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Air and Space Hall, Liverpool Road

Architectural Decant Specification

PLANNING V6

Decant Project

Ref: 8869DS

February 2021

Buttress



Architectural Decant Specification

Science and Industry Museum
Air and Space Hall, Liverpool Road
Decant Project

Ref:8869DS

**SCIENCE
MUSEUM
GROUP**

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DEFINITIONS

- 01 REMOVE** means disconnect, dismantle as necessary and remove the stated element, work or component and all associated accessories, fastenings, supports, linings and bedding materials, and dispose of unwanted materials. It does not include removing associated pipework, wiring, ductwork or other services.
- All removals are to be undertaken CAREFULLY in order to prevent damage to adjoining surfaces that are to be retained.
Unless noted otherwise, all removed materials are to be disposed of in the appropriate manner.
- 02 STORE (FOR FUTURE REINSTATEMENT)** means during temporary removal / disassembly, prevent damage to the stated components or materials, and clean off bedding and jointing materials and/or remove redundant fixings etc. Tag items and components so that they can be returned to the exact location / position as pre disassembly.
Stack neatly, adequately protect and store until required for reuse.
Reinstate to match original arrangement and decorate to match existing finishes.
- 03 KEEP FOR REUSE** means during removal prevent damage to the stated components or materials and clean off bedding and jointing materials.
Stack neatly, adequately protect and store until required by the Employer or for use in the Works as instructed.
- 04 REPLACE** means remove the stated existing components, features and finishes.
Provide and fit in lieu new components, features or finishes which, unless specified otherwise, must match those which have been removed.
Make good as necessary.
- 05 REPAIR** means carry out local remedial work to components, features and finishes as found in the existing building, resecure or refix as necessary and leave in a sound and neat condition. It does not include:
Replacement of components or parts of components.
Redecoration.
- 06 MAKE GOOD** means carry out local remedial work to components, features and finishes which have been disturbed by other, previous work under this Contract and leave in a sound and neat condition. It does not include:
Replacement of components or parts of components.
Redecoration.
The meaning of the term shall not be limited by this definition where used in connection with the defect's liability provisions of the Contract.
- 07 EASE** means make minor adjustments to moving parts of the stated component to achieve good fit in both open and closed positions and ensure free movement in relation to fixed surrounds. Make good as necessary.
- 08 TO MATCH EXISTING** means use products, materials and methods to match closely all visual characteristics and features of the existing work, with joints between existing and new work as inconspicuous as possible, all to approval of appearance.
- 09 TO MATCH ADJACENT** means that the component is *to match existing* components in that immediate vicinity, particular room or area.

- 10 **SALVAGED** refers to materials that have been *removed* and *kept for re-use* on this job: no second-hand or reclaimed material are to be used on this project.
- 11 **APPRAISE** means the contractor is to appraise and carry out own independent assessment of the works detailed here within and update the scope of works as is necessary through consultation with the Architect.
- 12 **ABBREVIATION (CA)** means both the Contract Administrator / Conservation Accredited Professional, inspections and approvals are to be dealt with directly by said individual.
- A **DRAWINGS** Please note that this specification is to be read in conjunction with the drawing series 8869 (01) / (02) / (03) / (05) / (10). Any discrepancies between the documents or omissions from the specification are to be brought to the attention of the Architect at the time of tendering. Note that all specified products are to be installed to the manufacturer's recommendations and by approved installers.
- B **SPECIFICATIONS** Architectural Decant Specification **8869DS**.
- C **SCHEDULE OF WORKS** Please note that there is a separate Schedule of Works document [**8869SoW**] which should be read in conjunction with this Architectural Decant Specification **8869DS**. The Schedule of Works document highlights a series of 'Work Items' which are either, a single operation, a series of operations or a complete element of the project.

TENDER



RS1 WORK IN LISTED BUILDINGS

1.1 WORK IN LISTED BUILDINGS

- 1.1.1 It is the responsibility of the Contractor to ensure that no disturbance of any fabric within the listed buildings takes place unless this is specifically detailed on the Architect's drawings and/or specification. The Architect's information is subject to listed building consent and any deviation from this is an offence under the Planning (Listed Buildings and Conservation Areas) Act 1990.
- 1.1.2 Should the Contractor be in doubt about the extent of works or protection required, he should consult with the Architect prior to those works being carried out. Agreement may also be required from the local authority Conservation Officer in some cases, and therefore the Contractor should make any queries to the Architect in a timely manner.
- 1.1.3 The Contractor is to provide adequate protection to any historic features which are to be retained in order to avoid damage as the works are in progress. The methods for protection should be agreed with the Architect prior to works being carried out.
- 1.1.4 Should it be the case that it is not possible to protect historic features without causing further damage to the building, it is the Contractor's responsibility to exercise maximum care to avoid disturbing any historic fabric during the course of the works. This may entail an approach of temporary protection with the agreement of the Architect.
- 1.1.5 It should be noted that damage to historic fabric cannot be made good in an acceptable manner and that the Contractor is to take all necessary measures to ensure damage does not occur.
- 1.1.6 The Contractor is to satisfy himself that he/she is in possession of adequate information prior to commencing any work.
- Any discrepancies found within this document by the Contractor should be brought to the attention of the Architect at the time of tendering.
- The Contractor is to be responsible for all on site measurement including setting out for new work, details and dimensions for any replacement or repair work.
- All dimensions included on the drawings are to be checked for accuracy on site prior to commencing work and any discrepancies reported to the Architect immediately.
- No work shall commence until any such discrepancies have been resolved.
- 1.1.7 To be read in conjunction with section [RS2](#) – Protection of Historic Fabric, Elements and Components.

RS2 PROTECTION OF HISTORIC FABRIC, ELEMENTS AND COMPONENTS

1.0 BACKGROUND

Prior to undertaking any construction works, all working areas and access routes are to be thoroughly protected for the duration of the contract.

There are a number of areas across **the Air and Space Hall**, which will undergo destructive investigation surveys / removals and interior / exterior fabric repairs. The careful removal of building fabric will likely produce excessive dust and debris build up within working areas. The proposed decant works are identified within the drawing pack; 8869 (01), (02) and (05) series drawings.

1.1 WORK IN LISTED BUILDINGS

1.1.1 This section is to be read in conjunction with section [RS1](#).

1.1.2 The contractor is to provide adequate protection to any historic features which are to be retained in order to avoid damage as the works are in progress. The methods for protection should be agreed with the Architect prior to works being implemented.

1.1.3 Whilst historic floors / surfaces are often worn, discoloured and out of true level, these imperfections can contribute to the interest and historic value of a building and thus should be thoroughly protected.

1.2 ONSITE RECORDING PRIOR TO WORKS

1.1.1 In advance of any works commencing onsite (opening up, demolition, removals (incl temporary), conservation, restoration works etc) the existing building fabric should be thoroughly recorded to provide a snapshot in time and reference archive material for future usage,

1.1.2 The contractor shall provide a full dilapidation survey to the CA for wider distribution and should be provided digitally.

1.1.3 The contractor shall agree with the CA and clearly label onsite items, fabric and contents that are not to be demolished and/or removed but are to be carefully protected and retained for reuse, conservation and/or restoration works.

1.1.4 Subject to approval and prior to commencing removal of detritus, the contractor shall ensure that all items to be salvaged are identified, set aside, protected, labelled (catalogued & tagged), safely stored for reuse and/or retention. Tagging protocol as per item 1.2.1.

1.1.5 The contractor shall adopt the following strategy for recording onsite items, as follows:

- a) Full dilapidation survey photographs both internally and externally prior to any works taking place.

- b) Photograph each specific asset, component and/or element which are to undergo works (removal, repair, restoration etc), including but not limited to:
 - i) Wall fixed items
 - ii) Ceiling fixed items
 - iii) Door sets
 - iv) Window types etc
- c) Take mouldings and profiles (cross-sections/dimensions) of elements and components to allow for reproductions (like-for-like) to be produced.
- d) Where elements of the fabric are loose, carefully remove (retain intact as far as is feasible), tag and store a remnant (of the above) of each instance to assist with future matching within a designated area within the building.

1.2.1

ONSITE TAGGING AND RECORDING OF OBJECTS

- **No direct fix and or permanent marking of items will be acceptable.**
- Temporarily mark a unique identification number on each object, component prior to any removal and catalogue accordingly.
- The reference number must be:
 - o **unique**, none repeating
 - o **durable** to remain legible over time.
 - o **removable**, should the need arise to make a change in the future.
 - o **never cause harm** to the object.
- All items temporarily removed and identified to be reinstated within original locations at a later date, should be thoroughly recorded so that the item is returned to the exact position to which it was removed.
- The exact tagging protocol may differ from object to object but will typically include one of the following methods:
 - o Cloth binding cord loosely wrapped and tied with solid tag.
 - o Brass wire and solid tag, can be used where existing holes or voids exist within the object in question. Choose a strong holding point.
 - o Direct paper labels, generated from a computer or hand written.
- If in doubt, discuss in further detail with the Architect.

1.3

INVESTIGATION AND ASSESSMENT

1.1.1

The way in which the investigation of the existing fabric is approached will depend on the nature of the project. A building in an advanced state of decay will require a more considered and cautious approach to an asset which may be habitable. It will be necessary to undertake a general survey of the asset as it stands but a more detailed examination will be essential and help inform all future works, including areas of proposed opening up, areas of suspected defects and areas where proposed interventions are likely to affect the historic fabric.

1.1.2

Obvious vulnerable areas of building fabric need to be identified to help establish the potential scope of works and to inform mitigation measures for the works and understand how the works will be carried out without endangering personal safety, whilst also reducing risk to the fabric itself.

1.1.3 Some of the defects will be obvious, whilst others may be concealed and/or hidden, these areas will have to be further investigated by invasive opening up or through the use of non-destructive investigation techniques such as micro-drilling (to determine timber decay), borescope analysis, thermography (review moisture paths and structural continuity), impulse radar and/or GPR (ground penetrating radar) to locate embedded metal cramps.

1.1.4 In addition to actual hands-on site visits, the investigation and assessment may also be backed up by desktop archival research and sources.

