

**Employer:** Mr D. Crane on behalf of Llangollen Museum

**Project Address:** Llangollen Museum, Parade Street, Llangollen, LL20 8PW

**Project name:** 24021- Llangollen Museum, Parade Street, Llangollen, LL20 8PW

## 24021- Specification

# Llangollen Museum, Parade Street, Llangollen, LL20 8PW

Scott Architecture Limited

### *Containing:*

A9 General requirements  
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G1 Packaged frames and structural steelwork  
G2 Structural timber and general carpentry  
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H6 Slate and tile pitched roof coverings and cladding  
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K1 Wood internal flooring, linings and trim  
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M6 Painting, staining and varnishing  
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R1 Above and below ground drainage  
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T9 Heating systems  
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V9 Electrical systems

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## A9 General requirements

**Contractor's insurance – Injury to persons or property (to be confirmed by specialist insurance broker prior to commencement of works):**

- Insurance cover: For any one occurrence or series of occurrences arising out of one event
- Amount: Not less than £2,000,000
- Insurance provisions: TO BE CONFIRMED WITH EXISTING HOME INSURANCE AND CONTRACTORS INSURANCE PRIOR TO COMMENCEMENT OF WORKS:  
*1) All risks works insurances by Contractor in Joint Names between contractor and employer and 2) Existing structures insurance by Employer in own name applies.*

### System Outline

#### 102 General requirements

- Requirement: Comply with obligations relating to the project as a whole, detailed in the following 'Execution' clauses.

### Execution

#### 602 Significant hazards of the design

- Some of the Hazards to be considered: See Pre-Construction Information and H&S Risk Assessment.

#### 604 Existing services

- Pre-commencement notifications to service providers:  
-Party responsible for notifications:  
Cable: Employer.  
Electricity: Employer.  
Gas: Employer.  
Sewage: Employer.  
Telephones: Employer.  
Water: Employer.  
-Timing: In sufficient time not to delay progress.
- Identification of services: Before starting work, check and mark positions of services. Where positions are not shown on drawings, obtain relevant details from service authorities, statutory undertakers or other owners.

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**606 Undocumented defects in existing work**

- Reporting undocumented defects: When discovered, immediately give notice. Do not proceed with affected related work until response has been received.

**608 General quality**

- Sizes:
  - General dimensions: Nominal.
  - Cross section dimensions of timber: Finished dimensions.

Accuracy and fit:

- Tolerances and dimensions: If likely to be critical to execution or difficult to achieve, as early as possible either submit proposals, or arrange for inspection of relevant aspects of partially finished work.
- General tolerances (maximum): To BS 5606 ' Accuracy in building', tables 1 and 2.

Execution generally:

- Fixing: Fix, apply, install or lay components securely, accurately, plumb, neatly and in alignment.
- Colour batching: Do not use different colour batches where they can be seen together.
- Dimensions: Check on-site dimensions.
- Finished work: Not defective, e.g. not damaged, disfigured, dirty, faulty or out of tolerance
- Ducts, chases and holes: Form during construction rather than cut. Where cutting/ drilling is necessary submit proposals before beginning operation.

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**610 Proprietary products**

Products generally:

- Source: Obtain products of each type from the same source or manufacturer.
- Quality: Consistent kind, size, quality and overall appearance.
- Product tolerances: Where critical, measure a sufficient quantity to determine compliance.

Manufacturers' recommendations:

- General: Unless otherwise specified comply with manufacturers' current printed recommendations and instructions. Keep copies on site.
- Changes to recommendations or instructions since close of tender: Submit details.
- Ancillary products and accessories: Unless otherwise specified use those supplied or recommended by main product manufacturer.
- Agrément certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.
- Conflict with other requirements: In the event of conflict with other specified requirements seek advice/ instruction.

Substitution:

- Products:
  - Argument for substitution: If an alternative product to that specified is proposed, submit reasons for proposal.
  - Samples: Submit samples of proposed alternative.
  - Documentation: Submit relevant documentation including manufacturer and product reference, cost, availability, relevant standards and copy of warranty/ guarantee.
  - Approvals: Obtain approval before ordering alternative products.
- Work:
  - Argument for substitution: If alternative work to that specified is proposed, submit reasons for proposal.
  - Approvals: Obtain approval before execution.

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**612 Moisture content of wood and wood based products generally**

- Requirement: Unless otherwise specified the moisture content of all wood and wood based products at time of fixing is not to exceed the values given below.
- Structural wood and wood based boards:
  - Location:
    - External fully exposed: 20%
    - Covered and generally unheated: 18%
    - Covered and generally heated: 15%
    - Internal and continuously heated: 12%
- Joinery:
- Location:
  - External: 12-19%
  - Internal in unheated areas: 12-16%
  - Internal heated rooms 12-21°C: 9-13%
  - Internal heated rooms over 21°C: 6-10%

*Total for A9 General requirements:*

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## D2 Site Preparation

### System Outline

#### 104 Demolition (carefully dismantled)

- Drawing references: See drawings issue sheet.
- Method statement: Required.
- Structures to be removed: As drawings, in accordance with structural engineers design and specification

#### 106 Stripping out

- Drawing references: See drawings issue sheet.

