Architectural Specification - Tender Issue

for the proposed Sports Pavilion at Rayner's Field, East Markham NG22 0SF.

Prepared by:
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On behalf of:
East Markham Parish Council

Date:
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Field Practice

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Contents:

Note: The external materials referred to in this document are subject to detailed approval from Bassetlaw District Council (Planning condition discharge in progress at time of writing, ref: 21/00323/COND.

General Specification

Element	Item	Description
Ground floor construction	Slab and footings	Specified by Structural Engineer
	DPM	Polyethylene, minimum 1200 gauge
	Insulation	100mm XPS (Styrofoam Floormate 300A, lambda value 0.031). Provisional specification, to be confirmed by supplier/manufacturer when SBEM calculation is available.
	Screed	Sand and cement, reinforced to give a compressive strength greater than 35N/mm2.
		Thickness 60mm, surface regularity SR2.
Timber columns and beams to front of building, and associated footings		Specified by Structural Engineer. Air dried oak.
External Walls	Facing brickwork	Forterra 'Clumber Red'. [NOT TO BE CONFUSED with 'Clumber Red Mix'] See NBS Specification.
	Cavity wall insulation	100mm mineral wool insulation, lambda value 0.037. Provisional specification, to be confirmed by supplier/manufacturer when SBEM calculation is available.
	Blockwork	Specified by Structural Engineer
Internal Partitions	Loadbearing blockwork	Specified by Structural Engineer
	Non-loadbearing blockwork	440x215mm blocks, paint grade. 100mm thick.
Roof	-	Kingspan KS1000SRW sinusoidal profile in Merlin Grey colour. 80mm thick (to be confirmed by supplier/manufacturer when SBEM calculation is available). See NBS Specification.
Rainwater goods	Guttering	Galvanised steel, half round, 140mm wide/85mm deep, or equivalent cross-sectional area.
	Rainwater pipes	Galvanised steel, round, 75mm diameter. Downpipes at both ends of building.
Windows and doors	Windows	Aluminium, polyester powder coated 'Reed Green' colour (RAL 6013).
		Double glazed units throughout. U value requirement to be confirmed with supplier/manufacturer when SBEM calculation is available.
		Obscured glass: Pilkington Stippolyte Level 4 Obscuration (both layers of high level windows to changing rooms and WCs)
		Toughened external pane, laminated internal pane throughout
		Fixed wire window guards where specified on window schedule
		Hinged steel mesh shutters free issued, to be fitted by Contractor at locations indicated on Window Schedule.
		External window cills: aluminium, minimum 2mm thick, powder coated RAL 6013. Plastic end stops on drip profile.
	External doors generally	Aluminium, polyester powder coated 'Reed Green' colour (RAL 6013).
		Double glazed units throughout. U value requirement to be confirmed with supplier/manufacturer when SBEM calculation is available.
		Glazed panels in main double doors to comply with Approved Document M
		3 additional sets of keys for each door
	Main entrance doors	Mechanical roller shutter above, concealed behind facing brickwork, below lintel in blockwork.
	External doors to electrical cupboard	Steel security door, in accordance with Western Power Distribution requirements. Leaf and a half, Powder coated RAL6013 Reed Green.
	Internal doors	Moulded FD30 Internal Fire Door
		To be primed and painted
		Coat hooks on back of all WC doors
Internal joinery	Internal window sills, skirting and architraves	18mm moisture resistant MDF with all corners smoothed and rounded (10mm radius)
Sanitary Fittings	WCs and basins	White vitreous china, Contractor's choice, subject to compliance with the relevant British Standards.
		Basins in WCs less than 1250mm in width should be cloakroom-style design allowing clear space in accordance with Approved Document M
		Taps within WCs (except disabled WC) and referee change - push type.
	General	Access panels behind WCs, basins and showers
		Fitout in wheelchair access WC to comply with Approved Document M
		Contractor to supply and fix mirrors, soap dispensers, jumbo toilet roll dispeners and hand driers in all WCs and Referee Change. All stainless steel unless agreed otherwise.
		Wall fixed baby changing station within Wheelchair Access WC
Ceilings	Changing rooms and communal space	No ceiling - white painted underside of roof sandwich panels exposed. Cabling to ceiling luminaires carried within galvanised conduit.
	WCs and referee change	9mm marine ply, primed and painted white with two coats water based, acrylic-latex paint, applied with a good quality brush. Face fixed with stainless screws
	Entrance walkway canopy	Dark grey fibre cement board in flat panels, matt finish. Boards not longer than 1200mm parallel to front of building; 8mm gap at joints between panels. Face fixed with BZP screws. Fixed to tannalised timber battens with minimum 50mm ventilation cavity and 25mm air gap at ends.
Floor finishes	Changing rooms, WCs and referee change	Anti-slip linoleum with cap and cove edging, colour to be agreed. Laid on levelling screed.