1.4 RISKS

1.1.1 Fire:

Fire is one of the greatest risks as the damage can be so far-reaching. Where a process creates a high risk of fire and is considered unavoidable, it is important to ensure that there is an adequate policy in place to mitigate the risks.

Where possible all hot work is to be dealt with offsite or on the ground well away from the building fabric. Hot work is only permitted only when deemed necessary by the CA.

Where possible prefabrication and Hotwork are to be carried out a minimum distance of 6 m outside the building, on the ground and with no combustible materials within 10m of the Hotwork operation.

The contractor is to advise the CA, in writing beforehand, of the dates when hot work is being carried out, and the details (including method statements) of the work. This is to allow the client and CA to consider whether any further precautions are deemed necessary. A Hot Work Permit System may be introduced.

1.1.2 Burglary, theft and arson:

The asset must be thoroughly secured and protected at all times throughout the construction contract. All windows, doors and access points into the asset shall be blocked and/or secured at all times, ensure that the fixings do not, in themselves damage the building if it is forced.

Remove ladders, along with tools and other materials which may pose a risk to the fabric. Consideration should also be given to individual objects of value, this may include fixed assets fireplaces, doors etc which could be easily stripped out or loose portable items. These assets should be security marked with a property ID system (SmartWater or SelectaDNA for example) with assets temporarily over boarded to provide additional protection and hide from view. Details of the property identification system should be displayed at the perimeter if adopted to deter certain individuals.

1.1.3 Access routes:

It is important to consider access for equipment, materials and people throughout the asset for the duration of the project. Prior to undertaking actual building works, access routes and elements and/or components of significance should be thoroughly protected.

Access routes should be carefully chosen to avoid proximity to vulnerable fabric, though this may be difficult for historic fabric. Mitigation measures should be implemented within the interior which may involve the use of foam padding and sheets or plywood or plastic padding for the protection of floors, staircase and balustrades.

Protective measures must be carefully cut to fit and fixed to together to minimise the risk of them becoming trip hazards. Sheets are normally taped together at joints.

Principal trafficked areas need to be checked regularly to ensure that they remain sound and have not moved.

Vulnerable corners and projections may also need to be protected with foam rubber or expanding foam separated from the material by a sheet of polythene.

1.1.4 Incidental damage during repair or conservation work:

Identify potential risks and look to reduce the likelihood of occurrence and severity, when undertaking any intervention or conservation works.

1.1.5 Water damage:

The exterior envelope of the asset must be maintained and protected at all times to reduce and limit potential water ingress issues.

As well as rain, other sources of moisture could be introduced during pointing, masonry cleaning and other conservation processes.

Gutters and downpipes which are disconnected and/or removed during construction works shall be reconnected immediately or temporary drainage system introduced.

1.5 WORKMANSHIP

1.1.1 Generally, undertake the works as follows:

- a) Work which exposes the building fabric to the weather (where protection is not specified) undertake during favourable weather; once such work is commenced, complete it as quickly as possible. The Contractor is responsible for the preservation of the building fabric in accordance with the contract documents.
- b) Cutting away and alteration work generally: undertake with the minimum amount of disturbance to those parts of the building intended to be left undisturbed. The use of power tools should be carefully considered and only used with CA approval. The Contractor is to assume that all opening up will be undertaken by hand.
- c) Opening up of joinery should be undertaken at existing access points, or by removal of complete panels, fascia's etc. to joint lines. Retain, reference and set aside for future refixing any removed panels.

1.1.2 Provide all necessary forms of protection, temporary support and safe access as necessary to allow for inspection of and access to the exposed structure or fabric.



- 1.1.3 The Contractor should be aware that works of opening up which are not carried out in accordance with the specification may contravene legislation requiring Listed Building Consent.

1.6 HEALTH AND SAFETY

- 1.1.1 This specification does not include for the opening up or protection of any ACM's.
- 1.1.2 The contractor will provide props, struts, scaffolding and shores, etc as necessary to ensure the stability of the existing structures, including making preliminary investigations and calculations where necessary. The Contractor is responsible for the overall safety of the Works and existing structures unless expressly made the responsibility of others in the Contract Documents. All such methods of temporary support and access are to be clean and isolated from the building fabric by suitable forms of protection.
- 1.1.3 All works are to be carried out strictly in accordance with all relevant legislation and legal obligations currently in force. The Contractor is to have particular consideration of the programming, planning and safe carrying out of operations in respect of other works and site operatives on and about the building.
- 1.1.4 The Contractor is to prepare and submit to the Contract Administrator, for consideration, Risk Assessments and Method Statements to address the safe carrying out of the works with the minimum of disruption to the existing structure and fabric.
- 1.1.5 All opening up is to be carried out strictly in accordance with the health and safety measures and requirements.

1.7 PREPARATION OF FABRIC

- 1.1.1 Prior to installation of any protective measures. The areas in question must be thoroughly cleaned to remove all loose debris / dust which could lead to scratching / abrasion of the finished surface once protective boards are overlaid.
- 1.1.2 It is important to try to not over wet floors as the substrate could become loosened or efflorescence could be triggered. Surface dirt should be removed with minimal quantities of warm water.
- 1.1.3 Sweep and vacuum existing floors / components prior to laying / fixing of any protective boards.
- 1.1.4 Contractor is to photograph and record all areas prior to undertaking any works.

1.8 PROTECTION OF FABRIC

- 1.1.1 Generally, provide all necessary and suitable protection to all areas of work and areas adjacent to the works in order to enable the least destructive, safe and efficient means of carrying out of the works.
- 1.1.2 The element of protection is to encompass the non-destructive shielding of the existing building fabric and finishes against wear and tear and destructive working methods; the

enclosing of working areas and areas of opening up against environmental and climatic conditions; the security of the working area and the site as a whole and the safety of site operatives, visitors and general public.

- 1.1.3 The structure, fabric, decoration and contents of the buildings are to be suitably protected by the use of dustsheets, solid protection, sealing of doors, etc.
- 1.1.4 All protection is to be loose-laid or pressure-fixed by wedging, bracing, clamping or tying as appropriate in a manner that will not damage the existing fabric of the building, no direct fix will be acceptable. The use of cloth string is acceptable.
- 1.1.5 The Contractor is to make allowance for and carry out all necessary modifications and adaptations of all forms of protection, where so instructed or where so required, to enable the safe and efficient carrying out of the works.
- 1.1.6 All protective installation should be regularly and routinely checked, with replacement of materials etc where well-worn and/or defective.
- 1.1.7 The appropriate method of protection is to be agreed with the CA.
- 1.1.8 Equipment and materials must not be propped against decorated surfaces, fittings or furniture.
- 1.1.9 Footwear is to be appropriate to the part of the building or structure in which the work is being undertaken to avoid damage to floor finishes and coverings.
- 1.1.10 No contents or fixture and fittings shall be moved by the Contractor without the written permission of client.
- 1.1.11 **No** adhesive tapes or mechanical fixings should be used to secure in-situ protection. If no alternatives can be proposed, each instance of proposed use should be discussed with the Architect and Project Conservator.
- 1.1.12 **No** item longer than 1200mm can be carried through the building unsupervised. Materials and objects should be appropriately covered to ensure that damage will not occur to either the fabric or contents of the building. The admission of equipment / materials longer than 1200mm into the building will be considered – however prior consultation must be sought with the Architect / Project Conservator.
- 1.1.13 Cutting of boards on site; dustsheets should be laid, and vacuum cleaners must be available at the point of work and used to collect dust as and when created.
- 1.1.14 All Contractors must adhere to the restricted walkways through the building / site. These routes **MUST** be clearly visible and identified by the Contractor.
- 1.1.15 All contractors must use dustsheets at all times.
- 1.1.16 Illustrative prints relating to particularly fragile elements / components, will be located at the site of work. All contractors are required to familiarise themselves with the pictures provided.

1.1.17 All areas of the building / asset are **vulnerable** and **important** and should be protected for the duration of the building works.

1.1.18 All items protected must be protected by products and materials which are fire retardant.

1.1.19 **Phasing / Sequencing:**
Installation of protection works is likely to be phased pending investigation works. Refer to Scope of Works document and drawing package.

1.9 CONSERVATION WORKING PRACTICES DURING BUILDING WORKS

1.1.1 It is of paramount importance that the working site is maintained and cleaned throughout the construction works.

The following measures are to be observed and looks to reduce the time needed for the conservation clean of the School building post-contract.

- Prior to temporary fixing of protection measures, area to be covered should be vacuumed / cleaned to remove all loose debris and dust prior to overboarding.
- Vacuum cleaners must be used at source where dust is being created. Bags and filters must be regularly changed, and the vacuum cleaners well maintained.
- Contractors should vacuum up after themselves at the end of each working day.
- Insitu protection must be well maintained.
- Keep to walkways of protection.
- Floor voids should be vacuumed out (check with archaeologist (if relevant) regarding significance of contents).
- Items over 1.2m need to be carried by two people, with ends padded.
- Provide walkways of Antinox covered with hardwood through each room.
- All equipment and materials should be placed on Antinox.
- Loose laid sheets of Antinox should be used by contractors around work areas.
- No access to storage areas or other unauthorised areas outside work site except where accompanied at all times by Project Conservator or designated deputy.

1.10 MATERIALS FOR PROTECTION GENERALLY

1.1.1 Dust Sheets: To be linen or cotton-type close weave material to prevent the ingress of dust and paints.

1.1.2 Polythene Sheet: To be minimum 250-micron polythene, laid with all joints lapped and taped to prevent the passage of dust and moisture.