#### 110 Grading and levelling

- ALL LEVELS TBC ON SITE

### Execution

#### 602 Demolition (carefully dismantled)

- **Demolitions:**
  - Standard: In accordance with relevant parts of BS 6187.
  - Method statement content: Cover condition and methods of demolition of the structure, methods of removal of hazardous materials, methods of protection for personnel and the public.

#### 604 Stripping out

- Materials and fittings designated to remain the property of the Employer: Protect until removed by the Employer or end of contract.
- Other components and materials arising: Property of the Contractor.

#### 606 Site Clearance

- Walls and pavings to be removed:
  - Method: Break up and reuse in the works. Otherwise remove from site.
  - Around trees: Do not remove topsoil from below the spread of retained trees.

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- **607 Temporary Protection**

Provide temporary secure timber partition with lockable door- stud wall with ply and polythene sheet (dust protection) to be taped around edges. As required between works and Museum and between works and surrounding land/ pavement/ properties.

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# F1 Masonry Walling

## System Outline

### 102 External cavity walling

- Drawing references: See drawing issue sheet
- Parameters: As clause 602.
- Walling below ground:
  - Type: As drawings.
  - Masonry units: As drawings.
  - Mortar: To match existing
- Dpc at ground floor: Flexible dpcs as clause 388.
- Walling above ground:
  - External leaf above ground:  
Masonry units: As drawings.  
Bond or coursing: To match existing
  - Internal leaf above ground:  
Masonry units: As drawings. In accordance with structural engineers design and specification
  - Wall ties: Insulation retaining as cause 322.
  - Cavity insulation: As drawings.
  - Ventilation: See drawing issue sheet

#### Openings:

- Lintels:  
Type: As drawings.  
Cavity tray over: Flexible as clause 330.
- Cavity closers: See drawing issue sheet
- Sills:  
Type: As drawings.  
Dpc below: Flexible as clause 338.
- Abutments:
  - Cavity trays and dpcs: Flexible cavity trays as clause 330.
  - Flashings built into masonry: As drawings.

### 118 New Openings in existing walls/ alterations

- Drawing references: See drawing issue sheet. In accordance with structural engineers design and specification
- Method statement: Submit.

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## **Products**

### **322 Insulation retaining wall ties**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 845-1.

### **352 Air bricks**

See drawing issue sheet

## **Execution**

### **602 External walling parameters**

- External walling:
  - Cavity walling below ground:
    - External leaf width: As drawings.
    - Cavity width: As drawings.
    - Internal leaf width: As drawings.
  - Solid walling below ground:
    - Wall width: As drawings.
  - Cavity walling above ground:
    - Wall width: As drawings.
    - External leaf width: As drawings.
    - Internal leaf width: As drawings.
  - Wall width: As drawings.

### **606 Laying brickwork and blockwork**

#### **General**

- Mortar joints: Lay units on full bed. Fill vertical joints.
- Lift heights (maximum):
  - Relative: Not more than 1.2 m above adjacent leaf in cavity walling.
  - Total: Not more than 1.5 m daily.
- Facework:
  - Lowest courses: As drawings.
  - Coursing: Plump, with consistent appearance.
  - Cleanliness:
    - Walling units: Keep clean.
    - Cavities: Keep face, ties and dpcs free from mortar and debris.

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### **612 Bedding and masonry wall ties**

- Placement: Embed 50 mm (minimum) in mortar beds and slope slightly downwards towards outer leaf. Set with drip within residual cavity and pointing downwards.
- Spacing for fully filled and unfilled cavities: Stagger in alternate courses. Horizontal centres, 750 mm (maximum); vertical centres, 450 mm (maximum).
- Spacing for partially filled cavities: Space evenly in non-staggered rows. Horizontal centres, 600 mm (maximum); vertical centres, 450 mm (maximum).
- Additional ties: At 300 mm (maximum) vertical centres within 225 mm of reveals of unbonded openings/ edges.

### **626 Placing partial fill cavity insulation**

- Cavity: Clean. Remove mortar projections from faces of cavity. Remove mortar droppings from wall ties.
- Partial fill cavity insulation:
  - Jointing insulation boards or batts: Butted.
  - Insulation placement: Secure against face of inner leaf.
  - Residual cavity: in accordance with manufacturers recommendations, clear and unobstructed.

See drawing issue sheet

### **634 Removing masonry units**

- Adjacent masonry:
  - Mortar joints: Do not damage or widen.
  - Old mortar: Remove.
  - Cavities: Keep clean.

### **644 Repointing masonry walling**

- Preparation: Cut out joints to 15-20 mm depth. Clean and dampen joints sufficiently to control suction.
- Cracked units in existing facework: Cut out and replace with matching masonry before repointing.