General Specification (cont'd)

	Communal area and kitchen	Epoxy resin flooring, silk or matt finish, with polyurethane sealer. Colour to be agreed.
Internal painting	Blockwork walls Doors, frames and architraves	Dulux trade vinyl matt emulsion. Two mist coats, one top coat. 2 coats Dulux Quick Dry wood primer and undercoat, 2 coats Dulux Quick Dry Gloss, white
External Decking	Walkway and ramp	Air dried oak boards, fixed with Grade 304 or 316 stainless steel woodscrews. Boards to walkway and steps fitted with mechanically-fixed anti-slip strips. Boards to have minimum 20mm clearance from external ground.

C41 REPAIRING/ RENOVATING/ CONSERVING MASONRY

To be read with Preliminaries/ General conditions.

GENERAL/ PREPARATION

110 SCOPE OF WORK
- Outer leaf of external facing brickwork to all walls of the building. For structural masonry see Structural Engineer's information.

WORKMANSHIP GENERALLY

160 PROTECTION OF MASONRY UNITS AND MASONRY
- Masonry units: Prevent overstressing during transit, storage, handling and fixing. Store on level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination. Lift units at designed lifting points, where provided.
- Masonry: Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces. Prevent mortar/ grout splashes and other staining and marking on facework. Protect using suitable nonstaining slats, boards, tarpaulins, etc. Remove protection on completion of the work.

165 STRUCTURAL STABILITY
- General: Maintain stability of masonry. Report defects, including signs of movement, that are exposed or become apparent during the removal of masonry units

170 DISTURBANCE TO RETAINED MASONRY
- Retained masonry in the vicinity of repair works: Disturb as little as possible.
- Existing retained masonry: Do not cut or adjust to accommodate new or reused units.
- Retained loose masonry units and those vulnerable to movement during repair works: Prop or wedge so as to be firmly and correctly positioned.

180 WORKMANSHIP
- Skill and experience of site operatives: Appropriate for types of work on which they are employed.
  - Documentary evidence: Submit on request.

185 ADVERSE WEATHER
- General: Do not use frozen materials or lay masonry units on frozen surfaces.
- Air temperature: Do not bed masonry units or repoint:
  - In cement gauged mortars when ambient air temperature is at or below 3°C and falling or unless it is at least 1°C and rising, unless mortar has a minimum temperature of 4°C when laid and the masonry is adequately protected.
  - In hydraulic lime:sand mortars when ambient air temperature is at or below 5°C and falling or unless it is at least 3°C and rising.
  - In nonhydraulic lime:sand mortars in cold weather, unless approval is given.
- Temperature of the work: Maintain above freezing until mortar has fully set.
- Rain, snow and dew: Protect masonry by covering during precipitation, and at all times when work is not proceeding.

- Hot conditions and drying winds: Prevent masonry from drying out rapidly.
- New mortar damaged by frost: Rake out and replace.

190 CONTROL SAMPLES
- Complete a 1x1m sample of the facing brickwork for inspection before proceeding with the remainder.

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MATERIALS/ PRODUCTION/ ACCESSORIES

215 MATERIAL SAMPLES
- Representative samples of designated materials: Submit before placing orders.
- Designated materials: Mortar only (assuming bricks from garage can be reused).
- Retention of samples: Unless instructed otherwise, retain samples on site for reference. Protect from damage and contamination.