1.1.3 Reinforced Polythene: To be heavy duty Sisalite reinforced polythene sheet (860) by British Sisalcraft or similar.

- 1.1.4 Fibreboard: To be minimum 12mm Tentest board, loose laid and cut to suit irregular plan shape.
- 1.1.5 Underlay: To be carpet felt underlay, minimum 1.36 kilos per m², loose laid and cut to suit.
- 1.1.6 Plywood: To be water- and boil-proof (wbp) plywood to BS 6566. Generally, the following minimum thicknesses will be used:
- a) Floor protection: 4mm, cut to suit with joints taped.
 - b) Framed protection: 12mm on softwood frame, formed independent of the protected element
- 1.1.7 Rubberized Foam: To be flexible foam-type pipework insulation, i.e. Armourflex or similar, of a suitable diameter and thickness to provide suitable protection.
- 1.1.8 Antinox is available from Swiftec tel: 0161 945 1500. Correx 2mm black flame retardant, is available from Cordek Ltd. tel: 01403 799 600.
- 1.1.9 Flame retardant bubblewrap FRC120 is available from Euronova Ltd. tel: 0117 944 2061.
- 1.1.10 Megafilm is available from Megafilm, tel: 0121 608 6161.
- 1.1.11 Flame retardant 5mm Impact Cover-Guard TIG 5MM150, is available from Bainbridge International tel: 01489 776020. Bainbridge International also supply flame retardant bubblewrap.
- 1.11 OPENING UP GENERALLY**
- 1.1.1 It may be necessary in some instances to open up areas of the fabric to provide further insight and assessment of building fabric which is concealed and/or hidden from view, this will help to define and inform the full extent and scope of remedial works and detailed repairs required within these locations. For example, there may be embedded timber members within masonry walls which are showing signs of structural failure, this may require micro-drilling or the use of a resistograph tool.
- 1.1.2 Locations identified to be opened up should be kept to an absolute minimum with minimal disturbance to the surrounding fabric.
- 1.1.3 A full photographic record shall be undertaken before commencement and a record maintained throughout the progress of the works.
- 1.1.4 Works specified as requiring opening up for inspection, shall be undertaken only in accordance with the agreed schedule of opening up, and Method Statements to be submitted by the Contractor. The Contractor should be aware that works to open up structure and finishes which are not carried out in accordance with the specification, may contravene legislation requiring Listed Building Consent.

- 1.1.5 All areas of the fabric opened up for inspection **MUST** be reinstated upon completion of the main works. Reinstatement of the fabric may be required sooner, dependant on the item to which has been opened up. For example, if an area of the external envelope has been opened up, this shall be reinstated and made good following the inspection works to retain a weathertight enclosure.
- 1.1.6 All works **MUST** be undertaken by approved and skilled conservation specialist contractors.
- 1.1.7 Trial holes are to be dug in locations agreed with the Architect or Structural Engineer. In locations adjacent to existing buildings or site features, works are to be undertaken by hand.
- 1.1.8 All necessary protection and propping are to be incorporated to ensure the structural integrity of the existing building, the protection of the excavation and building fabric and the safety of the site operatives, visitors and members of the public.
- 1.1.9 Lifting of floorboards is to be undertaken using non-powered hand tools only, by skilled craftsmen and in such a way as to allow for the reinstatement of all fabric to its existing state. Any items removed should first be recorded and tagged to allow for reinstatement within its original location.
- 1.1.10 Where there are screw-fixed floorboards these are to be taken up in preference to others. Raised floorboards should be placed carefully on one side such that they do not present a Health and Safety hazard from projecting nail fixings and that these do not damage any existing part of the fabric of the buildings or its contents. Any dust and debris created by lifting of the boards should be vacuumed up as the work proceeds (not only at the end of the working day) to limit the spread of dust, although particular vigilance is required for items of potential archaeological importance.
- 1.1.11 Any items of masonry that are dismantled are to be carefully referenced with their original location. Do not scratch references, mark only on unexposed faces. Any dismantled masonry is to be stored on soft, non-staining, material and is to be placed without stone to stone contact.
- 1.1.12 Service ductwork is generally to be opened up for inspection at locations of existing access panels, or other locations as agreed with the Architect. Ductwork and services are to be opened up in such a way as to allow for the reinstatement to their proper functioning state of all fabric and services on completion of the work.
- 1.1.13 Opening up and investigation of existing services are to be carried out strictly as described within the agreed Contractor's Method Statements.
- 1.1.14 Close circuit television (CCTV) investigations where so specified, shall be undertaken by an approved specialist, in accordance with the Architect's instructions.
- 1.12 GENERAL PROTECTION OF WALLS AND FLOORS**
 - 1.1.1 Prior to undertaking any construction works. Allow for fixing of protective measures to walls and floors within working areas. Refer to marked up drawings.

1.1.2 Walls and Floor Generally.

- Lay Antinox protective FR boards to floors and walls within working areas. Tape and seal. Overlay with hardboard in particularly high traffic areas. No direct fix into building fabric is allowed. Loose fix with tape / pressure fix and cloth string.

1.13 GENERAL PROTECTION OF EXHIBITS AND COLLECTIONS ITEMS

1.1.1 Collections and Exhibits

Prior to undertaking any construction works. Allow for the museum collections team to thoroughly protect all collections items. Protection likely to be provided by loose sheeting rather than fixed solid framing, though the exact arrangement is to be confirmed.

1.1.2 Protection of working areas

Prior to carrying out works to any of the exterior facades and subsequent interior spaces, the contractor shall section off each working area from the interior collections to limit the amount of debris and dust transfer between spaces.

This is to be provided by creating a self-contained tent (enclosure), using heavy duty tarpaulin sheets cabled and lapped at the sides and lid, hung from cables and eyelets from the internal Hall steel frame, to create a fully enclosed working space. This tent should include appropriate access provided by zipped or velcroed access points. Allow for weighting of sheets at the base with sandbags / battens, loose laid. No direct fix into the fabric will be permitted.

The exact method of tenting, segregation of working areas and collections items is to be agreed with proposals to be put forward by the contractor.

Area of tenting is to extend 2.5m beyond working area in plan to all sides, extending vertically to height suitable for undertaking decant operations. Allow for sheeting to extend upwards to the underside of current catchment net within the Air and Space Hall.

Include for all dust extraction and equipment to maintain the enclosure for the duration of the works.

1.1.3 Walls and Floor Generally.

Lay Antinox protective FR boards to floors and walls within working areas. Tape and seal. Overlay with hardboard in particularly high traffic areas. No direct fix into building fabric is allowed. Loose fix with tape / pressure fix and cloth string.

1.14 PROTECTION OF EXISTING DOORS AND FRAMES RETAINED INSITU

Prior to undertaking any construction works, all existing retained doors are to be thoroughly protected for the duration of the project.

- Lightly clean existing door prior to fixing / over-boarding of protective measures.

- Where retained insitu, over-board with Antinox Protection Board and fix in place with cloth string. No direct fix will be acceptable.
- If existing door is to remain on a main access route for construction traffic, the addition of a hardboard sheet may be required as additional protection.
- Loosely fix foam (self-gripping) door leaf protector to all leading door edges. No direct fix will be acceptable.
- Loosely fix foam door jamb (self-gripping) protector within all trafficked openings. No direct fix will be acceptable.
- Remove and discard of protective measures upon completion of main contract works and undertake any identified door repair / cleaning works identified elsewhere.

TENDER



RS3 ACCESS SCAFFOLDING

1.1 DESIGN

- 1.1.1 The design of all scaffolding will be the responsibility of the Contractor and is to be in accordance with the recommendations of BS EN 12811-1:2003 "Code of Practice for access and Working Scaffold and special scaffold staircases in Steel" or as updated.
- 1.1.2 Compliance with the various Acts and regulations listed in BS EN 12811-1:2003 is the responsibility of the Contractor.
- 1.1.3 Compliance with all aspects of Health and Safety during erection, using and dismantling is the responsibility of the Contractor.
- 1.1.4 The design of the scaffold is to take account of the requirements of all trades which will require access, use as a working platform or storage. No claims will be entertained for additional scaffold or for amending scaffold already erected to suit the requirements of trades contained within the specification and the tendered works as a whole.
- 1.1.5 The contractor **shall** submit a brief method statement with their tender which describes the nature and location of the proposed scaffolding, so that the Architect can satisfy themselves that it is adequate and properly located.

1.2 ALTERATION OF CURRENT SCAFFOLDING

- 1.2.1 The existing scaffolding currently insitu is to be adapted and altered to provide a clear and open portal into the interior of the Air and Space Hall to the East and South facades. This will require the temporary removal of a small portion of the Liverpool Road façade to provide access to the interior of the Hall for the decanting of large exhibition and collections items.
- 1.2.2 A solid enclosed portal is to be formed, which **MUST** provide a secure, wind and watertight external envelope. The vehicular entrance must be wide enough for large and wide loads. The clear opening void should be no less than 5.5m high and 4.5m wide as a minimum. Exact sizes are to be provided and confirmed from the specialist removal contractor. The doors should be solid steel either of the concertina or roller shutter type to provide rapid and secure access into the interior.
- 1.2.3 The projection of the designed scaffold should be designed in such a way to be as compressed to the existing building structure as possible to provide great turning circle from the highway for HGVs etc.
- 1.2.4 The scaffold is to be designed and protected accordingly from potential vehicle impact and/or collision.
- 1.2.5 The exterior scaffold is currently supplemented by an internal crash deck / netting system installed at eaves level, to capture any material which is ejected from the roof in terms of either falling asbestos containing mineral fibre tiles, glass/polycarbonate rooflights and associated timber structures.

1.2.6 Safe pedestrian routes are to be maintained to the perimeter (pavements) of the building at all times, taking into account the street furniture to Liverpool Road particularly.

1.2.7 Upon completion of the decant works, the existing temporarily removed scaffolding is to be reinstated to match the original arrangement.

1.2.8 Alteration to the existing scaffold arrangement may be required towards the east façade and allowances should be included for local modifications to be carried out, to provide clear and free access within the Air and Space Hall for contractor and specialist decant contractor requirements.

1.2.9 VEHICULAR ACCESS PORTAL (SOUTH ELEVATION)

Existing scaffold: adapt and modify existing arrangement to provide clear and safe access for large access and haulage vehicles into the Hall from the highway.

Portal Roof @ 5 degree with infill panel:

Material: 18mm WBP plywood base to roof deck, fixed onto timber firrings. Timber firrings fixed onto scaffold boarded lid, clamped or other similar approved. Construct timber framed infill panel to make up void between roof and underside of existing main building lattice beam, suitably packed and weathered. Line frame with plywood as above and cover all with a mechanically fixed bitumen felt, batten fixed.

Covering: Bitumen felt, battened.

RWG: provide and install upvc guttering and downpipes, to discharge to ground.

Internally: provide external grade lighting within the enclosure.