See drawing issue sheet

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# G1 Packaged frames and structural steelwork

## System Outline

### 110 Steel beams

- Drawing references: See drawing issue sheet
- Precast concrete padstones: In accordance with structural engineers design and specification

In accordance with structural engineers design and specification

### 112 Steel beams supporting roof joists

- Drawing references: See drawing issue sheet
- Precast concrete padstones: In accordance with structural engineers design and specification

In accordance with structural engineers design and specification

### 114 Steel purlins supporting rafters

- Drawing references: See drawing issue sheet
- Precast concrete padstones: In accordance with structural engineers design and specification

In accordance with structural engineers design and specification

## Products

### 306 Hot rolled steel sections

- Standards:
  - Steel: To BS EN 10025-2, grade S275 JR.
  - Dimensions: To BS 4-1.

In accordance with structural engineers design and specification

### 310 Precast concrete padstones

In accordance with structural engineers design and specification

### 312 Bolt assemblies

In accordance with structural engineers design and specification

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**Execution**

### 606 Preparing and installing hot rolled steel sections

- Fabrication:
  - Cuts and holes: Accurate and neat.
- Welding
  - Standard:  
Welded joints: Fully fused, with mechanical properties at least those of the parents metal.  
Site welding: Do not weld when surfaces are wet or when ambient temperature is below 0°C.
- Galvanizing:
  - Standard:  
Preparation: Chemical cleaning.  
Mean coating thickness (minimum): 85 µm.
- Shop priming:
  - Preparation: Remove loose scale, loose rust, burrs, fins, sharp edges and weld spatter. Clean out crevices.  
Thoroughly degrease surfaces, rinse using clean water and allow to dry.
  - Priming: One full coat within eight hours of preparation.
- Installation:
  - Accuracy: Position members true to line. If necessary, level with steel packs of sufficient area to allow full transfer of loads to bearing surfaces.
  - Washers:  
Tapered washers: For bolt heads and nuts bearing on sloping surfaces. Match taper to slope angle and align correctly.

In accordance with structural engineers design and specification

*Total for G1 Packaged frames and structural steelwork:*

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## G2 Structural timber and general carpentry

### System Outline

#### 106 Timber joist ceiling structure

- Drawings references: See drawing issue sheet

In accordance with structural engineers design and specification

#### 108 Timber joist roof structure

- Drawings references: See drawing issue sheet

In accordance with structural engineers design and specification

#### 118 Timber stud internal partition structure

- Drawings references: See drawing issue sheet

### Products

#### 302 Roof joists

- Source: Contractor's choice.
- Certification: Forestry Stewardship Council (FSC) chain of custody.

In accordance with structural engineers design and specification

#### 310 Rigid sheets for floor bases

- Source: Contractor's choice.- Must be in accordance with flat roof covering requirements. Ensure no impact on warranties.

In accordance with structural engineers design and specification

#### 316 Ceiling joists

- Source: Contractor's choice.

In accordance with structural engineers design and specification

#### 318 Rafters

- Source: Contractor's choice.
- Certification: Forestry Stewardship Council (FSC) chain of custody.

In accordance with structural engineers design and specification

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**342 International partition framing**

- Condition when fixing: Straight and true, without warping or twisting.

See drawing issue sheet

**350 Wall plates**

See drawing issue sheet

**352 Insulation to roof**

- Manufacturer: See Building Regulations Text Document.
- Product range or reference: See Building Regulations Text Document.
- Type: As drawings
- Thickness: See drawing issue sheet

**364 Lateral restraint straps to joists**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Material: Manufacturer's standard.
- Size: To suit connection.

To approval of structural engineer/ building control officer

**368 Vertical restraint straps to rafters**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Material: Manufacturer's standard.
- Size: To suit connection.

To approval of structural engineer/ building control officer

**370 Vertical restraint straps to wallplates**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Material: Manufacturer's standard.
- Size: To suit connection.

To approval of structural engineer/ building control officer

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### **372 Preservative treatment**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Treatment regime:
  - Timber for general construction: To Wood Protection Association (WPA) Commodity Specification C8.
  - Timber frame external walls: Timber for general construction: To Wood Protection Association (WPA) Commodity Specification C9.
- Preservative solutions for site application to cut timbers: As recommended for the purpose by main treatment solution manufacturer.

### **Execution**

#### **602 Setting out floor and ceiling joists**

In accordance with structural engineers design and specification

#### **606 Setting out roof members**

In accordance with structural engineers design and specification

#### **612 Fixing timber joists generally**

- Standard: In accordance with BS 8103-3.
- Bowed joists: Do not use.
- Fixing:
  - Joists on hangers:

Hangers: Bed directly on, and hard against, supporting construction. Do not use packs. Do not bed on mortar.

Joists: Cut to leave 6 mm (maximum) gap at each end. Rebate to lie flush with underside of hangers. Fix to hangers with a nail in every hole.
  - Building in: Cut out pockets in existing masonry if necessary. Ensure masonry at bearing is fully bonded. Wrap joist ends in dpc material. Pack to level. Make good to masonry.
- Outer joists against masonry walls:
  - Packing at restraint strap positions: Insert softwood folding wedges between joist and masonry and fix solid blocking between joists along full length of each strap.
  - Packing at internal walls: Insert softwood folding wedges between joist and masonry on line of strutting at 2 m (maximum) centres.

