)**

The overall indicative office plan areas shall be as follows:

- Type A – 10 m<sup>2</sup>
- Type B – 25 m<sup>2</sup>
- Type C – 50 m<sup>2</sup>

##### **A.1.3 Security Store**

The Contractor is to determine the size and requirements for his security storage appropriate for the particular site and works.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **A GENERAL ITEMS**

#### **A.1 SITE ACCOMODATION, WELFARE & EQUIPMENT (Continued)**

##### **A.1.4 Toilet Blocks**

Toilet blocks shall be adequate for the number of people engaged on the site plus visitors. A general indication is as follows:

- Type A – 6 to 10 people based on site
- Type B – 10 to 15 plus people based on site
- Type C – around 20 people based on site

There shall be separate facilities for females.

#### **A.2 TEMPORARY WORKS**

##### **A.2.1 Temporary Dams & Associated Items**

The Contractor shall be aware of the following requirements when installing temporary dams in a canal or navigation:

There is often a quantity of silt across the bed of the canal. This should be removed as far as possible in order to ensure a good seal to the true canal bed and to prevent leakage under the dam.

When dams are installed this is stirred up and enters the water column as a suspended solid. This may be classed as pollution in the terms of the Environment Agency.

The Contractor shall erect silt screens and/or barriers in order to contain this material in the immediate vicinity of the dam.

The cost of these items shall be included in the rates in the Schedule.

For temporary dams constructed out of fill material, including puddle clay, there will be some residual seepage on dewatering. This will come from under the dam through the remaining silt deposits.

There may also be leakage via the brick or masonry walls either side of the dam if these are present and open jointed.

The Contractor should carefully inspect the area where the cofferdam is to be sited in order that he may determine the possible extent of any seepage that may occur after installation of the dam.

The Contractor should then allow for this in his pumping and water control requirements in the particular target cost build up.

Removal of temporary dams shall be undertaken with care in order to avoid damage to the puddle clay bed of the canal (if puddle clay is present) or to the bed of the canal where puddle clay is absent. Where disturbance or damage to the puddle clay bed occurs, the Contractor shall make this good with additional puddle clay.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **A GENERAL ITEMS**

If navigation stop plank systems are to be used, care must be taken to ensure that the following requirements are met prior to use in the works:-

- 1) The stop planks are fit for purpose and adequate for their intended use, even when supplied by British Waterways free issue.
- 2) The stop plank grooves are fit for purpose and adequate for usage.
- 3) The stop plank cill is sufficiently flat and level, thus reducing the risk of leakage underneath.
- 4) The canal walls either side of the stop plank system are in good and adequate condition and not prone to excessive leakage around the back of the grooves.
- 5) The cill is clear of any silt, debris and obstructions prior to placing the planks.
- 6) The planks have a means of removal on completion of usage.

### **E EARTHWORKS**

#### **E.1 PUDDLE CLAY**

##### **E.1.1 General**

Material to be used as puddle clay shall be naturally occurring homogenous plastic material. It shall be free from deleterious matter such as sand, stones and organic material. The use of lime stabilised clays shall not be allowed.

##### **E.1.2 Properties**

- 1) More than 65% of the natural material shall be finer than 0.06mm and more than 40% shall be finer than 0.002mm;
- 2) The natural material shall be defined as firm clay in accordance with BS 5930: 1981 Table 8 (Cu 40-75kpa);
- 3) The natural material shall be defined as clay of intermediate to extremely high plasticity in accordance with BS 5930: 1981 Figure 31. The liquid limit shall not be less than 35%;
- 4) The coefficient of permeability (k) of the remoulded material shall not be greater than  $10^{-9}$ m/s;
- 5) The remoulded material shall be defined as non-dispersive (ND1) in accordance with BS 1377: Part 5, Table 2.

##### **E.1.3 Approval**

- 1) A representative sample of the proposed clay material, not less than 25kg in weight together with appropriate test results shall be supplied to the Supervisor for this approval not more than two weeks prior to use on site, and at least four weeks in advance of any proposed change in source or quality of the material.

**BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

**E EARTHWORKS**

- 2) Test results to BS 1377 are required as follows:-
- (i) Grading
  - (ii) Liquid and plastic limits
  - (iii) Natural moisture content
  - (iv) Coefficient of permeability of remoulded clay
  - (v) Pinhole dispersion of remoulded clay
  - (vi) Compaction (2.5kg rammer)

General Note on identification of suitable material. For use by British Waterways site personnel (not normally to be included in the specification):-

An indication of a material's suitability may be obtained from the following empirical tests:

a) Tenacity Test

A 300mm long, 25mm diameter cylinder of clay is held vertically for 15 seconds so that at least 200mm is unsupported and in tension under its weight. If the cylinder breaks the clay will be rejected as unsuitable.

b) Pinch Test

A 75mm diameter ball of remoulded clay is squeezed into a 25mm thick flat disc. If any cracks appear the clay will be rejected as unsuitable.

c) Slaking Test

A 50mm diameter ball of remoulded clay is placed in a 600ml beaker and covered with water. If the ball disintegrates within 24 hours the clay will be rejected as unsuitable.

d) Permeability Test

A sample of remoulded clay shall be formed into a tray to hold 20 litres of water, and the loss measured after 24 hours. This shall be compared with the water loss from a metal tray of the same surface area holding the same quantity of water. If the difference is greater than 1% the clay will be rejected.

**E.1.4 Placement**

The clay should be reworked in a stock pile on the site and water added as necessary to destroy the original structure of the clay and produce a smooth plastic homogeneous puddle clay with a moisture content of a minimum of 1.3 times the plastic limit. Reworking of the clay should be carried out in such a manner as to prevent contamination.

The method of placing the clay shall be approved by the Contractor before the work commences. Whatever means are adopted, they shall produce a continuous homogeneous plastic mass of puddle clay effectively free from voids, laminations or imperfections which could affect its water retaining properties.

The clay shall be placed in horizontal layers not exceeding 150mm consolidated thickness and compacted by an approved method to an air void content not exceeding 5%.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **E EARTHWORKS**

Unless agreed otherwise with the Contractor, the type of compaction plant and number of passes shall conform with the requirements of Series 600 and Tables 6/1 and 6/4 for material Class 7C (selected wet cohesive material) of the DoT Specification for Highway Works.

Before placing a further layer of puddle, the surface of the previous layer shall be cleansed of all slurry and surplus water and the surface prepared to ensure that the clay to be placed shall be integrated with that already placed. Preparation of surfaces between successive layers shall be formed by frequent non-continuous spade cuts into the upper surface of the clay to a depth of 75mm.

Where the clay puddle is to be joined with existing clay puddle, the existing clay shall be cut back and stepped to form a good key between the existing and new clay puddle over a distance to be agreed by the Contractor, but not less than 100mm. All traces of junction marks shall be wholly eliminated.

The Contractor shall undertake adequate precautions to protect any puddle clay from drying out or rain damage by covering with waterproof sheeting. The Contractor shall also protect the puddle clay from frost damage.

### **E.2 RIP RAP REVETMENTS**

Rip Rap revetments shall be as indicated in the Works information and on the drawings.

Stone for rip rap shall be:

- Angular to Sub-angular in shape for interlock purposes
- Hard, dense and durable; for sandstone this means a well cemented matrix
- Graded in accordance with the design grading curve

On final placement, the rip rap layer shall form a dense homogeneous mat with a minimum of voids relative to the stone grading. In situ the layer shall be well graded in accordance with the grading curve.

Placement shall avoid significant and detrimental damage to the surface onto which the stone is placed.

The final thickness of the rip rap layer shall be in the range of 1.5 to 1.8 x the nominal stone diameter or  $D_{n50}$  size. It shall also be a minimum of 1.2 x the maximum stone size.

### **E.3 CANAL SILT**

Canal silt which is to be excavated out of a canal or navigation will be in a very wet, saturated, fluid state. The material will require special handling techniques.

The Contractor shall allow for all testing necessary for the proper disposal of this material. The disposal options are as follows:

- To a location on site, identified and agreed previously.
- To a location for treatment or drying (Hubs).

See also section E5 Disposal.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **E EARTHWORKS**

#### **E.4 BACKFILLING**

All materials for backfilling shall be thoroughly compacted in accordance with the Specification for Highway Works. Post construction settlement shall be avoided by the use of suitable, selected excavated material or with imported material where recovered material is unsuitable.

When any portion of the Works shall have been completed and approved, the excavations shall be carefully refilled with material selected from that excavated from the Works where suitable, or approved imported granular material, well compacted, watered if necessary, and consolidated in layers not exceeding 250mm in depth.

The surface of filled areas not specified as topsoil shall be neatly trimmed and profiled as shown on the drawings.

No filling shall commence without the formation and/or buried work being inspected and approved.

No material in a frozen condition shall be used in back-filling or incorporated in the Works.

#### **E.5 DISPOSAL**

Where waste materials are to be disposed off site the Contractor shall ensure that, wherever possible and for a "best value" solution, any re-usable materials can be recovered for this purpose, either directly on the site itself or at the facility where the materials are to be taken. This may apply to granular aggregates, masonry, brick, concrete, topsoil, subsoil, dry silt etc..

Note that:

British Waterways has exemptions from Landfill Tax for certain materials. These include:

- Materials classed as "dredgings", whether extracted from the waterway by dredging techniques or by standard excavation.
- Contaminated material from the waterway and surrounding banks.
- Material excavated from infilled channels, providing that there is water continuity through the infill.
- Material excavated as part of channel re-lining works.
- Works to reservoirs (eligibility on a project specific basis).

BW has no exemption for mixed waste under current legislation.

During earthworks operations different materials arising from the works shall be kept separate from each other to avoid mixing, both for ease of disposal options, should the material be waste, and for a "best value" solution to the disposal.

For information:-

Inert wastes (inactive wastes) are defined under the Landfill Tax (Qualifying Material) Order 1996 as including:

- Rocks & soils, naturally occurring including silts and dredgings together with construction and demolition stone;
- Ceramic or concrete materials;
- Minerals, processed or prepared, not used;

- Furnace slag;
- Ash;
- Low activity organic compounds;
- Calcium sulphate, calcium hydroxide, brine (sodium chloride in solution);
- Water, containing other qualifying material in suspension;
- Foundry sand.

Active wastes are all other wastes.

Liquid wastes can not be disposed to landfill. They require pre-treatment or drying.  
All wastes require pre-treatment prior to disposal to landfill.

Treatment is defined under the Guidance given by the Environment Agency.

## **E6 LANDSCAPING**

### **E.6.1 Grass Seeding**

Areas to be grass seeded shall be treated as follows: -

- 1) The topsoil shall be reduced to a fine tilth free from stones greater than 20 to 25 mm in size and other debris. The topsoil shall then be lightly rolled. Prior to grass seed sowing the surface shall be lightly raked.
- 2) The grass seed blend shall be a mixture of at least four species of the following, in similar proportions, sown at the rate of 34g per m<sup>2</sup>: -

Common Bent - *Agrostis capillaris*  
Meadow Foxtail - *Alopecurus pratensis*  
Crested Dogstail - *Cynosurus cristatus*  
Red Fescue - *Festuca rubra*  
Smooth Stalked Meadow Grass - *Poa pratensis*  
Small Timothy - *Phleum pratense subsp bertolini*

Other alternative or special grass seed mixes shall be as defined in the Works Information.

- 3) Immediately following sowing the surface shall be lightly raked.
- 4) Ideally grass seeding should be carried out in the spring, April May, or the autumn, September October in order to better ensure the right conditions for germination.

## **FG CONCRETE WORKS**

### **FG.1 CONCRETE BAG WALLING**

#### **FG.1.1 General**

Reference drawing 117816 03-01.

The concrete bag walling shall be constructed on the top of the existing stone built canal wall where erosion or collapse has taken place at approximate locations indicated on the plans.

The existing top level wall may vary and may be either above or below the canal water level dependent on the locations but will not exceed 500mm below the water level. The exact locations will be marked out on Site as the works progress.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **FG CONCRETE WORKS**

#### **FG.1 CONCRETE BAG WALLING**

The top of existing stone walls shall be cleared of debris, silt and vegetation prior to placement of the bag work.

500mm x 250mm Hessian bags shall be filled to two-thirds full with C20 grade concrete. The concrete shall have a slump of 25mm. The bags shall be laid and compacted into place in a staggered pattern to lines and levels to be agreed on site and formed to produce a vertical wall with a slightly sloping front face.

The top level of the concrete bag shall be constructed to a level to be determined on site. The top level tolerance shall be  $\pm 25$ mm.

16mm diameter high yield reinforcing bars shall be inserted vertically through the concrete bags at 1200 mm centres.

At locations where the height of the new concrete bag wall exceeds 600mm, the wall shall comprise of a further course of concrete filled bags behind.

All concrete bag walling shall have Geolon 15 or similar approved placed behind the wall prior to backfilling.

Imported or excavated topsoil shall be placed over the top of the concrete bags at a thickness of 100mm and grass seeded. At locations where topsoil is unavailable imported topsoil shall be used.

### **O TIMBER**

#### **O.1 HARDWOOD TIMBER**

The material shall be free from defects including splits, shakes, knot holes, irregularities and blemishes.

Hardwood timber shall be obtained from an approved, certified, sustainable and managed source as detailed in the foregoing British Waterways Policy Statement on Sustainability. In addition tropical hardwood should only be used where it is the only option for meeting the performance specification and all tropical hardwood must have FSC certification.

The timber shall have chain of custody documentation.

#### **O.2 SOFTWOOD TIMBER**

The material shall be free from defects including splits, shakes, knot holes, irregularities and blemishes.

Softwoods shall be obtained from an approved, certified, sustainable and managed source as detailed in the foregoing British Waterways Policy Statement on Sustainability.

Note that:

The clauses referring to sustainable sources of timber apply to timber used in both the permanent and the temporary works.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **P PILES**

#### **P.1 GENERAL**

Steel sheet and trench sheet piling shall comply generally with the Piling Handbook 8<sup>th</sup> Edition, 2005, or the latest edition of this handbook, produced by Arcelor RPS.

##### **P.1.1 Free issue piles & trench sheets:**

The Contractor shall arrange for delivery to the site:-

All piles, walings, anchor piles, tie rods, tie rod extensions, tie rod connectors, nuts bolts and washers, when purchased by British Waterways and held in stock by the manufacturers for use in the works. The Contractor shall provide banks men etc. as required.

The Contractor shall make his own arrangements for delivery on suitably sized vehicles, offloading and secure storage, along with programming deliveries to satisfy himself that his site production is unaffected. If the Contractor requires part loads which could have been included in a previous delivery and could be reasonably foreseen by the Contractor, then a surcharge will be made which will be paid for the by Contractor.

The Contractor shall satisfy himself before acceptance of the delivery that the materials are suitable for inclusion in the Works and free from damage, misalignment or other imperfections. Once delivery has been accepted, British Waterways will have no further responsibility for suitability, damage, loss etc.

The Contractor's costs relating to inspections, delivery, offloading, storage and distribution shall be deemed to be included in his rates.

The trench sheets or piles shall be one length throughout, straight, true to section and free from damage. Any piles which, in the opinion of the Contractor, are defective in any way shall be rejected and replaced by the Contractor.

#### **P.2 STEEL SHEET PILING**

Steel sheet wall and anchor piles for the permanent works are interlocking steel sheet piling as supplied by British Waterways to the lengths indicated on the drawings or as instructed by the Contractor.

#### **P.3 STEEL TRENCH SHEETS**

Steel trench sheets shall be galvanised interlocking sections as detailed in the Works Information.

They shall be Mabey, Ayrton (by Corus) or other similar sections.

#### **P.4 CLEARANCE OF THE CANAL BED**

Prior to the start of any piling works the Contractor shall probe the line of the proposed piling to determine the presence of any obstructions or debris. Any obstructions that would affect the piling operation shall be removed by the Contractor with care. Any inconsistencies or problems that the Contractor cannot overcome within the terms of the Contract, which could prejudice the completion of the works, shall be reported to the Contractor.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **P PILES (Continued)**

#### **P.5 DRIVING PILES**

The steel piling shall be pitched, interlocked and driven vertically to the correct alignment and level with the use of a suitable guide frame system.

Should the Contractor have difficulty in driving any pile or piles, he shall inform the Contractor who may give instructions for the piles to be cut off or driven to the correct level. No pile shall be cut off without the approval of the Contractor.

Where the driving of any pile or group of piles meets obstruction or excessive resistance, it shall, with the agreement of the Contractor, be discontinued and the driving of other piles commenced

and/or continued until the final level is reached. The Contractor shall return to the piles meeting obstruction or resistance and recommence driving until the final level is reached.