260 BRICKS
- Manufacturer: Forterra
- Product reference: Clumber Red
- Size: Standard Metric

281 FIXINGS
- Type: Submit proposals.
- Size, strength and number: As necessary to resist loads likely to occur during the life of the building, and to prevent lateral displacement or pulling apart of the construction.

285 BED JOINT REINFORCEMENT TO MASONRY
- Manufacturer: Sumbit Proposals.
- Width: Approximately 40–50 mm less in width than wall or leaf.
- Laying: On an even bed of mortar in a continuous strip, with 225 mm laps at joints and full laps at angles. Keep back 20 mm from face of external work, 12 mm back from face of internal work and finish mortar joint to normal thickness.

POINTING/ REPOINTING

820 POINTING
- Mortar: As section Z21.
- Joint profile/ finish: Weathered.

840 POINTING WITH TOOLS/ IRONS
- General: Press mortar well into joints using pointing tools/ irons that fit into the joints, so that they are fully filled.
- Face of masonry: Keep clear of mortar. Use suitable temporary adhesive tape on each side of joints where necessary. Finish joints neatly.

860 BRUSHED FINISH TO JOINTS
- Timing: After initial mortar set has taken place remove laitance and excess fines by brushing, to give a coarse texture. Do not compact mortar.

Product: Kingspan KS1000 SRW

H43 METAL COMPOSITE PANEL ROOFING

To be read with Preliminaries/General conditions.

TYPE OF CLADDING SYSTEM

121S METAL COMPOSITE PANEL ROOF CLADDING

- Supports: As per Structural Engineer's design and specification
  Bearing width: 50 mm
  Pitch: 6°
  - Manufacturer and reference: Kingspan Insulated Panels, roof cladding system for standard internal & external non-corrosive, inland environments also Loss Prevention Certification Board certified to LPS 1181 Grade EXT-B.
  - Test results:
    LPS1181: 2014: Part 1: Issue 1.2, series of fire growth tests for LPCB approval and is certified to LPS 1181 Grade EXT-B.
    Reaction to Fire classification: B-s1,d0 to BS EN13501-1: 2007
    Class 1 Surface spread of flame to BS 476 Part 6: 2009 & Part 7: 1997 (Class 0 as defined by the Building Regulations)
    SAA rated to BS476 Part 3: 2004.
  - Panels:
    Profile reference: KS1000 SRW - Sinusoidal Insulated Roof Panel.
    External facings:
    - Material: Metallic protected steel to BS EN 10346: 2009.
    - Thickness: 0.5 mm nominal.
    - Finish/Colour: Kingspan XL Forté™, colour 'Merlin Grey'

    Internal facings:
    - Material: Metallic protected steel to BS EN 10346: 2009.
    - Thickness: 0.4 mm
    - Finish/Colour: CleanSafe 15.

    Core insulation: FireSafe, EcoSafe, HCFC, CFC & HFC free LPCB certificated PIR formulation.
    Panel thickness: 80mm core.
  - End laps: 150 mm.
  - End lap sealant:
    - Triple unbroken runs of 6x5mm butyl rubber sealant, Class A, ref: NFRC TB36.
  - Side lap sealant:
    - Single unbroken run of 6x5mm butyl rubber sealant, Class A, ref: NFRC TB36.
  - Fasteners: As determined by clause 220A
    Number and location:
    - Primary fasteners: As determined by clause 197A, but with each panel fixed to each support using not less than three fastenings. Fix through crown of profile, as recommended by cladding manufacturer.
    - Stitch external side laps at 450 mm maximum centres. End laps to be stitched with one stitching screw every other crown, 50mm from end lap.

- Accessories:
  Profile fillers as clause 300A.
  - Thermal Transmittance (U Value) calculated using the method required by the Building Regulations Part L2A (England & Wales) and Building (Scotland) Regulations Section 6: 0.25 W/m^2K.
  - Air leakage rate of $3m^3/hr/m^2$ at 50 Pa, based on the assumption that the full building envelope is constructed using Kingspan panels.
  - Other requirements:
    - Single line of non-setting gun-grade, PremSeal BR or similar, site applied across panel side lap in line with internal air seal, located at eaves and ridge locations.