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**614 Fixing common rafters generally**

- Standard: In accordance with BS 8103-3.
- Bowed rafters: Do not use.
- Outer rafters against masonry gable walls: Position about 50 mm from masonry.
- Packing at restraint strap position: Insert softwood folding wedges between end rafters and masonry and fix solid blocking between rafters along full length of each strap
- Fixing to timber supports: Use framing anchors or skew nail.

**622 Fixing rigid sheet roof decking generally**

- Setting out: Fully support long edges at right angles to structure. Support end edges. Stagger end joints.
- Fixing: Fasteners at 150 mm (maximum) centres to edges and at 200 mm (maximum) centres at supports.

*Total for G2 Structural timber and general carpentry:*

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# H2 Board and sheet external cladding and soffits

## System Outline

### 108 Fascia boards

- Drawing references: See drawing issue sheet

### 110 Soffit boards

- Drawing references: See drawing issue sheet

## Products

### 320 Aluminium fascia, soffit

- Manufacturer: Contractor's choice, to the approval of the client.
- Certification: Agrément certified.

To match existing

### 336 Breather membranes

See drawing issue sheet

### 338 Cavity barriers

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.

See drawing issue sheet

### 346 Wood preservative treatment

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Type: To Wood Protection Association Commodity Specification C8.

### 348 Wood fire retardant treatment

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Type: To Wood Protection Association Commodity Specification FR5.

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**Execution**

**602 Fixing, fascia boards, soffit bards a**

- General: Fix securely to give flat, true surfaces free from undulations, lipping, splits, hammer marks and protruding fasteners.
- Movement: Allow for movement of boards and fixings.
- Heading joints: Position centrally over supports and at least two board widths apart on any one support.
- Finishing system: Before fixing boards, apply appropriate primer/ base coat sealant to all surfaces. Apply liberally to end grain.

STRICTLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

**612 Fixing breather membranes**

- Installation: Provide a complete barrier to water, snow and wind blown dust. Extend membrane below bottom edge of cladding and into reveals of openings.
- Laps: Horizontal, 100 mm; vertical, 150 mm and staggered.

See drawing issue sheet

**614 Retreating preservative treated wood**

- Surfaces exposed by minor cutting or drilling: Apply two flood coats (minimum) of recommended treatment solution.

*Total for H2 Board and sheet external cladding and soffits:*

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# J1 Roof covering

## System Outline

### 104 Single ply warm deck flat roof covering

- Drawing references: See drawing issue sheet
- Vapour control: As drawings.
- Insulation: As drawings.
- Trim: Softwood timber trims and filets, preservative treated after machining, free from wane, pitch pockets, decay and insect attack.

Installed by approved installer in accordance with manufacturers recommendations, warranty to be provided to client upon completion.

## Products

### 302 Warm deck insulation

- Manufacturer: See Building Regulations Text Document
- Product range or reference: See Building Regulations Text Document
- Type: As drawings.
- Thickness: As drawings.

### 306 Vapour control layer and breather membrane

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Type: As drawings.

### 310 Single ply roof covering

- Manufacturer: Client approval required. Examples/ samples to be provided to client.
- Certification: Agrément certified.

## Execution

### 602 General

- Substrates: Secure, clean, dry, smooth, free from frost, contaminants, voids and protrusions.
- Adverse weather: Do not lay coverings in high winds, wet or damp conditions or in extremes of temperature unless effective temporary cover is provided over working area. Keep unfinished areas dry.

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**604 Laying vapour control layer**

- Polyethylene membranes:
  - Attachment: Loose lay with sealed joints.
  - Laps (minimum): Fully seal.
  - Penetrations: Fully seal.

In accordance with manufacturers recommendations

**606 Laying insulation boards**

- Jointing: Butt together.
- Exposed edges: Enclose with vapour control layer to provide a continuous seal when overlapped by roof covering.
- Bedding: Fully bond to vapour control layer.

In accordance with manufacturers recommendations

**610 Laying single ply membranes**

- Adhesive bonding: Continuous, even coating of adhesive. Do not wrinkle or stretch membrane.
- Surface condition at completion: Fully sealed, smooth, weatherproof and free draining.

In accordance with manufacturers recommendations

*Total for J1 Roof coverings:*

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# K1 Wood internal flooring, linings and trim

## System Outline

### 102 Timber flooring

- Drawing references: See drawing issue sheet- finishes schedule

### 112 Softwood board wall linings

- Drawing references: See drawing issue sheet- finishes schedule
- Grounds

Pretreatment: To Wood Protection Association Commodity Specification C8.

- Lining boards: Softwood as clause 316.
- Treatment to boards: As drawings.

### 118 Wood and wood based trim

- Drawing references: See drawing issue sheet- finished as per finishes schedule.
- Architraves: Softwood as clause 334.
- Skirtings: Softwood as clause 336.
- Window boards: Softwood as clause 338.

## Products

### 334 Softwood architraves

- Manufacturer: Contractor's choice- to approval of client.
- Product range or reference: Contractor's choice.
- Standard: To BS 1186-3.
- Species: Softwood.

To match existing

### 336 Softwood skirtings

- Manufacturer: Contractor's choice- to approval of client.
- Product range or reference: Contractor's choice.
- Standard: To BS 1186-3.