Where the final level cannot be achieved, then on the instructions of the Contractor, the affected piles are to be cut off or otherwise dealt with as agreed by the Contractor.

Refusal shall be deemed to be less than 50mm penetration for five minutes continuous use of a BSP2 air hammer or equivalent.

Taper piles shall not be used unless expressly required by the Contractor. Driving caps of an approved pattern are to be used to protect the heads of the piles while driving.

The piling hammer shall have a noise reduction shroud. The maximum noise specification shall be 85 DBA, measured at 16 metres. Noise reduction measures will also be necessary for compressors.

#### **P.6 TOLERANCES FOR PILING**

The maximum permissible tolerances are:

- i) Level: 10mm above or below the correct level and 10mm compared with the adjacent pile.
- ii) Alignment: 20mm either side of the correct alignment.
- iii) Verticality: maximum vertical slope 1:240 either side of the vertical.

Any piles where the driving error exceeds the foregoing shall be deemed to be incorrectly driven.

Where piles are driven to an alignment without the agreement of the Contractor, he may deem at a later date that alignment to be incorrect.

The Subcontractor shall notify the Contractor prior to the commencement of the work of his method of lining and plumbing the piles and trench sheets during pitching and driving.

#### **P.7 PILING RECORDS**

A record of all piles driven or installed shall be kept by the Contractor and a copy of the record of work done each day shall be given to the Contractor within 24 hours. The records shall comprise the following information:

Date, location, time spent actually driving, level of ground at commencement of operations, pile length, final level of pile, details of problems encountered while driving and plant breakdown.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **P PILES**

#### **P.8 CUTTING OF PILES**

The Contractor shall not be permitted to cut piling except where shown on the drawings or as ordered or permitted by the Contractor.

Any cutting of galvanised trench sheets shall be performed with an approved type of rotary disc cutting plant. Holes shall be drilled. Cut and drilled faces shall be treated with approved galvanising paint.

#### **P.9 DRILLING OF PILES**

Where necessary, holes required in light steel piling and trench sheeting for bolts, tie rods and ground anchors shall be allowed for in the Contractor's rates. Holes shall be drilled and treated with approved galvanised paint.

#### **P.10 STEEL WALINGS**

This section applies to trench sheet systems.

Where walings are free issue from BW, walings and short bolts shall be in standard lengths, pre-drilled with slotted holes to provide for bolting to each pile as shown on drawings. 20mm diameter galvanised bolts shall be installed so that no portion protrudes beyond the outer line of the waling. Walings shall be installed to the horizontal and follow the line of the piles.

Steel walings shall not be bent to an angle exceeding 30°. If this is a requirement they shall be cut to suit.

Any cut galvanised steelwork shall be immediately protected by the use of a propriety galvanising paint.

#### **P.11 TIMBER WALINGS AND FENDERS**

The walings and fenders are to be 150mm high by 75mm wide, unless detailed otherwise in the Works Information.

Generally hardwood fenders shall be used unless detailed otherwise. See Timber specification.

The holes shall be drilled to allow the bolts and tie rods to be countersunk so that they do not protrude from the face of the timber. Top and bottom outer edges shall have a 15mm chamfer.

Faces of butting waling/fenders shall line up and any necessary shaving of the timber shall be carried out. All cuttings, shaping and drilling shall be included for in the Schedule of Rates.

Note that: Timber shall be supplied from a sustainable, managed source with proper certification under the FSC system and a chain of custody record.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **P.11 TIMBER WALINGS AND FENDERS**

From a waste hierarchy and resource use perspective the purchase of recycled timber is preferable to the purchase of virgin timber. Recycled timber is defined as timber which is being used for a different purpose than the purpose for which the tree was originally felled and retaining the material in the chain of utility e.g. if a lock gate is removed and re-sawn to make fenders and used as fenders - cutting a gate into fenders and storing the sawn wood is not recycling.

For recycled timber, the previous use must be established and documented and recorded in the annual summary. However, it is not necessary to prove legality or sustainability of the recycled timber.

### **P.12 ANCHOR PILES AND TIE RODS TO TRENCH SHEETS**

This section applies only to trench sheet systems.

Where anchor piles, tie rods, plates and bolts are free issue from BW, these will be supplied in standard sizes.

Ground anchors are required every 6<sup>th</sup> pile with additional anchorage where directed by the Contractor. Anchor piles shall be installed at a minimum distance of 1m from the pile line. Where this cannot be achieved using a standard length tie rod, extended tie rods shall be used. Where the tie rod is in excess of 1.8m, an extension rod shall be installed and joined with a connector as provided with the tie bar extensions.

Where the pile line extends into the canal in excess of 1m from the existing water's edge, additional tie bars and anchor piles shall be installed such that the spacing between anchorages is every 3<sup>rd</sup> pile.

Tie rod anchors may be installed by excavation or boring through the existing stone, brick or concrete waterway walling or timber piling where these exist, or eroded bank, proceeding through the towpath to connect with the anchor pile. Where a trench opening is used, this shall not exceed 100mm width by the depth of the tie rod. Bored holes shall not exceed 100mm diameter.

Anchor piles shall be driven in an approved manner using a helmet to prevent distortion of the pile and the guides to maintain alignment to the level shown on the drawing, at a minimum distance of 1m from the face of the canal. If this is not possible the Contractor shall seek permission of the Contractor to drive the anchor piles lower.

Excavation for driving shall not exceed the depth of the tie rod connection. Excavation or disturbance of the ground in excess of the specified limits shall be backfilled with mass concrete at the Contractor's expense.

The Contractor should note that the towpath or eroded canal bank may contain hard material, roots, obstructions and services. Before commencement of driving, the location of each anchor pile shall be investigated. Any such debris shall be removed, or the pile relocated to an approved position.

Tie rod and anchor pile excavations shall be kept free of water at all times and backfilled on completion with excavated material.

When the tie rod is in position, complete with nuts and washers, the nuts shall be screwed up but not tightened until the trench at the sheet pile anchor is backfilled and consolidated and until there is sufficient sheet piling and walling installed to prevent distortion of the piling.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

## **P PILES**

### **P.12 ANCHOR PILES AND TIE RODS TO TRENCH SHEETS**

Before commencement of driving the location of each anchor pile shall be investigated and debris removed. Should the anchor pile need to be relocated it shall be approved by the Contractor.

All tie rods and back piles shall be completely buried, where they cross the towpath, to the satisfaction of the Contractor before completion of the works.

### **P.13 PLAIN AND TAPERED WASHERS FOR TRENCH SHEETS**

This section only applies to trench sheet systems.

Plain and tapered washers shall be of galvanised mild steel and formed by matching, not burning, to present a smooth and clean face on the bearing surface. Washers shall be chamfered where necessary to permit them to bear evenly on the face of the piling, and shall be galvanised.

Mild steel to be used shall be of Grade 43A or equivalent.

Plain washers are to be made of steel.

Workmanship and general fabrication procedures shall be in accordance with BS 153 – Part 1.

All members shall be to dimensions shown on drawings, to exact lengths finished true and square.

## **R ROADS AND PAVINGS**

### **R.1 TOWPATH CONSTRUCTION**

#### **R.1.1 General**

Footpaths generally shall be of varying widths in a stated material, installed in the centre of the existing towpath. Some may be situated behind piles, brickwork or masonry at waters edge as moorings/landing stages. The exact position shall be determined on Site. The Contractor shall provide his own method of support for paths without timber edging whilst placing materials.

The footpath or landing stage shall be constructed to the alignment and profiles shown on drawings, with a grassed fringe and hard footpath surface. Work should be carried out in a manner causing the minimum of disturbance to adjacent vegetation within the working area, particularly the existing waterway bank.

The area for the new surfacing shall be excavated, trimmed, levelled. All weeds shall be removed and disposed off site. The area shall then receive a layer of non-woven geotextile filter, Terram 1000 or similar approved or as detailed in the Works Information or on the drawings.

The base course of the path shall comprise a 75mm site specific thick layer of DTp Type 1 material levelled and rolled as necessary to provide a well compacted foundation.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

## **R ROADS AND PAVINGS**

### **R.1 TOWPATH CONSTRUCTION**

The wearing surface shall be in the Works Information for the specific Package Order. Examples include:

- a) Breedon Golden Amber self binding gravel, 12mm to dust, with a consolidated thickness of 50mm.
- b) Breedon Wayfarer, 6mm to dust, with a consolidated thickness of 50mm.
- c) Crushed limestone chippings, 12mm to dust, with a consolidated thickness of 50mm.
- d) Crushed Brick, 12mm to dust, with a consolidated thickness of 50mm.
- e) Granite, 12mm to dust, with a consolidated thickness of 30mm.
- f) SBM (Slag Bound Mixtures) should be laid according to the Manufacturers specification i.e. SBM shall be placed on top of a well compacted sub-base layer. This could be either a bound material such as CBM1 (Cement Bound Material), SBM or GSB type 1 containing natural or recycled aggregate complying with the specifications for Highway Works. The minimum recommended thickness for the sub-base material shall be 75mm after compaction and the minimum thickness for the overlaying SBM wearing course shall be 50mm after compaction.
- g) Ultramac surfacing shall be laid as per the Manufacturers specification i.e. it shall be 60mm thick, to be supplied by Valetta Surfacing Ltd. It shall be laid onto the hardcore base in two courses comprising a 40mm thickness of dense bitumen macadam basecourse to BS 4987 and a 20mm thickness of Ultramac natural gravel macadam N075R.
- h) Bonded Surfacing (Colas etc.) – Colas Leochip VLS is a thixotropic, high solids content bitumen emulsion which shall be laid according to the Manufacturers specification i.e. the rate of coverage for Leochip VLS is 1.3-1.8 l/m<sup>2</sup> depending on the texture and porosity of the surface and choice of chipping size.

For options (c) (d) & (e), 5mm to dust grading shall be an alternative with a minimum thickness of 25mm.

The surfacing shall be laid and rolled dry using a roller with vibratory action and rolled to fullest compaction. After the initial laying to cambers and falls, fines shall be utilised from the stored material to blind any 'scabby' areas where segregation has occurred.

When a uniform appearance has been achieved, the second stage shall be undertaken. This shall be by water rolling of the surfacing and the roller's vibratory action shall first be switched off during this stage.

Water shall be sprayed or sprinkled on to the wheels of the roller and never directly on to the material, since this can wash out the surface fines. The object of water rolling is to float sufficient fines to the top surface of the material to obtain a hard well bound, uniform walking surface. When this aim has been achieved and the surface has been sufficiently watered and rolled, the areas concerned shall be allowed to dry out before opening to general usage.

The Contractor shall ensure that fullest compaction is achieved across the surfacing area including any corners and edges.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

## **R ROADS AND PAVINGS**

### **R.1 TOWPATH CONSTRUCTION**

The footpath shall have a surface gradient towards the canal of 1:50 or as directed by the Contractor at each site.

The rear of the landing stage and sides of the footpath, if stated, shall be supported by 20 x 125mm timber edging strips, where required, fixed with galvanised wire nails to 40mm square 400mm long stakes at 1.2m centres. Boards and stakes shall be flush with surfacing and adjoining graded topsoil and shall be uniform on plan. At joints between boards, additional pegs shall be placed within 50mm each side of the joint. All timber shall be treated with a suitable wood preservative (2 coats of Cuprinol or similar approved) before installation and fixed with galvanised wire nails. Curves shall be formed by edge boards partially sawn at stakes as required.

The type of surfacing for each Site shall be notified in the Package Order. The colour of all surfacing shall be to the approval of the Contractor.

Final levels of surfacing shall be laid uniformly and shall be:

- a) At least level with edging boards.
- b) Well supported by soil where no timber edging exists.
- c) Free from water retention.

Where British Waterways arrange free issue surfacing to their own Order, this shall be identified in the Package Order, and in all instances the Contractor shall be required to liaise with the supplier for delivery to each Site.

Breedon gravel is available from:  
Breedon PLC  
Breedon-on-the-Hill  
Derby  
DE73 1AP

Ultramac is available from:  
Valletta Surfacing Ltd  
Falcon House  
Brook Lane Industrial Estate  
Brook Lane Westbury  
Wiltshire  
BA13 4ES

SBM (Slag Bound Mixtures) is available from:  
Tarmac Quarry Products  
PO Box 8  
Millfields Road  
Ettingshall  
Wolverhampton  
West Midlands  
WV4 6JP

**BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

**R ROADS AND PAVINGS**

**R.1 TOWPATH CONSTRUCTION**

Colas is available from:  
Colas Limited  
Product Sales Division  
Cakemore Road  
Rowley Regis  
Warley  
West Midlands  
B65 0QU

Where materials are supplied 'Free Issue' they shall be:

- From the point of delivery to site or agreed place.
- The responsibility of the Contractor.

Any losses, wastage etc. shall be made good at the Contractors expense.

**R.1.2 BRICK PAVING**

NEW BRICKS SHALL BE 100% SOLID, (NO PERFORATIONS) CLASS FL TO BS 3921, ENGINEERING FACING QUALITY BRICKS SUITABLE FOR PAVED SURFACES; FROST RESISTANT WITH A LOW PERCENTAGE OF SOLUBLE SULPHATE CONTENT.

The particular type of brick is to be specified in the project Works Information to the Contractor's requirements, preferably quoting a specific manufacturer, factory source and brick reference number.

**R.1.2.1 Edgings and Upstands to Paving:**

Bricks shall be red/blue solid facing quality engineering bricks and will be site specific.

**R.1.2.2 Brickwork for Paving:**

Bricks shall be generally laid to the profiles, alignments, and patterns shown on the drawings, generally in stretcher bond with edging strips and cross strips as detailed, and shall display a smooth finished profile.

Bricks shall be chosen from 3 different packs and mixed to ensure a wide variation in colour distribution across the finished paved surface.

Paved areas shall be completely filled with bricks using cut bricks or specials as required. All cutting of bricks shall be carried out on site using a purpose made brick saw.

All brick paving shall be bedded on a 30mm deep bed of mortar. Joints between bricks shall be 10mm wide and completely filled with mortar, and finished to form a 'bucket handle' joint or flush joint as required.

The base course to the paving shall comprise a 75mm thick layer of 40mm to dust, imported granular fill, levelled, rolled and watered as necessary to provide a well compacted foundation.

The interface of brick paved areas with existing masonry or concrete copings shall be trimmed as necessary to provide a smooth joint alignment and filled with mortar.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **R ROADS AND PAVINGS**

#### **R.1.2.2 Brickwork for Paving:**

Unsupported bricks at the edge of the pavings and single rows of bricks in ramps and elsewhere shall be bedded and haunched on Grade 20 concrete.

Where brick pavings are to be laid in place of existing concrete surfacing, care shall be taken to uniformly remove concrete to the formation of the mortar bedding.

Reclaimed bricks shall be carefully selected, discarding any that are damaged. The bricks shall be cleaned of any adhering or loose mortar, dirt and debris avoiding damage to the brick itself. The brick shall be suitable for the intended use in a paving situation. For instance, "soft", permeable, non-frost resistant bricks shall not be used.

#### **R.1.2.3 Mortar for paving:**

Mortar shall be in accordance with BS 5628 : part 3, table 15, as follows:

- a) Class (iii); 1:1:5, Cement, lime, sand.
- b) Where mortar is to be coloured, a standard colouring agent shall be used;
- c) An S.B Admixture – styrene butadiene copolymer latex emulsion is to be added to the mortar where the impermeability to water penetration is to be enhanced. It shall be used fully in accordance with the manufacturer's recommendations and instructions and to the approval of the Contractor.

#### **R.1.3 Granite Setts**

Granite setts shall be supplied and installed as shown on the drawings. One granite sett equals 9 No. 100mm x 100mm x 100mm granite blocks. Upon completion, all excess material shall be removed from surfaces and areas cleaned to the satisfaction of the Contractor.

Each granite sett shall be laid to a uniform profile and shall be to a level with the new surfacing and top of piles or canal bank edge as appropriate.

## **U BRICKWORK, BLOCKWORK AND MASONRY**

### **U.1 BRICKWORK**

#### **U.1.1 General**

Prior to any repairs or repointing, the existing brickwork shall be thoroughly cleaned to the satisfaction of the Contractor. The method of cleaning adopted by the Contractor shall be capable of removing deteriorated mortar, heavy encrustation, dirt and organic matter from the surface and joints without removing the brick fabric itself. The Contractor shall submit for the Contractor's acceptance the method and plant that he proposes to use for this work. Sand blasting shall not be permitted.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.1 BRICKWORK**

Brickwork shall comply with BS 5628 unless otherwise over-ruled in this specification and shall be FL quality. Where applicable, all new bricks shall be selected to match the colour, size, permeability, density and nature of the existing adjacent brickwork as far as practicable. All new bricks shall be frost resistant engineering grade B solid bricks (no perforations).

