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Liturgical Design
Building Conservation

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Columba Cook

Burrard-Neale Monument Lymington

Specifications and Schedule of Works



SCHEDULE ONE: PRELIMINARIES

To be read in conjunction with Schedules 2 and 3

A10 PROJECT PARTICULARS

110 THE PROJECT

- Name: Burrard Neale 250 Project.
- Nature: Repair and conservation.
- Location: Burrard Neale Monument, Monument Lane, Walhampton, Lymington, Hampshire.
- Length of contract: to be agreed.

120 EMPLOYER (CLIENT)

- Name: Lymington and Pennington Town Council.
- Address: Town Council Offices, Town Hall, Avenue Road, Lymington, Hampshire SO41 9ZG.
- Contact: Caroline Godfrey, Town Clerk.
- Telephone: 02380 285893.
- Email: clerk@lymandpentc.org.uk .

130 PRINCIPAL CONTRACTOR (CDM)

- To be appointed.

140 PERSON EMPOWERED BY THE CONTRACT TO ACT ON BEHALF OF THE EMPLOYER

- Title: Contract Administrator.
- Name: Columba Cook Ltd.
- Address: 106 Bargates, Christchurch, Dorset BH23 1QP .
- Contact: Jennie Schillig.
- Telephone: 01202 479256.
- Email: jennie@columba.co.uk .

150 PRINCIPAL DESIGNER

- Name: Columba Cook Ltd.

A11 TENDER AND CONTRACT DOCUMENTS

110 TENDER DRAWINGS

- The tender drawings are:
 - S1 rev A – Location Plan, Part Site Plan, Part Site Section, Monument Plans
 - A1 – Site Compound Plan
 - A2 – Plan of paving
 - A3 – Drainage details
 - A4 - Elevations

120 CONTRACT DRAWINGS

- The Contract Drawings: The same as the tender drawings.

160 PRECONSTRUCTION INFORMATION

- Format: The Preconstruction information is described in these preliminaries in Section A34. It refers to information given elsewhere in the preliminaries and other tender documents.

A12 THE SITE/ EXISTING BUILDINGS

110 THE SITE

- Description: The Burrard Neale Monument, a granite obelisk, sits in a site bounded on the west by Undershore Road and on the east by Monument Lane. Access to the monument is from Monument Lane, a narrow single track lane running between the B3054, to the north, and Undershore Road, to the south. The monument is at the southern end of Monument Lane. The site is heavily wooded and the monument stands on a mound approximately 2 m above the lane.

140 EXISTING UTILITIES AND SERVICES

- Rely on own investigations.

170 SITE INVESTIGATION

- No site investigations have been carried out.

180 HEALTH AND SAFETY FILE

- Availability for inspection: A Health and Safety File for the site is not available.

200 ACCESS TO THE SITE

- Description: From Monument Lane as described above.
- Limitations: Narrow lane with soft verges.

210 PARKING

- Restrictions on parking of the Contractor's and employees' vehicles: Limited parking available at roadside.

220 USE OF THE SITE

- General: Do not use the site for any purpose other than carrying out the Works.

230 SURROUNDING LAND/ BUILDING USES

- General: Adjacent or nearby uses or activities are as follows:
 - The Solent Way footpath passes through the site to the north of the monument.

240 HEALTH AND SAFETY HAZARDS

- General: The nature and condition of the site/ building cannot be fully and certainly ascertained before it is opened up.
- Information: The accuracy and sufficiency of this information is not guaranteed by the Employer or the Employer's representative. Ascertain if any additional information is required to ensure the safety of all persons and the Works. However the following hazards are or may be present:

- Overhead power cables.
- Site staff: Draw to the attention of all personnel working on the site the nature of any possible contamination and the need to take appropriate precautionary measures.

250 SITE VISIT

- Assessment: Ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.
- Arrangements for visit: the site is open to the public.

A13 DESCRIPTION OF THE WORKS

120 THE WORKS

- Description: Repair and conservation of granite obelisk and limestone paving; installation of new drainage and crate soakaway.

A20 JCT MINOR WORKS BUILDING CONTRACT (MW)

370 JCT MINOR WORKS BUILDING CONTRACT

- The Contract: JCT Minor Works Building Contract 2016 Edition.
- Requirement: Allow for the obligations, liabilities and services described.

THE RECITALS

First

THE WORKS AND THE CONTRACT ADMINISTRATOR

- The work comprises: Repair, cleaning and conservation of granite obelisk and limestone paving; redecoration of cast iron plaques; installation of new drainage and crate soakaway.
- Architect/ Contract Administrator: See clause A10/140.

Second

CONTRACT DOCUMENTS

- Contract drawings: As listed in clause A11/120.
- Contract documents: The following have been prepared which show and describe the work to be done: these preliminaries, specifications and schedules of work, the Written Scheme of Investigations.

Third

PRICED DOCUMENTS

- Documents to be priced or provided by the Contractor: Preliminaries and Schedules of Work.

ARTICLES

3

ARCHITECT/ CONTRACT ADMINISTRATOR

- Architect/ Contract Administrator: See clause A10/140.

4 and 5

PRINCIPAL DESIGNER/ PRINCIPAL CONTRACTOR

- It is anticipated that Articles 4 and 5 will be deleted.

CONTRACT PARTICULARS

Fourth Recital and Schedule 2

BASE DATE

- Base date: 14 days before return of tender.

Fourth Recital and clause 4.2

CONSTRUCTION INDUSTRY SCHEME (CIS)

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

Fifth Recital

CDM REGULATIONS

- It is anticipated that the project will not be notifiable.

Sixth Recital

FRAMEWORK AGREEMENT

- Framework agreement: does not apply.

Seventh Recital and Schedule 3

SUPPLEMENTAL PROVISIONS

- Collaborative working: Supplemental Provision 1 applies.
- Health and safety: Supplemental Provision 2 applies.
- Cost savings and value improvements: Supplemental Provision 3 applies.
- Sustainable development and environmental considerations: Supplemental Provision 4 applies.
- Performance indicators and monitoring: Supplemental Provision 5 does not apply.
- Notification and negotiation of disputes: Supplemental Provision 6 applies. Where Supplemental Provision 6 applies, the respective nominees of the parties are:
 - Employer's nominee: Moore Blatch Solicitors.
 - Contractor's nominee: to be advised.
 - Or such replacement as each party may notify to the other from time to time.

Article 7

ARBITRATION

- Article 7 and Schedule 1 apply.

Clause 2.2

COMMENCEMENT AND COMPLETION

- Works commencement date: to be agreed.
- Date for Completion: to be agreed.

Clause 2.8

LIQUIDATED DAMAGES

- At the rate of £100.00 per week.

Clause 2.10

RECTIFICATION PERIOD

- Period: Nine months from the date of practical completion.

Clause 4.3

INTERIM PAYMENTS

- Interim Valuation Dates:
 - The first Interim Valuation Date is: Two weeks after the date of commencement.
 - Thereafter at intervals of: 4 weeks.
- Payments due prior to practical completion:
 - Percentage of total value of the work etc.: 95 per cent.
- Payments becoming due on or after practical completion:
 - Percentage of the total amount to be paid: 97.5 per cent.

Clause 4.3 and 4.8

FLUCTUATIONS PROVISION

- Does not apply.

Clause 4.8.1

SUPPLY OF DOCUMENTATION FOR COMPUTATION OF AMOUNT TO BE FINALLY CERTIFIED

- Period: Three months from the date of practical completion.

Clause 5.3

CONTRACTOR'S PUBLIC LIABILITY INSURANCE – INJURY TO PERSONS OR PROPERTY

- The required level of cover for any one occurrence or series of occurrences arising out of one event:
 - Not less than: £5 million.

Clauses 5.4A, 5.4B and 5.4C

INSURANCE OF THE WORKS ETC – ALTERNATIVE PROVISIONS

- Clause 5.4B applies.
- Where clause 5.4A or 5.4B applies:
 - Percentage to cover professional fees: 15.

Clause 7.2

ADJUDICATION

- Nominating body: Royal Institute of British Architects.

Schedule 1 paragraph 2.1

ARBITRATION

- Appointor of Arbitrator (and of any replacement): President or a Vice president of the: Royal Institute of British Architects.

THE CONDITIONS

SECTION 1: DEFINITIONS AND INTERPRETATION

1.4

RECKONING PERIODS OF DAYS

- This clause will be deleted.

1.8

APPLICABLE LAW

- Amendments: None.

SECTION 2: CARRYING OUT THE WORKS

SECTION 3: CONTROL OF THE WORKS

SECTION 4: PAYMENT

SECTION 5: INJURY, DAMAGE AND INSURANCE

SECTION 6: TERMINATION

SECTION 7: SETTLEMENT OF DISPUTES

JCT PUBLIC SECTOR SUPPLEMENT

- Document: The JCT Public Sector Supplement 2011 – Fair Payment, Transparency and Building Information Modelling.
- Fair Payment provisions: applies.
- Transparency provisions: applies.
- Building information modelling provisions: do not apply.