Sides:

Material: Solid steel sheeting up to full height of portal, lapped and fixed back to scaffold to provide weathertight enclosure.

Access:

Type: 6m high x 5m wide (pending confirmation of portal size) industrial type steel roller shutter fixed at the head to scaffold ladder beam(s), automatically operated with generator or mains connections as recommended by manufacturer with heavy duty security locks. Operated via push button from ground level. The contractor shall put forward proposals. The scaffold is to be designed to take the stresses and loadings imposed by the roller shutter system as per manufacturers requirements.

1x Single leaf steel access door to side of portal for contractor access.

1.2.10 Entrances and fire escape doors and fire escape routes passing under the scaffold are to be protected by a crash-deck or the like on the lift immediately above the door or route. They are to be provided with lighting and emergency lighting.

1.2.11 In conjunction with the CA the contractor is to provide a dilapidation survey of the areas where the scaffold is to be erected / modified and provide photographic record and report of the existing general condition and any pre-existing defects.

1.2.12 If the scaffold is to be tied back to the roof level parapet or façade or any parts of the scaffold are to be suspended i.e. bearing on the roof, then it is the contractors responsibility to investigate the existing structure and provide the necessary details and calculations to demonstrate that any scaffold will not materially affect the performance of the structure or the roof coverings in any way.

1.2.13 Any alterations at ground floor level to the scaffold must be clear of obstructions (apart from legs/stanchions) from ground up to the top of the existing lifts. Supports at ground floor level up to the horizontal lattice girder are to be enclosed and protected to prevent hazards to members of the public passing through the scaffold and to also to prevent any un-lawful access onto the scaffold.

1.3 PROPOSALS

1.3.1 The Contractor is to submit his proposals for the scaffold on or before the date for possession and not less than 7 days before commencement of the scaffold.

1.3.2 The Contractors proposals are to include clear drawings and structural calculations in duplicate sufficient to prove the stability of the proposed temporary structures in accordance with BS EN 12811-1:2003. Drawings will be provided to the Architect and the Structural Engineer. These drawings will clearly indicate positions where any scaffold is to be tied back to the fabric of the building and the proposed method of fixing.

1.3.3 No scaffolding shall be commenced on site until the Contractors proposals have been submitted and agreed with the Architect/Structural Engineer. Agreement of the Contractors proposals does not relieve the Contractor of his responsibilities to ensure full compliance of all requirements.

1.4 PROGRAMME

1.4.1 Prior to commencement of any scaffolding the Contractor shall submit a programme indicating the commencement date, and completion date.

1.4.2 Prior to striking the scaffold the contractor will submit a programme indicating the period for dismantling for each area of scaffolding.

1.4.3 Scaffold is required for inspection purposes prior to confirmation of scope of the work and the Contractor is to indicate this period on his programme and ensure that his proposals are submitted early enough to ensure that this period is not compromised.

1.4.3 The programme is to take account of all the requirements of the sub-contractors who require the use of the scaffold.

1.5 ERECTION REQUIREMENTS

1.5.1 All scaffold tubing and fittings are to be galvanised and in good condition and free from corrosion. Rusty components will not be accepted.

1.5.2 No steel component (including capped tubes) is to be in contact with the fabric of the building except where specific approval has been given.

- 1.5.3 Where it is necessary to brace the scaffold from the structure then timber packing of a minimum thickness of 20mm is to be placed between the scaffolding and the masonry.
- 1.5.4 No scaffolding shall rest on any roof coverings unless agreed in writing prior to commencement.
- 1.5.5 The ends of ALL scaffold tubes are to be protected with plastic caps which are to be fitted prior to delivery to site. Where it is necessary to cut scaffold tubes during erection the end is to be re-capped immediately.
- 1.5.6 Scaffold tubes are not to encroach within 50mm of the surface of the building except where required for support or stabilising. This is to prevent accidental damage to the fabric by minor movement of the scaffold. Where such support is required the scaffold shall be separated from the building fabric by 20mm timber packers to prevent Scarring of the fabric by scaffold tubes.
- 1.5.7 Where it is necessary to brace scaffold through window or door openings the existing finishes are to be protected with 20mm thick timber packers both internally and externally. The opening is to be boarded up with access only for the scaffold tubes.

1.6 SUPERVISION

- 1.6.1 The Contractor is to exercise particular care in supervising the erection and dismantling of the scaffold to ensure that no damage occurs to the fabric of the building.
- 1.6.2 It should be noted that in many instances damage to the historic fabric cannot easily be rectified. Any damage due to the scaffold use, erection or dismantling will be rectified at the Contractors expense.
- 1.6.3 Any area of scaffold not complying with section 1.5 above will not be used for any purpose.

1.7 SECURITY

- 1.7.1 All external scaffolding shall be designed and erected so as to prevent unauthorised access **by steel sheeting to a minimum height of 5 metres** from the base. Access to scaffold by roller shutter and single leaf lockable door through steel sheeting.
- 1.7.2 Sheeting which forms part of the perimeter hoarding for the site will also need to comply with constraints for site hoarding specified elsewhere within the preliminaries for the project.
- 1.7.3 Access to the scaffold is to be via a single point of entry and a lockable door through the barrier described above.
- 1.7.4 Ladders to the lower lifts are to be removed at night.
- 1.7.5 Any areas which may be accessible from adjoining structures, roofs, etc are to be similarly protected by boarding or by other approved means.
- 1.7.5 Scaffolding shall be alarmed at all times.



- 1.7.6 Adequate measures must be taken to prevent unauthorised access from all elevations. Which shall include motion detectors as well as CCTV cameras, linked to existing system.
- 1.7.7 Adequate signage and lighting must be provided in areas where light levels are reduced due to insertion of crash deck / passage.

1.8 PROTECTION

- 1.8.1 The covering to pavements is to be double boarded with visqueen between.
- 1.8.2 The contractor is to satisfy all the requirements of the Local Authority and Highways department.
- 1.8.3 All surfaces at ground level are to be suitably protected to prevent the scaffold damaging existing external and internal finishes.
- 1.8.4 Where internal scaffold is to be erected full protection will be required under all scaffolding except with prior written consent.
- 1.8.5 Ensure any architectural features or areas prone to damage are suitably protected.
- 1.8.6 All entrance doors, fire exits etc are to be kept clear of obstructions and are to be lined at the top and both sides.

1.9 DISMANTLING

- 1.9.1 Ensure all necessary care is taken to ensure that no damage occurs to the fabric of the building.
- 1.9.2 Scaffold tubes should be carefully lowered to ground level and not thrown or dropped.
- 1.9.3 No dismantled components shall be left on site outside working hours unless housed within a secure compound area.

1.10 TEMPORARY PROTECTION AGAINST THE ELEMENTS

- 1.10.1 A temporary roof is not to be provided as part of the works however, protection to side walls and public walkways under the scaffold are to be allowed for as is the temporary sheeting of opened roofs and gutters.
- 1.10.2 Any damage arising to the building fabric from the failure of temporary sheeting will be made good at the contractor's expense. Sheeting for side walls shall be reinforced translucent sheets which are self-extinguishing and flame retardant (e.g. Monaflex). Details of any alternative proposals shall be submitted for approval with the tender.
- 1.10.3 All sheeting shall be adequately secured against wind uplift etc.
- 1.10.4 All sheeting shall be checked by a competent person once a week and a signed record kept onsite. Any defects are to be rectified immediately.
- 1.10.5 All areas are to be maintained as watertight at all times.



1.11 CERTIFICATES

- 1.11.1 Copies of all handover certificates issued by the scaffolding sub-contractor shall be forwarded to the Architect upon receipt by the Main Contractor.
- 1.11.2 Copies of all test certificates for hoists shall be forwarded to the Architect on receipt by the Main Contractor.
- 1.11.3 No scaffolding shall be used unless handover certificates and test certificates have been issued.

TENDER

Note: It is not anticipated that any major cast iron restoration works will be undertaken during the decant project. This clause is included typically for any minor repair and/or redecoration works involved following the careful removal of cast iron elements and components, storage and future reinstatement.

1.1 REMOVAL FROM SITE

- 1.1.1 Most work is ideally carried out in workshop conditions, and it is frequently the case that iron components can be removed easily from site. In the case, however, of railings, gate Piers etc that may be fixed into stonework, usually in lead filled sockets, removal may not be possible without sacrificing expensive stonework. Lead may be removed from sockets by mechanical means, but this is very laborious and any attempt to melt the lead will inevitably result in failure and damaged stonework unless the socket can be held horizontally to enable the lead to run out.

1.2 PAINT REMOVAL

- 1.2.1 Ironwork is generally covered in paint and frequently a build-up of rust in water traps etc. Commonly, paint and some of the rust are removed by cleaning. The method used for paint removal will be by grit blasting cast iron components insitu due to the nature and detailing of the exterior cast iron. Chemical removal may be considered but must not be carried out without the prior consent of the architect. Dry blast methods are divided into shot blasting, an automated factory process and grit blasting which can either be carried out both in the workshop and onsite. Both methods can be adjusted to produce a range of cleanliness levels and surface profiles which are often specified by the coatings manufacturers to achieve optimum performance of their products.

The contractor may put forward there preferred cleaning method and it may be the case that various cleaning techniques are used for varying surface types and scenarios. Any alternatives put forward by the contractor should not be carried out without the prior consent of the architect.

SAFETY NOTE: Whatever method of cleaning ironwork is chosen it is important to bear in mind that the removed material may be highly toxic. In particular historic paint may contain leads and other heavy metals with implications for both personal health and the environment. Cast iron is frequently coated with lead based paints; often with a 75% lead content. Care must therefore be taken, particularly with grit blasting, to ensure that both operatives and the public are protected and that the lead working regulations are adhered to.

1.3 DISMANTLING COMPONENTS

- 1.3.1 Ironwork is often fastened together with riveted, or tenoned joints. It is not possible to part such joints without at least some damage or weakening becoming evident on re-assembly. It is worth avoiding the parting of frame joints etc, merely to gain access to corroded components, as the frame will never be as strong again. Where tenoned

joints must be parted, it is nearly always necessary to replace the tenon with a screw or screwed tenon, in order to regain adequate strength.