To match existing

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**338 Softwood window boards**

- Manufacturer: Contractor's choice- to approval of client.
- Product range or reference: Contractor's choice.
- Standard: To BS 1186-3.

To match existing

**340 Acoustic insulation for flooring**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice
- Type: 25 mm mineral fibre quilt. To approval of building control officer.

**Execution**

**602 Priming and sealing concealed surfaces**

- Surfaces of linings and trim inaccessible after installation: Prime or seal before fixing components.

**604 Setting out board and sheet flooring**

- Long edges: Run across joists.
- End joints: Set out centrally over joists and stagger joints of adjacent boards or sheets.
- Expansion provision: Allow 10 mm clear expansion gap around floor perimeter.

**610 Fixing wood board flooring**

- Fixing to joists: Two fasteners to each board at each joist.

**612 Setting out board and sheet linings**

- Long edges: Run across studs or joists.
- End joints: Set out centrally on studs or joists and stagger joints of adjacent boards or sheets.

**616 Fixing wood board linings to walls and ceilings**

- Fixing to studs or joists: Two fasteners to each board at each stud or joist.

*Total for K1 Wood internal flooring, linings and trim:*

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## L3 Stairs and guarding

### System Outline

**Staircase to be protected and not altered.**

*Total for L3 Stairs and guarding:*

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# M1 Plastering, rendering and screeding

## System Outline

### 102 Plasterboard backings to timber framed walls and partitions

- Drawing references: See drawing issue sheet
- Insulation between studs: As drawings

### 104 Plasterboard backings to ceilings (FIRE RATED)

- Drawing references: See drawing issue sheet

### 108 Plasterboard drylining direct to masonry

- Drawing references: See drawing issue sheet

### 110 Gypsum plaster coatings to plasterboard backings

- Drawing references: See drawing issue sheet
- Beads and stops: Internal plaster beads as clause 326.
- Gypsum undercoat plaster: Bonding as clause 316.
- Gypsum finish plaster: As clause 324.

### 112 Gypsum plaster coatings to masonry

- Drawing references: See drawing issue sheet
- Gypsum undercoat plaster: Browning as clause 318.
- Gypsum finish plaster: As clause 324.

## Products

### 302 Standard plasterboards

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 520.
- Thickness: 12.5 mm.

### 324 Gypsum finish plaster

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Standard: Finish plaster to BS EN 13279-1.
- Thickness: Contractor's choice.

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### **326 Plaster beads**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 13658-1.
- Material: PVC-U.

## **Execution**

### **602 Fixing plasterboard generally**

- Joint widths (maximum): 3 mm.
- End joints: Stagger between rows.
- Two layer boarding: Stagger joints between layers.

### **606 Fitting insulation between studs or joists**

- Batts, boards or slabs: Butt.
- Quilts or rolls: Fasten to prevent slumping.

### **610 Fixing and finishing plasterboard drylining**

- Installation: In accordance with BS 8212.
- Finishing: Finish neatly to give flush, smooth, flat surfaces free from bowing and abrupt changes of level.
- Sealing gaps and air paths:
  - Sealing: Apply manufacturer approved gap sealant to perimeter abutments and around openings as a continuous bead with no gaps.
  - Gaps between floor and underside of plasterboard: After sealing, fill with joint compound.

### **612 Fixing plaster beads and stops**

- Location: At all external angles and stop ends.
- Fixing: Fix securely and true to line and level.

### **614 Applying plaster undercoats**

- General: Apply coatings firmly and achieve good adhesion.
- Thickness: Contractor's choice.
- Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing. Finish to a true plane, with walls and reveals plumb and square.
- Drying out: Prevent excessively rapid or localized drying out.
- Keying undercoats: Cross scratch plaster coatings. Do not penetrate undercoat.

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**618 Applying plaster finish**

- Thickness: 2-3 mm.
- Appearance of finished surfaces: Tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

*Total for M1 Plastering, rendering and screeding:*

*To be carried forward to Tender Summary*

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## M4 Sheet and tile internal finishes

**AS EXSITIING- PROTECT DURING THE COURSE OF THE WORKS**

*Total for M4 Sheet and tile internal finishes:*

*To be carried forward to Tender Summary*

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# M6 Painting, staining and varnishing

## System Outline

### 102 Coating systems to plastered walls

- Drawing references: See drawing issue sheet
- Preparation: As coating manufacturer's recommendations.
- Priming and sealing: As coating manufacturer's recommendations.
- Coating systems: As drawings.

### 104 Coating systems to plastered ceilings

- Drawing references: See drawing issue sheet
- Preparation: As coating manufacturer's recommendations.
- Priming and sealing: As coating manufacturer's recommendations.
- Coating systems: As drawings.

### 110 Coating systems to wood trim

- Drawing references: See drawing issue sheet
- Preparation: As coating manufacturer's recommendations.
- Priming and sealing: As coating manufacturer's recommendations.
- Coating systems: As drawings.

## Execution

### 602 Minimum drying times for substrates before application of coatings

- Walls:
  - Brickwork or blockwork: 6 weeks.
  - Gypsum plaster: 4 weeks.
  - Render: 2 weeks.
- Floors:
  - Concrete slabs: 6 weeks.
  - Cementitious screeds: 3 weeks.