EXECUTION

- The Contract: Will be executed underhand.

CONTRACT GUARANTEE BOND

- Contract Guarantee Bond: not required.

A30 TENDERING/ SUBLETTING/ SUPPLY

MAIN CONTRACT TENDERING

110 SCOPE

- General: These conditions are supplementary to those stated in the invitation to tender and on the form of tender.

145 TENDERING PROCEDURE

- General: In accordance with NBS Guide to Tendering for Construction Projects.
- Errors: Alternative 2 is to apply.

160 EXCLUSIONS

- Inability to tender: Immediately inform if any parts of the work as defined in the tender documents cannot be tendered.
- Relevant parts of the work: Define those parts, stating reasons for the inability to tender.

170 ACCEPTANCE OF TENDER

- Acceptance: No guarantee is offered that any tender will be recommended for acceptance or be accepted, or that reasons for non acceptance will be given.
- Costs: No liability is accepted for any cost incurred in the preparation of any tender.

PRICING/ SUBMISSION OF DOCUMENTS

210 PRELIMINARIES IN THE SPECIFICATION

- Measurement rules: Preliminaries/ General Conditions must not be relied on as having been prepared in accordance with any standard method of measurement.

220 PRICING OF PRELIMINARIES

- Charges: If the Contractor requires interim payments to include fixed and time related charges for specific items in the Preliminaries those charges must be clearly shown against the items.

250 PRICED DOCUMENTS

- Alterations: Do not alter or qualify the priced documents without written consent. Tenders containing unauthorised alterations or qualifications may be rejected.
- Measurements: Where not stated, ascertain from the drawings.
- Deemed included: Costs relating to items, which are not priced, will be deemed to have been included elsewhere in the tender.
- Submit: with tender.

310 TENDER

- General: Tenders must include for all work shown or described in the tender documents as a whole or clearly apparent as being necessary for the complete and proper execution of the Works.

530 SUBSTITUTE PRODUCTS

- Details: If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions, which have not been notified at tender stage, may not be considered.
- Compliance: Substitutions accepted will be subject to the verification requirements of clause A31/200.

550 HEALTH AND SAFETY INFORMATION

- Content: Describe the organisation and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the works may affect.
- Include:
 - A copy of the contractor's health and safety policy document, including risk assessment procedures.
 - Accident and sickness records for the past five years.
 - Records of previous Health and Safety Executive enforcement action.
 - Records of training and training policy.
 - The number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- Submit: within one week of request.

599 FREEDOM OF INFORMATION

- Records: Retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provisions of the Freedom of Information Act.
- Determination: Submit requests received. Do not supply information to anyone other than the project participants without express written permission.
- Confidentiality: Maintain at all times.

A31 PROVISION, CONTENT AND USE OF DOCUMENTS

DEFINITIONS AND INTERPRETATIONS

110 DEFINITIONS

- Meaning: Terms, derived terms and synonyms used in the preliminaries/ general conditions and specification are as stated therein or in the appropriate British Standard or British Standard glossary.

120 COMMUNICATION

- Definition: Includes advise, inform, submit, give notice, instruct, agree, confirm, seek or obtain information, consent or instructions, or make arrangements.

- Format: In writing to the person named in clause A10/140 unless specified otherwise.
 - Response: Do not proceed until response has been received.
- 130 PRODUCTS
- Definition: Materials, both manufactured and naturally occurring, and goods, including components, equipment and accessories, intended for the permanent incorporation in the Works.
 - Includes: Goods, plant, materials, site materials and things for incorporation into the Works.
- 135 SITE EQUIPMENT
- Definition: All appliances or things of whatsoever nature required in or about the construction for completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
 - Includes: Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.
- 145 CONTRACTOR'S CHOICE
- Meaning: Selection delegated to the Contractor, but liability to remain with the specifier.
- 150 CONTRACTOR'S DESIGN
- Meaning: Design to be carried out or completed by the Contractor and supported by appropriate contractual arrangements, to correspond with specified requirements.
- 155 SUBMIT PROPOSALS
- Meaning: Submit information in response to specified requirements.
- 160 TERMS USED IN SPECIFICATION
- Remove: Disconnect, dismantle as necessary and take out the designated products or work and associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Excludes taking out and disposing of associated pipework, wiring, ductwork or other services.
 - Fix: Receive, unload, handle, store, protect, place and fasten in position and disposal of waste and surplus packaging including all labour, materials and site equipment for that purpose.
 - Supply and fix: As above, but including supply or products to be fixed. All products to be supplied and fixed unless stated otherwise.
 - Keep for reuse: Do not damage designated products or work. Clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer/ Purchaser or for use in the Works as instructed.
 - Make good: Execute local remedial work to designated work. Make secure, sound and neat. Excludes redecoration and/ or replacement.
 - Replace: Supply and fix new products matching those removed. Execute work to match original new state of that removed.

- Repair: Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and/ or replacement.
- Refix: Fix removed products.
- Ease: Adjust moving parts of designated products or work to achieve free movement and good fit in open and closed positions.
- Match existing: Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.
- System: Equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.

170 MANUFACTURER AND PRODUCT REFERENCE

- Definition: When used in this combination:
 - Manufacturer: the person or legal entity under whose name or trademark the particular product, component or system is marketed.
 - Product reference: the proprietary brand name and/ or identifier by which the particular product, component or system is described.
- Currency: References are to the particular product as specified in the manufacture's technical literature current on the date of the invitation to tender.

200 SUBSTITUTION OF PRODUCTS

- Products: If an alternative product to that specified is proposed, obtain approval before ordering the product.
- Reasons: Submit reasons for the proposed substitution.
- Documentation: Submit relevant information, including:
 - manufacturer and product reference;
 - cost;
 - availability;
 - relevant standards;
 - performance;
 - function;
 - compatibility of accessories;
 - proposed revisions to drawings and specification;
 - compatibility with adjacent work;
 - appearance;
 - copy of warranty/ guarantee.
- Alterations to adjacent work: If needed, advise scope, nature and cost.
- Manufacturers' guarantees: If substitution is accepted, submit before ordering products.

210 CROSS REFERENCES

- Accuracy: Check remainder of the annotation or item description against the terminology used in the section or clause referred to.
- Related terminology: Where a numerical cross-reference is not given the relevant sections and clauses of the specification will apply.
- Relevant clauses: Clauses in the referred to specification section dealing with general matters, ancillary products and execution also apply.

- Discrepancy or ambiguity: Before proceeding, obtain clarification or instructions.
- 220 REFERENCED DOCUMENTS
- Conflicts: Specification prevails over referenced documents.
- 230 EQUIVALENT PRODUCTS
- Inadvertent omission: Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.
- 250 CURRENCY OF DOCUMENTS AND INFORMATION
- Currency: References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

DOCUMENTS PROVIDED ON BEHALF OF EMPLOYER

- 410 ADDITIONAL COPIES OF DRAWINGS/ DOCUMENTS
- Copies: Two of each contract drawing and contract document will be issued free of charge (not counting any certified copies).
 - Additional copies: Issued on request and charged to the Contractor.
- 440 DIMENSIONS
- Scaled dimensions: Do not rely on.
- 460 THE SPECIFICATION
- Coordination: All sections must be read in conjunction with Main Contract Preliminaries/ General conditions.
- 470 DIVERGENCE FROM THE STATUTORY REQUIREMENTS
- Divergence: Between the drawings or specification and the requirements of the Building Regulations, other Statutes, statutory undertakers and other regulatory authorities.
 - Action: Inform immediately.

A32 MANAGEMENT OF THE WORKS

GENERALLY

- 118 VEHICLE SAFETY REQUIREMENTS
- Vehicle equipment: Ensure that all vehicles have the following:
 - Audible alert to other road users to the planned movement of the vehicle when the vehicle's indicators are in operation.
 - Prominent signage at the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.
 - Properly adjusted class VI mirror/s or Fresnel lens to eliminate the nearside blind spot.
 - Side under run guards.
 - Driver training:

	<ul style="list-style-type: none"> - Drivers must have a valid driving licence and be legally able to drive the vehicle. - Submittal date: within one week of request.
120	INSURANCE <ul style="list-style-type: none"> - Documentary evidence: Submit details before starting work on site and/ or policies and receipts for the insurances required by the Conditions of Contract.
130	INSURANCE CLAIMS <ul style="list-style-type: none"> - Notice: If any event occurs which may give rise to any claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer, the person named in clause A10/140 and the Insurers. - Failure to notify: Indemnify the Employer against any loss, which may be caused by failure to give such notice.
140	CLIMATIC CONDITIONS <ul style="list-style-type: none"> - Information: Record accurately and retain: <ul style="list-style-type: none"> - Daily maximum and minimum air temperatures (including overnight). - Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.
150	OWNERSHIP <ul style="list-style-type: none"> - Alteration/ clearance work: Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.
	PROGRAMME/ PROGRESS
210	PROGRAMME <ul style="list-style-type: none"> - Master programme: Immediately when requested and before starting work on site submit in an approved form a master programme for the Works, which must include details of: <ul style="list-style-type: none"> - Planning and mobilisation by the Contractor. - Subcontractor's work. - Work resulting from instructions issued in regard to the expenditure of provisional sums. - Submit: within one week of request.
250	MONITORING <ul style="list-style-type: none"> - Progress: Record on a copy of the programme kept on site.
260	SITE MEETINGS <ul style="list-style-type: none"> - General: Site meetings will be held to review progress and other matters arising from administration of the Contract as necessary.
290	NOTICE OF COMPLETION <ul style="list-style-type: none"> - Requirement: Give notice of the anticipated dates of completion of the Works. - Period of notice (minimum): one week.

310 EXTENSIONS OF TIME

- Notice: When a notice of the cause of any delay or likely delay in the progress of the Works is given under the contract, written notice must also be given of all other causes which apply concurrently.

CONTROL OF COST

420 REMOVAL/ REPLACEMENT OF EXISTING WORK

- Extent and location: Agree before commencement.
- Execution: Carry out in ways that minimize the extent of work.

430 PROPOSED INSTRUCTIONS

- Estimates: If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.

440 MEASUREMENT

- Covered work: Give notice before covering work required to be measured.

450 DAYWORK VOUCHERS

- No daywork permitted.

460 INTERIM VALUATIONS

- Applications: Include details of amounts requested under the Contract together with all necessary supporting information.
- Submission: At least seven days before established dates.

470 PRODUCTS NOT INCORPORATED INTO THE WORKS

- Ownership: At the time of each valuation, supply details of those products not incorporated into the Works which are subject to any reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values.
- Evidence: When requested, provide evidence of freedom of reservation of title.

475 PRODUCTS STORED OFF SITE

- Evidence of Title: Submit reasonable proof that the property in items stored off site to be included in valuations is vested in the Contractor.
- Include for products purchased from a supplier:
 - A copy of the contract of sale.
 - a written statement from the supplier that any conditions of the sale relating to the passing of property have been fulfilled and the products are not subject to any encumbrance or charge.
- Include for products purchased from a supplier by a subcontractor or manufactured or assembled by any subcontractor:
Copies of the subcontract with the subcontractor and a written statement from the subcontractor that any conditions relating to the passing of property have been fulfilled.

A33 QUALITY STANDARDS/ CONTROL

STANDARDS OF PRODUCTS AND EXECUTIONS

110 INCOMPLETE DOCUMENTATION

- General: Where and to the extent that products or work are not fully documented, they are to be:
 - Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
 - Suitable for the purposes stated or reasonably to be inferred from the project documents.
 - Contract documents: Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from any obligations or liabilities under the Contract.

120 WORKMANSHIP SKILLS

- Operatives: Appropriately skilled and experienced for the type and quality of work.
- Registration: With Construction Skills Certification Scheme.
- Evidence: Operatives must produce evidence of skills/ qualifications when requested.

130 QUALITY OF PRODUCTS

- Generally: New. (Proposals for recycled products may be considered).
- Supply of each product: From the same source or manufacturer.
- Whole quantity of each product required to complete the Works: Consistent in kind, size, quality and overall appearance.
- Tolerances: Where critical, measure a sufficient quantity to determine compliance.
- Deterioration: Prevent. Order in suitable quantities to a programme and use in appropriate sequence.

135 QUALITY OF EXECUTION

- Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- Colour batching: Do not use different colour batches where they can be seen together.
- Dimensions: Check on-site dimensions.
- Finished work: Without defects, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
- Location and fixing of products: Adjust joints open to view so they are even and regular.

140 COMPLIANCE

- Compliance with proprietary specifications: Retain on site evidence that the proprietary product specified has been supplied.

- 160 RELATED WORK
- Details: Provide all trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is:
 - Appropriately complete.
 - In accordance with the project documents.
 - To a suitable standard.
 - In a suitable condition to receive the new work.
 - Preparatory work: Ensure all necessary preparatory work has been carried out.
- 170 MANUFACTURER'S RECOMMENDATIONS/ INSTRUCTIONS
- General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
 - Changes to recommendations or instructions: Submit details.
 - Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.
 - Agrément certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.
- 180 WATER FOR THE WORKS
- Water bowser: Clean and uncontaminated.
 - To be supplied by Principal Contractor.
 - Other: Do not use until:
 - Evidence of suitability is provided.
 - Tested to BS EN 1008 if instructed.

SAMPLES/ APPROVALS

- 200 CONTRACTOR'S PRE-QUALIFICATIONS
- The Contractor and any Sub-contractor should be a qualified specialist with at least five years relevant and proven experience in the repair of historic buildings.
 - The work shall be carried out under the full time direction and supervision of a competent foreman with proven experience in the relevant activities.
 - The Contractor (sub-contractor) shall be responsible for ensuring that all tradespersons have read and understood the relevant parts of the specifications.
 - Details of relevant experience to be submitted with tender.
- 205 OPERATIVES PRE-QUALIFICATION
- The work shall be carried out by a team of skilled tradespersons of relevant and proven experience in the repairs of historic buildings.
 - Specialist tradesperson(s)/sub-contractor(s) MUST be used for the following works:
 - Masonry cleaning
 - Masonry repairs and pointing
 - Laying of stone paving
 - Repair and decoration of metal work
 - Details of site team to be provided prior to acceptance of tender.

207 SUBMITTAL OF MATERIALS

- Upon request the contractor is to submit clearly labelled samples of materials to be incorporated into the work for the Architect's approval before beginning work or ordering materials.
- The samples approved will become the standard for the materials used in the work. Substitutes will not be permitted without written acceptance by the Architect.
- Non solid samples are to be submitted in 1 litre, screw top containers securely and indelibly labelled as to content. Other forms of samples are to be similarly labelled.
- At the request of the Architect, all tools and equipment required to carry out and complete the works must be displayed; all tools and equipment rejected by the Architect are to be removed from site.

210 SAMPLES

- Products or executions: Comply with all other specification requirements and in respect of the stated or implied characteristics either:
 - To an express approval.
 - To match a sample expressly approved as a standard for the purpose.

220 APPROVAL OF PRODUCTS

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

230 APPROVAL OF EXECUTION

- Submissions, samples, inspections and tests: Undertake or arrange to suit the Works programme.
- Approval: Relates to the stated characteristics of the sample. (If approval of the finished work as a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.
- Complying sample: Retain in good, clean condition on site. Remove when no longer required.

SUPERVISION/ INSPECTION/ DEFECTIVE WORK

540 DEFECTS IN EXISTING WORK

- Undocumented defects: When discovered, immediately give notice. Do not proceed with affected related work until response has been received.
- Documented remedial work: Do not execute work which may:
 - Hinder access to defective products or work; or
 - Be rendered abortive by remedial work.

560 TESTS AND INSPECTIONS

- Timing: Agree and record dates and times of tests and inspections to enable all affected parties to be represented.
- Confirmation: One working day prior to each such test or inspection. If sample or test is not ready, agree a new date and time.
- Records: Submit a copy of test certificates and retain copies on site.

610 PROPOSALS FOR RECTIFICATION OF DEFECTIVE PRODUCTS/ EXECUTIONS

- Proposals: Immediately any execution or product is known, or appears, to be not in accordance with the Contract, submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.
- Acceptability: Such proposals may be unacceptable and contrary instructions may be issued.

WORK AT OR AFTER COMPLETION

710 WORK BEFORE COMPLETION

- General: Make good all damage consequent upon the Works.
 - Temporary markings, coverings and protective wrappings: Remove unless otherwise instructed.
- Cleaning: Clean the Works thoroughly. Remove all splashes, deposits, efflorescence, rubbish and surplus materials.
- Cleaning materials and methods: As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- COSHH dated data sheets: Obtain for all materials used for cleaning and ensure they are used only as recommended by their manufacturers.
- Minor faults: Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.

730 MAKING GOOD DEFECTS

- Remedial work: Arrange access with Employer.
- Rectification: Give reasonable notice for access.
- Completion: Notify when remedial works have been completed.

A34 SECURITY/ SAFETY/ PROTECTION

SECURITY, HEALTH AND SAFETY

110 PRECONSTRUCTION INFORMATION

- Location: Integral with the project Preliminaries, including but not restricted to the following sections:
 - Description of project: Sections A10 and A11.
 - Client's consideration and management requirements: Sections A12, A13 and A36.

- Environmental restrictions and on-site risks: Section A12, A35 and A34.
- Significant design and construction hazards: Section A34.

120 EXECUTION HAZARDS

- Common hazards: Not listed. Control by good management and site practice.
- Significant hazards: The design of the project includes the following:
 - Hazard: Working at Height.
 - Precautions assumed: enclosed scaffold and appropriate PPE.
 - Specification reference: Schedule 2:A .
 - Drawing reference: A4.
 - Hazard: lifting heavy loads.
 - Precautions assumed: compliance LOLER regulations 1998.
 - Specification reference: Schedule 2:B, Q10 and Q25.
 - Drawing reference: A2, A4.
 - Hazard: Overhead power lines.
 - Precautions assumed: hazard warning signs, risk assessment and ground-level barriers.
 - Drawing reference: A1.
 - Hazard: Dust from stone cutting on site.
 - Precautions assumed: appropriate PPE.
 - Specification reference: Schedule 2:B, Q25.
 - Drawing reference: A2.
 - Hazard: Operation of DOFF/ThermaTech.
 - Precautions assumed: appropriate PPE.
 - Specification reference: Schedule 2:B2 .
 - Drawing reference: A4.

130 PRODUCT HAZARDS

- Hazardous substances: Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH40: Workplace Exposure Limits.
- Common hazards: Not listed. Control by good management and site practice.
- Significant hazards: Specified construction materials include the following:
 - Hazard: burning and skin irritation.
 - Material: Lime.
 - Specification reference: Schedule 2:B.
 - Hazard: skin irritation and eye damage.
 - Material: Peelaway 1.
 - Specification reference: Schedule 2:M60.
 - Hazard: skin irritation and eye damage.
 - Material: PROSOCO Rust Stain Remover Poultice.
 - Specification reference: Schedule 2:B2.

140 CONSTRUCTION PHASE HEALTH AND SAFETY PLAN

- Submission: Present to the Employer Client no later than one week prior to commencement of work on site.

- Confirmation: Do not start construction work until the Employer has confirmed in writing that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by CDM Regulations.
 - Content: Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan, clause A30/570, and the Pre-tender Health and Safety Plan/ Preconstruction information.
- 150 SECURITY
- Protection: Safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.
 - Access: Take all reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.
- 160 STABILITY
- Responsibility: Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
 - Design loads: Obtain details, support as necessary and prevent overloading.
- 210 EMPLOYER'S REPRESENTATIVES SITE VISITS
- Safety: Submit details in advance, to the Employer or the person identified in clause A10/140, of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.
 - Protective clothing and/ or equipment: Provide and maintain on site for the Employer and the person stated in clause A10/140 and other visitors to the site.
- PROTECT AGAINST THE FOLLOWING**
- 330 NOISE AND VIBRATION
- Standard: Comply with the recommendations of BS 5228-1, in particular clause 7.3, to minimize noise levels during the execution of the Works.
 - Equipment: Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
 - Restrictions: Do not use:
 - Radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.
- 340 POLLUTION
- Prevention: Protect the site, the Works and the general environment including the atmosphere, land, streams and waterways against pollution.
 - Contamination: If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.
- 350 PESTICIDES
- Use: Only where specified or approved, and then only suitable products listed on www.pesticides.gov.uk.

- Restrictions: Work near water, drainage ditches or land drains must comply with the 'Guidelines for the use of herbicides on weeds in or near watercourses and lakes'.
 - Containers: Comply with manufacturer's disposal recommendations. Remove from site immediately empty or no longer required.
 - Competence: Operatives must hold a BASIS Certificate of Competence, or work under supervision of a Certificate holder.
- 360 NUISANCE
- Duty: Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
 - Surface water: Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.
- 370 ASBESTOS CONTAINING MATERIALS
- Duty: Report immediately any suspected materials discovered during execution of the Works.
 - Do not disturb.
 - Agree methods for safe removal or encapsulation.
- 371 DANGEROUS OR HAZARDOUS SUBSTANCES
- Duty: Report immediately suspected materials discovered during execution of the Works.
 - Do not disturb.
 - Agree methods for safe removal or remediation.
- 375 ANTIQUITIES
- Duty: Report immediately any fossils, antiquities and other objects of interest or value discovered during execution of the works.
 - Preservation: Keep objects in the exact position and condition in which they were found.
 - Special requirements: excavation work to be carried out in accordance with Written Scheme of Investigations.
- 380 FIRE PREVENTION
- Duty: Prevent personal injury or death, and damage to the Works or other property from fire.
 - Standard: Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by Construction Industry Publications and The Fire Protection Association (The 'Joint Fire Code').
- 390 SMOKING ON SITE
- Smoking on site: Not permitted.
- 400 BURNING ON SITE
- Burning on site: Not permitted.
- 410 MOISTURE
- Wetness or dampness: Prevent, where this may cause damage to the Works.

430 WASTE

- Includes: Rubbish, debris, spoil, surplus material, containers and packaging.
- General: Minimize production. Prevent accumulations. Keep the site and Works clean and tidy.
- Handling: Collect and store in suitable containers. Remove frequently and dispose off site in a safe and competent manner:
 - Non-hazardous material: In a manner approved by the Waste Regulation Authority.
 - Hazardous material: As directed by the Waste Regulation Authority and in accordance with relevant regulations.
- Recyclable material: Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- Voids and cavities in the construction: Remove rubbish, dirt and residues before closing in.
- Waste transfer documentation: Retain on site.

470 INVASIVE SPECIES

- Duty: Report immediately any suspected species discovered during execution of the Works.
 - Do not disturb.
 - Agree methods for safe eradication or removal.

PROTECT THE FOLLOWING

510 EXISTING SERVICES

- Work adjacent to services:
 - Comply with service authority's/ statutory undertaker's recommendations.
 - Adequately protect, and prevent damage to services: Do not interfere with their operation without consent of service authorities/ statutory undertakers or other owners.
- Identifying services:
 - Overhead: Use headroom markers.
- Damage to services: If any results from execution of the Works:
 - Immediately give notice and notify appropriate service authority/ statutory undertaker.
 - Make arrangements for the work to be made good without delay to the satisfaction of service authority/ statutory undertaker or other owner as appropriate.
 - Any measures taken to deal with an emergency will not affect the extent of the Contractor's liability.

520 ROADS AND FOOTPATHS

- Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
- Damage caused by site traffic or otherwise consequent upon the Works: Make good to the satisfaction of the Employer, Local Authority or other owner.

540 RETAINED TREES/ SHRUBS/ GRASSED AREAS

- Protection: Preserve and prevent damage, except those not required.

560 EXISTING FEATURES

- Protection: Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works.

570 EXISTING WORK

- Protection: Prevent damage to existing work, structure or other property during the course of the work.
- Removal: Minimum amount necessary.
- Replacement work: To match existing.

640 MATERIALS FOR RECYCLING/ REUSE

- Duty: Sort and prevent damage to stated products or materials, clean off bedding and jointing materials and other contaminants.
- Storage: Stack neatly and protect until required by the Employer or for use in the Works as instructed.

A35 SPECIFIC LIMITATIONS ON METHOD/ SEQUENCE/ TIMING

170 WORKING HOURS

- Specific limitations: 8 am – 5 pm.

A36 FACILITIES/ TEMPORARY WORKS/ SERVICES

GENERALLY

110 SPOIL HEAPS, TEMPORARY WORKS AND SERVICES

- Location: Give notice of intended siting.
- Maintenance: Alter, adapt and move as necessary. Remove when no longer required and make good.

120 SCAFFOLDING

- Ensure that all scaffolding is erected early enough and/or dismantled late enough to suit the programmes of all subcontractors.

130 SCAFFOLDING AND GENERAL PROTECTION

- Provide adequate means of access to allow the works to be carried out and inspected properly and safely.
- Carefully note any defects to surfaces upon which scaffold is to be supported and report these to the CA prior to erecting scaffold. A photographic schedule of condition is recommended.
- Protect all surfaces from damage by scaffold and debris resulting from the works.
- Standing scaffolds must be fully independent.
- All tubes abutting the structure to be fitted with plastic caps.

- Putlogs and ties to the obelisk will not be permitted.
- Provide toe boards, guard rails etc all as required by the relevant Health and Safety Regulations.
- Lower access ladders are to be removed and locked away at night.

140 EXTERNAL SCAFFOLD PROTECTION

- External scaffold to be made secure with anti-climb Heras fencing to first lift or 3 m high metal hording to base.

ACCOMMODATION

230 TEMPORARY ACCOMMODATION

- Proposals for temporary accommodation and storage for the Works: Submit two weeks prior to starting on site.
- Details to be included: Type of accommodation and storage, its siting and the programme for site installation and removal.

TEMPORARY WORKS

340 NAME BOARDS/ ADVERTISEMENTS

- General: Obtain approval, including statutory consents, and for any proposed temporary name board.

SERVICES AND FACILITIES

420 LIGHTING AND POWER

- Supply: No electrical supply is available on the site.

430 WATER

- Supply: No mains water supply is available on the site.

440 TELEPHONES

- Direct communication: As soon as practicable after the Date of Possession provide the Contractor's person in charge with a mobile telephone.

550 THERMOMETERS

- General: Provide on site and maintain in accurate condition a maximum and minimum thermometer for measuring atmospheric shade temperature, in an approved location.

570 PERSONAL PROTECTIVE EQUIPMENT

- General: Provide for the sole use of those acting on behalf of the Employer:
 - Safety helmets to BS EN 397, neither damaged nor time expired. Number required: 2.
 - High visibility waistcoats to BS EN ISO 20471 Class 2. Number required: 2.
 - Hand protection - to BS EN 388, 407, 420 or 511 as appropriate.

A54 PROVISIONAL WORK/ ITEMS

590 CONTINGENCIES

- Provisional sum: Include: £6,500.

SCHEDULE TWO: PREAMBLES AND SPECIFICATIONS

To be read in conjunction with Schedules 1 and 3

A SCAFFOLDING

120 SCAFFOLDING

- Ensure that all scaffolding is erected early enough and/or dismantled late enough to suit the programmes of all subcontractors.

130 SCAFFOLDING AND GENERAL PROTECTION

- Provide adequate means of access to allow the works to be carried out and inspected properly and safely.
- Carefully note any defects to surfaces upon which scaffold is to be supported and report these to the CA prior to erecting scaffold. A photographic schedule of condition is recommended.
- Protect all surfaces from damage by scaffold and debris resulting from the works.
- Standing scaffolds must be fully independent.
- All tubes abutting the structure to be fitted with plastic caps.
- Putlogs and ties to the obelisk will not be permitted.
- Provide toe boards, guard rails etc all as required by the relevant Health and Safety Regulations.
- Lower access ladders are to be removed and locked away at night.

140 EXTERNAL SCAFFOLD PROTECTION

- External scaffold to be made secure with anti-climb Heras fencing to first lift or 3 m high metal hording to base.

B MASONRY REPAIRS

B1 OPERATIVES, TOOLS, MATERIALS AND SAMPLES

5 OPERATIVES

See Part 1: A33/200 - 207

10 TOOLS

- At commencement of the work, all tools and equipment required for carrying out and completing the works must be displayed; all tools and equipment rejected by the Architect are to be removed from site.

15 DISK GRINDERS

- The use of disk grinders is expressly forbidden without the consent of the architect and provision of special control/supervision.
- The consent will take the form of a written permit to be signed in advance by the architect.
- Before approval is given all persons likely to work with disk grinders must demonstrate to the Architect that they are competent in their use.

- Additionally, the use of disk grinders is to be supervised at all times by the foreman.

20 CEMENTS, ADDITIVES AND PIGMENTS

- The use of cements, additives and pigments is expressly forbidden without the written consent of the architect

25 LIME

- All references to lime putty to mean mature lime putty at least 3 months old.
- Where hydraulic lime is specified it is to be not more than one month old.
- Bagged hydrated lime is not to be used unless expressly specified by the architect.
- Lime putty to be supplied in plastic bins marked with the date of slaking. Lime putty is to be stored with a covering of water. Store indoors when the temperature is likely to drop below 5 degrees C.
- Lime may be obtained from one of the approved suppliers listed below:

Cornish Lime Company

Brims Park, Old Callywith Road, Bodmin, Cornwall PL31 2DZ

Tel: 01208 79779

Website: www.cornishlime.co.uk

The Lime Centre

Long Barn, Hazeley Road, Morestead, Winchester SO21 1LZ

Tel: 01962 713636

Website: www.thelimecentre.co.uk

Rose of Jericho,

Horchester Farm, Holywell nr Evershot, Dorchester, Dorset DT2 0LL

Tel: 01935 83676,

Website: www.rose-of-jericho.demon.co.uk

Limebase Products Ltd

Walronds Park, Isle Brewers, Taunton, Somerset TA3 6QP

Tel: 01460 281921

Website: www.limebase.co.uk

35 SAND FOR MORTARS

- To be well graded sharp sand to BS 882 grade M unless otherwise specified.
- Sand for visible work to be from one source. Mix loads if necessary to ensure consistence of colour and texture.

40 SUBMITTAL OF MATERIALS

- A complete list of materials is to be supplied to the Architect for review and approval at least two weeks before ordering for the job. Each item on the list is to be accompanied by the relevant data (source and analysis of lime; source, type and sieve grading of aggregates and additives; names of suppliers; manufacturers' instructions/literature: COSHH data sheets, etc.)

- From this list, the Architect may select various items to be provided as samples.
- On request, the Contractor is to submit clearly labelled samples of materials to be incorporated into the work for the Architect's approval before beginning work or ordering materials.
- The samples approved will become the standard for the materials used in the work. Substitutes will not be permitted without written acceptance by the Architect.
- Non solid samples are to be submitted in 1 litre, screw top containers securely and indelibly labelled as to content. Other forms of samples are to be similarly labelled.

45 PROVISION OF FIELD SAMPLES

- Before commencing work field samples of each specified procedure are to be carried out by the tradesperson(s) who will perform the work to demonstrate for approval each stage of the work and the final results. Locate the samples in the positions and to the sizes directed by the Architect and inform the Architect when each procedure is to be carried out.
- Accepted samples shall be retained for purposes of reference and comparison.

B2 MASONRY CLEANING

5 CLEANING GENERALLY

- Cleaning trials have been carried out to establish the methods to be employed.
- The contractor is required to suspend cleaning operations and notify the architect immediately it becomes apparent that the masonry is being damaged or harmed in any way by any of the cleaning methods specified.
- Adequately protect areas of delicate masonry before beginning any cleaning operation.
- Remove all protection when all cleaning operations are complete
- Do not carry out cleaning involving water during cold weather (i.e. when night-time temperatures are likely to drop below 5° C).

25 DOFF /THERMATECH

- Operator must be certified for use of DOFF/ThermaTech equipment. Certificates must be available for inspection by the CA.
- Carefully inspect the surface to be cleaned and identify any areas of possible water ingress.
- The stone should be cleaned using superheated water at temperature of 120° C at a pressure of approximately 60 bar through a fan tipped nozzle. Ensure no damage or loss of stone surface.
- Carefully monitor the quantity of water used to avoid over saturation of the fabric.
- Make sure that effluent is removed in a controlled manner.
- Remove all protection when all cleaning operations are complete

30 JOS/TORC WET VORTEX ABRASIVE

- Operator must be certified for use of JOS/TORC by Stonehealth Ltd. Certificates must be available for inspection by the CA.

- Carefully inspect the surface to be cleaned and identify any areas of possible water ingress.
- Clean using calcite grit at 60 PSI taking care not to damage surface of stone.
- Carefully monitor the quantity of water used to avoid over saturation of the fabric.
- Keep gutters clear and make sure that effluent is removed in a controlled manner.
- Remove all protection when all cleaning operations are complete.

40 RUST STAIN REMOVER POULTICE

- Materials: PROSOCO Rust Stain Remover Poultice

Manufacturer: Tensid UK Ltd

www.tensid.com

tel: 01932 564133

email: info@tensid.com

- Carry out test in small area in accordance with manufacturer's instructions.
- Apply a heavy coating of poultice approximately ¼" (7-8mm) thick.
- Allow poultice to dwell on surface for 8 – 10 hours or until dry.
- Carefully lift dried poultice with a trowel or tapping knife.
- Remove residual poultice with clean water and a non-metallic stiff bristle brush.

B7 PARTIAL STONE REPLACEMENT

10 MATERIALS

- Stone: Granite to match original Froggintor granite.
- Mortar mix: approved pointing mix
- Joints: flush, thickness to match existing. Existing jointing positions should be retained.
- Features: to exactly match original profiles and tool marks.

GENERAL REQUIREMENTS

20 PRODUCTION

Stone to be cut and dressed:

- After seasoning but before delivery to site, including shaping, finishes and all sinking for fixing and lifting devices so that exposed and joint surfaces are square, true planes free from hollow or rough areas.
- With minimal deviation from specified dimensions to ensure that specified joint widths are maintained.
- So that natural bed is horizontal. Natural beds must match direction of bed in existing stones unless original stone is improperly bedded.
- To exactly fit original unweathered profiles of existing stones and fit in to surrounding stonework, with joint to match existing.
- Each location must be judged on its own merits, but each partial replacement projecting stone should be at least 30 mm depth on bed from the face of the building. For projecting stone, the depth on bed from the face of the building should be at least equal to the projection.

30 IDENTIFICATION

- Mark each block/dressing clearly to indicate the natural bed and position in the finished work.

40 INSPECTION OF STONE

- Stone with defects such as vents, cracks, fissures, discoloration, veins, or soft beds which might adversely affect the strength, durability or appearance of the repair should be rejected.
- All completed blocks/dressings must be carefully inspected and checked by the stone producer for match with approved samples and compliance with drawings and specification before dispatch to site. Inform the CA so that he may inspect blocks/dressings when delivered to site.

50 CUTTING OUT

- Each stone should be judged on its own merits and the cutting out procedure varied accordingly.
- Agree method and extent of cutting out with Architect for each stone. Cut out carefully making sure not to damage or bruise remaining/adjacent stones.
- If the stone is not to be reused, it may be broken up with a hammer and chisel after the initial cutting.
- It is the responsibility of the contractor to ensure that temporary supports are used where necessary.

LAYING AND JOINTING

60 WORKMANSHIP GENERALLY

- Store dressed stone clear of the ground, protect from inclement weather and keep dry. Prevent soiling, chipping, and contamination by salts and other deleterious substances.
- Dampen stone and lay on a full even bed of mortar with all joints filled and worked slightly high at back and centre, so that there are no voids and mortar slightly squeezes out when stones are bedded. Use temporary lead or stainless steel distance pieces to ensure consistent joint width; remove when mortar has set to a sufficient strength.
- Fully backfill with mortar at tops and backs of stones, grouting stones in as necessary to fill all voids.
- Immediately rake out all bedding mortar well clear of arrises by minimum 21 mm to prevent spalling stone arrises as bedding work is loaded.
- Keep courses level and in line, accurately plum all stone faces, angles and features. Set out carefully to ensure satisfactory junctions and joints with adjoining or built-in elements and components. Set out stone to original, i.e. non-weathered, lines unless otherwise instructed.
- Where new stone stands proud of old eroded stone, the new stone should be subtly weathered off to eliminate ledges and other water traps.
- Keep stonework clean during construction and until Practical Completion. Ensure that no mortar encroaches on face when laying.
- Rubbing to remove marks or stains will not be permitted.
- Build in all angles, quoins etc, first to obtain lines for coursing of adjacent work.

70 FIXINGS

- Incorporate stainless steel restraint fixings in conjunction with good practice.
- All dovetail rebates, channels and drill holes etc. as required to suit fixings.
- No ferrous fixings will be permitted.

B9 RE-BEDDING OF STONES

10 MATERIALS

- Mortar mix: approved pointing mix.
- Joints: flush, thickness to match existing. Existing jointing positions to be retained.

20 WORKMANSHIP GENERALLY:

- Dampen stones and lay on a full even bed of mortar with all joints filled and worked slightly high and round at back and centre of stones, so that there are no voids and mortar slightly squeezes out when stones are bedded. Use temporary lead or stainless steel distance pieces to ensure consistent joint width; remove when mortar has set to a sufficient strength.
- Fully backfill with mortar at tops and backs of stones, grouting stones in as necessary to fill all voids.
- Immediately rake out all bedding mortar well clear of arrises by minimum 25 mm to prevent spalling of stone arrises as bedding work is loaded.
- Keep courses level and in line, accurately plum with all stone faces, angles and features. Set out carefully to ensure satisfactory junctions and joints with adjoining or built-in elements and components.
- Keep stonework clean during construction and until Practical Completion. Ensure that no mortar encroaches on face when laying.
- Rubbing to remove marks or stains will not be permitted.
- Build in all angles, quoins etc. first, to obtain lines for coursing of adjacent work.
- Any joggle joints to be filled with lead run into the tops of joints.

60 FIXINGS

- Incorporate stainless steel restraint fixings in conjunction with good practice.
- All dovetail rebates, channels, drill holes etc. as required to suit fixings.
- No ferrous fixings will be permitted.

B10 POINTING OF FINE JOINTS

10 MATERIALS

- Mortar mix: to be agreed with Architect on site.
- Suggested mix:
 - 1 part hydraulic lime (NHL2 or 3.5) to approval of Architect
 - 2 parts sand (such as New Milton fine washed sand)
 - ½ part stone dust for colouring

MIXING

Mix hydraulic lime with sand gauging carefully to insure correct proportions.

Add the minimum amount of water to produce a workable mortar. Mixture will be drier than a cement based mortar. Excess water will weaken the mortar. A conventional concrete/cement/drum mixer can be used.

The mortar should be mixed for approximately 15 – 20 minutes to insure thorough mixing and increase workability.

The mix must be used within two hours of mixing.

20 MORTAR SAMPLES

- Prepare 75 mm diameter by 12 mm mortar biscuits in plastic tray supplied by the CA using different sands until a suitable matching mix is achieved and approved. Maintain detailed records and samples of trial mixes.
- Provide Architect with full data sheets of all materials used at the same time as mortar biscuits. Mortar samples will not be approved without data sheets.

40 PROCEDURE

- Special care must be taken in cutting out. If removing the mortar is damaging the stone cease cutting out and contact the Architect immediately.
- Using a hacksaw blade slightly narrower than the joint width to rake out the joints.
- Work so that the direction of the blade always points into the space created.
- Clear joint recess to a depth 2.5 times its width.
- Dust out and apply plenty of water to soak well.
- If grouting trial has been unsuccessful, insert a neoprene backing rod into the joint.
- Apply a strip of plastic faced gaffer tape over the surface of the joint.
- Make an incision in the tape along the joint.
- Using a narrow pointing iron, press the mortar into the joint taking care that the joint is full back to the neoprene packing.
- Remove the gaffer tape and excess mortar.

50 PROTECTION/CURING

- Do not use hydraulic lime mortar if the temperature is 5°C or below. Protect new pointing to maintain a temperature of 5°C. Under no circumstances should the mortar be allowed to freeze during the first 7 days.
- At a temperature of 10°C the initial hardening will occur in 72 hours. During colder weather initial set will take longer and in warmer weather less.
- Protect new pointing for up to 7 days from direct sunlight and excessive heat (higher than 25°C) by hanging water soaked Hessian 450 mm away from face of pointing. Keep Hessian wetted.
- Protect fresh pointing from rain and rainwater running on the face of pointing for up to 7 days.
- Keep pointing moist for up to 7 days by light spraying with water each day.
- The Architect may require that work which has not been adequately protected be removed and re-instated.

B14 PINNING BROKEN STONE

10 MATERIALS

Dowels – Marine grade 316 stainless steel, carbon fibre, Perspex, slate or ceramic

Thixotropic epoxy grout

NHL 3.5 based mortar

20 PROCEDURE

- Carefully remove loose fragment of stone taken care not to damage meeting surfaces.
- Mark the position for the dowels with thick paint on one of the meeting faces. Then press the broken surfaces together to transfer some paint to the second surface.
- Drill holes for the dowels perpendicular to the broken surface. Dry fix the broken pieces together to check the alignment.
- Wash out the drilled holes with a 50:50 solution of clean water and industrial methylated spirit. Fill the holes with grout and slurry the meeting surfaces with mortar.
- Fit dowels into one section of the broken stone and offer it up to the other section and assemble the joint. Clean away any overspill and support the repair until the grout has cured.

B18 GROUTING

10 MATERIALS

- Grout:
Manufacturer – Tarmac Pozament
Product – Limelite Heritage Grout Winchester
Paddle or colloidal mixer, diaphragm pump
- Suggested plugging materials:
Cotton wool and tapered wooden plug, clay, hemp, hessian

20 INVESTIGATION

- Introduce water into core of monument through existing holes in pointing where there is evidence of water emerging from the core of the monument. One operative should be positioned on each elevation during investigation.
- Record exit points of water and mark them as points for injecting grout.

30 PROCEDURE

- Pointing of open joints to be completed prior to grouting of structure. Open joints/ proving holes in key locations at each stage should be left open to monitor the progress of the grout.
- Before grouting each stage, pump clean water through the grout ports of lift to be grouted to flush out debris. Stop up ports which are below the lift being grouted.
- Prepare grout in accordance with manufacturer's instructions.

- Use a hand operated diaphragm pump to introduce grout through a single port commencing with the lowest lift. Monitor progress of grouting by watching for escape of grout from unsealed joints / proving holes. These should be plugged immediately to prevent further leakage of grout.
- Grouting to proceed up the monument in 2 m stages allowing each stage to set for a minimum of 24 hours before proceeding to the next lift.
- Record progress noting how much grout is introduced into each port.

M COATINGS

M60 DECORATION OF CAST IRON PLAQUES

05 PAINT REMOVAL

- Manufacturer: Barretine Products Ltd.
 - Product: PeelAway1 Paint Removal System and neutralizer
- Surfaces: Cast iron plaques.
 - Preparation: Carry out trial removal as clause 15 to determine required thickness of application and dwell time.

10 SINGLE PACK ALKYD PAINT SYSTEM

- Manufacturer: Sigma Coatings.
- Surfaces: Exterior metal work.
 - Preparation: De-rust as clause 30.
- Primer: SigmaFast 20
 - Number of coats: 2 No.
- Build coats: SigmaMarine 40.
 - Number of coats: 2 No.
 - Colour: Contrast to finishing coat
- Finishing coats: SigmaMarine 48.
 - Number of coats: 1 No.
 - Colour: to match stone work, lettering picked out in black.

15 PAINT REMOVAL TRIALS

- Apply a test patch approximately 10cm x 10cm starting from a thickness of 0.3mm increasing to 3.0mm using a brush, spatula or trowel.
- Cover the test patch with a PeelAway blanket.
- Periodically check the removal progress and subsequently determine the time and necessary thickness of application. The amount of PeelAway needed for a project depends on type, thickness of paint and temperature at the time of removal. However, as a rule of thumb 1Kg of PeelAway covers 1m² and 1mm thickness.

20 PAINT REMOVAL

- Protect the surrounding stonework from splashes and drips including steps and limestone paving below plaques.
- Apply an even coating of paint remover to visible surfaces of the plaque; thickness as determined by the trial.

- Cover the PeelAway with the PeelAway blanket
- Take care not to press too hard and thin out the coating. Tape the blanket to the surface.
- Leave on surface for the time determined during the test patch application. Allow for temperature variations and check again before complete removal of the blanket.
- Remove the PeelAway and the paint by using a spatula.
- Apply neutralizer to the surface of the plaque before cleaning with water.

30 PROCEDURE

- Correct surface preparation is the most important single factor in the success of the painting operation.
- De-grease with warm rag soaked in solvent. Rinse thoroughly with clean water and allow to dry.
- Prime with SigmaFast 20 as soon as possible. If rust sets in before this time, flash clean immediately before priming.
- Apply second prime coat to all accessible surfaces.
- Apply 2 No. coats of SigmaMarine 40 as a build coat in accordance with manufacturer's specification. Pay particular attention to edges and corners.
- Allow to dry before application of 1 No. coat SigmaMarine 48 topcoat.

61 COATING GENERALLY

- Application: In accordance with BS 6150, clause 9.
- Conditions: Maintain suitable temperature, humidity and air quality.
- Surfaces: Clean and dry at time of application.
- Thinning and intermixing: Not permitted unless recommended by manufacturer.
- Priming coats: Apply as soon as possible on same day as preparation is completed.
- Finish:
 - Even, smooth and of uniform colour.
 - Free from brush marks, sags, runs and other defects.
 - Cut in neatly.

Q PAVINGS

Q10 KERBS/ EDGINGS/ CHANNELS/ PAVING ACCESSORIES

To be read with Preliminaries/ General conditions.

TYPES OF KERBS, EDGINGS AND CHANNELS

120 STONE KERBS

- Standard: To BS EN 1343.
- Stone type: granite to match existing.
- Size (width x height): to match existing.
- Freeze/ Thaw resistance: resistant.
- Finish: to match existing.

- Bedding: as drawing A1 .
- Joints generally: mortar to match existing.
- Sealant movement joints: not required.

180 DRAINAGE CHANNEL SYSTEMS WITH GRATINGS TO STONE APRON

- Manufacturer: ACO Technologies plc .
 - Product reference: ACO MultiDrain M100DS.
- Size: No. 075V shallow channel with stainless steel edge rails.
- Type of fall: constant depth.
- Finish: as cast.
- Accessories: as required for complete installation.
- Bedding: cement mortar.
- Joints generally: PVCu.
- Cover gratings: ACO Brickslot stainless steel 23475/6.
 - Fixings: integral.
 - Loading grade to BS EN 124: D 400 .
 - Finish/ Colour: stainless steel.

LAYING

510 LAYING KERBS, EDGINGS AND CHANNELS

- Cutting: Neat, accurate and without spalling. Form neat junctions.
 - Long units (450 mm and over) minimum length after cutting: 300 mm.
 - Short units minimum length after cutting: The lower of one third of their original length or 50 mm.
- Bedding of units: Positioned true to line and levelled along top and front faces, in a mortar bed on accurately cast foundations or on a race of fresh concrete.
- Securing of units: After bedding has set, secured with a continuous haunching of concrete or on a race of fresh concrete with backing concrete cast monolithically.

530 CONCRETE FOR FOUNDATIONS, RACES AND HAUNCHING

- Standard: To BS 8500-2.
- Designated mix: Not less than GEN0 or Standard mix ST1.
- Workability: Very low.

540 CEMENT MORTAR BEDDING

- General: To section Z21.
- Mix (Portland cement:sand): 1:3.
 - Portland cement: Class CEM I 42.5 to BS EN 197-1.
 - Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).

580 DRAINAGE CHANNEL SYSTEMS

- Installation: To an even gradient, without ponding or backfall. Commence laying from outlets.
- Silt and debris: Removed from entire system immediately before handover.

620 ACCURACY

- Deviations (maximum):
 - Level: ± 6 mm.
 - Horizontal and vertical alignment: 3 mm in 3 m.

640 TOOLED MORTAR JOINTS

- Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled and tooled to a neat flush profile.
- Joint width: 6 mm.

Q20 GRANULAR SUB-BASES TO ROADS/ PAVINGS

10 THICKNESSES OF SUB-BASES

- Thicknesses: As specified in the relevant paving section.

30 EXCAVATION AND COMPACTION OF SUBGRADES

- Final excavation to formation level: Carry out immediately before compaction of subgrade.
- Soft spots and voids: Give notice.
- Wet conditions: Do not excavate or compact when the subgrade may be damaged or destabilized.
- Compaction: Thoroughly, by roller or other suitable means, adequate to resist subsidence or deformation of the subgrade during construction and of the pavings when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

40 SUB-BASES

- Granular material: Of a known suitability for use in sub-bases, free from ice, harmful matter and excessive dust or clay, well graded, all pieces less than 75 mm in any direction, and selected from one of the following:
 - Crushed rock (other than argillaceous rock) or quarry waste.
 - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
 - Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
 - Natural sand or gravel.

45 LAYING AND COMPACTING SUB-BASES

- Subgrade: Not frozen and free from loose soil, rubbish and standing water.
- Structures, membranes and buried services: Ensure stability and avoid damage.
- General: Spread and level in layers.
- Compaction:
 - Timing: As soon as possible after laying.
 - Method: By roller or other suitable means, adequate to resist subsidence or deformation of the sub-base during construction and of the completed paving when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

50 ACCURACY

- Permissible deviation from required levels, falls and cambers (maximum):
 - Subgrade: ± 20 mm.
 - Sub-base: ± 12 mm.

70 PROTECTION

- Sub-bases: As soon as practicable, cover with subsequent layers, specified elsewhere.
- Subgrades and sub-bases: Prevent degradation by construction traffic, construction operations and inclement weather.

Q25 STONE SLAB PAVINGS

11 LAYING PAVINGS

- Cutting: Cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.
- Lines and levels of finished surface: Smooth and even with falls to prevent ponding.
- Bedding of units: Firm so that rocking or subsidence does not occur or develop.
- Appearance: Even and regular with even joint widths and free of mortar and sand stains.

16 LEVELS OF PAVING

- Permissible deviation from specified levels (generally): ± 6 mm.
- Regularity of paved surfaces:
 - Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.
 - Joints between paving units or utility access covers:
 - Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
 - Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
 - Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
- Sudden irregularities: Not permitted.

21 PROTECTION FROM TRAFFIC

- Mortar bedded pavings: Keep free from pedestrian traffic for 4 days.
- Access: Restrict access to paved areas to prevent damage from site traffic and plant.

26 `STONE SLAB PAVING TO BASE OF MONUMENT

- Granular sub-base: as Q20.
 - Thickness: 100 mm.
- Laying and jointing: Bound construction - on mortar, site category IV, to BS 7533-4.
- Laying course: Full mortar bed, nominal thickness after compaction: 15-25 mm.

- Mortar: As section Z21, mix 1:3 cement:sand.
- Stone/ Finish: Purbeck Limestone to match existing.
 - Sizes: rectangular slabs to match existing pattern of paving.
- Jointing: Mortar filled.
 - Width: 5-10 mm.
 - Mortar: As section Z21, mix: 1:4 cement:sand.

R DRAINAGE

R12 BELOW GROUND DRAINAGE SYSTEMS

04 IN SITU CONCRETE FOR USE IN DRAINAGE BELOW GROUND

- Standard: To BS 8500-2.
- Concrete: GEN 1 or equivalent.

14 PLASTICS PIPELINES FOR DRAINAGE GENERALLY

- Pipes, bends and junctions: PVC-U to BS EN 1401-1.
 - Manufacture and Product reference: optional.
- Sizes: 100 mm.
- Type of subsoil: II.
- Bedding class: P.
- Warning marker tape: Required.

19 EXCAVATING PIPE TRENCHES

- Trench from bottom up to 300 mm above crown of pipe: With vertical sides.
 - Width: As small as practicable but not less than external diameter of pipe plus 300 mm.
- Type of subsoil: Where the type of subsoil at the level of the crown of the pipe differs from that stated for the type of pipeline, give notice.
- Timing: Excavate to formation immediately before laying beds or pipes.
- Mud, rock projections, boulders and hard spots: Remove. Replace with bedding material, well consolidated.
- Local soft spots: Harden by tamping in bedding material.

21 BEDDING AND JOINTING

- Laying pipes: To true line and regular gradient on even bed for full length of barrel with sockets (if any) facing up the gradient.
- Jointing: Lubricate. Leave gaps at ends of spigots to allow for movement.