Where reclaimed bricks are to be used, they must be inspected and approved by the Contractor prior to placing. The type of brick to be used shall be dependant on the location. For all exposed work, bricks shall be chosen to match the existing and the Contractor shall provide a sample of the proposed bricks for the Contractor's approval prior to a start on any site.

The order of priority for a matching brick shall be as follows:

Size  
Hardness (or softness)  
Permeability  
Density  
Texture  
Colour

Reclaimed bricks shall be carefully selected, discarding any that are damaged. The bricks shall be cleaned of any adhering or loose mortar, dirt and debris avoiding damage to the brick itself. The brick shall be suitable for the intended use in the particular situation.

Bricks for use in the works shall be in a saturated but surface dry condition immediately prior to placement.

All bedding and vertical joints shall be in true horizontal and vertical lines, except where curves or batters are to be formed, and shall be completely filled with mortar. The width of bedding and vertical joints shall remain constant throughout the brickwork. Proper cross jointing shall be maintained in every course.

No brickwork shall be placed after the temperature has reached 3°C on a falling thermometer or before the temperature has reached 1°C on a rising thermometer.

These conditions may be relaxed subject to suitable weather protection measures being taken after approval by the Contractor.

Notwithstanding any action that is taken, should any brickwork be damaged by frost in the opinion of the Contractor then it shall be removed and replaced at the Contractor's own expense.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.1.2 PROTECTION OF BRICKWORK**

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PROTECT NEW BRICKWORK AND BLOCKWORK FROM RAIN, SNOW, FROST AND THE EFFECTS OF HOT & WINDY CONDITIONS FOR AT LEAST 48 HOURS AFTER LAYING. IF HESSIAN IS USED IT MUST BE COVERED IN PLASTIC OR OTHER WATERPROOF MATERIAL.

IN DRY CONDITIONS COVERS SHALL BE REMOVED TO ALLOW THE BRICKWORK TO DRY OUT.

However in dry, hot, windy conditions covers shall be left on in order to prevent the brickwork from drying out too rapidly and cracking. Spray shall be used as necessary to keep the brickwork damp.

UPPER SURFACES SHALL BE PROTECTED AGAINST THE HARMFUL EFFECTS OF WEATHER WITH SUITABLE SHEETS OR COVERS.

Bricks stored on site shall be protected from rain, snow and frost as well as from the ground to avoid contamination and wetting.

#### **U.1.3 Mortar Materials**

**U.1.3.1 Sand** - Sand for use in mortar shall be in accordance with BS1200, Type S, washed and free from clay and colloidal particles. It shall be from one source only unless otherwise notified.

**U.1.3.2 Water** - Water shall be of potable quality from an approved mains supply. River or canal water shall not be used.

**U.1.3.3 Cement** - Cement shall be Ordinary Portland Cement to BS12 unless notified otherwise.

**U.1.3.4 Lime Putty** - Lime putty shall be in accordance with BS890. The material shall be a minimum of three months old, creamy in texture, stored and delivered in sealed bins.

#### **U.1.3.5 Hydraulic Limes** (in powdered form)

1. Eminently hydraulic lime shall have a minimum clay content of 20%. The material as supplied shall contain no cement or additives.
2. Moderately hydraulic lime shall have a clay content between 12% to 18%. The material as supplied shall contain no cement or additives.
3. Feebly hydraulic lime shall have a clay content between 5% to 12%. The material as supplied shall contain no cement or additives.

All hydraulic limes shall be obtained from suppliers approved by the Contractor (via reference to an expert within British Waterways as necessary).

#### **U.1.3.6 Pulverised Fuel Ash (pfa)**

The pfa shall be a low sulphate content material, less than 1% by weight, and shall be used in powdered form. The material shall be obtained from an approved supplier.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.1 BRICKWORK**

##### **1.4 Mortar Mixes**

###### **U.1.4.1 Sand/Cement Mixes**

Sand Cement Mortars shall be in accordance with the Civil Engineering Specification for the Water Industry (CESWI).

###### **U.1.4.2 Lime Mortar Mixes**

Hydraulic Lime:

The Lime mortar to be used shall be in strict accordance with the following:-  
1 part of lime to between 2 and 2.5 parts of aggregate. See also clause U.1.4.5 below.

The aggregate shall have a maximum grain size of 50% of the joint depth.

Mixing of lime mortars shall be for a period not less than 20 minutes.

###### **U.1.4.3 Sand for Lime Mortar**

Sand shall be clean, well graded and washed. The sand shall be in accordance with BS 1198, BS 1199 and BS 1200 (1976) and of similar colour to that used in the original construction. Sharp sand shall be well graded between 2.5mm and 1.5um generally, but not greater than 50% of the joint thickness.

Sample mixes shall be prepared using different proportions of coarse and fine sand from different quarries and kept for several days until dry, when colour and texture can be compared with the original.

###### **U.1.4.4 Limestone Aggregate for Lime Mortar**

Porous lime shall comply with BS 890 and shall have no more than 15% passing a 150um sieve (i.e. 1.18mm – 150 um), subject to the minimum joint depth.

###### **U.1.4.5 Variation of Lime Mortar Mix**

The mortar mix of 1 to 2.5, eminently hydraulic lime to sand, is a standard lime mortar mix suitable for many applications on British Waterways' infrastructure. However, alternative mix designs may be required depending on the listed status or nature of the structure undergoing repairs.

In order to bring forward the initial setting time of the lime mortar and to soak up any free calcium hydroxide within the mix, the use of pozzuolanas (or pozzolanas) is an acceptable and suitable way forward, depending on the conditions and circumstances prevailing on site. Some PFA's, brick dusts and metakaolins or China clay (Polestar & Metastar) fall into this category.

Brick powder shall be reactive brick dust from crushed bricks or tiles fired at temperatures not exceeding 1000<sup>0</sup>C, with a particle range from 150 microns to 50 microns, available from Bulmer Brick and Tile (01787 269323) or other approved supplier.

## **BW SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.1 BRICKWORK**

##### **U.1.4.5 Variation of Lime Mortar Mix**

There is no substitute for temperature and time in obtaining the required 28 day mortar strength. The use of heated protected enclosures shall be a requirement in difficult circumstances.

The use of natural hydraulic binders or cements for rapid setting on heritage status structures shall not be permitted with lime mortars. These materials contain cementitious compounds and are not suitable for these applications because the end product has different physical and chemical properties to those required.

#### **U.1.5 Brickwork Workmanship**

##### **U.1.5.1 General**

Basic workmanship shall comply with BS 8000 Part 3.

Excess mortar shall be washed off after the initial set to leave clean brickwork. Brick acid shall not be used without the consent of the Contractor.

The Contractor shall take the necessary precautions to prevent staining by salts, lime etc. Where staining does occur this shall be removed by dry, stiff brushing repeatedly until the leaching stops.

##### **U.1.5.2 Re-pointing**

Re-pointing shall be carried out in accordance with the following: BS 6270 Cleaning and Surface Repair of Buildings.

Defective areas of existing mortar joints shall be assessed by inspection, and light hammering to identify voids or lack of integrity. Where necessary joints shall be raked out to a minimum depth of

25mm or to expose sound mortar, whichever is the greater, and cleaned to remove debris.

Where the existing mortar has deteriorated to at least 12mm back from the face of the bricks, the joint shall be raked out to a depth of 25mm and re-pointed with a flush finish or to the finish as stated in the Works Information or on the drawings. Areas of existing brickwork that require repointing shall be identified with the Contractor.

Care shall be taken to avoid any damage to existing masonry during removal of mortar. The method of raking out shall be subject to the approval of the Contractor. The use of any mechanical tools is not permitted unless it can be demonstrated that no damage to the brick fabric results.

Prior to pointing, joints shall be flushed out with water to remove the residue and to moisten masonry surfaces to reduce rapid drying-out of new mortar.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.1 BRICKWORK**

##### **U.1.5 Brickwork Workmanship**

###### **U.1.5.2 Re-pointing**

Pointing shall obtain maximum penetration into and shall completely fill joints and interstices between bricks with solid dense mortar. It shall be placed and packed into joints using appropriate sized pointing keys (quirks), without encroaching over the arrises or faces of the brickwork.

Tungsten quirks may be obtained from Avery, Knight & Bowlers, James Street West, Bath, BA1 2BT (Tel: 01225 425 894).

Tools for re-pointing may be obtained from Ian V Riley, East Lancashire Loco Works, Baron Street, Bury, Lancashire, BL9 0TY (Tel: 0161 764 2892).

Following initial set of the mortar the joints shall be struck and tooled to produce the required joint finish and surface texture.

New mortar shall be protected against the harmful effects of weather, and protected from too rapid drying out. Water shall be prevented from ponding against fresh mortar until the mortar has cured sufficiently to prevent damage, or 7 days, whichever is the latter.

At the start of the work sample panels of pointing and brickwork patching shall be completed by the Contractor. These panels shall then be inspected by the Contractor, and a standard agreed. This standard shall then be maintained throughout the contract.

Care shall be taken to ensure mortar is not placed upon or spread over adjoining brick surfaces. Before setting, the pointing mortar shall be struck off and bag or brush finished to leave a smooth, dense, joint of the required finish.

###### **U.1.5.3 Patch Repairs**

Areas of brickwork to be patch repaired shall be marked out by the Contractor with the Contractor on site. Patches may extend from single bricks to large areas. The patch repairs shall be constructed in brickwork to match the existing. Those areas to be patched shall be carefully broken back to sound brickwork and carefully rebuilt. Samples of the proposed new brick shall be approved by the Contractor prior to placing. Where possible if brickwork can be carefully removed without damage, it shall be stored, cleaned and prepared for re-use in the structure.

Header bricks within the fabric of the wall shall not be snapped off at half depth but retained in order to provide continuity of the bond or key.

Where applicable, steel ties, at a spacing of 900 horizontal and 450 vertical, staggered, shall be fixed to tie repair areas to the main structure. In certain circumstances proprietary anchors shall be used to achieve this fixity.

Bricks shall be laid in bonds to match the existing. All new brickwork patches shall be bonded or toothed in to the adjoining brickwork.

Repairs to areas containing significant, major structural cracks shall be as detailed on the drawings and the Works Information.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.1 BRICKWORK**

##### **U.1.5 Brickwork Workmanship**

###### **U.1.5.3 Patch Repairs**

Where the re-built area is to be reinforced with the use of Helifix spiral ties (or similar approved), the ties shall extend a minimum of 0.75m into sound brickwork adjacent to the area of re-build, and shall be located in every third bed joint. Minimum embedment of ties into joints shall be 30mm.

###### **U.1.5.4 Rebuilding of Brickwork**

Areas of brickwork that are to be taken down and rebuilt shall be agreed with the Contractor on site. Where possible, the original brickwork shall be carefully dismantled, stored, cleaned and prepared for re-use in the structure. Where it is not possible to re-use the original brickwork, samples of the proposed brick shall be shown to the Contractor who may request for test panels to be prepared before proceeding with the works.

Steel ties at a spacing of 900 horizontal and 450 vertical, staggered, shall be fixed to tie repair areas to the main structure. In certain circumstances proprietary anchors shall be used to achieve this fixity.

Bricks shall be laid in bonds to match the existing. All new brickwork patches shall be bonded or toothed in to the adjoining brickwork.

Joints are to be fully filled with mortar.

###### **U.1.5.5 Pressure Washing of Brickwork**

All brickwork shall be pressure washed to the satisfaction of the Contractor prior to any patch repairs of brickwork.

All areas shall be pressure washed with cold water for 2-3 minutes per square metre at 1500-1800 psi to remove all detritus growth, scale etc. All pressure washing shall be carried out in accordance with the Code of Practice for Pressure Washing.

All operatives shall wear complete waterproof suits. All members of the Contractors and Contractors staff not suitably protected shall be excluded from the site during the washing operations.

###### **U.1.5.6 Pressure Pointing**

Pressure pointing shall only be undertaken by skilled, experienced Subcontractors and/or operatives familiar with this type of work.

The plant and equipment to be used shall be in good condition and working order.

Where a lime mortar is required or specified the mortar shall be based on a natural hydraulic lime.

The pressure of injection and the nozzle type shall be sufficient for the mortar to completely fill the joints.

Mortar shall be pumped at its optimum water content. Increasing the water content to enhance flow characteristics shall not be permitted.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.1 BRICKWORK**

##### **U.1.5 Brickwork Workmanship**

###### **U.1.5.6 Pressure Pointing**

The areas to be pressure pointed shall be saturated prior to commencement of the pointing. Work shall commence once the brickwork surface appears dry.

Pressure pointing shall be finished as for normal pointing.

#### **U.2 MASONRY**

##### **U.2.1 General**

Masonry shall be carried out generally in accordance with:

- BS 5390** Stone Masonry
- BS 6270** Cleaning and Surface Repair of Buildings

Existing masonry for reuse shall be carefully dismantled and stockpiled on site. Damage to masonry blocks surfaces shall be avoided by the use of suitable methods, plant and protective systems. Any accidental damage caused through mishandling shall be made good at the Contractor's expense.

Stockpiling shall be in accordance with the requirements of BS5390. Where existing masonry is in too poor a condition for reuse, it shall be disposed off site.

Workmanship shall be in accordance with BS 5390.

All masonry work shall be carried out by suitably experienced, skilled operatives under the direction of at least one qualified Mason at each general location where masonry work is being undertaken.

Masonry blocks shall be laid with horizontal bedding except for work to masonry arch rings where the bedding shall be in the plane of the radii.

#### **U.2 MASONRY**

Masonry blocks for use in the works shall be in a saturated but surface dry condition immediately prior to placement.

No masonry shall be placed after the temperature has reached 3<sup>0</sup>C on a falling thermometer or before the temperature has reached 1<sup>0</sup>C on a rising thermometer. All newly laid masonry work shall be protected from the harmful effects of the weather, winter and summer, by suitable, adequate and approved measures such as polyethylene sheeting, wet Hessian, covers, insulation, etc. dependant upon the time of year. Such covers shall be firmly tied down and secured, and shall remain in place until the mortar has gained sufficient strength. Notwithstanding any precautionary action taken, masonry work damaged by the effects of weather shall be taken down and replaced at the Contractor's expense.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.2 MASONRY**

##### **U.2.2 Imported Masonry**

Imported masonry shall match existing stone in terms of:

- i) Grain size and texture
- ii) Hardness (cementing of grains together)
- iii) Permeability
- iv) Original surface finish
- v) Block sizes on exposed faces
- vi) Density

and as far as practicable:

- iv) Original colour, pre-weathering, but this is not the primary requirement.

The masonry shall be stone from a quarry or reclaimed stone from a supplier or source. New stone shall be left to weather naturally once in place and shall not be artificially weathered. Reclaimed stone shall be cleaned of all adhering & loose mortar, dirt and debris. Reclaimed masonry shall be carefully selected, discarding any blocks that are damaged. These blocks may be cut back to achieve a re-usable block size in order that waste is minimised.

##### **U.2.3 Cleaning of Existing Masonry**

Existing masonry for re-use shall be cleaned of all vegetation, dirt, loose mortar in accordance with BS 6270. An abrasive cleaning method shall not be used in order to avoid damaging the surfaces of the stone. Any protective crust on the masonry surface, formed through weathering, shall be left in place.

Cleaning shall generally be undertaken by the use of pressurised water jet methods with the nozzle and pressure adjusted such that the fabric of the stone remains undamaged. See also the section in Brickwork.

##### **U.2.4 Masonry Joints**

Generally the joints in masonry work shall have a slightly recessed finish, unless as directed otherwise in the Works Information or on the drawings, with the joint surface tooled off flat and subsequently brushed down after the initial set to expose and polish the mortar aggregate.

With rubble masonry walls which have had the arrises weathered down the joint finish will be more difficult to achieve. In wide joints pieced-in stone slips shall be used to reduce the apparent depth of the joint. The quality of the finished work is dependant on the skill and craftsmanship of the mason.

All joints in masonry work shall be completely filled with mortar.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **U BRICKWORK, BLOCKWORK AND MASONRY**

#### **U.2 MASONRY**

##### **U.2.5 Mortars**

Mortar materials, mixing and usage shall be as the section for Brickwork above, including variations to lime mortar mixes.

Maximum aggregate size shall be 50% of the joint width.

For very thin joints the use of silver sand or other small grain size silica sand shall be considered.

Limestone aggregate shall be Crushed Portland Limestone or similar approved, with a particle range generally from 1.8mm to 150 microns, with not more than 15% finer than 150 microns. The maximum particle size will be dependant on the joint width to be filled.

Water for mixing mortar shall be clean and fresh, from an approved source. Canal and river water shall not be used.

##### **U.2.6. Pointing and Re-pointing**

Prior to pointing, joints shall be flushed out and cleaned with water to remove cleaning residue, all other debris and to moisten masonry surfaces to reduce rapid drying out of new mortar.

New pointing shall completely fill the joints with solid dense mortar.

At the time of initial mortar set the joints shall be beaten with a churn brush to expose the aggregate, to compact the surface and to remove excess mortar from the joint face. The Contractor shall take note that the timing of this operation is critical to achieving the required surface finish. Following this and when required, the joint shall be brushed with a soft brush in order to polish the surface of the exposed aggregate.

In all other respects, Pointing and Re-pointing shall comply with the sections on Brickwork.

#### **X.1 FENCING**

##### **X.1.1 General**

Temporary or permanent fencing shall comply with the relevant section of BS 1722 'Fences' and be suitable and adequate for the intended purpose.

Existing permanent fencing removed for the works shall be reinstated on completion and any accidental damage made good at the Contractor's expense. Existing damage or poor quality material shall be replaced by agreement with the Contractor.

Vegetation or other obstructions along the fence route shall be cleared. Any humps shall be removed and hollows filled with compacted soil to provide a clear way, approximately level or with smooth undulations.

Posts are to be truly vertical with tops following the contour of the ground.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **X.1 FENCING**

#### **X.2 GATES AND STILES**

##### **X.2.1 Field Gates**

- 1) Field gates, posts and fittings shall comply with the relevant provisions of BS 3470.
- 2) All timber for field gates and posts shall be given preservative treatment in accordance with the provisions of BS 3470.
- 3) All fittings and steel field gates and posts shall be hot dip galvanised in accordance with BS 1460.

##### **X.2.2 Stiles, Bridle Gates and Kissing Gates**

- 1) Stiles, bridle gates and kissing gates shall comply with the relevant provisions of BS 5709
- 2) All timber for stiles, bridle gates, kissing gates and posts shall be given preservative treatment in accordance with the provisions of BS 5709.
- 3) All fittings and steel stiles, bridle gates, kissing gates and posts shall be hot dip galvanised in accordance with BS 1460.
- 4) Concrete for surrounding the bases of posts shall be Grade C20.

Note that: All timber shall be from a sustainable, managed and FSC certifiable source as detailed in the foregoing British Waterways Policy Statement on Sustainability.

### **X.3 HEDGES**

#### **X.3.1 New Hedges & Shrubs**

Shrubs for hedges shall be substantially free from pest and disease and shall be materially undamaged. Torn or lacerated roots shall be pruned before dispatch. No roots shall be subject to adverse conditions such as prolonged exposure to drying winds or subjected to water-logging between lifting and delivery. The root ball shall be free from pernicious perennial weed.

Each specimen of shrub, or each bundle, shall be legibly labelled with its name. Planting should not be carried out in frosty weather, in strong winds or waterlogged soil.

Before lifting is started at the Nursery, a mark shall be made on the stem to indicate the approximate north side so that the tree may be finally planted with the same orientation as that when growing in the nursery.

The root ball of the shrubs shall be supported during transit with Hessian or other suitable material.

All shrubs shall comply with BS 3936 Nursery Stock. The root systems of plants shall contain a reasonable proportion of fine fibrous rootlets, and shall be adequate for the age and size of the plants. Plants shall have a vigorous leading shoot and shall be approximately furnished with laterals, according to species and age.

Planting shall be carried out within four days of the shrubs reaching site.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **X.3 HEDGES**

#### **X.3.1 New Hedges & Shrubs**

Precautions shall be taken to prevent roots drying out during storage and they shall be soaked before planting. The soil level after settlement shall be at the original soil mark on the stem of the shrub.

Hedge planting shall be carried out to lines agreed with the Supervisor, and staked as necessary.

Hedges shall be planted in a trench 650mm wide and 450mm deep, which is to be backfilled with topsoil on planting.

Planting shall be in double staggered rows, 450mm between plants and 350mm between rows. The plants shall be upright with the soil level mark on the stem level with the top of the trench.

The hedge shall comprise approximately equal numbers of Common Hawthorn (*Cretagus Manogyna*) and Hazel (*Corylus avellona*) with occasional Elm, Birch and indigenous Wild Rose. Plants shall be obtained from a reputable nursery or Supplier.

#### **X.3.2 Hedge & Tree Works**

Where required the face of hedges, trees and other intrusive vegetation shall be carefully cut back to provide the required width for the works required. Hedge trimming shall be carried out by experienced, skilled and trained operatives, by hand or by approved machine cutting. Hedging shall not be permitted between 1<sup>st</sup> March and 1<sup>st</sup> August in any year. Material arising from hedge cutting shall be disposed off site.

Trees to be preserved in the hedge shall be identified by the Contractor and trimmed as directed.

Trees and bushes growing within a new towpath construction area shall be cut off and the roots grubbed up. Trees growing adjacent to a new towpath and causing obstruction shall be trimmed back as directed by the Contractor to provide clear headroom of 2.5m above the footpath. Trimming of branches shall leave a smooth cut face, free from splits and tears.

### **X.4 MAINTENANCE OF PLANTED AREAS**

The Contractor shall maintain all planted areas within the Contract boundaries until the area is handed over at the end of the Maintenance Period. Maintenance shall include watering, weeding, cultivation, control of insects, fungus and other diseases by means of spraying with an approved insecticide or fungicide, pruning, staking, repair of minor washouts and other horticultural operations necessary for the proper growth of the plants and to keep the Contract area neat in appearance.

Plant material which dies or does not produce proper foliage before the end of the maintenance period shall be removed and replaced by the Contractor free of charge.

Upon completion of planting work on the Contract, all shrubs shall be pruned and all injuries repaired where necessary. The amount of pruning shall be limited to the minimum necessary to remove dead or injured twigs and branches and to compensate for the loss of roots and result of transplanting operations. Pruning shall be done in such a manner as not to change the natural habit or special shape of the shrubs. All cuts should be made flush and leaving no stubs.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **X.5 FIBRE ROLL BANK PROTECTION**

#### **X.5.1 General**

The rolls shall be 300 or 400 mm dia., 2.2m long. The fibre rolls shall be manufactured from coir fibre with a mean fibre length of 160mm<sup>±</sup> 100mm, compressed homogeneously to a density of 120kg/cu.m and contained by a net of coir yarn with a mesh size of 50mm nominal.

The timber stakes shall be hard wearing, treated with Rentokil ST21 or similar approved and as detailed on the drawings or in the Works Information.

They shall be installed at centres as detailed and shall be positioned such that no post is located at the junction between rolls.

The timber stakes shall be driven to full depth such that the top of the post is 50mm above normal water level. This level shall be set out and agreed with the Contractor before work commences.

#### **X.5.2 Technical Data for 300mm roll (approximate)**

Dry weight (300mm diameter roll) 22kg.

Wet weight – 1hour after removal from water approximately 20.6kg/lin.m hours after removal from water approximately 16.7kg/lin.m.

When subjected to a load of 1.3 tonnes/m<sup>2</sup> the fibre roll shall compress less than 10%.

#### **X.5.3 Supply and Installation**

The rolls shall be established with a planted mixture of:

- Iris pseudacorus
- Carex acutiformis or riparia
- Phalaris arundinacea

Unless otherwise stated the roots should be clearly visible through bottom of roll and the planting spacing is to be 6 plants/linear metre. Fibre rolls shall be planted in the growing season and provision shall be made in the contractor's price for planting of any losses within the maintenance period.

The Contractor shall lay the Geotextile in accordance with the manufacturer's specifications.

The Contractor shall ensure that the fibre rolls are protected by means of adequate permanent fencing from livestock.

Silt and debris shall be removed to allow the rolls and all associated materials to be properly placed.

The following is a list of the various systems that are to be used. There are sample drawings in the contract document for reference.

#### **X.5.4 System 1**

The fibre roll shall be placed onto the canal bed and secured to timber stakes as detailed on the drawings.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **X.5 FIBRE ROLL BANK PROTECTION**

#### **X.5.5 System 2**

300mm diameter fibre rolls shall be secured to a vertical bank protection system.

This system shall consist of Nicospan or similar approved, supported by smooth timber spaced at:

750mm for Nicospan height of up to 500mm  
500mm for Nicospan height between 500 and 1000mm

The system shall be tied back to anchor stakes as detailed using twin gauge 10 galvanised steel wires.

The cutting of Nicospan to suit the required height shall be included for in the Schedule of Rates.

#### **X.5.6 System 3**

The fibre rolls shall be placed over the rock rolls as detailed in the Works Information.

Rock rolls shall be the Bestmann system or similar approved.

The rock rolls shall be manufactured using netting which complies with the following specification:

Polymer polypropylene  
Tensile strength 23 KN/m (CEN/TC/53)  
Mesh size 45mm in quadratic mesh  
Yarn type knotless, high strength, multi-filament, 4.9mm diameter  
Roll diameter 400mm

Filling – The rock rolls shall be filled using a light or medium coloured, hard, durable, irregular stone of approved type. The stone shall be tightly hand-packed into the netting leaving the minimum of void space. Each end shall be securely tied using string polypropylene cord.

When filled, the rolls should have a diameter of approximately 400mm a length of 2.0m and a weight of approximately 450kg.

Installation and fixing of the rock rolls shall be to the manufacturer's recommendations.

#### **X.5.7 System 4**

The fibre rolls shall be placed over faggots as detailed in the Works Information.

The faggots shall be the Bestmann system or similar approved of 400mm diameter. They shall be manufactured using hazel or chestnut.

## **SPECIFICATION 1 FOR MATERIALS & WORKMANSHIP**

### **X.6 REPLANTING OF REEDS**

Where required reeds for re-use shall be replanted into hessian bags or 300mm x 450mm polypropylene sacks. The bags shall be pegged to the bed of the canal using treated timber pegs sharpened at one edge. It shall be ensured that the treated stake shall not pollute or damage the canal and adjacent area in any way.

The entire rootstock of the reeds, including a ball of silt shall be lifted from the water and submerged in the temporary holding area immediately after removal from the canal until they are to be replanted.

The temporary storage area shall contain canal water of sufficient quality and shall cover the rootstocks of the plants. Storing the vegetation in water from the time they are removed until relocation is essential.

When the plants are removed from the water for replanting, this shall be for as short a time as reasonably possible and their roots covered with dampened sacking or similar material. The reeds shall not be removed from the water for a duration exceeding 24 hours.

### **X.7 REVETMENT SYSTEMS**

The revetment system shall be as indicated on the drawings and in the Works Information.

Proprietary materials shall be used fully in accordance with the manufacturer's instructions and recommendations and shall be to the approval of the Contractor.

**END OF BW SPECIFICATION 1**

**GENERAL SPECIFICATION 2 FOR MATERIALS AND WORKMANSHIP**

The specification shall be:

- CESWI: The Civil Engineering Specification for the Water Industry, 6<sup>th</sup> Edition, June 2004, or the most recent edition if superseded.

Other specifications may be referred to in the Works Information.

These include:

- The Specification for Highway Works (SHW), latest current edition.

Steel Sheet Piling shall be in accordance with:

- The Piling Handbook, latest Edition, which at the time of writing is the 8<sup>th</sup> Edition, 2005, by Arcelor RPS.

For steel sheet piling the following categories shall be in accordance with the Specification 1:

Clearance of the Canal Bed  
Tolerances, unless specified otherwise  
Piling Records

The Mechanical & Electrical specification shall be:

- British Waterways M&E general specification as posted on the BW Gateway internal web site

**END OF SPECIFICATION 2**

**List of Reference Drawings – for the Specification and the Schedules**

The following drawings are included in the document for reference purposes, all are prefixed by the number: 117816 - 14

- Towpaths        01 – 01 Towpath Detail, no edge  
                     01 – 02 Towpath Detail, timber edge  
                     01 – 03 Towpath & Landing Stage Detail  
                     01 – 04 Brick Paving Detail  
                     01 – 05 General Paving Detail
- Bank Edges     03 – 01 Typical Hessian Bag Detail  
                     03 – 02 Coir Rolls Laid on Existing Bed  
                     03 – 03 Coir Rolls Laid on Existing Bed  
                     03 – 04 Coir Rolls with Rock Base/Roll  
                     03 – 05 Coir Rolls with Hazel Faggot Base  
                     03 – 06 Vole Hole Through Trench Sheetting  
                     03 – 07 Trench Sheetting Vole Habitat  
                     03 – 09 Typical L8 Piling Detail  
                     03 – 10 Brick Coping Details
- Lock Details    04 0 01 Lock Ladder recess  
                     04 – 02 Lock Ladder, Sample Details  
                     04 – 03 Typical Lock Quadrant Detail  
                     Ladder 1 Typical lockladder
- Moorings        05 – 01 Pile Mounted Mooring Detail  
                     05 – 02 Mooring Ring Detail  
                     05 – 03 Bollard & Brickwork Sett Detail  
                     05 – 04 Granite Sett Detail for Moorings
- Fences & gates 06 – 02 Typical Post & 3 Rail Fence Detail  
                     06 – 03 Fence Straining Post  
                     06 – 08 Typical Diamond Braced Timber Field Gate  
                     06 – 09 Pedestrian Access Gate

**END OF SPECIFICATIONS 1 & 2**

**FRAMEWORK INFORMATION**

**SCHEDULE 1**

**PART 1**

Form of *Supplier's* Collateral Warranty

Private & Confidential

Draft: [Enter date here]

**Dated**

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**[CONTRACTOR/CONSULTANT] (1)**

**and**

**[BENEFICIARY] (2)**

**[and**

**BRITISH WATERWAYS BOARD (3)]<sup>1</sup>**

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<sup>1</sup> Only include the Contractor as a party to the warranty where the warranty provides for step-in rights.

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**FORM OF DEED OF COLLATERAL WARRANTY IN  
FAVOUR OF [FUND/PURCHASER/TENANT]**

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**THIS DEED** is made on [●]

**BETWEEN:-**

1. **[CONTRACTOR/CONSULTANT]** (Company No: [●]), whose registered office is at [●] (the ["**Contractor**"/"**Consultant**"]);
2. **[FUND/PURCHASER/TENANT]** (Company Number:[●]), whose registered office is at [●] (the "**Beneficiary**", which expression shall include its successors and assigns); and
- [3. **[BRITISH WATERWAYS BOARD]** (Company Number: [●]), whose registered office is at [●] (the "**Contractor**", which expression shall include its successors and assigns).]

**RECITALS:-**

- (A) The Contractor and the [Contractor/Consultant] have entered into a framework contract dated [●] (the "**Framework Contract**") under which the Contractor may instruct the [Contractor/Consultant] to provide certain works and/or services relating to or in connection with [*insert description of general scope from Framework Contract*] by issuing a package order or time charge order, respectively.
- (B) Pursuant to the Framework Contract, the Contractor has instructed the [Contractor/Consultant] to provide certain [works (the "**Works**")/services (the "**Services**")] by issuing a [Package Order (the "**Package Order**")/Time Charge Order (the "**Time Charge Order**")] (which expression shall mean such contract as amended from time to time and shall include any settlement or other agreement reached between the Contractor and the [Contractor/Consultant] in connection with such contract) in connection with [*insert description/scope of project to which the [Package Order/Time Charge Order] relates*] ("the Project").
- (C) The Beneficiary has, as [a purchaser/a company providing funding/a tenant], an interest in the Project pursuant to a [Sale and Purchase Agreement/Agreement for Lease/Funding Agreement].

**NOW**, in consideration of the payment of Ten Pounds by the Beneficiary to the [Contractor/Consultant] (receipt of which is hereby acknowledged by the [Contractor/Consultant]) and without prejudice to the rights and obligations of the [Contractor/Consultant] under the [Package Order/Time Charge Order] **THIS DEED WITNESSES** as follows:-

- 1 Capitalised terms in this deed shall have the same meaning as in the framework contract and the [Package Order/time charge order] and in the event of any conflict between the framework contract and the [package order/time charge order] and this deed the

meaning given in the framework contract and the [package order/time charge order] shall prevail.