1.4 REPAIRS AND REPLACEMENTS

1.4.1 As a matter of course, the replication of components should be carried out in a manner similar to that which was used for the original creation of the piece, and in similar materials. Ideally, all work to an ancient piece should use the old techniques of forge welding, tenoning, riveting and collaring etc. so that a high degree of blacksmithing skill is generally required.

Preparation of joint for forge welding shaping finished branch welded scrolls
However, it is often the case that components cannot be completely removed from the job, or that only small work is need to a large component. In this case, recourse must be taken to more modern techniques.

1.5 REASSEMBLY

1.5.1 The most common reason for the rusting of ironwork is the gathering of water in places that will not dry. Cast iron will last indefinitely, with reasonable maintenance if rainwater is kept at bay. Such bad places are the joints between members which lie alongside one another, for example, between a shadow bar and its mate, touching points of scrolls, particularly on a horizontal surface, water leaf sockets which are upward facing, and any area which is constantly submerged in vegetation.

1.5.2 When work is assembled, care should be taken to ensure that mating surfaces are protected by paint, as well as are visible surfaces, and that suitable mastic filler is applied before the work is assembled. Accepted practice is to use modern silicone mastic, which sticks very well, and is totally waterproof. Red lead putty is the traditional one, and if well sealed with paint, at regular intervals, will serve well. Waterleaf sockets may be filled with epoxy resin, poured in until it overflows, or pitch can be used, on the basis that in the summer, it will melt and renew its seal with the iron. Lead poured hot was often used, but as this does not stick to the iron, and water will be able to penetrate, it is no longer advised.

1.6 CAST IRON - TECHNIQUES OF RENOVATION

1.6.1 The cast irons used for highly detailed work in the nineteenth century were frequently rather high in phosphorous, which lowers the viscosity of the molten metal to enable a high degree of detail to be reproduced. The result is; however, extremely brittle and the greatest care should always be taken to avoid breakage, especially at the dismantling stage.

1.6.2 Fixings are usually of wrought iron, and if flush with the finished surface, will normally be impossible to release. Heating of the component to release fixings is usually not an option, as local heating of a thin casting can also result in breakage. Resort must be taken to mechanical means, i.e. drilling out of the wrought iron fixing.

1.6.3 Care must be taken to drill centrally to the bolt or stud, as the wrought iron will often be harder than the cast and the drill will tend to drift off away from centre, also drills will be prone to breakage as they cross the even harder zone of rust between the cast

and the wrought iron. The usual technique is to drill an initial hole of a small diameter to locate the centre, and to open this out by degrees until the remains of the fixing can be removed and the hole re-tapped etc.

- 1.6.4 Repair of broken castings:
- 1.6.5 Welding repairs of cast iron decorative components are seldom satisfactory. The welds are not of the same strength as the casting and can crack, while heat stress can cause cracking elsewhere. Resulting distortion or misalignment cannot be rectified.
- 1.6.6 Alternative methods are;
- 1.6.7 1. Brazing, using oxy-acetylene and a brass filler rod. A good bond can be achieved with a lesser heat input than welding methods, but care must be taken that the surfaces to be brazed are tinned prior to filling the joint. Excess brass can be dressed by grinding or filing.
- 1.6.8 2. Bonding with an epoxy adhesive. Modern adhesives can give a very sound repair, with no need for heating of the components. Added security can be given to a joint, in some cases, by the use of iron or stainless pins located in holes drilled into the mating surfaces. If difficulty is experienced in getting alignment, one or both of the holes may be drilled oversize, and the gaps filled with the epoxy adhesive.
- 1.6.9 3. Plating with cast iron or non-ferrous plates or straps on the back of the broken casting. This is applicable to thin castings, but only where the backside is not going to be visible. Plates may be attached with screws or copper rivets, and a bonding agent should be used between casting and plate. Mild steel screws are not acceptable. New castings and components. Where castings are to be replaced, new components can often be made by moulding from an original, however, shrinkage will occur to render the copy slightly smaller than the original, which may be unacceptable. Also there is often, in common with all copies, a loss of detail between pattern and casting, which, on work of high quality may be unfortunate; however intermediate patterns can often be made from an original, in resin or aluminium, to improve the finish. Ultimately, the quality of the final product will depend upon the skill of the moulder, and examples of their work should always be inspected before engaging a new moulder. Where a casting is re-useable, except for the absence of a small part, a rubber mould may frequently be taken from a similar part and just the missing part cast, as a patch, which must then be joined into the casting by one of the above methods. Old work was sometimes done, in iron, by lost wax methods; a technique not often employed nowadays in ferrous materials. This was done to overcome problems of drawing from the mould of complex, undercut patterns. The more able foundries will still be able to undertake this work, but beware at the pricing stage as the cost is of a different order to that of conventional moulding.

Where an old component exhibits a brittle failure through ordinary use, the temptation may be to replace it with a new one in malleable or s.g. iron, which are much stronger than the original grey irons. There is no track record with s.g. due to it being a relatively new material, and its long-term performance is unknown however, there is some evidence that the old malleable irons corrode rather more readily than grey iron. Also difficulty may be achieved in obtaining an acceptable quality in s.g.

iron, particularly in thin castings, owing to its greater molten viscosity and hence reluctance to run into a complex mould.

1.7 FIXINGS

1.7.1 Cast iron was often joined by wrought iron fixings, which are frequently seen to have done good service. However, lack of maintenance can lead to water ingress, and eventually failure of the casting due to rust heave. The same comments would apply to mild steel fixings, where the effect would be seen sooner. Stainless steel is often used nowadays, and will give good results, but water must also be excluded here, as stainless steels are just as prone to anoxic corrosion as their more prosaic brothers. The best fixings are made with non-ferrous materials, bronze, brass or copper. In the case of copper, being soft, the fixing is likely to fail before the casting, resulting in less breakage of iron. Precautions should be borne in mind against electrolytic action, but in practice, this does not seem to occur in situations remote from an electrolyte, i.e. where the joint is more often dry than wet.

1.7.2 Joint surfaces should be painted prior to mating, and filling with non-setting bituminous mastic where possible. Attention should be taken to the shapes of the heads of the fixing screws, as these were frequently used for ornamental effect. Any shape of screw head can be obtained as a special from the fixing manufacturer, and attention to detail such as this is often justified.

1.7.3 Sockets, and tenon joints etc, were frequently fixed by running hot lead between the components. This is a good and neglected method of fixing castings together, but the joint must be caulked cold for full strength to be achieved, and to exclude water from the joint.

1.8 PROTECTION & FINISHING

1.8.1 Galvanising and zinc spraying have been mentioned and there are good reasons why these will not do. Galvanising depends upon dipping the work after cleaning in acid, in a bath of molten zinc, which leaves a rather thick layer of zinc on the surface. Drips frequently form which must be ground off. If you add to this that the small joints will remain full of acid after the treatment, it is easy to see why this process is not appropriate to delicate and complex wrought ironwork. Additionally, in certain circumstances, the galvanising process can deeply etch the surface of wrought iron causing irreversible damage to the piece. Zinc spraying is a far less brutal process. It is a hand method, which consists of removal of all mill scale by grit blasting, and the immediate application of a zinc coating with a type of flame gun. The objections to grit blasting have been enumerated above. Further, it is not possible to clean very small joints by grit blasting, from the physical restrictions imposed by the size of a grain of grit, neither is it possible to clean nor spray material which is not accessible to line of sight. The water traps in wrought ironwork are just such small joints and out-of-the-way places.

1.8.2 Owing to the natural ability of wrought irons to resist corrosion, it is sufficient to protect ironwork by a good coating of paint. However, I cannot stress too strongly that, in common with other items placed out of doors, such as woodwork, wrought ironwork needs regular maintenance. Chips and developing problems should be dealt

with at the earliest dry opportunity, and the work should be painted at least every five years.

1.8.3 Cast Iron minimal paint system product specification for 'Single Pack 4 Coat';

Stage 1	One coat of 'SigmaFast 20', an alkyd primer-undercoat
Stage 2	Two coats of 'AMERCOAT 4613', a MIO (Micaceous iron oxide) urethane alkyd undercoat/finish which can be over coated with suitable alkyd based topcoats.
Stage 3	One coat 'SigmaFast 40', a high solids alkyd based protective topcoat. Colour/Ral No to be specified at time of order.

This paint system is available from;
 Industrial Paint Supplies (Hull) Ltd,
 51 Charles Street, Hull, HU2 8EH
 T; 01482 321 154 E; sales@ipshull.co.uk

1.8.4 Paint to be applied by brush and applied as per the manufacturers recommendations. Alternative paint systems may be proposed by the contractor which meet the high-quality nature of that specified above although prior to an alternative being selected consent must be gained from the architect.

NOTE; All ironwork should be adequately protected during transport and installation with any grazes or chips to paintwork made good on site, using primer on any exposed steel prior to topcoat.

1.9 IRONWORK SPECIALISTS

1.9.1 It is proposed that the ironwork restoration works is carried out by skilled ironwork restoration specialists. The following ironwork specialists should be approached, and quotes obtained from;

(a) Dorothea Restorations

Unit 4
 William Street
 St Phillips
 Bristol
 BS2 0RG

Tel: 0845 4780773
 Mobile: 07834 767 516

John Wallis - Managing Director
 Email: john@dorothearestorations.com

(b) Shepley Engineers

Engine Lane
 Shafton
 Barnsley

1.10 MAINTENANCE OF IRONWORK

1.10.1 Ironwork is commonly supposed to be nearly free of maintenance and as such is frequently left to rust undisturbed for long periods resulting in periodic major overhauls, at great expense. This could be avoided by insistence on annual inspection with immediate and usually trivial remedial work to arrest any developing problems. Suggested establishment of a rolling programme of maintenance, of all items of ironwork, based upon the following schedule:

1.10.2 INITIALLY

1. Initial attention in the form of repair or restoration.

1.10.3 ANNUALLY

2. Thorough inspection of ironwork – Identify any areas of foliage, debris or moss build up and in particular any areas showing loose and damaged paintwork or signs of rust seeping from, or water lodging in, joints. Any chipping of paint in well-ventilated areas is not too significant.