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#### **604 Preparation for coatings**

- Preparation: In accordance with BS 6150.
- Substrates: Sufficiently dry in depth to suit coating.
- Efflorescence salts, dirt, grease, oil, corrosion, loose and flaking material: Remove.
- Surface irregularities (including plaster nibs, trowel marks and splashes): Abrade to a smooth finish. Lightly round arrises.
- Joints, cracks, holes and other depressions: Fill with stoppers or fillers. Abrade to a smooth finish. Remove residues.
- Existing fixtures, fittings and ironmongery: Remove before commencing work. Refurbish as necessary, refit when decoration is dry.
- Doors and windows: Ease if necessary before coating. Prime resulting bare areas.
- Wood resinous areas and knots: Apply two coats of knotting.

#### **606 Applying coatings**

- Application generally: In accordance with BS 6150.
- Priming coats:
  - Application: Apply as soon as possible on same day as preparation is completed.
  - Concealed joinery surfaces: After initial priming, apply additional coats to surfaces that will be concealed when component is fixed in place.
  - To putty glazing: Seal putty with oil based primer within 21 days of application. Extend finishing coats onto glass up to sight line.
  - Bead glazing to coated timber: Apply first two coats to rebates and beads before glazing.
- Topcoats: Even, smooth and of uniform colour. Free from brush marks, sags, runs and other defects. Cut in neatly.

*Total for M6 Painting, staining and varnishing:*

*To be carried forward to Tender Summary*

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## Q1 Landscape

### **101- MAKE GOOD AND REINSTATE FOLLOWING PROPOSED WORKS (INCLUDING DRAINAGE WORKS)**

*Total for Q1 Landscape:*

*To be carried forward to Tender Summary*

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# R1 Above and below ground drainage

## System Outline

### 102 Eaves rainwater drainage

- Drawing references: See drawing issue sheet

To match existing

### 112 External discharge stacks and branches

- Drawing references: See drawing issue sheet

### 118 Surface water drainage pipework

- Drawing references: See drawing issue sheet
- Pipework: Plastics solid wall as clause 350.

### 120 Subsoil drainage pipework

- Drawing references: See drawing issue sheet
- Drainage layout and levels: As drawings.

### 122 Inspection chambers and manholes

- Drawing references: See drawing issue sheet

## Products

### 306 Aluminium eaves gutters and downpipes

- Manufacturer: See accompanying information- strictly in accordance with planning conditions. Installed in accordance with manufacturers recommendations. To match existing

## Execution

**602 Layout and installation of rainwater drainage generally-** To the approval of building control officer

- Standard: In accordance with BS EN 12056-3, Annex NE.
- Execution generally: Lay rainwater good to discharge rainwater completely, without ponding, leakage or noise nuisance.
- Allowance for thermal and building movement: Provide. Maintain clearance as fixing and jointing proceeds.

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#### **604 Installing gutters**

- Gutters laid to fall:
  - Setting out: Set out gutters to true line and even gradient to prevent ponding or backfall. Position high points of gutters as close as practicable to the roof and low points not more than 50 mm below the roof.
  - Joints: In direction of fall. Seal to make watertight.
- Gutters laid level:
  - Setting out: Level and as close as practicable to roof.
  - Joints: Seal to make watertight.
- Bracket centres: At all joints and sufficient to prevent sag and ponding between joints.

#### **606 Fixing rainwater pipework**

- Fixing: Fix securely, plumb and/or true to line with additional supports as necessary to support pipe collar, particularly at changes in direction.

#### **614 Excavating pipe trenches generally**

- Trench from bottom up to 300 mm above crown of pipe:
  - Sides: Vertical.
  - Width: As small as practicable but not less than external diameter of pipe plus 300 mm.
- Timing: Excavate to formation immediately before laying beds or pipes.
- Mud, rock projections, boulders and hard spots: Remove. Replace with bedding material, well consolidated.
- Local soft spots: Harden by tamping in bedding material.

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### **618 Completing trenches for plastics pipelines**

- Granular bed and side fill:
  - Bedding: 100 mm (minimum) compacted granular material.
  - Granular support: After initial testing of pipeline, lay and compact by hand more granular material uniformly to 100 mm above crown of pipe.
- Granular surround below solid floors:
  - Timing: Excavate trench after hardcore has been laid and compacted.
  - Granular surround: After initial testing of pipeline, lay and compact by hand granular material uniformly to 100 mm above crown of pipe.
  - Backfilling: Compact hardcore or granular material in layers not exceeding 330 mm thick up to slab formation.

See drawing issue sheet

### **620 Completing trenches for drainage pipework close to foundations**

- Concrete surround with flexible joints:
  - Concrete building: 25 mm thick, over full width of trench.
  - Temporary pipe support: Lay folding wedges of compressible board to support pipeline 100 mm (minimum) above blinding.
  - Vertical construction joints: Apply sections of 18 mm thick compressible board, cut out to pipe size, at flexible pipe joints positions. Extend board to full width and depth of concrete surround.
  - Concrete: After initial testing of pipeline, place and compact concrete for full width of trench to encase pipe to 150 mm above crown, or to adjacent foundation level, whichever is higher.