- 2 The [Contractor/Consultant] warrants and undertakes to the Beneficiary that it has complied and shall continue to comply with the terms of the [Package Order/Time Charge Order] and, without prejudice to the generality of the foregoing, the [Contractor/Consultant] further warrants and undertakes to the Beneficiary that:
  - 2.1 in carrying out and completing the design of the [Works/Services], he has exercised and shall continue to exercise all the reasonable skill, care and diligence to be expected of a properly qualified and competent designer who is experienced in preparing design work of a similar size, scope, nature and complexity and in a similar location to the Project;
  - 2.2 the [works/services], the design and each part of them shall, when completed, comply with any performance specification or requirement contained or referred to in the [works information/scope]; and
  - 2.3 the design and the execution of the [Works/Services] shall comply with Applicable Law.
- 3 in the event of any breach of clause 2:
  - 3.1 the [Contractor/Consultant] shall be entitled in any action or proceedings by the Beneficiary to rely on any limitation in the [Package Order/Time Charge Order] and to raise the equivalent rights in defence of liability (excluding any rights of set-off and/or counterclaim that the [Contractor/Consultant] may have under the [Package Order/Time Charge Order]) as it would have against the Contractor under the [Package Order/Time Charge Order]; and
  - 3.2 the obligations and liabilities of the [Contractor/Consultant] under or pursuant to clause 2 shall not be limited or excluded by any enquiry or inspection into any matter which may be made or carried out by the Beneficiary or by the appointment of any person, firm or company by the Beneficiary to make or carry out any enquiry or inspection, whether or not any independent liability of any such person, firm or company to the Beneficiary arises in connection therewith.
- 4
  - 4.1 In providing the [Works/Services], the [Contractor/Consultant] warrants and undertakes that he has not and shall not specify nor authorise, cause or allow to be used any material which does not comply with the [Works Information/Scope] or is known to or is reasonably believed to pose a hazard to the health of any person or to the environment or which, at the time of specification or use in the [Works/Services] is generally accepted as being deleterious.
  - 4.2 The [Contractor/Consultant] shall immediately notify the Beneficiary if the [Contractor/Consultant] suspects or becomes aware of any proposed or actual use within or in connection with the [Works/Services] of any material which is not in accordance with clause 4.1.
- 5
  - 5.1 The [Contractor/Consultant] shall effect and maintain in full force and effect from the date of commencement of the [Works/Services] and expiring no earlier than 12 years from the date of Completion of the [Works under the Package Order] [works to which the Services under the Time Charge Order relate], professional indemnity insurance with a limit of indemnity of not less than [•] million pounds (£•) for each and every claim in respect of any claims against the [Contractor/Consultant] provided that such insurance

continues to be available in the insurance market at commercially reasonable premium rates and on commercially reasonable terms. Any increased or additional premium required by reason of the [Contractor/Consultant]'s own claims record or other acts, omissions, matters or things particular to the [Contractor/Consultant] shall be deemed to fall within commercially reasonable rates.

- 5.2 The insurance required by this Clause 5 is to be maintained with a reputable insurance company or underwriter licensed to carry on business in the United Kingdom and shall not be subject to any material excess or unusual exclusions.
  - 5.3 If for any period such insurance is not available in the market at commercially reasonable rates or on commercially reasonable terms, the [Contractor/Consultant] shall forthwith inform the Beneficiary of the circumstances and availability of the insurance in respect of such period and decide with the Beneficiary the method of best covering the [Contractor/Consultant]'s liability to the Beneficiary. The [Contractor/Consultant] shall then put in place and maintain any replacement and/or additional protection which may be determined in all the circumstances to be appropriate.
  - 5.4 When required to do so by the Beneficiary, the [Contractor/Consultant] shall provide to the Beneficiary satisfactory documentary evidence that the insurance required by this clause 5 is being maintained, and the [Contractor/Consultant] further warrants and undertakes that, if and when required in order to maintain such insurance in full force and effect, this Deed has been or shall be disclosed to the [Contractor/Consultant]'s professional indemnity insurers.
- 6 *[N.B. Clause 6 only to be used in relation to the collateral warranty in favour of a Fund]*
- 6.1 The [Contractor/Consultant] agrees that it shall not, without first giving to the Beneficiary not less than 21 days' prior notice in writing, exercise nor seek to exercise any right it may have to terminate its employment under the [Package Order/Time Charge Order] or to treat the [Package Order/Time Charge Order] as having been repudiated. Any period stipulated in the [Package Order/Time Charge Order] for the exercise by the [Contractor/Consultant] of a right of termination shall nevertheless be extended as may be necessary to take account of the period of notice required by this clause 6.1.
  - 6.2 The [Contractor/Consultant] shall give notice to the Beneficiary forthwith upon exercising any right to suspend or discontinue the performance of any of its obligations under the [Package Order/Time Charge Order].
  - 6.3 If, the Beneficiary or its appointee gives a notice which complies with clause 6.7 to the [Contractor/Consultant] that the Beneficiary has become entitled under the Funding Agreement to carry out and complete the Project or if within the period of 21 days referred to in clause 6.1 above or within a period of 21 days of the [Contractor/Consultant] giving notice pursuant to clause 6.2 above (but in any event prior to Completion of the [Works under the Package Order] [works to which the Services under the Time Charge Order relate]), the Beneficiary or its appointee gives the [Contractor/Consultant] a notice which complies with clause 6.7 then:
    - (a) any right of the [Contractor/Consultant] to terminate its employment under the [Package Order/Time Charge Order] or to treat the [Package Order/Time Charge Order] as having been repudiated or, to suspend or discontinue the performance of any of its obligations under the [Package Order/Time Charge Order] shall cease and the [Package Order/Time Charge Order] shall continue in full force and effect as if such right had not arisen and, in all respects, as if the [Package Order/Time Charge Order] had been entered into between the [Contractor/Consultant] and the Beneficiary or its appointee in the place of the Contractor;

- (b) the [Contractor/Consultant] shall accept the instructions of and be liable to the Beneficiary or its appointee to the exclusion of the Contractor in respect of the performance of the obligations of the [Contractor/Consultant] in accordance with the terms and conditions of the [Package Order/Time Charge Order];
  - (c) the Beneficiary shall become bound by the terms and conditions of the [Package Order/Time Charge Order] in respect of all obligations and duties of the Contractor thereunder which fall to be performed after the date of such notice;
  - (d) the Contractor shall be released from further performance of the duties and obligations of the Contractor under the [Package Order/Time Charge Order] after the date of such notice, but without prejudice to any rights and remedies of the Beneficiary or the [Contractor/Consultant] against the Contractor in respect of any matter of things done or omitted to be done by the Contractor on or before the date of such notice; and
  - (e) upon the Beneficiary's request, the [Contractor/Consultant] shall enter into a novation agreement for the novation of the [Package Order/Time Charge Order] by the Contractor to the Beneficiary or to its appointee, such novation agreement to be in terms reasonably required by the Beneficiary (subject to the requirements of this clause 6.3 and clause 6.7).
- 6.4 The [Contractor/Consultant] and the Contractor agree that the [Contractor/Consultant] shall be entitled to rely on any notice given by the Beneficiary or its appointee under clause 6.3 as conclusive evidence for the purposes of this Deed of the occurrence of such event.
- 6.5 The [Contractor/Consultant] shall not be acting in breach of the [Package Order/Time Charge Order] or of this Deed by complying with any such notice under clause 6.3 or by entering into any such novation under clause 6.3.
- 6.6 It shall be a condition of any notice given under clause 6.3 that :
- (a) the Beneficiary or its appointee assumes all the obligations of the Contractor under the [Package Order/Time Charge Order] from the date of such notice; and
  - (b) the Beneficiary or its appointee accepts liability for payment of any amounts payable to the [Contractor/Consultant] under the [Package Order/Time Charge Order] including payment of any amounts properly due to the [Contractor/Consultant] at the date of such notice (but only if the [Contractor/Consultant] shall have immediately notified the Beneficiary of any such amounts as soon as payment of the same shall have been outstanding for a period of 30 days).
- 6.7 The Beneficiary has and shall have no authority to issue any direction or instruction to the [Contractor/Consultant] in relation to the performance of its obligations under the [Package Order/Time Charge Order] nor any liability to the [Contractor/Consultant] in respect of sums due under the [Package Order/Time Charge Order] unless and until the Beneficiary has given notice under clause 6.3.
- 7 The benefit of this deed and/or the rights arising hereunder (whether or not accrued) may be assigned on [two] occasions without the consent of the [contractor/consultant], but the [contractor/consultant] shall be given written notice of any such assignment. any other or further assignment shall only take place after the [contractor/consultant] has given its written consent thereto (such consent not to be unreasonably withheld or delayed).

- 8 The obligations and liabilities of the [Contractor/Consultant] under this Deed shall cease and expire upon the expiry of 12 years after Completion of the [Works under the Package Order] [works to which the Services under the Time Charge Order relate] except only in respect of any matter, claim or dispute in relation to which legal proceedings have been commenced prior to the expiry of such period.
- 9 This deed shall be governed by the laws of England. the parties submit to the exclusive jurisdiction of the courts of England except for the purposes of enforcement proceedings in respect of any decision, judgement or award of such courts in another jurisdiction.
- 10 Nothing in this deed confers or purports to confer on any third party any benefit or any right to enforce any term of this deed pursuant to the contracts (rights of third parties) act 1999.

**IN WITNESS** whereof [Contractor/Consultant], the Beneficiary [and the Contractor] have executed and delivered this Deed on the date first before written.

**EXECUTED** as a **DEED** by )  
**[CONTRACTOR/CONSULTANT]** )  
and signed accordingly by: )

Director:

Director/Secretary:

**OR**

**THE COMMON SEAL** of )  
**[CONTRACTOR/CONSULTANT]** )  
was affixed in )  
the presence of: )

Director

Director/Secretary

**OR**

Signed as a deed )  
by **[NAME OF ATTORNEY]** )  
as attorney of )  
**[CONTRACTOR/CONSULTANT]** )  
in exercise of a power )  
of attorney dated [**•**] )  
in the presence of: )

Signature of Witness:

Name:

Address:

Occupation:

**EXECUTED** as a **DEED** by )  
**[FUND/PURCHASER/TENANT]** )  
and signed accordingly by: )

Director:

Director/Secretary:

**OR**

**THE COMMON SEAL** of )  
**[FUND/PURCHASER/TENANT]** )  
was affixed in )  
the presence of: )

Director

Director/Secretary

**OR**

Signed as a deed )  
by **[NAME OF ATTORNEY]** )  
as attorney of )  
**[FUND/PURCHASER/TENANT]** )  
in exercise of a power )  
of attorney dated [•] )  
in the presence of: )

Signature of Witness:

Name:

Address:

Occupation:

**[EXECUTED as a DEED by** )  
**[BRITISH WATERWAYS BOARD]** )  
and signed accordingly by: )

Director

Director/Secretary]

FRAMEWORK INFORMATION

**SCHEDULE 1**

**PART 2**

**Form of Subcontractor's Collateral warranty**

**Dated** \_\_\_\_\_

**[SUB-CONTRACTOR] (1)**

**and**

**[BENEFICIARY] (2)**

**and**

**[CONTRACTOR/CONSULTANT] (3)**

---

**FORM OF DEED OF COLLATERAL WARRANTY IN  
FAVOUR OF [BRITISH WATERWAYS  
BOARD/FUND/PURCHASER/ TENANT]**

---

**THIS DEED** is made on [•]

**BETWEEN:-**

[1. **[SUB-CONTRACTOR]** (Company No: [•]), whose registered office is at [•] (the “**Sub-Contractor**”);

**OR**

1. The Partners in the firm of **[SUB-CONTRACTOR]** of [•] (the “**Sub-Contractor**”), which expression includes each and every partner in the Sub-Contractor jointly and severally;] [and]

2. **[BRITISH WATERWAYS BOARD/FUND/PURCHASER/TENANT]** (Company Number:[•]), whose registered office is at [•] the “**Beneficiary**”, which expression shall include its successors and assigns).[.]; and]

[3. **[CONTRACTOR/CONSULTANT]** (Company Number: [•]), whose registered office is at [•] (the “**Contractor**”/the “**Consultant**”, which expression shall include its successors and assigns).]<sup>2</sup>

**RECITALS:-**

(A) [[British Waterways Board] (the “**Contractor**”)] or [The Beneficiary] and the [Contractor/Consultant] have entered into a framework contract dated [•] (the “**Framework Contract**”) under which [the Contractor] [the Beneficiary] may instruct the [Contractor/Consultant] to provide certain works and/or services relating to or in connection with [*insert general scope from Framework Contract*] by issuing a package order or time charge order, respectively.

(B) Pursuant to the Framework Contract, [the Contractor] [the Beneficiary] has instructed the [Contractor/Consultant] to provide certain [works/services] by issuing a package order or a time charge order (which expression shall mean such contract as amended from time to time and shall include any settlement or other agreement reached between [the Contractor] [the Beneficiary] and the [Contractor/Consultant] in connection with such contract) in connection with [*insert description/scope or project to which the [Package Order/Time Charge Order] relates*] (the “**Project**”).

(C) The [Contractor/Consultant] has entered into a sub-contract with the Sub-Contractor dated [•] (the “**Sub-Contract**”) (which expression shall mean such contract as amended from time to time and shall include any settlement or other agreement reached between the [Contractor/Consultant] and the Sub-Contractor in connection with such contract) for the completion of the sub-contract [works/services] referred to therein (the “**Sub-Contract [Works/Services]**”).

(D) [The Beneficiary has, as [a purchaser/a company providing funding/a tenant], pursuant to the [Sale and Purchase Agreement/Funding Agreement/Agreement for Lease] an interest in the Project.]

**NOW**, in consideration of the payment of Ten Pounds by the Beneficiary to the Sub-Contractor (receipt of which is hereby acknowledged by the Sub-Contractor) and without prejudice to the rights and obligations of the Sub-Contractor under the Sub-Contract, **THIS DEED WITNESSES** as follows:-

---

<sup>2</sup> The Contractor/Consultant is only required to be a party to the warranty where step in rights are required by the Beneficiary.

- 1 Capitalised terms in this Deed shall have the same meaning as in the Sub-Contract and in the event of any conflict between the Sub-Contract and this Deed the meaning given in the Sub-Contract shall prevail.
- 2 The Sub-Contractor warrants and undertakes to the Beneficiary that it has complied and shall continue to comply with the terms of the Sub-Contract, and without prejudice to the generality of the foregoing the Sub-Contractor further warrants and undertakes to the Beneficiary that:
  - 2.1 in carrying out and completing the design of the Sub-Contract [Works/Services], he has exercised and shall continue to exercise all the reasonable skill, care and diligence to be expected of a properly qualified and competent designer who is experienced in preparing design work of a similar size, scope, nature and complexity and in a similar location to the Project;
  - 2.2 The Sub-Contract [Works/Services], the design and each part of them shall, when completed, comply with any performance specification or requirement contained or referred to in the Sub-Contract; and
  - 2.3 The design and the execution of the Sub-Contract [Works/Services] shall comply with Applicable Law;
- 3 In the event of any breach of clause 2:
  - 3.1 The Sub-Contractor shall be entitled in any action or proceedings by the Beneficiary to rely on any limitation in the Sub-Contract and to raise the equivalent rights in defence of liability (excluding any rights of set-off and/or counterclaim that the Sub-Contractor may have under the Sub-Contract) as it would have against the [Contractor/Consultant] under the Sub-Contract; and
  - 3.2 The obligations of the Sub-Contractor under or pursuant to clause 2 shall not be limited or excluded by any enquiry or inspection into any matter which may be made or carried out by the Beneficiary or by the appointment of any person by the Beneficiary to make or carry out any enquiry or inspection, whether or not any independent liability of any such person to the Beneficiary arises in connection therewith.
- 4
  - 4.1 In providing the Sub-Contract [Works/Services] the Sub-Contractor warrants and undertakes that he has not and shall not specify nor authorise, cause or allow to be used any material which does not comply with the Sub-Contract or is known to or is reasonably believed to pose a hazard to the health of any person or to the environment or which, at the time of specification or use in the Sub-Contract [Works/Services] is generally accepted as being deleterious.
  - 4.2 The Sub-Contractor shall immediately notify the Beneficiary if the Sub-Contractor suspects or becomes aware of any proposed or actual use within or in connection with the Sub-Contract [Works/Services] of any material which is not in accordance with clause 4.1.

## 5

- 5.1 The Sub-Contractor shall effect and maintain in full force and effect from the date of commencement of the Sub-Contract [Works/Services] and expiring no earlier than 12 years from the date of completion of the Sub-Contract [Works/Services], professional indemnity insurance with a limit of indemnity of not less than [•] million pounds (£[•]) for each and every claim in respect of any claims against the Sub-Contractor, provided that such insurance continues to be available in the insurance market at commercially reasonable premium rates and on commercially reasonable terms. Any increased or additional premium required by reason of the Sub-Contractor's own claims record or other acts, omissions, matters or things particular to the Sub-Contractor shall be deemed to fall within commercially reasonable rates.
- 5.2 The insurance required by this clause 5 is to be maintained with a reputable insurance company or underwriter licensed to carry on business in the United Kingdom and shall not be subject to any material excess or unusual exclusions.
- 5.3 If for any period such insurance is not available in the market at commercially reasonable rates or on commercially reasonable terms, the Sub-Contractor shall forthwith inform the Beneficiary of the circumstances and availability of the insurance in respect of such period and decide with the Beneficiary the method of best covering the Sub-Contractor's liability to the Beneficiary. The Sub-Contractor shall then put in place and maintain any replacement and/or additional protection which may be determined in all the circumstances to be appropriate.
- 5.4 When required to do so by the Beneficiary, the Sub-Contractor shall provide to the Beneficiary satisfactory documentary evidence that the insurance required by this clause 5 is being maintained, and the Sub-Contractor further warrants and undertakes that, if and when required in order to maintain such insurance in full force and effect, this Deed has been or shall be disclosed to the Sub-Contractor's professional indemnity insurers.

## 6 *[N.B. clause 6 only to be used in relation to the collateral warranty in favour of a fund]*

- 6.1 The Sub-Contractor agrees that it shall not, without first giving to the Beneficiary not less than 21 days' prior notice in writing, exercise nor seek to exercise any right it may have to terminate its employment under the Sub-Contract or to treat the Sub-Contract as having been repudiated. Any period stipulated in the Sub-Contract for the exercise by the Sub-Contractor of a right of termination shall nevertheless be extended as may be necessary to take account of the period of notice required by this clause 6.1.
- 6.2 The Sub-Contractor shall give notice to the Beneficiary forthwith upon exercising any right to suspend or discontinue the performance of any of its obligations under the Sub-Contract.
- 6.3 If, the Beneficiary or its appointee gives a notice which complies with clause 6.7 to the Sub-Contractor that the Beneficiary has become entitled under the Funding Agreement to carry out and complete the Project or if within the period of 21 days referred to in clause 6.1 above or within a period of 21 days of the Sub-Contractor giving notice pursuant to clause 6.2 above (but in any event prior to the date of completion of the Sub-Contract [Works/Services]), the Beneficiary or its appointee gives the Sub-Contractor a notice which complies with clause 6.7 then:

- (a) any right of the Sub-Contractor to terminate its employment under the Sub-Contract or to treat the Sub-Contract as having been repudiated or, to suspend or discontinue the performance of any of its obligations under the Sub-Contract shall cease and the Sub-Contract shall continue in full force and effect as if such right had not arisen and, in all respects, as if the Sub-Contract had been entered into between the Sub-Contractor and the Beneficiary or its appointee in the place of the [Contractor/Consultant];
  - (b) the Sub-Contractor shall accept the instructions of and be liable to the Beneficiary or its appointee to the exclusion of the [Contractor/Consultant] in respect of the performance of the obligations of the [Contractor/Consultant] in accordance with the terms and conditions of the Sub-Contract;
  - (c) the Beneficiary shall become bound by the terms and conditions of the Sub-Contract in respect of all obligations and duties of the [Contractor/Consultant] thereunder which fall to be performed after the date of such notice;
  - (d) the [Contractor/Consultant] shall be released from further performance of the duties and obligations of the [Contractor/Consultant] under the Sub-Contract after the date of such notice, but without prejudice to any rights and remedies of the Beneficiary or the Sub-Contractor against the [Contractor/Consultant] in respect of any matter of things done or omitted to be done by the [Contractor/Consultant] on or before the date of such notice; and
  - (e) upon the Beneficiary's request, the Sub-Contractor shall enter into an agreement for the novation of the Sub-Contract by the [Contractor/Consultant] to the Beneficiary or to its appointee, such agreement to be in terms reasonably required by the Beneficiary (subject to the requirements of this clause 6.3 and clause 6.7).
- 6.4 The Sub-Contractor and the [Contractor/Consultant] agree that the Sub-Contractor shall be entitled to rely on any notice given by the Beneficiary or its appointee under clause 6.3 as conclusive evidence for the purposes of this Deed of the occurrence of such event.
- 6.5 The Sub-Contractor shall not be acting in breach of the Sub-Contract or of this Deed by complying with any such notice under clause 6.3 or by entering into any such novation under clause 6.3.
- 6.6 It shall be a condition of any notice given under clause 6.3 that:
- (a) the Beneficiary or its appointee assumes all the obligations of the [Contractor/Consultant] under the Sub-Contract from the date of such notice; and
  - (b) the Beneficiary or its appointee accepts liability for payment of any amounts payable to the Sub-Contractor under the Sub-Contract including payment of any amounts properly due to the Sub-Contractor at the date of such notice (but only if the Sub-Contractor shall have immediately notified the Beneficiary of any such amounts as soon as payment of the same shall have been outstanding for a period of 30 days).
- 6.7 The Beneficiary has and shall have no authority to issue any direction or instruction to the Sub-Contractor in relation to the performance of its obligations under the Sub-Contract nor any liability to the Sub-Contractor in respect of sums due under the Sub-Contract unless and until the Beneficiary has given notice under clause 6.3.

- 7 The benefit of this deed and/or the rights arising hereunder (whether or not accrued) may be assigned on two occasions without the consent of the sub-contractor, but the sub-contractor shall be given written notice of any such assignment. any other or further assignment shall only take place after the sub-contractor has given its written consent thereto (such consent not to be unreasonably withheld or delayed).
- 8 The obligations and liabilities of the sub-contractor under this deed shall cease and expire upon the expiry of 12 years after the date of completion of the sub-contract [works/services], under the sub-contract except only in respect of any matter, claim or dispute in relation to which legal proceedings have been commenced prior to the expiry of such period.
- 9 This deed shall be governed by the laws of england. the parties submit to the exclusive jurisdiction of the courts of england except for the purposes of enforcement proceedings in respect of any decision, judgement or award of such courts in another jurisdiction.
- 10 Nothing in this deed confers or purports to confer on any third party any benefit or any right to enforce any term of this deed pursuant to the contracts (rights of third parties) act 1999.

**IN WITNESS** whereof the Sub-Contractor [and] the Beneficiary [and the Contractor] have executed and delivered this Deed on the date first before written.

**EXECUTED** as a **DEED** by )  
**[SUB-CONTRACTOR]** )  
and signed accordingly by: )

Director:

Director/Secretary:

**OR**

**THE COMMON SEAL** of )  
**[SUB-CONTRACTOR]** )  
was affixed in )  
the presence of: )

Director

Director/Secretary

**OR**

Signed as a deed )  
by **[NAME OF ATTORNEY]** )  
as attorney of )  
**[SUB-CONTRACTOR]** )  
in exercise of a power )  
of attorney dated [**•**] )  
in the presence of: )

Signature of Witness:

Name:

Address:

Occupation:

**EXECUTED as a DEED by** )  
**[BRITISH WATERWAYS BOARD/** ]  
**FUND/PURCHASER/TENANT]** )  
and signed accordingly by: )

Director:

Director/Secretary

**[EXECUTED as a DEED by** )  
**[CONTRACTOR/CONSULTANT]** )  
and signed accordingly by: )

Director:

Director/Secretary

**OR**

**THE COMMON SEAL of** )  
**[CONTRACTOR/CONSULTANT]** )  
was affixed in )  
the presence of: )

Director

Director/Secretary

**OR**

Signed as a deed )  
by **[NAME OF ATTORNEY]** )  
as attorney of )  
**[CONTRACTOR/CONSULTANT]** )  
in exercise of a power )  
of attorney dated [**•**] )  
in the presence of: )

Signature of Witness:

Name:

Address:

Occupation:]

FRAMEWORK INFORMATION

**SCHEDULE 1**

**PART 3**

Form of Performance Bond

Private & Confidential

**DATED**

---

**[SURETY]**

**and**

**[BRITISH WATERWAYS BOARD]**

---

**PERFORMANCE BOND**  
relating to [*insert description of scope of [Package Order/Time Charge Order]*]

---

**THIS BOND** is made on [•]

**BETWEEN:**

- (1) [•] (Company No: [•]), whose registered office is at [•], (the "**Surety**"); and
- (2) [**BRITISH WATERWAYS BOARD**] (Company No: [•]), whose registered office is at [•], (the "**Contractor**", which expression shall include its successors and assignees).

**WHEREAS:**

- (A) The Contractor and [•] (Company No: [•]), whose registered office is at [•], (the ["**Contractor**"/"**Consultant**"]) have entered into a framework contract dated [•] (the "**Framework Contract**") under which the Contractor may instruct the [Contractor/Consultant] to provide certain works and/or services relating to or in connection with *[insert description of general scope from Framework Contract]* by issuing a package order or time charge order, respectively.
- (B) Pursuant to the Framework Contract, the Contractor has instructed the [Contractor/Consultant] to provide certain [works (the "**Works**")/services (the "**Services**")] by issuing a [Package Order (the "**Package Order**")/Time Charge Order (the "**Time Charge Order**")] which expression shall mean such contract as amended from time to time and shall include any settlement or other agreement reached between the Contractor and the [Contractor/Consultant] in connection with such contract] in connection with *[insert description of scope of [Package Order/Time Charge Order]]*
- (C) The Surety has been requested by the [Contractor/Consultant] to provide, and has agreed to provide, a Bond on the following terms.

**NOW THIS DEED WITNESSES** as follows:

**1 INTERPRETATION**

"**Insolvency Event**" means the [Contractor/Consultant] being unable to pay its debts as defined by Sections 123(1) and 268(1) of the Insolvency Act 1986 as amended or any corporate action, legal proceedings or other procedure or step is taken in relation to:

- (a) the suspension of payments, a moratorium of any indebtedness, winding-up, dissolution, administration or reorganisation (by way of voluntary arrangement, scheme of arrangement or otherwise) of the [Contractor/Consultant] other than a solvent liquidation or reorganisation of the [Contractor/Consultant];
- (b) a composition, assignment or arrangement with any creditor of the [Contractor/Consultant];
- (c) the appointment of a liquidator, receiver, administrator, administrative receiver, compulsory manager or other similar officer in respect of the [Contractor/Consultant] or any of its assets; or
- (d) enforcement of any security over any assets of the [Contractor/Consultant],

or any analogous procedure or step is taken in any jurisdiction.

Words and expressions used but not defined in this Bond shall have the meanings attributed to them in the Framework Contract and the [Package Order/Time Charge Order].

## **2 Maximum sum**

The maximum amount payable by the Surety to the Contractor under this Bond is £[insert amount in figures and in words] (the "**Maximum Sum**") provided that, there shall be no maximum applicable to the amount payable in relation to any rights or remedies which the Contractor may have arising from any breach by the Surety of the terms of this Bond.

## **3 Procedure for calling the Bond**

3.1 The Contractor may from time to time make a written demand upon the Surety stating:

3.1.1 that the [Contractor/Consultant] has failed to perform or observe any of its duties and/or obligations arising under or in connection with the [Package Order/Time Charge Order] and/or has committed a breach of any provision and/or has failed to fulfil any warranty or indemnity set out in the [Package Order/Time Charge Order] and/or has failed to satisfy any of its liabilities under or in connection with the [Package Order/Time Charge Order] and/or an Insolvency Event has occurred; and

3.1.2 the amount claimed by the Contractor.

3.2 The Surety shall immediately upon receipt of any such demand served from time to time by the Contractor pay to the Contractor the amount demanded to the extent that such amount together with the amount(s) of any previous payment(s) by the Surety to the Contractor under this Bond does not in the aggregate exceed the Maximum Sum.

## **4 Payment under the Bond**

4.1 Subject to clause 2:

4.1.1 sums payable under this Bond shall be paid to the Contractor in full, free of any present or future taxes, levies, duties, charges, fees or withholdings and without any deduction, restriction, conditions, withholding, set-off or counterclaim whatsoever; and

4.1.2 if the Surety is compelled by law to make any deduction or withholding, the Surety will gross up the payment so that the net sum received by the Contractor will be equal to the full amount which the Contractor would have received had no such deduction or withholding been made.

4.2 Any demand made by the Contractor in accordance with clause 3 shall be conclusive evidence that the sum stated in such demand is properly due and payable to the Contractor under this Bond. Save as required by applicable law, the Surety shall have no right and shall not be under any duty or responsibility to enquire into the reason or circumstances of any demand made by the Contractor, the respective rights and/or obligations and/or liabilities of the Contractor and the [Contractor/Consultant] under the [Package Order/Time Charge Order], the authenticity of any written demand made by the Contractor or the authority of the persons signing any written demand by the Contractor.

## **5 Validity and completeness of the Bond**

5.1 The Surety acknowledges and agrees that the liability of the Surety under this Bond shall not be impaired, reduced, discharged or otherwise affected by reason of any of the following:

5.1.1 any variation, amendment, alteration or supplement to the Framework Contract or the [Package Order/Time Charge Order] or to the extent, nature or method of performance of the duties and/or obligations referred to in the Framework Contract or the [Package Order/Time Charge Order]; or

5.1.2 any allowance of time, delay, waiver, forbearance, forgiveness, indulgence, compromise, delay by or on the part of the Contractor in asserting any of its rights against the [Contractor/Consultant] or other dealing under or in connection with the Framework Contract

or the [Package Order/Time Charge Order] or in respect of any right or remedy arising thereunder; or

- 5.1.3 any settlement or arrangement made between the Contractor and the [Contractor/Consultant] in relation to the Framework Contract or the [Package Order/Time Charge Order]; or
- 5.1.4 any composition, discharge, release, concession or other variation of liability entered into with, or granted to, the [Contractor/Consultant]; or
- 5.1.5 the Framework Contract or the [Package Order/Time Charge Order] or any provision thereof becoming illegal, invalid, void, voidable or unenforceable; or
- 5.1.6 termination of the Framework Contract or the [Package Order/Time Charge Order] or of the [Contractor/Consultant]'s employment under either; or
- 5.1.7 any disability, incapacity, legal limitation, change in ownership or change in status of the [Contractor/Consultant]; or
- 5.1.8 an Insolvency Event; or
- 5.1.9 a change in the constitution of the [Contractor/Consultant]; or
- 5.1.10 the Contractor taking, holding, varying, realising or not enforcing any other security for the liabilities of the [Contractor/Consultant] under the Framework Contract or the [Package Order/Time Charge Order]; or
- 5.1.11 any other act, omission or default which, in the absence of this provision, would or might have operated to discharge, reduce, exonerate or otherwise affect the liability of the Surety under the terms of this Bond, in each case whether with or without notice to or the consent of the Surety and the Surety hereby waives any requirement for notice to it of any such event.

## **6 Continuity and discharge of the Bond**

6.1 The Surety confirms that:

- 6.1.1 its obligations under this Bond shall be irrevocable ;
- 6.1.2 this Bond shall remain in full force and effect until the date which is [•] days after the date of Completion of the [*Works under the Package Order*] [*works to which the Services under the Time Charge Order relate*], whereupon this Bond shall cease to have effect save in connection with any demand notified to the Surety on or prior to the said date and/or as set out in clause 6.1.3; and
- 6.1.3 any release, discharge or settlement between the Surety and the Contractor shall be conditional upon no security, disposition or payment to the Contractor being void, set aside or ordered to be refunded pursuant to any enactment or law relating to bankruptcy, liquidation, administration or insolvency or for any other reason whatsoever and, should this condition not be fulfilled, the Contractor shall be entitled to enforce this Bond subsequently as if such release, discharge or settlement had not occurred and any payment had not been made.

## **7 Non-Waiver**

- 7.1 No failure by the Contractor to exercise or delay by the Contractor in exercising any right or remedy shall operate as a waiver, nor shall any single or partial exercise or waiver of any right or remedy preclude its further exercise or the exercise of any other right or remedy.

## **8 Provisions Severable**

Each of the provisions of this Bond is severable and distinct from the others, and if at any time any such provision is or becomes ineffective, inoperable, invalid or unenforceable it shall be

severed and deemed to be deleted from this Bond, and in such event the remaining provisions of this Bond shall continue to have full force and effect.