- Any joints in the secondary steel frame and cleader angles, which are forming part of the building air seal line, must be sealed with a Film backed butyl tape/PremSeal SWRPIO or similar.
- Internal face of panel to be air sealed to perimeter supports / flashing using a SGV20, 20x9mm PVC foam tape (premier sealants) or similar.
- CE marked to BS EN 14509: 2013
- Manufacturers guarantee:-
    - 40 year maintenance and inspection free external coating guarantee. Manufacturers' external coating guarantee to be available on project completion and be fully transferrable for future changes of building ownership.
    - 25 year thermal performance guarantee.
    - 25 year structural performance guarantee.
- Panels manufactured under the following standards:-
    - ISO 9001, Quality Management Systems.
    - ISO 14001, Environmental Management Systems.
    - ISO 18001, Occupational Health and Safety Management Systems.
    - ISO 50001, Energy Management Certificate

Kingspan recommend that the appointed cladding sub-contractor attends the appropriate product installation training course at our offices in Holywell prior to commencing installation on site.

197A ATTACHMENT:

- See Structural Engineer's design.

220A FASTENERS:

- Primary fasteners: High threaded screws with bonded washers.
  Type(s), size(s) and drilling capacity: As recommended by fastener manufacturer to suit type and thickness of supports and thickness of insulated panels.
  Screw material: Stainless steel or Anti-corrosion coated carbon steel, subject to project performance guarantee requirements.
  Washer material: Non-ferrous.
  Washer size: 19 mm diameter.
  Heads: Low profile PPC coated
- Secondary fasteners: Stitching screws with bonded washers.
  Screw/washer material: Non-ferrous.
  Washer size: 14 mm diameter.
  Heads: As primary fastener.

275 CONTINUITY THERMAL INSULATION

- At junctions between the roof panel system and walls / penetrations insulated with PIR board insulation, any gaps filled with Premier Sealants (01724 864 100) Firefoam (class B1 rated) or similar, fire rated gun applied canister urethane insulation.
- Placement: Secure and continuous with cladding/ covering insulation.
- Psi values of junction details to be calculated by Kingspan Insulated Panels, as per the guidance set out in BRE report BR497 Conventions for Calculating Linear Thermal Transmittance and Temperature Factors.

300A PROFILE FILLERS GENERALLY:

- Manufacturer and reference: Premier Sealant Systems Limited ref: M25 or similar, type to suit cladding profile.
  Material: MP (Metallocene polyolefin)
  Colour: Black.
- Fixing: Seal the top, bottom and sides of each profile filler with a single line of non-setting gun-grade, PremSeal BR or similar.
- Locate where shown on drawings and wherever necessary to close off corrugation cavities from the inside and outside of the building. Ensure a tight fit and leave no gaps.

310A PURPOSE MADE COLD FORMED METAL ACCESSORIES – EXTERNAL:

- Drawing reference(s): A06-4-D51, -55, -56.
- Material/finish: Kingspan XL Forte external coating, or unpainted galvanised steel as indicated on drawings.
  Thickness: Minimum 0.63 mm.
  Colour: See drawings
  Workmanship as section Z11.
- Fixing: Stitch to external face of panels at max. 450 mm centres using secondary fasteners as specified for the cladding system.
- Sealing: Single line of 9 x 3 mm butyl rubber tape, Class A, ref: NFRC TB36, site applied between flashing and panel.

311A PURPOSE MADE COLD FORMED METAL ACCESSORIES – INTERNAL:

- Drawing reference(s): A06-4-D51
- Material/finish: Kingspan CleanSafe 15.
  Thickness: 0.4 mm
  Colour: White.
  Workmanship as section Z11.
- Fixing: Stitch to internal face of panels at max. 450 mm centres using secondary fasteners as specified for the cladding system.
- End laps to be air sealed with film backed butyl tape / PremSeal SWRPIO or similar, or gun grade sealant.
- Sealing: Single line of SGV 20, 20x9mm PVC foam tape (premier sealants) or similar, site applied between flashing and panel.

580A INSULATED PANEL IDENTIFICATION & LABELLING

- When the roofing and /or the wall cladding to this building is completed, a label identifying the composition of the insulated panels is to be fitted.
- This label illustrates the type of insulated panels fitted, to assist insurers, fire officers, owners and occupiers identify the envelope composition.
- It is a recommendation of the Kingspan Total Guarantee that the insulated panel identification label, which has a specific project registration number, is installed in an agreed location. The project architect, cladding subcontractor or owner should place / affix or communicate the positioning / placing of these labels in an appropriate and accessible location on the building.

Z20 FIXINGS AND ADHESIVES

To be read with Preliminaries/ General conditions.

PRODUCTS

310 FASTENERS GENERALLY
- Materials: To have:
  - Bimetallic corrosion resistance appropriate to items being fixed.
  - Atmospheric corrosion resistance appropriate to fixing location.
- Appearance: Submit samples on request.

320 PACKINGS
- Materials: Non-compressible, corrosion proof.
- Area of packings: Sufficient to transfer loads.

330 NAILED TIMBER FASTENERS
- Nails:
  - Steel: To BS 1202-1 or BS EN 10230-1.
  - Copper: To BS EN 1202-2.
  - Aluminium: To BS 1202-3.

340 MASONRY FIXINGS
- Light duty: Plugs and screws.
- Heavy duty: Expansion anchors or chemical anchors.

350 PLUGS
- Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.

360 ANCHORS
- Types:
  - Expansion: For use in substrate strong enough to resist forces generated by expansion of anchor.
  - Adhesive or chemical:
    For use in substrate where expansion of anchor would fracture substrate.
    For use in irregular substrate where expansion anchors cannot transfer load on anchor.
  - Cavity: For use where the anchor is retained by toggles of the plug locking onto the inside face of the cavity.

370 WOOD SCREWS
- Type:
  - Wood screws (traditional pattern).
    Standard: To BS 1210.
  - Wood screws.
    Pattern: Parallel, fully threaded shank or twin thread types.
- Washers and screw cups: Where required are to be of same material as screw.

380 MISCELLANEOUS SCREWS
- Type: To suit the fixing requirement of the components and substrate.
  - Pattern: Self-tapping, metallic drive screws, or power driven screws.
- Washers and screw cups: Where required to be of same material as screw.

390 ADHESIVES GENERALLY
- Standards:
  - Hot-setting phenolic and aminoplastic: To BS 1203.
  - Thermosetting wood adhesives: To BS EN 12765.
  - Thermoplastic adhesives: To BS EN 204.

410 POWDER ACTUATED FIXING SYSTEMS
- Types of fastener, accessories and consumables: As recommended by tool manufacturer.

EXECUTION

610 FIXING GENERALLY
- Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
- Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers/ sleeves to avoid bimetallic corrosion.
- Appearance: Fixings to be in straight lines at regular centres.

620 FIXING THROUGH FINISHES
- Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

630 FIXING PACKINGS
- Function: To take up tolerances and prevent distortion of materials and components.
- Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
- Locations: Not within zones to be filled with sealant.

640 FIXING CRAMPS
- Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
- Fasteners: Fix cramps to frames with screws of same material as cramps.
- Fixings in masonry work: Fully bed in mortar.

650 NAILED TIMBER FIXING
- Penetration: Drive fully in without splitting or crushing timber.
- Surfaces visible in completed work: Punch nail heads below wrot surfaces.
- Nailed timber joints: Two nails per joint (minimum), opposed skew driven.

660 SCREW FIXING
- Finished level of countersunk screw heads:
  - Exposed: Flush with timber surface.
  - Concealed (holes filled or stopped): Sink minimum 2 mm below surface.

670 PELLETED COUNTERSUNK SCREW FIXING
- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
- Pellets: Cut from matching timber, match grain and glue in to full depth of hole.
- Finished level of pellets: Flush with surface.

680 PLUGGED COUNTERSUNK SCREW FIXING
- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.

- Plugs: Glue in to full depth of hole.
- Finished level of plugs: Projecting above surface.

690 USING POWDER ACTUATED FIXING SYSTEMS
- Powder actuated fixing tools: To BS 4078-2 and Kitemark certified.
- Operatives: Trained and certified as competent by tool manufacturer.

700 APPLYING ADHESIVES
- Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.
  - Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
- Finished adhesive joints: Fully bonded. Free of surplus adhesive.