27 CLASS P FULL DEPTH GRANULAR SUPPORT

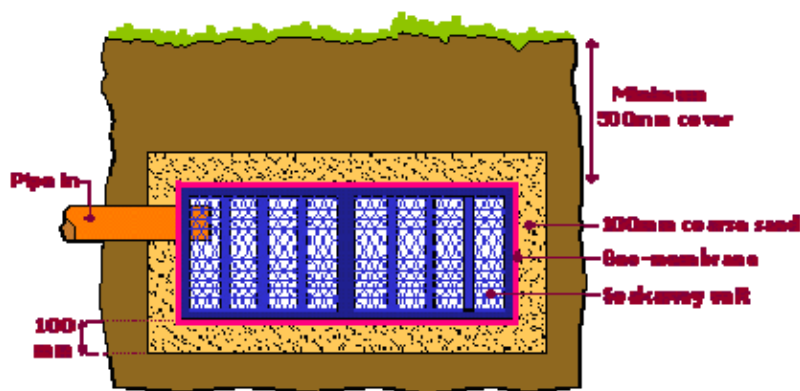
- Granular material: To WIS 4-08-02 (as amended by WIS-4-08-02A, 2008).
- Bedding: Granular material, compacted to a thickness of 100 mm (minimum). Scoop out locally at couplings and sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
- Granular support: After initial testing, lay and compact by hand more granular material uniformly to 100 mm above crown of pipe.

58 INSTALLATION OF FITTINGS

- Appearance: Square with and tightly jointed to adjacent construction as appropriate.
- Bedding and surround of fittings, traps, etc: Concrete, 150 mm thick.
- Permissible deviation in level of gullies: +0 to -10mm.

67 PREFABRICATED CELLULAR SOAKAWAY SYSTEM

- Geotextile membrane:
 - Manufacturer and Product reference: in accordance with the specification of soakaway manufacturer.
- Cellular Soakaway
 - Product: AquaCell Eco
 - Manufacturer: Wavin Plastics Ltd
Tel: 01249 766600
- Granular material: Clean gravel, size range 6mm to 20 mm.
- Construction: Blind bottom of pit with 100mm granular material, line with permeable geotextile membrane. Insert AquaCell units and wrap with geotextile membrane. Backfill with granular material to a depth of 100mm on top and sides. Cover with as dug material (see photo below).



88 FINAL TESTING OF DRAINS

- Before testing:
 - Cement mortar jointing: Leave 24 h.
 - Solvent welded pipelines: Leave 1 h.
- Standard: In accordance with Building Regulations Approved Document H1, Paragraph 2.61.
- Method: water test.

91 BACKFILLING TO PIPELINES GENERALLY

- Backfill from top of surround or protective cushion: Material excavated from trench, compacted in 300 mm layers. Do not use heavy compactors before there is 600 mm of material over pipes.

97 CLEANING

- General: Flush out the whole installation and remove silt and debris immediately before handing over.

Z21 MORTARS – CEMENT BASED

10 MORTAR MIXES

- Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

20 SAND FOR SITE MADE CEMENT GAUGED MASONRY MORTARS

- Standard: To BS EN 13139.
- Grading: 0/2 (FP or MP).
 - Fines content where the proportion of sand is specified as a range (e.g. 1:1: 5-6):
Lower proportion of sand: Use category 3 fines.
Higher proportion of sand: Use category 2 fines.
- Sand for facework mortar: Maintain consistent colour and texture. Obtain from one source.

40 CEMENTS FOR MORTARS

- Cement: To BS EN 197-1 and CE marked.
 - Types: Portland cement, CEM I.
Portland limestone cement, CEM II/A-LL.
Portland slag cement, CEM II/B-S.
Portland fly ash cement, CEM II/B-V.
 - Strength class: 32.5, 42.5 or 52.5.
- White cement: To BS EN 197-1 and CE marked.
 - Type: Portland cement, CEM I.
 - Strength class: 52.5.
- Sulfate resisting Portland cement:
 - Types: To BS EN 197-1 Sulfate resisting Portland cement, CEM I/SR and CE marked.
To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
 - Strength class: 32.5, 42.5 or 52.5.
- Masonry cement: To BS EN 413-1 and CE marked.
 - Class: MC 12.5.

50 ADMIXTURES FOR SITE MADE MORTARS

- Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
- Other admixtures: Submit proposals.
- Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

60 MAKING MORTARS GENERALLY

- Batching: By volume. Use clean and accurate gauge boxes or buckets.
- Mix proportions: Based on dry sand. Allow for bulking of damp sand.
- Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
 - Mortars containing air entraining admixtures: Mix mechanically. Do not over mix.
- Contamination: Prevent intermixing with other materials.

SCHEDULE THREE: SCHEDULES OF WORK

To be read in conjunction with Schedules 1 and 2

10 SITE SET UP

- Proposed site compound and site set up shown on drawing A1.
- Prior to commencing work on site, ensure that site set up is complete.
- Provide generator, water bowser and welfare facilities.
- The monument lies in a site which is open to the public with the Solent Way footpath passing along northern edge. Enclose site compound with Heras fencing or similar as shown on drawing A1.
- Erect scaffold to monument as Schedule 2:A. Pavings should be lifted or protected to prevent further damage.

20 BRONZE COAT OF ARMS

- Carefully remove bronze coat of arms from east elevation of monument.
- Repairs to coat of arms to be carried out by suitably qualified metal worker.
- Proposals for repair to include cleaning, replacement of missing section of laurel wreath and scroll work to base.
- Reinstall coat of arms in original location with new lead wedges in existing fixing holes once cleaning and pointing repairs are complete.

30 MASONRY CLEANING

- Commence cleaning from top of obelisk working down to base.
- Clean all granite surfaces with DOFF as Schedule 2:B2.
- Clean residual areas of heavy soiling with JOS as Schedule 2:B2 and drawing A4.
- If required, carry out cleaning trial to rust stained area below cast iron plaques using PROSOCO. Allow for cleaning rust stained areas with PROSOCO poultice.

40 MASONRY REPAIRS

- Point open joints of first 2m stage at base of monument in accordance with Schedule 2:B10 inserting neoprene backing rod into joints before filling. Leave open joints at top of stage in each elevation and grout ports at base.
- Grout lowest stage of monument in accordance with Schedule 2:B18. Monitor progress of grouting and stop immediately if an excessive amount of grout is required or grout is seeping out of base of monument. Keep log of progress and amount of grout required.
- Allow for grouting to full height of monument.
- Re-point fine joints of obelisk and monument base in accordance with Schedule 2: B:10. If grouting is not to be carried out, insert neoprene backing rod into each joint as pointing proceeds.
- If it is agreed to proceed with grouting, leave open joints/ proving holes and grout ports at each stage.
- Allow for 100% repointing of monument. Provisional sum allowed for grouting.
- Rebed capping stone on south elevation. Missing stone to be retrieved from Council stores.
- Make piece repair to missing corner of cornice on south elevation.

- 50 IN SITU DECORATION OF CAST IRON PLAQUES
- Carefully mask off stone surrounding and below plaques with plastic sheeting and tape to prevent damage from runoff.
 - Remove initial layers by softening with DOFF and scraping a spatula.
 - Apply Peelaway 1 paint removal system and neutralizer as Schedule 2: M60 and manufacturer's instructions.
 - Prime bare metal immediately to prevent onset of rust and decorate in accordance with Schedule 2: M60.
- 60 LIMESTONE PAVING
- Record locations and number paving stones. Take templates for replacement pavers prior to lifting of existing paving.
 - Alterations to existing paving pattern to be agreed in advance with Architect.
 - Carefully lift pavings, setting aside those stones to be reused: stones to be stored off of ground and to be protected from weather.
 - Trim edge of stones adjacent to granite kerb to allow installation of slot drain.
 - Excavate and prepare sub-base as Schedule 2:Q20.
 - Supply and install channel drain in concrete bed in accordance with manufacturer's instruction, Schedule 2:Q10 and drawing A3. Provide U-bend outlet under granite kerb to new crate soakaway on west side of monument as drawing A3.
 - Relay stone paving in original positions incorporating replacement pavers as Schedule 2:Q25.
 - Supply and fix replacement granite kerb to match existing as Schedule 2: Q25.
 - Number of replacement stones required is indicated on drawing A2. This drawing is indicative only; contractor should carry out their own survey and agree replacements following striking of scaffold.
- 70 CRATE SOAKAWAY
- Give a minimum of 2 weeks notice of the intention to commence excavation works to the New Forest National Park Archaeologist. Contact details: Mr Frank Green tel: 01590 646691 or email: frank.green@newforestnpa.gov.uk . All excavations to be carried in accordance with the Written Scheme of Investigations.
 - Excavate trench and prepare trench for installation of crate drainage in accordance with Schedule 2:R12.
 - Supply and install drainage units in accordance with manufacturer's instructions and Schedule 2:R12.
 - Connect soakaway to outflow from channel drain.
 - Backfill trench and reinstate ground surface.