See drawing issue sheet

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**622 Completing trenches for subsoil drainage pipework**

- Bedding and surround for groundwater pipework:
  - Bedding: Granular material, 75 mm deep, at least 100 mm wider than pipe.
  - Granular surround: Compact to 150 mm above pipe.
  - Additional protection to pipelines at shallow depth in cultivated ground: Lay concrete paving flags 100 mm clear above pipes as additional protection.

**624 forming bends at bases of discharge stacks**

- Bends: 90° nominal rest bend with a minimum radius of 200 mm to centreline of the pipe.
- Height of invert of horizontal drain at base of stack below centreline of lowest branch pipe (minimum): 450 mm.
- Stabilizing bends: Bed in concrete without impairing flexibility of couplings.

**626 Laying below ground drainage pipes generally**

- Alignment: To true line and regular gradient on even bed for full length of barrel with sockets (if any) facing up the gradient. Cut/ scoop out locally at couplings and sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
- Hard packings under pipes: Do not use.
- Jointing: Lubricate. Leave gaps at ends of spigots to allow for movement.

**646 Excavating soakaway pits or trenches**

- Sides: Vertical and stable.
- Mud, rock projections, boulders and hard spots: Remove. Replace with granular material.
- Local soft spots: harden by tamping in granular material.

To the approval of building control officer

**650 Completing soakaway pits or trenches**

- Geotextile filter lining: Required, to base and side of soakaway.
- Fill: Selected coarse rubble without fines.
- Backfilling: Lay geotextile filter membrane over top of granular material. Backfill with topsoil to ground level. Allow for settlement.

To the approval of building control officer

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**System Completion**

#### **806 Testing manholes and inspection chambers**

- Exfiltration: To BS EN 1610, method W.
- Infiltration: No identifiable flow of water penetrating chamber.

#### **808 Cleaning below ground drainage systems**

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

*Total for R1 Above and below ground drainage:*

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## T9 Heating systems

**PROTECT THROUGH WORKS- PROPOSED TO BE RETAINED AS EXISTING**

*Total for T9 Heating systems:*

*To be carried forward to Tender Summary*

## U9 Ventilation systems

**PROTECT THROUGH WORKS- PROPOSED TO BE RETAINED AS EXISTING**

*Total for U9 Ventilation systems:*

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# V9 Electrical systems

## System Outline

### 102 Electrical supply

- Drawing references: See drawing issue sheet
- Incoming supply location: As drawings.
- Phase: Single.
- Voltage: 230 V.
- Source: Local electricity distributor.
- Suitability of supply: Determine the maximum demand of the installation, the incoming supply type, location and its suitability, the type of earthing arrangement, and special requirements for switches, fuses and meters.
- Connection: Arrange connection of supply, and earthing.

### 104 Electrical distribution

- Drawing references: See drawing issue sheet
- Consumer unit: As clause 302.

See drawing issue sheet

### 112 Fire detection and alarm installations

- Drawing references: See drawing issue sheet
- Cables: As clause 352.
- Conduits: PVC as clause 304.

### 114 Intruder alarm installations

- Design to be completed by specialists to clients approval

## Products

### 302 Consumer units

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 60439-3, ASTA certified.
- Main control rating: Suit maximum demand.
- Circuit protection: Miniature circuit breakers to BS EN 60998-1.

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### **304 PVC conduits and fittings**

- Manufacturer: Contractor's choice- to approval of client. Provide options for clients to select from.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 4607-5 or to BS EN 61386-1 and BS EN 61386-21
- Size: Contractor's choice.

### **308 Electrical cables**

- Source: Contractor's choice.
- Standard:
  - Certification: British Approvals Service for Cables (BASSEC) certified.

### **310 Electrical accessories**

- Standards:
  - Accessories: To BS 5733.
  - Switches: To BS 5733 and to BS EN 60669-1.

### **318 Internal ceiling mounted decorative luminaires**

- Standard: To BS EN 60598-1, Kitemark certified, and BS EN 55015.

### **320 Internal ceiling mounted downlighters**

- Manufacturer: Contractor's choice- to approval of client. Provide options for clients to select from.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 60598-1, Kitemark certified, and BS EN 55015.
- Lamp: Light emitting diodes (LEDs).

See drawing issue sheet

### **322 Internal ceiling mounted lampholders**

- Manufacturer: Contractor's choice- to approval of client. Provide options for clients to select from.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 60598-1, Kitemark certified, and BS EN 55015.

See drawing issue sheet

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### **326 Internal ceiling mounted pendant sets**

- Manufacturer: Contractor's choice- to approval of client. Provide options for clients to select from.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 60598-1, Kitemark certified, and BS EN 55015.

See drawing issue sheet

### **328 Internal wall mounted decorative luminaires**

- Standard: To BS EN 60598-1, Kitemark certified, and BS EN 55015.

### **332 Internal wall mounted uplighters**

- Manufacturer: TBC by client
- Standards: To BS EN 60598-1, Kitemark certified, and BS EN 55015.