3. Attend to identified problem areas at the earliest opportunity - Clean ironwork and immediate surrounding area of any build ups and ensure all ironwork is kept well ventilated. When the paintwork is dry remove dust, contaminants or loose coatings by sanding or wire brushing and then locally reseal all areas identified in the inspection by touch-up paintwork. Bare metal should be primed with suitable primer before applying topcoat. Run paint into any joints where water is known to lodge to make sure these areas are completely sealed. Note that this work can only be carried out in periods of warm and dry weather when the problem joints are thoroughly dried out.

1.10.4 EVERY FIVE YEARS

4. Thoroughly re-paint ironwork with original (or equivalent) high performance paint system as proposed under 'finishing'. Prior to painting the ironwork should be thoroughly cleaned with hot soapy water and a scrubbing brush then degreased. When the paintwork is dry remove dust, contaminants or loose coatings by sanding. Bare metal should be primed with suitable primer. Apply full topcoat as required.

1.10.5 LONG TERM

5. Decorative ironwork made of cast iron should be free of long-term damage if the maintenance regime outlined above is adhered to. However, should it be necessary to remove thick layers of paint the ironwork should be grit blasted only as a last resort as this removes the iron's own original protective layer of oxide. Instead all ironwork should be stripped by chemical means.



1.10.6

THEN BACK TO

6. Again et cetera ad infinitum.

TENDER



RS5 HIGH QUALITY JOINERY – WINDOWS / DOORS / COMPONENTS

1.1 GENERAL

- 1.1.1 This specification covers all new / repaired high quality joinery.
- 1.1.2 All repairs, replacement, etc., will be scheduled and identified on drawings as appropriate and cross referenced to this specification.
- 1.1.3 For all new work this specification is to be read in conjunction with the drawings.
- 1.1.4 The Contractor is to satisfy themselves that they are in possession of adequate information prior to commencing any work.
- 1.1.5 The Contractor is to be responsible for all on site measurement including setting out for new work, details and dimensions for any replacement or repair work.
- All dimensions included on the drawings are to be checked for accuracy on site prior to commencing work and any discrepancies reported to the Architect immediately.
- No work shall commence until any such discrepancies have been resolved.
- 1.1.6 No claims arising from the Contractors failure to comply with 1.1.4 or 1.1.5 above will be permissible.
- 1.1.7 Machined samples of all timber shall be submitted to the Architect for approval. Where relevant the samples shall display the extremes of colour grain and texture variation. The approved samples will be retained as "control samples" against future deliveries. The samples shall have half the sample finished as the final finish specified with the remaining half unfinished.
- Ensure that all delivered materials match the approved samples.
- No orders for materials shall be confirmed by the joinery contractor until the representative samples have been approved.
- 1.1.8 The joinery sub-contractor is to ensure that they visit the site during the tender period to ensure that he is fully familiar with the conditions on site and to ensure that he is fully appreciative of the full scope of the works.
- No subsequent claims arising from failure to inspect the site conditions will be entertained.

1.1 COMPONENTS

- 1.2.1 TIMBER REPAIRS TO SCREEN / WINDOWS / DOORS: GENERALLY

WOOD: Douglas fir unless determined otherwise, through further investigations.
 Manufacturer: By a firm currently registered under the British Woodworking Federation Accreditation Scheme.

- Product reference: Contractor choice. Windows to match existing generally.

Timber: Generally, to BS EN 942

Species: selected to match existing.

Moisture content on delivery: 13-19% (or to match existing being fixed within 1%).

Finish as delivered: Prepared and primed for finishing on site if to be painted. Read in conjunction with section RS6 for decoration specification.

Fixing: counter sunk screws and pelleted.

Timber beads: as per item 1.9.8 below.

1.3 MATERIALS

- 1.3.1 All timbers shall be from a renewable source which is properly managed to ensure a sustainable supply.
- 1.3.2 Lippings, edgings, solid inserts, etc., shall be of solid timber.
- 1.3.3 All finished components are to be free from bow, twist, scratches, chipping, pimpling, depressions, glue spill, staining or any other defects, and shall be sanded to a smooth finish, free from sanding marks.

1.4 FIXINGS

- 1.4.1 All fixings shall be non-corrosive and of an approved type.
- 1.4.2 All nails shall be to BS 1202.
- 1.4.3 All screws shall be to BS 1210. Where screws are used these will be counter sunk and oak pelleted.
- 1.4.4 Fixings which are visible on finished joinery will not be permitted.
- 1.4.5 Use fixing and joints methods and types, sizes, quantities and spacing of fastenings which are suitable having full regard to:
 - a) the nature and compatibility with the materials being fixed,
 - b) The recommendations of the manufacturers of the components and products being fixed or fixed to,
 - c) materials and loads to be supported,
 - d) conditions expected in use,
 - e) appearance subject to approval.

1.5 ENVIRONMENTAL CONTROL

- 1.5.1 Ensure all components are stored in conditions appropriate to maintain the specified moisture content (10% to 12%) prior to manufacture, during machining, and subsequent storage.
- 1.5.2 Do not deliver any components or finished joinery to site until the correct conditions can be guaranteed to maintain the specified moisture content.
- 1.5.3 Do not fix any first fix backing framework, battens etc until conditions prevail to maintain a maximum moisture content of 18%.
- 1.5.4 Do not fix any joinery if the relative humidity is above 60%.
- 1.5.5 It is the joinery manufacturer's responsibility to ensure that the above conditions are satisfied and the joinery sub-contractor will be responsible for replacing any component which is subsequently found to be defective due to movement of any description caused by variations in moisture content.

The joinery contractor is responsible for maintaining conditions in his stores and workshops, and ensuring that the main contractor has provided the correct conditions on site prior to commencing any deliveries or installation.

- 1.5.6 Agree with the Main Contractor arrangements for maintaining the environment up to the date of Practical Completion of the works to ensure excessive movement does not occur.

1.6 PREPARATION AND FABRICATION OFF SITE

- 1.6.1 All internal joinery components shall be dried to achieve an average moisture content of 10-12% at the time of fixing. External joinery components will have a moisture content of between 13-19% on delivery.

- 1.6.2 All materials must be cut to the required sizes and acclimatised to end use conditions for a minimum of 4 weeks prior to being worked further.

- 1.6.3 Fabricate joinery components to BS EN 942:1996. Form sections out of solid timber except where specified. Carefully machine timbers to accurate lengths and profiles free from twist or bowing.

After machining all surfaces are to be smooth and free from tearing, woolliness, chip bruising and other machining defects.

Assemble with tight close-fitting joints with meeting surfaces to be perfectly flush to produce components free from distortion.

- 1.6.4 All fabrication is to be carried out in the joinery contractor's workshop unless prior written consent is given by the Architect for limited fabrication being carried out on site.

- 1.6.5 All joinery is to be manufactured to very strict tolerances to ensure the best possible finished product.
Length + 2mm on the total length of the component.
Width + 1mm on the total width of the component.
Flatness + 1mm under a 1 metre straight edge.
Squareness + 1mm under a 1 metre straight edge.
- 1.6.6 Fix any panels setting out accurately, true to line and level, free from any undulations and lipping with any lines or joints (where specified) correctly aligned, straight and parallel to surrounding frame components unless otherwise specified. Make allowance for future movement caused by temperature variations and variations in humidity.
- Fix all panels securely to prevent pulling away, bowing or other movement during use.
- 1.6.7 When using adhesives ensure that the surfaces to receive adhesive are sound, unfrozen, free from dust, grease and any other contamination likely to affect the bond. Where necessary clean the surfaces with materials recommended by the adhesive manufacturer for the purpose.
- 1.6.8 Components are to be checked for fit before applying adhesive. Surfaces should be of sufficient smoothness and evenness to suit gap filling and bonding characteristics of the adhesive where joints will not be visible and to ensure that all joints are a tight fit with no discernible gaps on surfaces which will be visible on the finished product.
- 1.6.9 Ensure that operatives observe the manufacturers and statutory requirements for storage and safe use of adhesives. Do not use adhesives in unsuitable environmental conditions or beyond the manufacturer's recommended shelf life. Safely dispose of any adhesive which has received prolonged exposure to air or has started to set prior to use.
- 1.6.10 Apply adhesives using recommended spreaders/applicators to ensure correct coverage. Bring surfaces together within recommended time period and apply pressure evenly over the full area of contact surfaces to be bonded ensuring that any clamps, presses etc. are cushioned to prevent marking or indentation of the timbers.
- Remove surplus adhesive immediately using methods and materials recommended by the adhesive manufacturer and without damage to the affected surfaces.
- 1.6.11 Where preservative treated timber is specified carry out as much cutting and machining as possible prior to treatment. Re-treat all timber which is subsequently machined or cut with flood coats of a solution recommended for the purpose by the main treatment solution manufacturer.

1.7 PROTECTION

- 1.7.1 Ensure that after manufacture/fabrication all components are safely stored/packaged and protected from damage in conditions similar to those that will prevail in the building.

- 1.7.2 Do not deliver to site and do not remove protective packaging/coverings until immediately before components are required for fixing and the correct environmental conditions prevail.
- 1.7.3 Stack boards, panels, etc., on bearers and separated by spacers to prevent damage to or from projections.
- 1.7.4 Keep all components clean and dry and adequately protected from physical damage until Practical Completion. Protection will have to be removed for inspection/snagging but must be reinstated and maintained thereafter.

1.8 ERECTION ON SITE

- 1.8.1 Check all dimensions of components and openings prior to commencing installation of any joinery works. Report any discrepancies to the Architect.
- 1.8.2 Nailing of joinery components will not be permitted if nails will be on exposed surfaces of the completed installation, with the exception of beads to panels or glazing. In these circumstances pins shall be punched below the surface of the wood and the hole filled with a suitable filler to match precisely the colour of the timber. Ensure that the filler is capable of receiving the specified finish and that it will not vary from the colour of the finished product on completion of all finishing treatments.
- Any areas subsequently found not to match will be replaced at the contractor's expense.
- 1.8.3 Where nailing of joints etc. is permitted, use not less than 2 nails and opposed skew nailing unless otherwise specified. Drive nails carefully to ensure that there is no splitting or crushing of the materials being fixed. Punch nail heads below the surface.
- Any components which are split during nailing will not be accepted for final installation.

1.9 WINDOW REPAIRS GENERALLY

1.9.1 REPLACEMENT WINDOW INSTALLATION:

Standard: To BS 8213-4.

1.9.2 REPAIRS TO EXISTING PAINTED WOOD WINDOWS:

Manufacturer: Repair Care. Unit 19, Darwell Park, Mica Close, Amington, Tamworth, Staffordshire, B77 4DR. Tel: 01827302517. E: salesuk@repair-care.com

- Product: Dry Fix / Flex 4.
- Method: Refer to manufacturers document 'a guide to specifying pre-paint repairs'. All contractors who are expected to carry out the work should be familiar with the System prior to tendering and be fully trained before commencing on site.
- Locations: To be agreed in advance with CA.

1.9.3 TIMBER REPAIRS GENERALLY:

The purpose of repair is to replace or reinforce those parts of the window or door that have decayed so badly that they can no longer function as intended.

Wherever possible, repairs to window frames should be carried out in-situ, particularly where the frame is inbuilt and cannot be easily removed without damaging the window or the surrounding wall. Sashes and casements can usually be removed without damage for repair either onsite or in a joiner's workshop.

Prior to undertaking any works. The windows in question should be carefully recorded with photographs and some basic measurements. Sashes, casements and other parts should be appropriately labelled to ensure that they go back in the correct positions. Any historic glass and its characteristics should also be recorded.

Following assessment of each window including identification of areas of decay / missing timber components / damaged glass etc, appropriate repair works can be proposed which suit the situation. In most instances the decayed timber in question can be salvaged in-situ with resin-based repairs undertaken.

Types of repairs include the following;

- Spliced repairs
- Resin-based repairs
- Wholesale replacement – like-for-like

1.9.3.1 **Spliced Repairs (timber to timber repairs);**

Repairs should be made by carefully cutting away damaged or decayed timber and piecing in timber inserts which are shaped to obtain the maximum strength and match the existing profiles. The new timber should be worked to the line of the existing timber following any existing deformations in the line of the window.

Timber inserts should be designed so that water is directed towards the outer face of the timber and cannot lie on or enter the repair joint.

Timber inserts should ideally match / be similar to the host material to which it is replacing in species, moisture content, grain orientation and growth rate. Inserts should be glued to the host material, screwed and or pinned with stainless steel fixings. Loose joints in otherwise sound joinery should be reassembled, glued and wedged or secured with pins as appropriate. See 'Image 100' for typical splice repair details.

1.9.3.2 **Resin-Based Repairs;**

The use of Resin repairs is to be considered where, small areas of loss can be made good with fillers as opposed to cutting out and splicing in new timber. The decay is to be cut away and proprietary polyester or epoxy resin repair undertaken. This is an effective way of maximising the amount of original fabric retained. Refer to section 1.9.2 above for proposed product and guidance.

1.9.4 **FILLING AND PATCHING:**

- Fill small holes less than 3mm dia and scratches in polished timber with Brummer filler.
- Fill larger holes 3mm to 15mm with tapered pellets fitted so that the grain runs with the filled timber. Select pellets from identical timber matched for grain and colour. Glue pellets, finish flush with surface.
- Fill larger holes with patches of identical timber let into the surface. Patches must taper in depth and be glued and must be matched for grain and colour. Finish flush with surface.

1.9.5 NEW TIMBER SECTIONS:

- New items must be exactly as drawn. Full size sections must match exactly.
- New items made to match must be copied exactly in all particulars. Carvings must be identical in all aspects to the original.
- New items must be finished by hand. All machine marks must be removed. A surface which is not dead flat is preferred.

1.9.6 GENERAL REQUIREMENTS FOR WORKMANSHIP:

- It is essential that as much of the original work as possible should be protected and preserved.
- The desired finished result is not that the woodwork should look new. It should look as old as it is but well cared for.

1.9.7 QUALITY STANDARDS:

Reference is made to the following documents which establishes the desired approach and standards in the repair of historic timber windows;

- SPAB Technical Pamphlet No.13 – repair of wood windows.
- Historic England – traditional windows, their care, repair and upgrading.

It is expected that a copy will be obtained by the contractor for retention and use on site and will be brought to the attention of relevant labourers.

1.9.8 RENEW HARDWOOD TIMBER BEADS:

Species: Well-seasoned European Oak.

Renew to match existing – all dimensions, mouldings and fixing details.

Record works photographically and log location and date as appropriate.

1.9.9 HARDWOOD FOR JOINERY REPAIRS:

Species: Well-seasoned European Oak.

Quality: Generally, to BS EN 942' free from decay and insect attack.

- Appearance class: Class J2.

Treatment: British Wood Preserving and Damp Proofing Association Commodity Specification C8; Service life: 60 years.

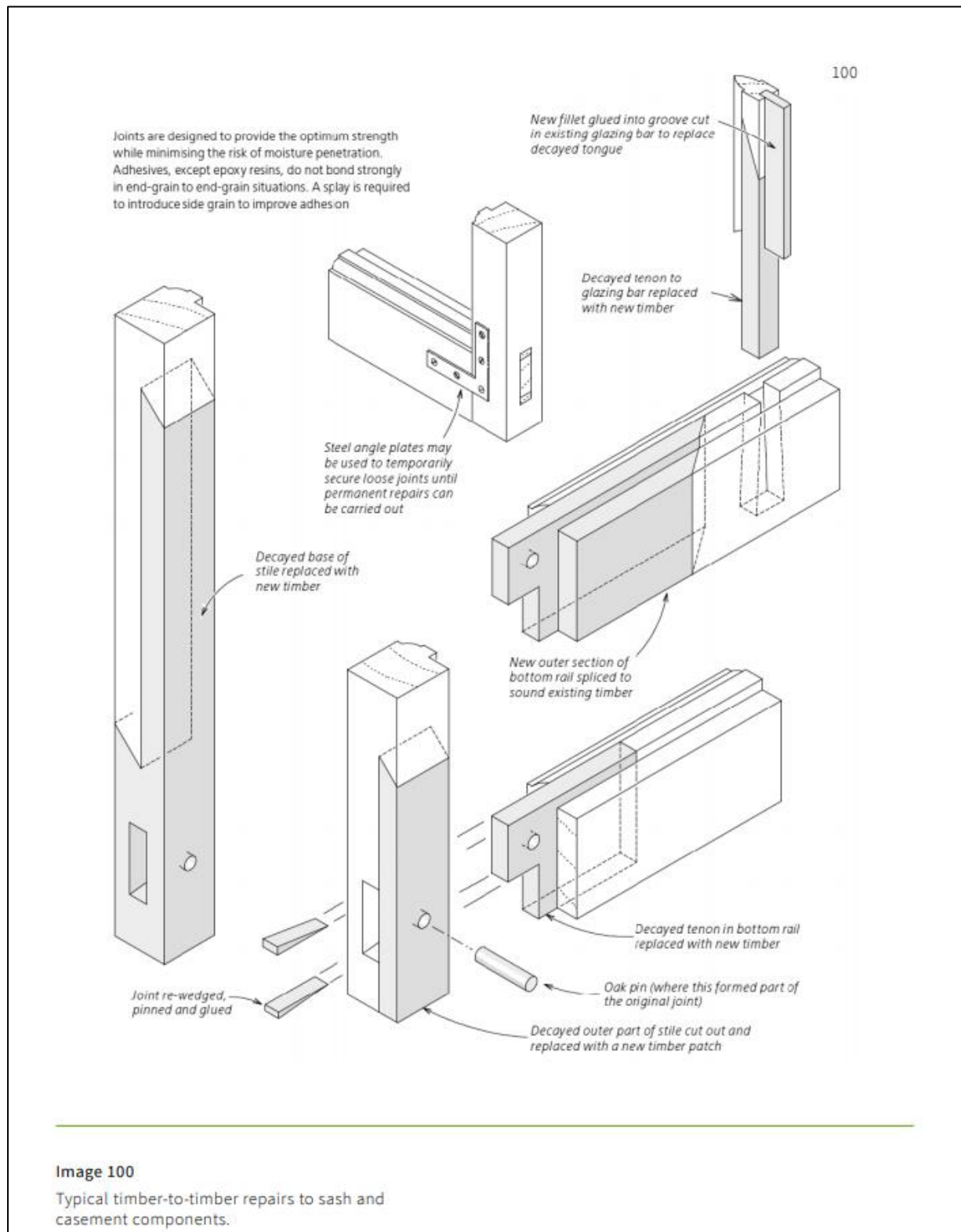
Moisture content on delivery: 12-16%.

1.9.10 REPAIR OF MEMBERS – CUTTING OUT MEMBERS:

- Extent of timber removal: Cut out full cross section of member where wood is defective or decayed, plus 50mm of sound wood.
- Distance from face of support to cut end of existing timber: Obtain instructions if dimension exceeds 200mm.

TENDER

Extract from 'Historic England – Traditional Windows repair document'



RS6 PAINT AND CLEAR FINISHING

1. PAINT(S)

1.1 SATIN PAINT: [NEW / EXISTING EXTERNAL JOINERY (DOORS, WINDOWS, COMPONENTS ETC)]

Manufacturer:

Dulux Trade

Akzonobel

Wexham Road

Slough

Berkshire

SL2 5DS

E: duluxtrade.advice@akzonoble.com

Tel: 0333 222 7070

- Product reference:

Finishing Coat - ['Sikkens Rubbol Satura Plus']. Colour: TBC with Architect.

Undercoat – ['Sikkens Rubbol Primer Plus'].

To be read in conjunction with manufacturers recommendations.



rubbol_satura_plus.
pdf



rubbol_primer_plus
.pdf

Surface Preparation:

The timber surface must be abraded, clean and dry and free from dust, dirt, wax and grease. Remove surface mould and algae using a fungicidal solution. The moisture content of the timber must not exceed 18%. This figure will be 14% or lower for interior timbers. Resinous residues may be removed using a suitable solvent. Knotting may be used to reduce extractive discolouration, however, knotting is not always fully effective in "sealing in" resin. Degrease any exposed bare timber surface by wiping with a cloth dampened in a suitable solvent. Certain timber species contain high levels of natural wood extractives or exudates and some softwood can be highly resinous

New Timber:

Where a preservative treatment to softwood and hardwood is necessary, such as timbers in Durability Class 3, Class 4 (in ground contact) and 5 (marine) apply Cetol WP 567 BPD Impregnating Primer at a rate of 120 – 160 ml / m2. Cetol WP 567 must be fully dry before the application of Rubbol Primer plus.

Do not use on substrates which have had water-repellent preservative pre-treatments applied. Where possible, the first coat should be applied to all parts of the component prior to fixing.

Note: Discoloration of paint especially noticeable within light colours may occur over knots and resinous areas present in the wood. Particular attention with regards to

preparation should be given to wood such as Oak, Teak, Cedar, Douglas Fir, Mahogany and Idigbo, etc., which contain oil and water-soluble tannin which may impair the drying, hardening or adhesion of surface coatings and discolour the finished surface.

Damaged and Decayed Timber:

All damaged or decayed timber must be removed and replaced, cutting at least 25mm into sound timber. When splicing in new sections consider whether the timber species' natural durability is sufficient. Brush apply Cetol WP 567 BPD Impregnating Primer at a rate of 120 – 160 ml / m².

Thoroughly treat timbers, especially end grain sections, and ensure they are fully dry before splicing in. Secure with non-ferrous fixings and fill all voids surrounding the spliced-in area with the Componex WR Primer/Filler system.

Previously Coated Surfaces:

De-nib using a fine grade nylon abrasive pad or a fine grade (P240 or finer) wet or dry silicon carbide abrasive paper, in the direction of the grain. Do not break through the surface coating. Remove all dust.

Where there is localised damage, or deterioration has occurred as a result of exposure of the factory coating for longer than 3 months affected areas should be thoroughly sanded back to a sound substrate.

1.1.2 SATIN PAINT [EXISTING / NEW INTERIOR PAINTED WOODWORK / METALWORK]

Manufacturer:

Dulux Trade

Akzonobel

Wexham Road

Slough

Berkshire

SL2 5DS

Tel: 0333 222 7070

Email: duluxtrade.advice@akzonobel.com

- Product reference: [Dulux Satinwood].

Surfaces: [New and unpainted interior woodwork and metalwork].

Colours: [to be dealt with on a room by room basis – exact colours TBC. – SAMPLE PANELS TO BE CARRIED OUT].

- Preparation:

To be read in conjunction with manufacturers recommendations.



dulux-trade-satinw
ood-tds.pdf

Primer and Undercoat:

New or bare surfaces should be primed with an appropriate Dulux Trade primer.

New or unpainted interior wood:

To get the best results, ensure surfaces to be painted are sound, clean and dry (new surfaces particularly must be fully dry) and free from all defective or poorly adhering material such as dirt, grease and wax. New or bare surfaces should be primed with an appropriate **Dulux Trade** primer. Thoroughly rub down previously painted surfaces, using 'wet flattening' methods where possible, then wipe off with a damp, lint free cloth. Special precautions should be taken during surface preparation of pre-1960s paint surfaces over wood and metal as they may contain harmful lead. Any surface defects should be filled with an appropriate **Polycell Trade Polyfilla**.

Previously painted interior wood:

Ensure all surfaces are sound, clean, dry and free from dirt, grease and other contamination. Remove any areas of old paint which are peeling or blistering as flaking or peeling can occur if you paint over weak paint layers. Blend and 'feather' the edges of areas of old paint, as this helps to smooth out the surface.

Fill any cracks, holes and open joints with an appropriate filler. Lightly sand the surface to improve paint adhesion. Patch prime any bare knotty or resinous areas.

Note: For metalwork follow manufacturer's "Dulux Trade" advice for surface preparation prior to redecoration.

1.1.3

SATIN PAINT [EXISTING / NEW FERROUS METALS (BALUSTRADING / DECORATIVE ELEMENTS ETC)]

Manufacturer: [Dulux Trade as 1.1.1].

Surfaces: [Existing / new ferrous metals].

Colours: [to be dealt with on a room by room basis – exact colours TBC. – SAMPLE PANELS TO BE CARRIED OUT].

Product reference: [Metalshield Satin]

- Preparation:

To be read in conjunction with manufacturers recommendations.



541 - Dulux
Metalshield Satin.pc

Primer and Undercoat:

New or bare surfaces should be primed with an appropriate **Metalshield** primer from Dulux Trade.

New or unpainted metalwork:

To get the best results, ensure surfaces to be painted are sound, clean and dry (new surfaces particularly must be fully dry) and free from all defective or poorly adhering material such as dirt, grease or wax. New or bare surfaces should be primed with an appropriate Metalshield primer from Dulux Trade. Thoroughly rub down previously painted surfaces, using 'wet flattening' methods where possible, then wipe off with a damp, lint free cloth. Special precautions should be taken during surface preparation of pre-1960s paint surfaces over wood and metal as they may contain harmful lead.

1.1.4 EMULSION PAINT: [TO NEW PLASTERBOARD AND SKIM SURFACES]

Manufacturer: [Dulux].

- Product reference: [Dulux Trade Vinyl Matt].

Surfaces: [New plasterboard and skim surfaces].

- Preparation: [Wash down surfaces.] .

Initial coats: [10% thinned primer] .

- Number of coats: [1] .

Undercoats: [none] .

- Number of coats: [n/a] .

Finishing coats: [Dulux Trade Vinyl Matt] .

- Number of coats: [2] .

1.1.5 PAINT TO CAST IRON FRAME, ELEMENTS AND COMPONENTS

Refer to section [RS4](#) above for further details on preparation and redecoration of existing cast iron items.

1.2 **GENERALLY**

1.2.1 HANDLING AND STORAGE

Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number. Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

1.3 **COMPATIBILITY**

Coating materials selected by contractor:

-Recommended by their manufacturers for the particular surface and conditions of exposure.

-Compatible with each other. -Compatible with and not inhibiting performance of preservative/fire retardant pre-treatments.

1.4 **PROTECTION**

'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

1.5 **INSPECTION BY COATING MANUFACTURERS**

General: Permit manufacturers to inspect work in progress and take samples of their materials from site if requested.

1.6 PREPARATION

1.6.1 PREPARATION GENERALLY

Standard: To BS 6150, Section 4.

Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.

Substrates: Sufficiently dry in depth to suit coating.

Efflorescence salts: Remove.

Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.

Surface irregularities: Abrade to a smooth finish.

Joints, cracks, holes and other depressions: Fill with stoppers/ fillers. Work well in and finish off flush with surface. Abrade to a smooth finish.

Dust, particles and residues from abrasion: Remove.

-Fill with stoppers/ fillers. Work well in and finish off flush with surface.

-Abrade to a smooth finish.

Water based stoppers and fillers:

-Apply before priming unless recommended otherwise by manufacturer.

-If applied after priming: Patch prime.

Oil based stoppers and fillers: Apply after priming.

Doors, opening windows and other moving parts:

-Ease, if necessary, before coating.

-Prime resulting bare areas.

1.7 EXISTING IRONMONGERY

Refurbishment: Remove old coating marks. Clean and polish.

1.8 PREVIOUSLY COATED SURFACES GENERALLY

Preparation standard: To BS 6150, Section 6.

Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.

Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.

Alkali affected coatings: Completely remove.

Contaminated surfaces: Give notice of:

-Coatings suspected of containing lead.

-Substrates suspected of containing asbestos.

-Significant rot, corrosion or other degradation of substrates.

Retained coatings:

-Thoroughly clean to remove dirt, grease and contaminants.

-Gloss coated surfaces: Abrade to provide a key.

Partly removed coatings:

-Additional preparatory coats: Apply to restore original coating thicknesses.

-Junctions: Abrade to give a flush surface.

Completely stripped surfaces: Prepare as for uncoated surfaces.

1.9 PREVIOUSLY COATED WOOD

Degraded or weathered surface wood: Abrade to remove.

Degraded substrate wood: Repair with sound material of same species.

Exposed resinous areas and knots: Apply two coats of knotting.

1.10 PREPRIMED WOOD

Areas of defective primer: Abrade back to bare wood and reprime.

1.11 UNCOATED WOOD

General: Abrade to a smooth, even finish with arrises and moulding edges lightly rounded or eased.

Heads of fasteners: Countersink sufficient to hold stoppers/fillers.

Resinous areas and knots: Apply two coats of knotting.

1.12 ORGANIC GROWTHS

Dead and loose growths and infected coatings: Scrape off and remove from site.

Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.

Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

1.13 PREVIOUSLY PAINTED WINDOWS FRAMES

Paint encroaching beyond glass sight line: Remove.

Loose and defective putty: Remove.

Putty cavities and junctions between previously painted surfaces and glass: Clean thoroughly.

Finishing:

-Patch prime, re-putty as necessary, and allow to harden.

Seal and coat as soon as sufficiently hard.

1.14 APPLICATION

1.14.1 COATING GENERALLY

Application standard: To BS 6150, Section 5.

Conditions: Maintain suitable temperature, humidity and air quality during application and drying.

Surfaces: Clean and dry at time of application.

Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.

Overpainting: Do not paint over intumescent strips or silicone mastics.

Priming coats:

-Thickness: To suit surface porosity.

-Application: 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.

1.15 PRIMING JOINERY

Preservative treated timber: Retreat cut surfaces with two flood coats of a suitable preservative before priming.

End grain: Coat liberally allow to soak in, and recoat.

1.16 WORKSHOP COATING OF CONCEALED JOINERY SURFACES

General: Apply coatings to all surfaces of components.

- 1.17 CONCEALED METAL SURFACES**
 General: Apply additional coatings to surfaces that will be concealed when component is fixed in place.
 -Components: Backs of rainwater pipes.
 Additional coatings: n/a.
- 1.18 EXTERNAL DOORS**
 Bottom edges: Prime and coat before hanging doors.
- 1.19 BEAD GLAZING TO COATED WOOD**
 Before glazing: Apply first two coats to rebates and beads.
- 1.20 PUTTY GLAZING**
 Setting: Allow putty to set for seven days.
 Sealing:
 -Within a further 14 days, seal with an oil based primer.
 -Fully protect putty with coating system as soon as it is sufficiently hard.
 Extend finishing coats on to glass up to sight line.
 Install putty.

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