## **9 Assignment**

- 9.1 The Contractor may assign, charge or transfer this Bond without the consent of the Surety, and shall give the Surety written notice of any assignment.
- 9.2 The Surety may not assign, charge or transfer this Bond.

## **10 Notices**

- 10.0 Any demand or notice hereunder shall be in writing and shall be served personally or by pre-paid post or by fax. The address for service of any demand or notice shall be the relevant address stated above or such other address in England as may from time to time be notified in writing by the Surety to the Contractor.
- 10.2 The demand or notice shall be deemed to be received:
- 10.2.1 if served personally, when so served;
- 10.2.2 if served by pre-paid post, on the second business day after the day it is posted;
- 10.2.3 if served by fax, upon the receipt by the sender of a transmission report from the despatching fax which confirms that all of the pages comprised in the demand or notice have been successfully sent to the Surety's fax number, provided that if the date of the receipt of the demand is not a business day in the country of the recipient, or if the demand is received outside the hours of 9.00 a.m. to 6.00 p.m., it shall be deemed to have been received at 9.00 a.m. on the next business day.

## **11 Rights of Third Parties**

Nothing in this Bond confers or purports to confer on any third party any benefit or any right to enforce any term of this Bond pursuant to the Contracts (Rights of Third Parties) Act 1999.

## **12 Governing Law**

This Bond shall, be governed by the laws of England, and the courts of England and Wales shall have exclusive jurisdiction over any dispute arising under or in connection with this Bond save that any decision, judgment or award of such courts may be enforced in the courts of any jurisdiction.

## **13 Service of Process**

### ***[If the Surety is incorporated outside of the UK]***

The Surety appoints the following as its agents for service of proceedings:-

Attention: [•]

Name of Agent: [•]

Address of Agent: [•]

Fax: [•]

The Surety undertakes that:

if for any reason such agent ceases to act on behalf of the Surety, the Surety will promptly appoint a replacement agent and notify the Contractor of the replacement immediately; and

the Surety will not revoke the authority of its agent.

**EXECUTED** as a **DEED** and delivered by the parties on the date first above written.

**EXECUTED as a DEED BY:** )  
**[THE SURETY]** )  
acting by: )

Director

Company Secretary/Director

**EXECUTED as a DEED BY:** )  
**[BRITISH WATERWAYS BOARD]** )  
acting by: )

Director

Company Secretary/Director

FRAMEWORK INFORMATION

**SCHEDULE 1**

**PART 4**

Form of Time Charge Order

**FORM OF NEC PSC TIME CHARGE ORDER**

For

[.....] [SERVICES]

For

**British Waterways Board**

To: [Supplier]  
[address]

Sirs,

You are hereby instructed to Provide the Services of .....  
.....in  
accordance with the Framework Contract between us dated .....and the NEC PSC *conditions of contract*, and the attached Contract Data Part One, Scope, Contract Data Part Two and programme (delete if not required) for the amount ascertained in accordance with the NEC PSC *conditions of contract*.

The Forecast total of the Prices for the Time Charge Order is.....  
..... (£ .....)

The *starting date* is ....., the *access date(s)* is/are .....,the *Key Date(s)* is/are ..... and the *Completion Date(s)* is/are .....

Please confirm your acceptance of this instruction in accordance with the attached by forthwith signing and returning a copy of this instruction.

Signature: ..... Date: .....

Capacity in which authorised to sign: .....

For and on behalf of: .....

Address: .....

.....

---

We confirm that we will Provide the Services in accordance with the above instruction and its attachments.

Signature: ..... Date: .....

Capacity in which authorised to sign: .....

For and on behalf of: .....

Address: .....

.....

FRAMEWORK INFORMATION

**SCHEDULE 1**

**PART 5**

Form of Package Order

**FORM OF NEC ECC PACKAGE ORDER**

For

[.....] **SCHEME**

For

**British Waterways Board**

To: [Supplier]  
[address]

Sirs,

You are hereby instructed to Provide the Works in connection with the .....[Scheme] located in ..... [area] In accordance with the Framework Contract between us dated .....and the NEC ECC *conditions of contract*, and the attached Contract Data Part One, Works Information, Site Information and Bill of Quantities, Contract Data Part Two (and Works Information for *Contractors* design if applicable) and programme for the amount ascertained in accordance with the NEC ECC *conditions of contract*.

The total of the Prices (target price ) for the Package Order is ..... (£ .....)

The *starting date* is ....., the *access date(s)* is/are .....,the *Key Date(s)* is/are ..... and the *Completion Date(s)* is/are .....

Any required canal possessions and handing back of canals for navigation are set out in the Works information (delete if not required).

[Possession Damage shall apply at the rate of .....

Possession Bonus shall apply at the rate of .....]

Please confirm your acceptance of this instruction in accordance with the attached by forthwith signing and returning a copy of this instruction.

Signature: ..... Date: .....

Capacity in which authorised to sign: .....

For and on behalf of: .....

Address: .....

.....

---

We confirm that we will Provide the Works in accordance with the above instruction and its attachments.

Signature: ..... Date: .....

Capacity in which authorised to sign: .....

For and on behalf of: .....

Address: .....

.....

**FORM OF NEC ECSC PACKAGE ORDER**

For

[.....] [WORKS]

For

**British Waterways Board**

To: [Supplier]  
[address]

Sirs,

You are hereby instructed to Provide the Works.....  
.....[Works] in accordance with the Framework Contract between us dated .....and the NEC ECSC *conditions of contract*, and the attached Contract Data, Works Information, Site Information, Price List and programme (delete if not required) for the amount ascertained in accordance with the NEC ECSC *conditions of contract*.

The total of the Prices for the Package Order is .....  
..... (£ .....)

The *starting date*, and *completion date* are set out in Contract Data Part One.

Please confirm your acceptance of this instruction in accordance with the attached by forthwith signing and returning a copy of this instruction.

Signature: ..... Date: .....

Capacity in which authorised to sign: .....

For and on behalf of: .....

Address: .....

.....

We confirm that we will Provide the Works in accordance with the above instruction and its attachments.

Signature: ..... Date: .....

Capacity in which authorised to sign: .....

For and on behalf of: .....

Address: .....

.....

FRAMEWORK INFORMATION

**SCHEDULE 1**

**PART 6**

Form of Parent Company Guarantee

Private & Confidential

**Dated** \_\_\_\_\_

[GUARANTOR] (1)

and

[BRITISH WATERWAYS BOARD] (2)

\_\_\_\_\_  
**GUARANTEE**  
relating to [*insert description of scope*]  
\_\_\_\_\_

**THIS GUARANTEE** is made on [•]

**BETWEEN:**

- (1) [•] (Company No: [•]), whose registered office is at [•] (the "**Guarantor**"); and
- (2) [**BRITISH WATERWAYS BOARD**] (Company No: [•]), whose registered office is at [•] (the "**Contractor**", which expression shall include its successors and assignees).

**RECITALS:**

- (A) The Contractor and [•] (Company No: [•]), whose registered office is at [•] (the "**Supplier**") have entered into a framework contract dated [•] (the "**Framework Contract**", which expression shall mean such contract as amended, varied and/or supplemented from time to time and shall include any settlement or other agreement reached between the Contractor and the Supplier in connection with such contract) under which the Contractor may instruct the Supplier to provide certain works and/or services relating to or in connection with [*insert description of scope*].
- (B) The Guarantor is the ultimate holding company of the Supplier.
- (C) The Guarantor has agreed to guarantee to the Contractor the due and proper performance by the Supplier of the Supplier's duties and obligations arising under the Framework Contract and/or any Time Charge Order or Package Order as defined in and entered into pursuant to the Framework Contract, upon the terms of this Guarantee.

**NOW**, in consideration of the payment of One Pound (receipt of which is hereby acknowledged by the Guarantor), **THIS GUARANTEE WITNESSES** as follows:

## 1 Interpretation

### 1.1 In this Guarantee:

"**Insolvency Event**" means the Supplier being unable to pay its debts as defined by Sections 123(1) and 268(1) of the Insolvency Act 1986 as amended or any corporate action, legal proceedings or other procedure or step is taken in relation to:

- (a) the suspension of payments, a moratorium of any indebtedness, winding-up, dissolution, administration or reorganisation (by way of voluntary arrangement, scheme of arrangement or otherwise) of the Supplier other than a solvent liquidation or reorganisation of the Supplier;
- (b) a composition, assignment or arrangement with any creditor of the Supplier;
- (c) the appointment of a liquidator, receiver, administrator, administrative receiver, compulsory manager or other similar officer in respect of the Supplier or any of its assets; or
- (d) enforcement of any Security over any assets of the Supplier,

or any analogous procedure or step is taken in any jurisdiction.

### 1.2 Words and expressions used but not defined in this Guarantee shall have the meanings attributed to them in the Framework Contract and/or any Time C Charge Order or Package Order.

## 2 Guarantee

### 2.1 The Guarantor hereby irrevocably and unconditionally guarantees the due and proper performance by the Supplier of the Supplier's duties and obligations arising under or

in connection with the Framework Contract and/or any Time Charge Order or Package Order issued so that:

2.1.1 if the Supplier shall in any respect fail to perform any of its duties and/or obligations arising under or in connection with the Framework Contract and/or any Time Charge Order or Package Order or shall commit any breach of any provision, or fail to fulfil any warranty or indemnity, set out in the Framework Contract and/or any Time Charge Order or Package Order then, upon the Contractor's demand, the Guarantor shall forthwith perform and fulfil in the place of the Supplier each and every duty, obligation, provision, warranty or indemnity in respect of which the Supplier has committed a breach or which the Supplier has otherwise failed to fulfil, and

2.1.2 the Guarantor shall be liable for and shall indemnify and save harmless the Contractor from and against any and all losses, damages, expenses, liabilities, claims, costs or proceedings which the Contractor may suffer or incur by reason of the said failure or breach.

2.2 Subject to the provisions of clauses 3, 7 and 8, the liability of the Guarantor under this clause 2 in respect of each failure or breach shall be limited to the extent that the Supplier would have been liable under or in connection with the Framework Contract and/or any Time Charge Order or Package Order for such breach or failure.

### **3 Indemnity**

3.1 The Guarantor agrees to indemnify the Contractor on demand against:

3.1.1 any loss or liability suffered or incurred by the Contractor if any of the duties or obligations of the Supplier under or pursuant to the Framework Contract and/or any Time Charge Order or Package Order is or becomes unenforceable, invalid or illegal for any reason whatsoever as if the Guarantor were principal debtor and as if such duties and/or obligations were not unenforceable, invalid or illegal; and

3.1.2 any and all costs, losses and legal and other expenses which may be imposed on or incurred by the Contractor in seeking to enforce and enforcing this Guarantee and in seeking to enforce and enforcing any judgment or order obtained in respect of this Guarantee.

### **4 Liability Unconditional**

4.1 The Guarantor acknowledges and agrees that the liability of the Guarantor under this Guarantee shall not be impaired, reduced, discharged or otherwise affected by reason of any of the following:

4.1.1 any variation, amendment, alteration or supplement to the Framework Contract and/or any Time Charge Order or Package Order, or to the extent, nature or method of performance of the duties and/or obligations referred to in the Framework Contract and/or any Time Charge Order or Package Order;

4.1.2 any composition, discharge, release, waiver or other variation of liability entered into with, or granted to, the Supplier;

4.1.3 any allowance of time, waiver, forbearance, delay, forgiveness, indulgence, compromise or other dealing under or in connection with the Framework Contract and/or any Time Charge Order or Package Order or in respect of any right or remedy arising under the Framework Contract and/or any Time Charge Order or Package Order;

4.1.4 any settlement or arrangement made between the Contractor and the Supplier in relation to the Framework Contract and/or any Time Charge Order or Package Order;

4.1.5 the Framework Contract and/or any Time Charge Order or Package Order, or any provisions thereof being or becoming illegal, invalid, void, voidable or unenforceable; or

- 4.1.6 the Framework Contract and/or any Time Charge Order or Package Order, or the Supplier's employment under the Framework Contract and/or any Time Charge Order or Package Order being terminated;
- 4.1.7 any disability, incapacity, legal limitation, change in ownership or change in status of the Supplier;
- 4.1.8 an Insolvency Event;
- 4.1.9 a change in the constitution of the Supplier;
- 4.1.10 any forbearance or delay by or on the part of the Contractor in asserting any of its rights against the Supplier;
- 4.1.11 the Contractor taking, holding, varying or realising any other security for the liabilities of the Supplier under the Framework Contract and/or any Time Charge Order or Package Order nor by the Contractor not enforcing any such security; or
- 4.1.12 any other act, omission or default which in the absence of this provision would or might have operated to discharge, reduce, exonerate or otherwise affect the liability of the Guarantor under the terms of this Guarantee,

in each case whether such matters are done or omitted to be done with or without notice to, or the consent of, the Guarantor and the Guarantor hereby waives any requirement for notice of, or consent to, any such matters.

## **5 Continuity and Discharge of the Guarantee**

5.1 The Guarantor agrees that this Guarantee:

5.1.1 shall not be revocable by the Guarantor;

5.1.2 shall be a continuing guarantee and accordingly shall apply in relation to all of the duties, obligations, provisions, warranties or indemnities of the Supplier under and arising out of the Framework Contract and/or any Time Charge Order or Package Order and remain in full force and effect until all the said duties, obligations, provisions, warranties or indemnities shall have been carried out, completed and discharged in accordance with the Framework Contract and/or any Time Charge Order or Package Order;

5.1.3 shall be additional to and not in substitution for any rights or remedies that the Contractor may have against the Supplier under the Framework Contract and/or any Time Charge Order or Package Order or at law;

5.1.4 shall be additional to any other guarantee or security from time to time held by the Contractor; and

5.1.5 shall remain in full force and effect as long as the Supplier remains under any actual or contingent liability under the terms of the Framework Contract and/or any Time Charge Order or Package Order.

5.2 The Guarantor agrees that the obligations of the Guarantor under this Guarantee are independent of and several to those of the Supplier under the Framework Contract and/or any Time Charge Order or Package Order, and accordingly that the Contractor shall not be obliged, before enforcing any of its rights or remedies under this Guarantee, to commence proceedings or take any other action against or in respect of the Supplier or enforce any other guarantee or security from time to time held by the Contractor in respect of the duties and/or obligations of the Supplier under the Framework Contract and/or any Time Charge Order or Package Order;

5.3 The Guarantor agrees that as long as this Guarantee remains in force and effect and until all amounts which may be or become payable under the Framework Contract and/or any Time Charge Order or Package Order or this Guarantee have been irrevocably paid in full, it shall not:

5.3.1 take any security from the Supplier in connection with this Guarantee (and, if taken, any such security shall be held by the Guarantor as security for its liability to the Contractor under this Guarantee);

5.3.2 take any step to enforce any right or claim against the Supplier in respect of any payment made under or liability arising from or in connection with this Guarantee or claim or prove in competition with the Contractor against the Supplier or demand or accept repayment of any monies from the Supplier or claim any right of contribution, set-off or indemnity against the Supplier; or

5.3.3 be subrogated to any right or security of the Contractor,

and any sums received by the Guarantor or the amount of any set-off exercised by the Guarantor in breach of this clause 5.3 shall be held by the Guarantor in trust for and shall be promptly paid to the Contractor.

5.4 Any decision of any adjudicator, expert, arbitral tribunal and/or any court in respect of or in connection with the Framework Contract and/or any Time Charge Order or Package Order or any agreement reached between the Supplier and the Contractor shall be binding on the Guarantor.

## **6 Representations and Warranties**

6.1 The Guarantor hereby warrants, represents and undertakes to the Contractor that:

6.1.1 it is duly incorporated under the laws of the country of its incorporation, possesses the capacity to sue and be sued in its own name and has the power to carry on its business and to own its property and other assets;

6.1.2 it has the power to execute, deliver and perform its obligations under this Guarantee and all necessary corporate, shareholder and other action and consents have been taken or, as the case may be, received to authorise the execution, delivery and performance of this Guarantee;

6.1.3 its obligations under this Guarantee constitute its legal, valid and binding obligations and are in full force and effect and rank at least *pari passu* with all other of its present and future unsecured and unsubordinated indebtedness (with the exception of any obligations which are mandatorily preferred by law and not by contract);

6.2 the creation of this Guarantee and the performance and observance of the obligations hereunder does not:

6.2.1 contravene any existing applicable law, statute, rule, regulation or any judgment to which it is subject;

6.2.2 conflict with or result in any breach of the terms or constitute a default under any agreement or other instrument to which it is a party or subject; and/or

6.2.3 result in the creation of or imposition of or oblige it or any of its subsidiaries to create any charge or other encumbrance or any of its subsidiaries, assets, rights or revenues.

## **7 Payment under the Guarantee**

The Guarantor agrees that all sums payable by the Guarantor under this Guarantee shall be paid to the Contractor in full without set-off or counterclaim and free of any present or future taxes, levies, duties, charges, fees, withholdings or deductions (together referred to as "Deductions") which would not have been imposed if such payments had been made by the Supplier, and if the Guarantor is compelled by law to make any Deductions the Guarantor will gross up the payment so that the net sum received by the Contractor is equal to the full amount which the Contractor would have received had no such Deductions been made.

## **8 Interest**

The Guarantor shall pay interest on any amount due under this Guarantee from the date of demand until the date of payment in full calculated on a daily basis at [*insert default interest rate*].

## **9 Assignment**

9.1 The Contractor may assign, charge or transfer this Guarantee without the consent of the Guarantor, and shall give the Guarantor written notice of any assignment.

9.2 The Guarantor may not assign, charge or transfer this Guarantee.

## **10 Claims procedure**

10.1 Any demand under this Guarantee shall be in writing and shall be served personally or by first class pre-paid post or by fax. The address for service of any demand upon the Guarantor shall be the address stated above or, if applicable, the address set out in clause 0 or such other address or fax number as may from time to time be notified in writing by the Guarantor to the Contractor.

10.2 The demand shall be deemed to be received:

10.2.1 if served personally, when so served;

10.2.2 if served by pre-paid post, on the second business day after the day it is posted;

10.2.3 if served by fax, upon the receipt by the sender of a transmission report from the despatching fax which confirms that all of the pages comprised in the demand have been successfully sent to the Guarantor's fax number, provided that if the date of the receipt of the demand is not a business day in the country of the recipient, or if the demand is received outside the hours of 9.00 am to 6.00 pm, it shall be deemed to have been received at 9.00am on the next business day.

### **10.2.4 [*If the Guarantor is a company incorporated outside the United Kingdom:*]**

The Guarantor appoints the following as its agent for the service of any demand under this Guarantee and/or legal proceedings under this Guarantee:

Attention: [•]

Name of Agent: [•]

Address of Agent: [•]

Fax: [•]

The Guarantor undertakes to the Contractor that:

if for any reason such agent ceases to act on behalf of the Guarantor, the Guarantor will promptly appoint a replacement agent and will notify the Contractor of the replacement immediately; and

the Guarantor will not revoke the authority of its agent.]

## 11 No waiver and provisions severable

- 11.1 No failure or delay by the Contractor in exercising any right or remedy shall operate as a waiver, nor shall any single or partial exercise or waiver of any right or remedy preclude its further exercise or the exercise of any other right or remedy.
- 11.2 Each of the provisions of this Guarantee is severable and distinct from the others, and if for any reason any such provision or part of a provision is or becomes ineffective, inoperable, invalid or unenforceable it shall be severed and deemed to be deleted from this Guarantee, and in such event the remaining provisions of this Guarantee shall continue to have full force and effect.

## 12 RIGHTS OF THIRD PARTIES

Nothing in this Guarantee confers or purports to confer on any third party any benefit or any right to enforce any term of this Guarantee pursuant to the Contracts (Rights of Third Parties) Act 1999.

## 13 COUNTERPARTS

This Guarantee may be entered into in the form of two counterparts, each executed by one of the parties, and, provided that both the parties shall so enter into this Guarantee, each of the executed counterparts shall be deemed to be an original but, taken together, they shall constitute one instrument.

## 14 GOVERNING LAW

This Guarantee shall be governed by the laws of England, and the courts of England and Wales shall have exclusive jurisdiction over any dispute arising under or in connection with this Guarantee save that any decision, judgment or award of such courts may be enforced in the courts of any jurisdiction.

**EXECUTED** as a **DEED** and delivered by the Guarantor and the Contractor on the date first above written.

**EXECUTED** as a **DEED** by )  
**[THE GUARANTOR]** acting by )

Director

Director/Company

**EXECUTED** as a **DEED** by )  
**[BRITISH WATERWAYS BOARD]** acting by )

Director

Director/Company

## **PART EIGHT SCOPE**

## Scope

The Scope of Works is split into three categories as follows:

1. Time Charge Orders

These works will generally consist of core team staff duties for those people categories listed in Part Eleven Section 2 Schedule.3 Table 3.1

Works include scheme design and development, preparation of target costs, cost management, site management, delivery of the works and all associated aspects.

2. NEC ECC Works Packages

These works include engineering construction and maintenance to British Waterways infrastructure across England (including London), Wales & Scotland.

Typical examples are:

- a) channel lining, trench sheeting, piling;
- b) culvert cleaning, lining, inspection and repair;
- c) towpath surfacing;
- d) lock, bridge and aqueduct repairs;
- e) weir repairs, canal and river;
- f) safety related reservoir works
- g) M&E works;
- h) building works incidental to items a) to g) above;
- i) restoration schemes (may include new build on elements of above)
- j) emergency works

3. NEC ECSC Works Packages

NEC ECSC works covers emergency and maintenance works under the value of £40,000.00.

- Typical examples include:
- Bridge parapet repairs
- Towpath accesses and repairs
- Minor brickwork repairs and re pointing
- New moorings
- Bridge number plate installations
- Minor bank piling works

The following works are **not** included under this contract:

- a) dredging;
- b) inspections and site investigation boreholes;  
building works, other than that incidental to the works referred to in 2 above

**PART NINE**  
**THE QUOTATION INFORMATION**

## Quotation Information

### 1.0 Quotations for Package Orders

- 1.1 The *Contractor* may at any time during the Framework Contract term issue a request for submission of Prices to the *Supplier* for a proposed NEC ECC Package Order or NEC ECSC Package Order.
- 1.2 With each request for submission of Prices the *Contractor* shall provide the following *quotation information* specific to the Package Order for which a quotation is requested.

#### NEC ECC Package Orders

Request for the submission of Prices for **NEC ECC** Package Orders shall include the following *quotation information* provided by the *Contractor*.

- Contract Data part one
- Works Information
- Site Information
- Incentive Schedule x20

The *Supplier* shall prepare a bill of quantities as part of the quotation procedure.

#### NEC ECSC Package Orders

Request for the submission of Prices for **NEC ECSC** Package Orders shall include the following *quotation information* provided by the *Contractor*.

- Contract Data
- Works Information
- Site Information

The *Supplier* shall prepare a Price List as part of the quotation procedure

- 1.3 The *Contractor* shall specify the validity period for the quotation within which he will reply to the submission.
- 1.4 The *Supplier* prepares the quotation in accordance with the *quotation procedure*.
- 1.5 The *Supplier* may discuss any aspect of the quotation with *Contractor* prior to its submission.

### 2.0 Package Orders

- 2.1 The *Contractor* may at any time during the Framework Contract term issue a Package Order to the *Supplier* accepting his quotation for the performance of a Work in accordance with such Package Order.
- 2.2 The *Contractor* shall issue the Package Order to the *Supplier* in the form set out in Part 7 Schedule 1 Part 5 of the Framework Contract. .

### **3.0 Quotations for Time Charge Orders**

3.1 The *Contractor* may at any time during the Framework Contract term issue a request for submission of Prices to the *Supplier* for a proposed Time Charge Order.

3.2 With each request for submission of Prices the *Contractor* shall provide the following *quotation information* specific to the Time Charge Order for which a quotation is requested.

- Contract Data part one
- Scope

3.3 The *Contractor* shall specify the validity period for the quotation within which he will reply to the submission.

3.4 The *Supplier* prepares the quotation in accordance with the *quotation procedure*.

3.5 The *Supplier* may discuss any aspect of the quotation with *Contractor* prior to its submission.

### **4.0 Time Charge Orders**

4.1 The *Contractor* may at any time during the Framework Contract term issue a Time Charge Order to the *Supplier* accepting his quotation for the performance of Services in accordance with such Time Charge Order.

4.2 The *Contractor* shall issue the Time Charge Order to the *Supplier* in the form set out in Part 7 Schedule 1 Part 4 of the Framework Contract. .

### **5.0 Cancellation of Orders**

5.1 The *Contractor* reserves the right to cancel a Package Order or Time Charge Order at any time prior to Works or Services commencing and shall give reasonable notice of such cancellation to the *Supplier*.

### **3.0 Supplier's obligations on receipt of Package Order or Time Charge order**

3.1 The *Supplier* shall accept a Package Order or Time Charge order placed pursuant to the above.

3.2 The content of the Package Order or Time Charge Order will have been agreed in advance by the *Contractor* and the *Supplier*.

### **4.0 No guarantee of work**

4.1 The *Contractor* does not guarantee that any Package Orders or Time Charge orders will be issued to the *Supplier* and nothing in this Framework Contract gives the *Supplier* a right to receive a Package Order or Time Charge Order.

## **PART TEN QUOTATION PROCEDURE**

## QUOTATION PROCEDURE

### 1.0 Applicability

1.1 The following Quotation Procedure will apply in respect of:

1. Time Charge Orders
2. NEC ECC Package Orders
3. NEC ECSC Package Orders
4. Structural Failure situations and Reservoir Drawdown (red) situations

### 2.0 Time Charge Orders

2.1 This is the procedure for the Time Charge Orders under PSC Option E:

2.2 Prices and *expenses* shall be established based upon:

- i) the Time Charge for the Work Package being the sum of the products of each of the *staff rates* (i.e. the staff rates set out in Part Eleven Section 2 Schedule 3 Table 3.1) multiplied by the estimated total staff time appropriate to that rate which it is envisaged will be properly spent on work in the Work Package and the product of the estimated mileage multiplied by the mileage rate in the table.
- ii) The price adjustment for inflation (if applicable) in accordance with the applicable Z clause shall be applied to the rates in (i) above.
- iii) The percentage adjustment for geographical variations in accordance with Part Eleven Section 2 Schedule 3 Table 3.2 is to be applied to the rates at (i) above inflated as (ii) above.
- iv) The estimated amount of *expenses* which it is envisaged will be properly spent by the *Consultant* in Providing the Services associated with the Work Package.

### 3.0 NEC ECC Package Orders

3.1 The Core Team will produce a target cost (total of the Prices) for each individual Package Order based on the Works Information and Site Information and Contract Data issued by the *Contractor* with the request for submission of Prices form.

3.2 The *Supplier* will prepare a bill of quantities based upon an agreed programme and the following:

- (i) Where work items within a Package Order do correspond with items in schedule 1 Table 1.3 of the Schedule of Rates in Part Eleven Section 2, the rates against such items in schedules shall be used.
- (ii) Where work items within a Package Order do not correspond with items in schedule 1 Table 1.3 of the Schedule of Rates in Part Eleven Section 2, the process described in Section 3 of Part Eleven shall be used as a basis for calculating a star rate.
- (iii) any applicable adjustment for inflation in accordance with the applicable Z clause shall be applied to the rates in (i) and (ii) above

- (iv) The appropriate percentage for geographical variations stated in Part Eleven Section 2 Schedule 1 Table 1.2 is to be applied to the rates in (i) and (ii) above inflated as (iii) above.
  - (v) Where work is of a specialist nature, and not covered by schedule 1 of the Schedule of Rates in Part Eleven Section 2, and Schedule 1 cannot be used as a basis for calculating star rates then a quotation for the Defined Cost from a specialist Subcontractor, accepted by the *Contractor*, shall be added to the target cost and the relevant management fee for Subcontract quotations stated in Part Eleven Section 3 Table 5.1 of shall be applied to the Defined Cost of such subcontracted work.
  - (vi) The final adjustment shall be added for contract ninsurance as Part Eleven Section 2 Schedule 1 Table 1.4.
- 3.3 The *Contractor* will require a minimum of three competitive tenders for Subcontract work, in each instance and the *Contractor* will need to carry out a full tender appraisal of all returned tenders. In each case the tender appraisal must identify that best value has been achieved.
- 3.4 At the *Contractor's* discretion the *Contractor* may be allowed to single source Subcontractors, provided that the *Contractor* undertakes a benchmarking exercise to demonstrate best value. The *Contractor* must, at all times, demonstrate that any work to be carried out by Subcontractors, whether of a specialist nature or not, is procured to achieve best value. It will be necessary for the *Contractor* to have in place, at the beginning of the Contract, a fully auditable Subcontract procurement system.
- 3.5 Any costs not included in Defined Cost are deemed included in the Fee

#### **4.0 NEC ECSC Package Order**

- 4.1 The *Supplier* will produce a Price List for each individual Package Order, and where appropriate a Programme, based upon the Works Information and Site Information and Contract Data issued by the *Contractor* with the request for submission of Prices form and the following:
- (i) Where work items within a Package Order do correspond with items for people and Equipment in schedule 2 Table 2.1 of the Schedule of Rates in Part Eleven, the rates against such items in schedules shall be used.
  - (ii) Where work items within a Package Order do not correspond with items for people and Equipment in schedule 2 Table 2.1 of the Schedule of Rates in Part Eleven, the items in schedules shall be used as a basis for calculating a star rate.
- 4.2 The Price List shall include items for the Defined Cost of the Plant and Materials and Equipment not included in Table 2.1 envisaged to be used, to which shall be added the percentage for overheads and profit stated in Contract Data Part Two for NEC ECSC Package Orders.
- 4.3 The appropriate percentage for regional variations is to be applied to the rates and any applicable adjustment for inflation in accordance with the applicable Z Clause.

## 5. Structural Failure situations and Reservoir Drawdown (red) situations

5.1 For Structural Failure situations and Reservoir Drawdown (red) situations the foregoing quotation procedures for the ECC Package Orders will apply subject to the following:

5.1.1 For the emergency stage of Structural Failure situations it will not be practicable to provide a quotation in advance of the works therefore the following will apply:

- (i) labour, Equipment, Material and Plant costs including all associated site set up costs will be paid as Defined Cost in the normal manner under an ECC Package Order
- (ii) The Fee shall be added to the Defined Cost as Part Five Contract Data Part Two.
- (iii) In addition, the rates in Part Eleven Section 2 Schedule 4 Table 4.1 for an enhancement to the normal direct and subcontracted fee percentages shall be applied to the Defined Cost. The enhancement is an addition to the quoted rates given in the Contract Data. This is to allow for the emergency situation, possible 24 hour working arrangements, etc. The enhanced fee percentage shall apply to all items of Defined Cost.
- (iv) The total of the Prices for the emergency works shall be the actual Defined Cost for work carried out plus normal fees and enhanced fees.
- (v) The permanent repair works are then followed up under a considered approach via a quotation under the normal NEC ECC Package Order route, but the enhanced fee shall not be applied

5.1.2 For the emergency stage of Reservoir Drawdown (red) situations it will not be practicable to provide a quotation in advance of the works therefore the following will apply:

- (i) Where items of Equipment are included in the Schedule of Rates at Part Eleven Section 2 Schedule 4 Table 4.3 the relevant rates shall be used multiplied by the time required. The schedule of rates is to allow for those exceptional items of Equipment required for the pumping operations in a rapid response situation. This includes electric submersible pumps, generators, pontoons to support the pumps, cables, hoses, float supports, etc. The rates are for weekly hire with a minimum hire period of 1 week. The rates for these specialist items of equipment will be used as an element of the Defined Cost for them.
- (ii) any applicable adjustment for inflation in accordance with the applicable Z clause shall be applied to the rates in (i) above
- (iii) The appropriate percentage for geographical variations stated in Part Eleven Section 2 Schedule 4 Table 4.5 is to be applied to the rates in (i) above inflated as (ii) above

- (iv) labour, items of Equipment not included in the Schedule of Rates at Part Eleven Section 2 Schedule 4 Table 4.3, Material and Plant costs including all associated site set up costs will be paid as Defined Cost in the normal manner under an ECC Package Order
- (v) The Fee shall be added to the above Defined Cost as Part Five Contract Data Part Two.
- (vi) In addition, the rates in Part Eleven Section 2 Schedule 4 Table 4.6 for an enhancement to the normal direct and subcontracted fee percentages shall be applied to the Defined Cost. The enhancement is an addition to the quoted rates given in the Contract Data. This is to allow for the emergency situation, possible 24 hour working arrangements, etc. The enhanced fee percentage shall apply to all items of Defined Cost.
- (vii) The total of the Prices for the emergency works shall be the actual Defined Cost for work carried out plus normal fees and enhanced fees.
- (viii) The permanent repair works are then followed up under a considered approach via a quotation under the normal NEC ECC Package Order route, but the enhanced fee shall not be applied