### **346 Carbon monoxide alarms**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Standards: To BS EN 50291-1, Kitemark certified, and in accordance with BS EN 50292.
- Local alarm: Audible indication integral within detectors.
- Power supply: As drawings.
- Standby supply: Integral battery.

See drawing issue sheet

### **350 Smoke detectors**

- Manufacturer: Contractor's choice.
- Product range or reference: Contractor's choice.
- Standard: To BS EN 14604, Kitemark certified.
- Local alarm: Audible indication integral within detectors.

See drawing issue sheet

### **352 Fire detection and alarm low voltage cables**

- Source: Contractor's choice.
- Conductor size and number of cores: Contractor's choice.
- Sheath: Contractor's choice.

### **354 Intruder alarm control panels**

- Standard: To BS EN 50131-3.
- Controller: Microprocessor based.

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**Execution**

### **602 Completing and design for electrical distribution**

- Standards: To BS 7671 and the requirements of the electricity distributor.
- Design: Complete the design and detailing of the electrical installation.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

### **610 Completing the design for fire detection and alarm systems**

- Standard: In accordance with BS 5839-6.
- Purpose: Protection of life.
- Grade: D.
- Category: LD2.
- Individual smoke alarms: Design to maintain individual smoke alarm operation during an interconnection wiring fault.

### **612 Completing the design for intruder detection and alarm systems**

- Standard: To BS EN 50131-1.
- Security grading: Grade 2.
- Environmental classification: Class 1.
- Power supply:
  - Standard: To BS EN 50131-6.
  - Type: Class A.
- Zoning: Divide the installation into separately controlled and identifiable zones.
- Device identification: Individual addressing.

### **614 Electrical installation generally**

- Standard: To BS 7671.
- Installation: Provide a safe, well insulated, earth protected system capable of serving the building.
- Equipment: Install electrical supplies to equipment requiring power.

In accordance with manufacturers recommendations

### **616 Installing electrical cables**

- Cables routes generally: Position vertically or horizontally in line with equipment served, and parallel with building lines. Allow 150 mm (minimum) clearance from other services running parallel. Place cables below heating pipes where running parallel.
- Installation: Install neatly and securely. Conceal wherever possible.

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### **618 Installing electrical conduits and fittings**

- Cable routes generally: Position vertically or horizontally in line with equipment served, and parallel with building lines. Locate where accessible.
- Fixing: Fix securely. Fix boxes independently of conduit.
- Jointing: Minimize number of joints. Remove burrs. Plug during building works.
- Changes of directions: Use machine-formed bends, junction boxes and proprietary components. Do not use elbows or tees. Alternatively, use conduit boxes.
- Connections to boxes, trunking, equipment and accessories: Screwed couplings, adaptors, connectors and glands, with rubber bushes at open ends. Provide earthing coupling/ male brass bush and protective conductor at conduit connections to boxes and items of equipment, other than those with threaded entries.

In accordance with manufacturers recommendations

### **620 Installing electrical accessories and equipment**

- Location: Coordinate with other wall or ceiling mounted equipment.
- Positioning: Place accurately and square to vertical and horizontal axes.

In accordance with manufacturers recommendations

### **624 Installing fire detection and alarm systems**

- Standard: In accordance with BS 5839-6.
- Power supply: Dedicated circuit from the building's main switchboard or consumer unit.
- Device wiring: Individual radial circuit from control panel.

In accordance with manufacturers recommendations

### **626 Installing intruder detection and alarm systems**

- Standard: To BS EN 50131-1.
- Power supply: Dedicated circuit from the building's main switchboard or consumer unit.
- Device wiring: Individual radial circuit from control panel.

In accordance with manufacturers recommendations

## **System Completion**

### **802 Completion and testing of electrical distribution systems**

- Standard: To BS 7671.
- Notice before commencing tests (minimum): 24 hours.
- Labels and signs: Fix securely before system is tested.

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**806 Completion and testing of fire detection and alarm systems**

- Standard: In accordance with BS 5839-6.

**808 Completion and testing of intruder detection and alarm systems**

- Standard: To BS EN 50131-1.

*Total for V9 Electrical systems:*

*To be carried forward to Tender Summary*

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## Tender Summary

£

A9 General requirements  
D2 Site preparation  
E1 Concrete foundations and floors  
F1 Masonry walling  
G1 Packaged frames and structural steelwork  
G2 Structural timber and general carpentry  
H2 Board and sheet external cladding and soffits  
H6 Slate and tile pitched roof coverings and cladding  
J1 Roof coverings  
K1 Wood internal flooring, linings and trim  
L1 Windows, roof windows and patent glazing  
L2 Door and frames  
L3 Stairs and guarding  
M1 Plastering, rendering and screeding  
M4 Sheet and tile internal finishes  
M6 Painting, staining and varnishing  
N1 Appliances and fittings  
Q1 Landscape  
R1 Above and below ground drainage  
S9 Hot and cold water systems  
T9 Heating systems  
U9 Ventilation systems  
V9 Electrical systems

**Total £**

**Contractor's assessment of VAT £**

**Grand total £**

Signed:

For and on behalf of:

Date: