



Star Design Solutions

Star Design Solutions Ltd

Independent House

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# Designers Method Statement & Risk Assessment:

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**Project address:** 28 Well Walk, NW3 1LD

**Scope of work:** Residential Development

## HEALTH AND SAFETY

WHEN WORKING FOR A DOMESTIC CLIENT THE MAIN CONTRACTOR WILL BE THE PRINCIPAL CONTRACTOR AND WILL BE REQUIRED TO CARRY OUT THE CLIENT DUTIES AS NOTED IN REGULATION 7, OF THE "CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015". IN PARTICULAR IF THE PROJECT INVOLVES MORE THAN ONE CONTRACTOR AND INVOLVES MORE THAN 500 PERSON-DAYS OF WORK OR, FOR JOBS PLANNED TO TAKE MORE THAN 30 DAYS, WILL HAVE MORE THAN 20 PEOPLE WORKING ON SITE AT ANY ONE TIME THEY MUST NOTIFY THE HEALTH AND SAFETY EXECUTIVE OF THE WORKS BY FILLING IN AND SUBMITTING AN F10 FORM PRIOR TO STARTING WORK ON SITE.

## SETTING OUT

THE CONTRACTOR SHALL CHECK OR AGREE THE EXISTING DIMENSIONS SHOWN ON THE DRAWINGS AND MUST GIVE WRITTEN NOTICE TO THE ARCHITECT IF HE IS NOT SATISFIED WITH THEIR ACCURACY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY SETTING OUT AND DATUM LINES AND LEVELS TO ENABLE THE WORKS TO BE SET OUT TO THE REQUIREMENTS AND ACCURACIES OF THIS SPECIFICATION.

FOR WORK AT HEIGHT SUCH AS DURING ROOFING WORK AND DELIVERY OF HEAVY CONSTRUCTION MATERIALS, TEMPORARY SCAFFOLDING WILL BE INSTALLED. SCAFFOLD MAY BE ERECTED WITH POLYTHENE SHEETING OR ANY SIMILARLY ACCEPTABLE MATERIAL TO PREVENT AGGREGATES AND STEEL BUILDING MATERIALS FROM DROPPING ONTO NEIGHBOURING LAND (WHEN REQUIRED) SCAFFOLDING ERECTION IS TO THE FRONT AND REAR OF THE PROPERTY.

ACCESS POINT WILL BE EXPOSED IN THE ROOF FOR USE WHILE INSERTING STEELS BEAM DURING THE CONSTRUCTION OF THE STRUCTURE. STEELS AND OTHER STRUCTURAL MEMBERS ARE TO BE BROUGHT IN THROUGH THE ACCESS POINT UNLESS A VALID REASON NOT TO IS CONFIRMED.

A TIN ROOF MAY BE REQUIRED DURING THE CONSTRUCTION OF THE LOFT TO AVOID ANY RISK OF WATER INGRESS INTO THE PROPERTY.



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CHIMNEY BREAST TO BE REMOVED—WHERE CHIMNEY BREAST IS TO BE REMOVED, EVERY CARE WILL BE TAKEN TO ENSURE THERE IS NO DAMAGE TO NEIGHBOURING PROPERTY. PLEASE REFER CHIMNEY BREAST REMOVAL METHOD STATEMENT FROM ENGINEER

WHERE THE BEAM IS NECESSARY TO BE INSERTED INTO THE PARTY WALL, CARE WILL BE TAKEN TO MAKE SURE THAT THE BEAM DOES NOT PROJECT MORE THAN 50% OF THE THICKNESS OF THE PARTY WALL. TECHNICAL DETAILS ARE ON THE PROPOSED CONSTRUCTION DETAILS.

ALL WORKS TO THE PARTY WALLS WILL BE CARRIED OUT USING HAND TOOLS ONLY. NO MECHANICAL OR PERCUSSIVE TOOLS WILL BE USED FOR THE PARTY WALL NOTIFIABLE WORKS.

IF NECESSARY, HOARDING WILL BE USED TO MINIMISE DISRUPTION TO THE NEIGHBOURS. WORKING AREA WILL BE CLEANED UP REGULARLY.

CONTRACTORS WILL BE CLEANING SITE REGULARLY FOLLOWED BY REGULAR SITE SUPERVISOR INSPECTIONS TO MAKE SURE THE SITE IS KEPT AS CLEAN AS POSSIBLE ALWAYS.

EXTERNAL COMMUNAL AREAS SUCH AS, STAIRCASES AND PATHS THAT ARE TO BE ACCESSED OR USED BY THE CONTRACTORS ARE TO BE PROTECTED BY THE USE OF A 'CORDEK' TYPE OF FLOOR PROTECTING, WHILST ALSO BEING SWEEP FROM TIME TO SWEEP.

ALL COMMUNAL AREAS ARE TO BE PROTECTED EXTERNALLY, WHILST THE INTERNAL COMMUNAL AREAS ARE TO BE PROTECTED, SHOULD IT BE DEEMED AFFECTED BY THE SAID NOTIFIABLE WORKS.

IF NECESSARY, DANGER SIGNS SHOULD BE PROVIDED WHERE AND WHEN APPLICABLE. IF ACCESS IS REQUIRED TO NEIGHBOURS ROOF, THEN WE WILL ENSURE ADEQUATE ROOF PROTECTION IS IN PLACE PRIOR TO ANY WORKS SUCH AS INSULATION BOARDS, ROOF COVERING, CLEANING ETC., THE CONTRACTOR WILL MONITOR ON A DAILY BASIS THE AREAS IMMEDIATELY SURROUNDING THE SITE TO ENSURE DUST AND DIRT IS MINIMISED.

ALL PERSONNEL WORKING IN A DUSTY AREA SHALL, WHERE NECESSARY, WEAR A DUST MASK DEEMED SUITABLE BY THE HSE (HEALTH AND SAFETY EXECUTIVE) GENERAL DUST EXTRACTION WILL BE USED IF REQUIRED AND LOCAL EXTRACTION USED WHILST WALL CHASING.

MEANS OF ACCESS AND EXIT SHOULD BE MAINTAINED THROUGHOUT THE PERIOD OF THE NOTIFIABLE WORKS. BARRICADING & CAUTION SIGNS SHOULD BE PROVIDED FOR DEEP EXCAVATIONS.

MEANS OF ACCESS AND EXIT FROM THE WORK AREA SHOULD BE PROPERLY PROVIDED.



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**GENERAL NOTES:**

1. DO NOT SCALE DRAWINGS. THE CONTRACTOR IS TO CHECK ALL DIMENSIONS ON SITE BEFORE CARRYING OUT WORKS.
2. THIS SPECIFICATION IS TO BE READ IN CONJUNCTION WITH THE ARCHITECT'S, SERVICES ENGINEER'S AND ALL OTHER SPECIALIST'S DRAWINGS AND SPECIFICATIONS TO VERIFY LAYOUT, SETTING OUT, FINISHES ETC. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE CONTRACT ADMINISTRATOR (CA) PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR MUST ENSURE THAT THE ARCHITECT/CONTRACT ADMINISTRATOR HAS AGREED ALL NECESSARY PARTY WALL NOTICES PRIOR TO CARRYING OUT WORKS UNDER, ON OR ADJACENT TO A PARTY WALL.
4. THE CONTRACTOR IS TO ENSURE THAT THE BUILDING CONTROL OFFICER AND STRUCTURAL ENGINEER ARE NOTIFIED TO CARRY OUT INSPECTIONS OF ANY STRUCTURAL WORK PRIOR TO COVERING UP WITH FINISHES.
5. DO NOT CUT ANY HOLES OR CHASES THROUGH ANY STRUCTURAL MEMBERS.
6. ALL SPECIFIED PRODUCTS ARE TO BE INSTALLED/BUILT IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. NO SUBSTITUTION OF DESIGNED ELEMENTS OR SPECIFIED PRODUCTS IS PERMITTED.
8. DRAWINGS, SPECIFICATIONS AND ANY OTHER DOCUMENTATION WILL BE ISSUED ELECTRONICALLY ONLY.
9. DRAWINGS AND OTHER DOCUMENTS WILL ONLY BE ISSUED IN PDF FORMAT.
10. SHOULD THE CONTRACTOR, OR ANY SUB-CONTRACTORS, BELIEVE THAT ANY ELEMENTS OF THE WORK ON STRUCTURAL ENGINEERS' DRAWINGS OR SPECIFICATION WILL PROVIDE BUILDABILITY DIFFICULTIES AS INDICATED, THEY MUST STATE CLEARLY, AT TENDER STAGE, THEIR CONCERNS ALONG WITH SPECIFIC REASONS FOR IT. THEY MUST ALSO PROPOSE MORE BUILDABLE ALTERNATIVES FOR CONSIDERATION THAT DO NOT COMPROMISE THE ARCHITECTURE OR OVERALL STRUCTURE OF THE WORK. ANY CLAIMS OR OBJECTIONS BASED ON BUILDABILITY ISSUES THAT ARE RAISED AFTER TENDER WILL NOT BE CONSIDERED.
11. ANY CALCULATIONS, DRAWINGS, DETAILS, OR ANY OTHER WORKS TO BE PREPARED BY THE CONTRACTOR, THAT RELATE TO STRUCTURE, OR REQUIRE COMMENTS FROM THE STRUCTURAL ENGINEER, ARE TO BE SUBMITTED SUFFICIENTLY IN ADVANCE OF THE SITE WORKS THEY RELATE TO ALLOW FOR COMMENTS TO BE RECEIVED AND INCORPORATED WITHOUT DELAYING THE WORKS OR



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INCURRING ADDITIONAL COSTS. THIS SHOULD INCLUDE AN ALLOWANCE FOR RE-DESIGN, RE-DRAWING, ETC. SHOULD THE ENGINEER'S COMMENTS NECESSITATE IT. AT MINIMUM THE SUBMISSION SHOULD BE MADE 21 WORKING DAYS PRIOR TO COMMENCEMENT OF THE RELEVANT SITE WORKS.

12. THE CONTRACTOR IS TO INFORM THE ARCHITECT AND STRUCTURAL ENGINEER IF THE EXISTING FABRIC, INCLUDING FOUNDATIONS, IS OPENED UP AND FOUND TO BE INADEQUATE, UNSUITABLE TO SUPPORT THE PROPOSED WORKS, OR AT VARIANCE FROM THE DETAILS SHOWN ON THE DRAWINGS.
13. ITEMS NOTED ON THE DRAWINGS TO BE EXPOSED OR VERIFIED ON SITE ARE TO BE EXPOSED BY THE CONTRACTOR FOR INSPECTION BY THE STRUCTURAL ENGINEER AT THE EARLIEST OPPORTUNITY.
14. IN THE EVENT OF ANY CONFLICTS ON THE DRAWINGS (INCLUDING BETWEEN THE DRAWINGS OF DIFFERENT CONSULTANTS), THE CONTRACT MUST SEEK CLARIFICATION AT TENDER STAGE AS TO WHICH CONDITION IS CORRECT. IF CLARIFICATION IS NOT SOUGHT AT TENDER STAGE, IT WILL BE ASSUMED THAT THE CONTRACTOR HAS PRICED THE MOST EXPENSIVE CONDITION, SO NO ADDITIONAL COSTS CAN BE CLAIMED IN RELATION TO THE CONFLICT.
15. THE MAIN CONTRACTOR IS TO SUPPLY, AND KEEP ON SITE FOR THE DURATION OF THE WORKS, PPE FOR AT LEAST TWO REPRESENTATIVES FROM THE PROJECT STRUCTURAL ENGINEER'S FIRM. THIS IS TO CONSIST OF, AT MINIMUM, HARD HATS, PROTECTIVE SITE BOOTS (SIZES WILL BE PROVIDED UPON REQUEST), HIGH VISIBILITY VESTS AND HIGH VISIBILITY JACKETS. ANY ADDITIONAL EQUIPMENT REQUIRED DUE TO THE NATURE OF THE SITE AND WORK BEING CARRIED OUT IS ALSO TO BE PROVIDED. ALL OF THIS EQUIPMENT IS TO BE CLEAN AND NEW FOR THIS PROJECT AND TO BE KEPT SECURE ON SITE.
16. FULL BUILDING REGULATION APPROVAL SHOULD BE OBTAINED PRIOR TO THE COMMENCEMENT OF WORKS ON SITE/BEFORE ANY MATERIALS ARE ORDERED (I.E. STEELWORK/TIMBER ETC). ANY WORKS CARRIED OUT PRIOR TO THIS ARE UNDERTAKEN AT THE CLIENTS/CONTRACTORS OWN RISK.
17. THE WORKS ARE TO BE CARRIED OUT TO THE APPROVAL AND SATISFACTION OF THE BUILDING CONTROL OFFICER, TO ACCEPTED GOOD BUILDING PRACTICE AND WITH FULL COMPLIANCE AND IN ACCORDANCE WITH ALL RELEVANT BRITISH STANDARDS AND CODES OF PRACTICE.
18. THE LENGTHS AND SPANS USED IN THESE CALCULATIONS ARE FOR DESIGN PURPOSES ONLY AND SHOULD NOT BE USED AS A BASIS FOR ORDERING MATERIALS/FABRICATION PURPOSES. NOTE, THE DESIGN SPAN IN THESE CALCULATIONS IS NOT THE SAME AS CLEAR SPAN.
19. ALL LENGTHS AND SPANS USED IN THESE CALCULATIONS SHOULD BE VERIFIED ON SITE PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORKS. CONTRACTOR AND/OR STEEL FABRICATOR TO TAKE THEIR DIMENSIONS ON SITE.



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20. BUILDER/CONTRACTOR IS TO CHECK THAT THE STRUCTURAL ENGINEERS PROPOSAL (I.E. LOCATION OF STEEL BEAMS/TRIMMERS ETC) IS FEASIBLE AND NECESSARY BEFORE ORDERING MATERIALS. OPEN UP TOP OF WALLS ETC TO DETERMINE EXISTING SPANS & NECESSITY OF STEELS/BEAMS.
21. NO OPENING WORKS WERE UNDERTAKEN AND THEREFORE ANY DEFECTS HIDDEN OR INACCESSIBLE COULD NOT BE REPORTED UPON AND THUS NOT THE ENGINEERS RESPONSIBILITY.
22. ALL SPECIFIED STRUCTURAL ELEMENTS (I.E. STEEL BEAMS, STEEL COLUMN, TIMBER BEAMS/TRIMMERS, ETC) TO BE INSTALLED IN SINGLE CONTINUOUS LENGTH UNLESS STATED OTHERWISE.
23. THE CONDITION AND SUITABILITY OF ALL LOAD BEARING WALLS, EXISTING BEAMS AND SUPPORTS, FOUNDATIONS ETC. SHALL BE CHECKED ON SITE AND AGREED WITH THE LOCAL AUTHORITY.

### EXISTING CONSTRUCTION:

**ALL LOAD BEARING WALLS, FOUNDATIONS AND STRUCTURAL ELEMENTS ARE TO BE EXPOSED AND CHECKED ON SITE WITH THE BUILDING CONTROL OFFICER, PRIOR TO THE COMMENCEMENT OF WORKS FOR SUITABILITY.**

TRIAL HOLES ARE TO BE EXCAVATED PRIOR TO COMMENCEMENT OF WORKS AND ARE TO BE INSPECTED BY THE BUILDING CONTROL OFFICER/SOILS SPECIALIST. ALL NEW FOUNDATIONS ARE TO BE FOUNDED OFF NATURAL VIRGIN GROUND.

**ANY DEVIATION FROM THE DESIGN ASSUMPTIONS IS TO BE REPORTED TO THE ARCHITECT/ENGINEER PRIOR TO COMMENCEMENT OF WORKS.**

**THE EXISTING BUILDING IS ASSUMED TO BE IN GOOD STRUCTURAL ORDER AND ANY DEFECTS ARE TO BE REPORTED TO THE ARCHITECT/ENGINEER.**

THE TEMPORARY STABILITY OF THE STRUCTURE DURING ALL STAGES OF THE CONSTRUCTION WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

### NEW CONSTRUCTION:

ALL NEW STEELWORK TO BE GRADE S355, UNLESS NOTED OTHERWISE IN THE CALCULATIONS. STEELWORK TO BE THOROUGHLY WIRE BRUSHED AND PAINTED WITH TWO COATS OF ZINC PHOSPHATE PRIMER. ALL DAMAGED AREAS OF PAINTED ARE TO BE TOUCHED UP AFTER ERECTION OF THE STEELWORK. ALL BOLTS ARE TO BE GRADE 8.8 UNLESS NOTED OTHERWISE, AND ALL WELDS ARE TO BE 6mm CONTINUOUS FILLET TYPE, UNLESS NOTED OTHERWISE. ALL THE EXTERNAL STEELS TO BE GALVANIZED

ALL NEW TIMBER IS ASSUMED TO BE GRADE C24, UNLESS NOTED OTHERWISE WITHIN THE CALCULATIONS. ALL STRUCTURAL TIMBER IS TO BE SUITABLY TREATED AGAINST DECAY AND INSECT ATTACK.



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TIMBER WALL PLATES ARE TO BE HELD DOWN USING 30x5mm THICK GALVANISED MILD STEEL VERTICAL RESTRAINT STRAPS, 1200mm LONG WITH FLAT RETURN, AT 900mm MAX CENTRES (AND EITHER SIDE OF WIDE WINDOWS). THE STRAP SHOULD BE FIXED TO THE SOLID MASONRY WALL USING 5No. x No.12 SCREWS IN PLUGGED HOLES IF EXISTING WALLS AND BUILT INTO THE WALLS IF NEW.

PROVIDED BETWEEN EXTERNAL WALLS AND FLOORS AT 900mm MAX CENTRES. WHERE STRAPS ARE PERPENDICULAR TO THE SPAN OF THE FLOOR, THEY SHALL BE TAKEN ACROSS 3No. JOISTS, WITH SOLID TIMBER NOGGIN BETWEEN. THE STRAPS UPSTAND SHALL BE FIXED TO THE SOLID MASONRY WALL USING 5No. x No. 12 SCREWS IN PLUGGED HOLES IF EXISTING WALLS AND BUILT INTO THE WALLS IF NEW.

### **NOTES TO CONTRACTORS (GENERAL):**

THE CONTRACTOR IS RESPONSIBLE FOR ALL OF THE TEMPORARY WORKS FOR THE PROJECT, FOR THE FULL DURATION OF THE PROJECT. NOTE: ACROW INDICATED THAT "STRONGBOYS" ARE NOT MANUFACTURED BY THEM AND DO NOT RECOMMEND THEIR USE GENERALLY. CONTRACTORS SHALL PROVIDE PROPER CONVENTIONAL NEEDLES AND PROPS, ENSURING THAT LOADS ARE ADEQUATELY TRANSFERRED TO THE GROUND.

THE STEELWORK IS TO BE FABRICATED IN ACCORDANCE WITH "NATIONAL STEELWORK SPECIFICATION 5TH EDITION". CE MARKINGS FOR SECTIONS AND BOLTS ARE MANDATORY.

UNLESS NOTED OTHERWISE ON DRAWINGS UNEXPOSED STEELS TO BE DELIVERED TO SITE WITH SINGLE COAT ZINC PHOSPHATE PRIMER. STEELS TO BE CASED ON CONCRETE NOT PAINTED.

THE DIMENSIONS USED IN THE CALCULATIONS ARE NOT CUT LENGTHS OF STEEL. THE CONTRACTOR IS RESPONSIBLE FOR TAKING SITE DIMENSIONS AND APPLYING APPROPRIATE BEARING LENGTHS, WHICH WILL BE A 100MM MINIMUM, OR AS INDICATED ON THE DRAWINGS.

DUE TO THE WEIGHT OF THE STEEL MEMBERS (UP TO 110KG), THE CONTRACTOR SHALL MAKE PROVISION FOR LIFTING OFF TRANSPORT AND MOVING THEM TO THE LOCATION FOR ERECTION. APPROPRIATE LIFTING EQUIPMENT SHALL BE PROVIDED, E.G. HOIST'S, CRANE'S, GENIE LIFTS ETC. SUFFICIENT MAN-POWER SHALL BE AVAILABLE TO ENSURE THAT THE STEELWORK CAN SAFELY BE ERECTED.

SITE WELDING IS NOT ALLOWED, UNLESS PRIOR AGREEMENT IS MADE WITH SDA AND BUILDING CONTROL. PRIOR TO ANY AGREEMENT THE CONTRACTOR MUST PROVIDE PROOF OF THE WELDING OPERATIVE'S QUALIFICATIONS. ON SITE WELD TESTING MAY BE REQUIRED.

WHERE HSEFG BOLTS ARE SPECIFIED, THESE ARE TO BE TIGHTENED USING A TORQUE WRENCH, OR ALTERNATIVELY LOAD-INDICATING WASHERS SHOULD BE USED TO DEMONSTRATE THAT THE BOLTS HAVE BEEN TIGHTENED TO THE REQUISITE TENSION. (STANDARD 4.6 OR 8.8 SHALL NOT BE USED WHEN HSEFG BOLTS ARE SPECIFIED).

PAD-STONES ARE TO BE INSITU OR PRE-CAST CONCRETE UNLESS NOTED OTHERWISE ON DRAWING.



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100MM WIDE BLOCKS SHALL NOT BE LAID FLAT IF LOAD BEARING.

IF TOOTHED PLATE WASHERS ARE SPECIFIED IN TIMBER CONNECTIONS, THE TIMBERS ARE TO BE DRAWN TOGETHER WITH BOLTS/THREADED RODS, WHICH SHALL BE DISCARDED AT THE END OF THE WORK. NEW BOLTS SHOULD BE USED TO CONNECT TIMBER MEMBERS.

*WALL PLATES FOR ROOFS ARE TO BE TIED DOWN USING 1200MM LONG 30 X 2.5MM GALVANISED MILD STEEL STRAPS AT 1200MM CENTRES WITH 100MM BOB END. STRAPS ARE TO BE NAILED TO THE TOP PLATE AND PLUGGED AND SCREWED TO THE INTERNAL FACE OF THE WALL.*

*LATERAL RESTRAINT STRAPS FOR FLOORS AND ROOFS ARE TO BE MINIMUM 1200MM LONG 30 X 5MM GALVANISED MILD STEEL STRAPS AT 1200MM CENTRES WITH 150MM BOB END. STRAPS PERPENDICULAR TO JOISTS ARE TO BE NAILED TO THE TOPS OF THREE JOISTS OVER SOLID BLOCKING INFILL. STRAPS PARALLEL TO JOISTS ARE TO BE LET-IN TO THE TOP OF THE JOISTS AND NAILED IN PLACE.*

*UNLESS OTHERWISE SPECIFIED, SECURELY FIX STRUTTING BETWEEN JOISTS OR RAFTERS AS FOLLOWS:*

*JOIST / RAFTER SPANS OF 2.5 TO 4.5M: ONE ROW AT CENTRE SPAN.*

*JOIST / RAFTER SPANS OVER 4.5M: TWO ROWS EQUALLY SPACED.*

*UNLESS SPECIFIED OTHERWISE STRUTTING TO BE ONE OF THE FOLLOWING:*

*HERRINGBONE STRUTTING, AT LEAST 38 X 38 MM SOFTWOOD AND LOCATED CLEAR OF TOP AND BOTTOM*

*EDGES. SOLID STRUTTING, AT LEAST 28 MM THICK SOFTWOOD AND AT LEAST THREE-QUARTERS OF THE JOIST DEPTH. STRUTTING TO BE BLOCKED SOLIDLY TO END WALLS.*

THE CONTRACTOR SHALL LIAISE WITH THE BUILDING INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT A COMMENCEMENT NOTICE IS FORWARDED TO THE BUILDING CONTROL 48 HRS PRIOR TO START OF WORK.

THE CONTRACTOR SHALL ENSURE THAT THE BUILDING INSPECTOR VISITS BEFORE CONCRETING OR CLOSING UP ANY AREAS, OR AT ANY OTHER TIME THAT THE BUILDING INSPECTOR WISHES.

SHOULD THE BUILDING INSPECTOR ASK FOR ANY VARIATIONS FROM THE STRUCTURAL SCHEME AS DESIGNED, THE CONTRACTOR SHOULD CONTACT SDS PRIOR TO MAKING ANY ALTERATIONS.

SHOULD THE CONTRACTOR WISH TO MAKE CHANGES TO THE SCHEME OR INTRODUCE SPLICES, HE SHOULD MAKE ENSURE THAT THE CLIENT IS WILLING TO COVER ANY DESIGN AND CONSTRUCTION COSTS.

### **TEMPORARY WORKS AND STABILITY**

1. THE CONTRACTOR IS ENTIRELY RESPONSIBLE FOR MAINTAINING THE STABILITY AND STRUCTURAL INTEGRITY OF ALL EXISTING AND PROPOSED STRUCTURES, WITHIN AND ADJACENT TO, THE WORKS FROM THE DATE FOR POSSESSION/COMMENCEMENT OF THE SITE UNTIL PRACTICAL COMPLETION OF THE WORKS.
2. THE CONTRACTOR SHALL PRODUCE A FULL METHOD STATEMENT AND TEMPORARY WORKS PROPOSALS PRIOR TO COMMENCEMENT OF ANY WORKS ON SITE.





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3. THE CONTRACTOR SHALL DESIGN, INSTALL AND MAINTAIN ALL NECESSARY TEMPORARY WORKS AND SHALL ADVISE THE CA AND STRUCTURAL ENGINEER, AT LEAST 14 DAYS BEFORE COMMENCEMENT OF THE WORKS, OF HIS PROPOSALS FOR TEMPORARY SUPPORTS AND SEQUENCE OF CONSTRUCTION FOR THE WORKS. THESE PROPOSALS SHALL BE SUPPORTED BY DESIGN CALCULATIONS IF REQUESTED.
4. THE CONTRACTOR IS TO ENGAGE A SPECIALIST TEMPORARY WORKS ENGINEER TO DESIGN THEIR TEMPORARY WORKS AND ASSIST IN THE PREPARATION OF THEIR METHOD STATEMENT, SEQUENCE OF WORKS, ETC.
5. ALL LOADS REQUIRED TO DESIGN THE TEMPORARY WORKS AND ASSOCIATED ELEMENTS WILL BE DETERMINED BY THE CONTRACTOR AND THEIR TEMPORARY WORKS ENGINEER. NEITHER THESE, NOR ANY OTHER CALCULATIONS, WILL BE SUPPLIED BY CONSTANT STRUCTURAL DESIGN. TEMPORARY WORKS COMMENSURATE WITH TYPICAL BUILDING STRUCTURES OF THIS TYPE ARE EXPECTED.  
THE CONTRACTOR IS ENTIRELY RESPONSIBLE FOR MAINTAINING THE STABILITY OF ALL EXISTING BUILDINGS AND STRUCTURES, WITHIN AND ADJACENT TO THE WORKS, AND OF ALL THE WORKS FROM THE DATE OF POSSESSION OF THE SITE UNTIL PRACTICAL COMPLETION OF THE WORKS.
6. THE CONTRACTOR SHALL DESIGN, INSTALL AND MAINTAIN ALL NECESSARY TEMPORARY WORKS AND SHALL ADVISE BOTH THE ARCHITECT AND STRUCTURAL ENGINEER AT LEAST TEN WORKING DAYS FROM COMMENCEMENT OF THE WORKS, OF THEIR PROPOSALS FOR TEMPORARY SUPPORTS AND SEQUENCE OF CONSTRUCTION FOR THE WORKS. THESE PROPOSALS SHALL BE SUPPORTED BY DESIGN CALCULATIONS AS REQUIRED.
7. UNDER NO CIRCUMSTANCES WILL ANY STRUCTURAL ALTERATIONS BE CARRIED OUT PRIOR TO THE STRUCTURAL ENGINEER COMMENTING ON THE CONTRACTORS TEMPORARY WORKS PROPOSALS.
8. THE DESIGN OF TEMPORARY WORKS SHALL INCLUDE AN ASSESSMENT OF THE LOADS TO BE RESISTED AND IS TO BE UNDERTAKEN BY A COMPETENT PERSON. DUE REGARD SHALL BE GIVEN TO LATERAL STABILITY AS WELL AS TO THE SUPPORT OF VERTICAL LOADS.
9. THE CONTRACTOR IS TO FAMILIARISE HIM/HERSELF WITH THE BUILDING AND ITS STRUCTURE SO THAT HE/SHE IS AWARE ON THE NATURE AND MAGNITUDE OF THE LOADS TO BE SUPPORTED.
10. PARTICULAR CARE IS TO BE TAKEN TO ENSURE THAT TEMPORARY PROPS REMAIN ADEQUATELY SEATED AND TIGHTENED SO THAT SUPPORT TO THE STRUCTURE ABOVE IS NOT ALLOWED TO YIELD DURING BUILDING OPERATIONS.
11. THE CONTRACTOR IS TO ENSURE THAT TEMPORARILY PROPPED STRUCTURE IS ADEQUATELY WEDGED, PINNED OR PACKED OFF THE PERMANENT WORKS PRIOR TO REMOVAL OF ANY TEMPORARY SUPPORTS.
12. THE CONTRACTOR SHALL ENSURE THAT ANY COMPLETED OR PARTIALLY COMPLETED STRUCTURAL ELEMENT IS NOT OVERLOADED. DETAILS OF DESIGN LOADS MAY BE OBTAINED FROM THE STRUCTURAL ENGINEER.





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### TOLERANCES

1. ALL TOLERANCES ARE TO BE AGREED WITH THE ARCHITECT/CA, AND THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THAT SUFFICIENT TOLERANCES ARE PROVIDED AND INTEGRATED THROUGHOUT ALL ELEMENTS OF THE WORKS.
2. THE CONTRACTOR IS TO TAKE ACCOUNT OF TOLERANCES DETAILED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS WHEN COMPLYING WITH THE ABOVE CLAUSE.

### MATERIALS AND WORKMANSHIP

1. ALL ARTICLES, MATERIALS AND GOODS SHALL BE NEW AND OF GOOD QUALITY, SUITABLE OR THE REQUIRED PURPOSE AND SHALL CONFORM TO THE APPROPRIATE, CURRENT EUROCODE, BRITISH STANDARDS (IF STILL APPLICABLE) OR OTHER APPLICABLE STANDARD AND BUILDING REGULATION WHERE SUCH EXISTS. WHERE REFERENCES TO THE ABOVE ARE MADE IT SHALL BE INFERRED THAT THE LATEST EDITION APPLIES, TOGETHER WITH SUBSEQUENT AMENDMENTS, UNLESS OTHERWISE SPECIFIED.

### CONTRACTOR DESIGNED PORTIONS

IN ADDITION TO ANY CDP ITEMS LISTED BY THE ARCHITECT, PROJECT MANAGER OR ANY OTHER MEMBER OF THE DESIGN TEAM, THE CONTRACTOR SHALL ASSUME AND MAINTAIN DESIGN RESPONSIBILITY FOR THE FOLLOWING ELEMENTS:

1. TEMPORARY WORKS: ALL TEMPORARY WORKS AS OUTLINED ABOVE.
2. STAIRCASES, BALUSTRADES & ARCHITECTURAL METALWORK: ALL STAIRCASES, HANDRAILS, BALUSTRADES, JOINERY AND ARCHITECTURAL METALWORK NOT OTHERWISE DETAILED ON THE STRUCTURAL ENGINEER'S DRAWINGS ARE TO BE DESIGNED BY THE CONTRACTOR.
3. EXTERNAL WORKS: ALL EXTERNAL WORKS INCLUDING REINSTATEMENT/REPAIR OF THE GARDENS, FENCES, GARDEN WALLS, STEPS, TERRACES, PUBLIC PAVEMENT/KERBS, ETC. AROUND THE OUTSIDE OF THE SITE FOLLOWING DISRUPTION DURING CONSTRUCTION.
4. DRAINAGE & WATERPROOFING: IN LINE WITH RELEVANT CODES, REGULATIONS AND ARCHITECT'S REQUIREMENTS.
5. STEEL FABRICATION DRAWINGS: COMPLETE DETAILING OF STEEL CONNECTIONS AND PREPARE A FULL SET OF FABRICATION DRAWINGS.
6. CLADDING AND ITS SUPPORT: ALL CLADDING AND ITS SUPPORT INCLUDING ANY SECONDARY STRUCTURE, FRAMING, FIXINGS, ETC. REQUIRED FOR IT TO PERFORM IN LINE WITH THE ARCHITECT'S REQUIREMENTS.
7. GLASS: ALL GLASS AND GLAZING, STRUCTURAL OR OTHERWISE, INCLUDING ALL SEALS, SECONDARY METALWORK, CONNECTIONS, FLASHINGS, SUPPORTS, ETC.
8. PREPARATION OF RC DETAIL DRAWINGS AND SCHEDULES: ALL REINFORCED CONCRETE DETAILING WORK, INCLUDING PREPARATION OF BENDING SCHEDULES AND DETAIL REINFORCEMENT DRAWINGS



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IS TO BE CARRIED OUT BY THE CONTRACTOR. SEE THE CONCRETE SECTION OF THE STRUCTURAL SPECIFICATION FOR FURTHER DETAILS.

9. INTUMESCENT PAINT: IF NOT SPECIFIED BY THE ARCHITECT, THE CONTRACTOR MUST ESTABLISH THE APPROPRIATE THICKNESS OF INTUMESCENT PAINT REQUIRED TO PROVIDE THE REQUIRED PERIOD OF FIRE RESISTANCE. THE PERIOD OF RESISTANCE SHOULD BE OBTAINED FROM THE ARCHITECT OR BUILDING CONTROL FOR EACH ELEMENT.

### EXCAVATION, FILLING & FOUNDATIONS

1. BEFORE BEGINNING ANY EXCAVATION THE CONTRACTOR MUST ENSURE THAT THEY HAVE LOCATED ANY LIVE SERVICES IN THE NEIGHBOURHOOD OF THE INTENDED EXCAVATION.
2. NO EXCAVATION WITHIN 3 METRES OF AN EXISTING FOUNDATION IS TO BE TAKEN BELOW THE LEVEL OF THE EXISTING FOUNDATION UNLESS A METHOD STATEMENT, PREPARED BY THE CONTRACTOR'S SPECIALIST TEMPORARY WORKS ENGINEER, HAS BEEN AGREED IN WRITING WITH THE PARTY WALL SURVEYOR.
3. THE CONTRACTOR MUST NOT EXCAVATE BELOW THE LEVEL OF THE UNDERSIDE OF A PARTY WALL FOUNDATION WITHIN 3 METRES OR UNDERMINE THE BEARING OF A PARTY WALL FOUNDATION WITHIN A 45 DEGREE LINE FROM THE EDGE OF THE BASE WITHIN 6 METRES UNTIL ALL NECESSARY PARTY WALL AWARDS ARE IN PLACE AND METHOD STATEMENTS HAVE BEEN AGREED.
4. THE ENGINEER AND BUILDING CONTROL OFFICER SHALL BE GIVEN THE OPPORTUNITY OF EXAMINING ALL EXCAVATIONS, FILLING AND HARDCORE BEFORE THEY ARE CONCRETED OR COVERED UP. THE CONTRACTOR SHALL GIVE AT LEAST 48 HOURS' NOTICE OF WHEN EXCAVATIONS WILL BE READY FOR INSPECTION. IF A GOOD FOUNDATION BEARING IS NOT OBTAINED AT THE LEVEL SHOWN, THE ENGINEER IS TO BE INFORMED.
5. EXCAVATIONS SHALL NOT BE LEFT EXPOSED LONGER THAN NECESSARY IN ORDER TO AVOID DETERIORATION FROM THE WEATHER OR OTHER CAUSES, AND IF NECESSARY, THEY SHOULD BE TEMPORARILY PROTECTED. IN CLAY FORMATIONS THE EXCAVATIONS SHALL NOT BE LEFT EXPOSED FOR MORE THAN 24 HOURS. IF THE FORMATION DETERIORATES IT SHALL BE CLEANED OUT AND REFORMED TO THE BUILDING CONTROL OFFICER/CA/ENGINEER'S SATISFACTION BEFORE ANY CONCRETE IS PLACED.
6. IF THE BUILDING CONTROL OFFICER REQUESTS AMENDMENTS TO THE FOUNDATIONS OR IF THE CONDITIONS DIFFER FROM THOSE NOTED ABOVE, THE CA, ARCHITECT AND STRUCTURAL ENGINEER ARE TO BE NOTIFIED IMMEDIATELY. THE CONTRACTOR SHALL NOT PROCEED WITHOUT RECEIVING INSTRUCTIONS FROM THE ARCHITECT.
7. THE CONTRACTOR IS TO ENSURE THAT ALL EXCAVATIONS REMAIN STABLE AT ALL TIMES. IF TEMPORARY MEASURES ARE REQUIRED TO ENSURE THIS THE CONTRACTOR MUST ENSURE THEY ARE DESIGNED AND INSTALLED IN LINE WITH THEIR TEMPORARY WORKS ENGINEER'S REQUIREMENTS.
8. THE ENGINEER IS TO BE INFORMED IMMEDIATELY IF ANY SIGNIFICANT CHANGE IN STRATA OCCURS.



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9.     HARDCORE TO BE GRANULAR MATERIAL, FREE FROM EXCESSIVE DUST, WELL GRADED, ALL PIECES LESS THAN 75 MM IN ANY DIRECTION, MINIMUM 10% FINES VALUE OF 50 KN WHEN TESTED IN A SOAKED CONDITION TO BS 812-111, AND IN ANY ONE LAYER ONLY ONE OF THE FOLLOWING:
  - CRUSHED ROCK (OTHER THAN ARGILLACEOUS ROCK) OR QUARRY WASTE WITH NOT MORE BINDING MATERIAL THAN IS REQUIRED TO HELP HOLD THE STONE TOGETHER.
  - CRUSHED CONCRETE, CRUSHED BRICK OR TILE, FREE FROM PLASTER, TIMBER AND METAL.
  - CRUSHED NON-EXPANSIVE SLAG.
  - GRAVEL OR HOGGIN WITH NOT MORE CLAY CONTENT THAN IS REQUIRED TO BIND THE MATERIAL TOGETHER, AND WITH NO LARGE LUMPS OF CLAY.
  - WELL-BURNED NON-PLASTIC COLLIERY SHALE.
  - NATURAL SAND OR GRAVEL.
  - FILLING: SPREAD AND LEVEL IN 150 MM MAXIMUM LAYERS. THOROUGHLY COMPACT EACH LAYER.
10.    FOUNDATIONS ARE TO BE CAST SYMMETRICALLY ABOUT PIERS, WALLS, ETC.
11.    EXCESS EXCAVATION WIDER THAN REQUIRED TO BE INFILLED WITH HARDCORE AS ABOVE.
12.    EXCESS EXCAVATION DEEPER THAN REQUIRED TO BE FILLED WITH DESIGNATED MIX FND 2 CONCRETE.
13.    EARTHWORK SUPPORT: THE TEMPORARY WORKS DESIGNER WILL PROVIDE DETAILS FOR SUPPORTING THE SIDES OF EXCAVATIONS. PROPS WILL BE REMOVED ON COMPLETION UNLESS OTHERWISE INSTRUCTED.

### UNDERPINNING

1.     THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT HIS OPERATIONS DO NOT IN ANY WAY IMPAIR THE SAFETY OR CONDITION OF THE EXISTING STRUCTURE OR THE ADJACENT PROPERTIES. HE SHALL PROVIDE ANY TEMPORARY SUPPORTS REQUIRED FOR THIS PURPOSE AND SHALL CAREFULLY INSPECT THE CONDITION OF THE STRUCTURE BOTH BEFORE AND DURING THE EXECUTION OF THE WORK AND IMMEDIATELY INFORM THE ENGINEER IF HE CONSIDERS THAT ANY MORE STRINGENT PROCEDURE THAN THAT SPECIFIED IS NECESSARY.
2.     UNDERPINNING IS TO BE CARRIED OUT IN SHORT SECTIONS NOT EXCEEDING 1000MM IN LENGTH, IN THE SEQUENCE 1 3 5 2 4 UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
3.     A MINIMUM OF TWO BAYS TO BE LEFT BETWEEN CURRENT EXCAVATIONS.
4.     EXCAVATION TO ANY SECTION OF UNDERPINNING SHALL NOT BE COMMENCED UNTIL AT LEAST 48 HOURS AFTER COMPLETION OF ANY ADJACENT SECTION OF THE WORK.
5.     THE UNDERSIDE OF THE FOOTINGS ARE TO BE CLEANED AND HACKED FREE OF ANY DIRT, SOIL OR LOOSE MATERIAL BEFORE UNDERPINNING.



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6. NON-DEGRADABLE PERFORATED INCOMPRESSIBLE SHUTTERS SHOULD BE USED AT THE OUTSIDE FACE FOR EACH PIN EXCAVATION. ONCE PROPPED THE SHUTTER SHOULD BE GROUTED THROUGH THE PERFORATED OPENINGS TO ENSURE THERE ARE NO VOIDS BEYOND
7. THE BODY OF THE UNDERPINNING IS TO BE CONSTRUCTED IN CONCRETE NOMINAL 1:2:4 MIX USING SULPHATE RESISTANT CEMENT AND 20MM MAX. AGGREGATE, AND IS TO BE CAST TO THE WIDTHS AND DEPTHS SHOWN ON THE DRAWINGS. AS FAR AS PRACTICABLE, EXCAVATION AND CONCRETING OF ANY SECTION OF UNDERPINNING SHALL BE CARRIED OUT ON THE SAME DAY. UNCONCRETED SECTIONS SHALL BE KEPT COVERED AND PROPPED TO PREVENT THE INGRESS OF WATER.
8. THE MASS CONCRETE IS TO BE STOPPED OFF APPROXIMATELY 75MM BELOW THE UNDERSIDE OF THE EXISTING FOOTING, AND THE FINAL PINNING UP OVER THE WHOLE EXTENT OF THE LATTER IS TO BE CARRIED OUT WITH A SEMI-DRY FINE CONCRETE, WELL RAMMED IN AS SOON AS POSSIBLE AFTER THE FOUNDATION HAS SET HARD. THE PINNING-UP CONCRETE IS TO CONSIST OF 1 PART BY VOLUME OF SULPHATE RESISTANT CEMENT TO 3 PARTS OF AGGREGATE (WELL GRADED FROM 10MM MAXIMUM SIZE DOWN TO FINE SAND) WITH A WATER/CEMENT RATIO BY WEIGHT OF 0.35. FOSROC CEBEX 100 ADMIXTURE IS TO BE INCLUDED IN THE MIX ACCORDING TO THE MANUFACTURERS GUIDANCE.
9. THE JOINT BETWEEN ADJACENT SECTIONS OF UNDERPINNING IS TO BE FORMED BY CREATING A ROUGH SURFACE AGAINST WHICH THE FIRST SECTION IS CAST, OR PROVIDE 4 NO. T16 DOWEL BARS BETWEEN PINS 600 LONG. THEN, HAVING THOROUGHLY CLEANED THE EXPOSED CONCRETE FACE, THE ADJACENT SECTIONS MAY BE CAST.
10. ANY CORBELS TO BE REMOVED SHOULD BE RETAINED UNTIL THE UNDERPINNED IS COMPLETE, DRY PACKED AND CURED BEFORE CAREFUL REMOVAL
11. THE CONTRACTOR SHALL PROVIDE FOR THE MAINTENANCE OF DRAINAGE SERVICES DURING THE UNDERPINNING OPERATION AND FOR THE REINSTATEMENT OF ANY SERVICES INTERRUPTED OR DISTURBED BY THE EXCAVATIONS.
12. THE CONTRACTOR SHALL PREPARE A SEQUENCE OF WORK AND SUBMIT IT TO THE ENGINEER FOR HIS COMMENTS PRIOR TO THE COMMENCEMENT OF WORK.

## CONCRETE

1. MATERIALS AND WORKMANSHIP ARE TO COMPLY GENERALLY THE APPROPRIATE, CURRENT EUROCODE, BRITISH STANDARDS (IF STILL APPLICABLE) OR OTHER APPLICABLE STANDARD AND BUILDING REGULATION WHERE SUCH EXISTS.
2. **RC DETAILING & BENDING SCHEDULES**
  - ALL REINFORCED CONCRETE DETAILING WORK, INCLUDING PREPARATION OF BENDING SCHEDULES, DETAIL REINFORCEMENT DRAWINGS AND ANY GENERAL ARRANGEMENT DRAWINGS ADDITIONAL TO THOSE PROVIDED AT TENDER STAGE IS TO BE CARRIED OUT BY THE CONTRACTOR.
  - SIZES AND NUMBERS/SPACING OF MAIN BARS WILL BE PROVIDED POST-TENDER BY THE STRUCTURAL ENGINEER IN LINE WITH A PROGRAMME TO BE AGREED WITH THE CONTRACTOR. THIS



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PROGRAMME WILL NEED TO BE BROKEN DOWN BY ELEMENT AND NOT SIMPLY REQUEST ALL THE INFORMATION IN ONE HIT.

- THE CONTRACTOR IS TO PREPARE SUBMIT DETAIL DRAWINGS AND BENDING SCHEDULES TO THE STRUCTURAL ENGINEER FOR COMMENT. DRAWINGS ARE TO BE PREPARED ON AUTOCAD, OR A SIMILAR DRAWING PROGRAMME, AND ISSUED IN PDF AND DWG FORMAT.

-THE CONTRACTOR'S PROGRAMME SHOULD ALLOW AT LEAST 10 DAYS BETWEEN SUBMISSION OF RC DRAWINGS AND SCHEDULES TO THE ENGINEER AND RETURN OF COMMENTS FROM THE ENGINEER.

- THE CONTRACTOR SHOULD ALLOW TIME AND COSTS FOR AT LEAST THREE SUBMISSIONS OF DRAWINGS AND SCHEDULES FOLLOWED BY COMMENTS FROM THE DESIGN TEAM WITHIN THEIR PROGRAMME.

3. CONCRETE FOR ALL NEW ELEMENTS IS TO BE GRADE RC40 TO BS 8500 AND BS EN 206-1 WITH CEM1 OPC TO BS EN 197 AND 20MM MAX AGGREGATE. UNLESS NOTED OTHERWISE ON STRUCTURAL ENGINEER'S DRAWINGS.
4. CONCRETE FOR NEW FOUNDATIONS, GROUND BEAMS, RETAINING WALLS, GROUND SLABS AND ALL OTHER ELEMENTS IN CONTACT WITH THE GROUND ARE TO USE SULPHATE RESISTING CEMENT. UNLESS NOTED OTHERWISE ON STRUCTURAL ENGINEER'S DRAWINGS.
5. CONCRETE FOR PADSTONES, ELBOW TIES AND LINTELS IS TO BE 2:3:6 NOMINAL MIX, WITH OPC AND 12MM MAX AGGREGATE. UNLESS NOTED OTHERWISE ON STRUCTURAL ENGINEER'S DRAWINGS.
6. READY MIXED CONCRETE MUST BE OBTAINED FROM A PLANT WHICH HOLDS A CURRENT CERTIFICATE OF ACCREDITATION UNDER THE QUALITY SCHEME FOR READY MIXED CONCRETE.
7. SITE-MIXED CONCRETE MAY ONLY BE USED WHEN AGREEMENT IN WRITING FROM THE ENGINEER HAS BEEN OBTAINED BY THE CONTRACTOR. AN AGREED PRE-BATCHED AND BAGGED PROPRIETARY CONCRETE MUST BE USED UNLESS AN ALTERNATIVE SITE BATCHED CONCRETE HAS BEEN AGREED WITH THE ENGINEER.
8. DO NOT PLACE CONCRETE WHEN THE AMBIENT AIR TEMPERATURE IS LESS THAN 5 DEGREES CELSIUS OR WHEN THE AMBIENT TEMPERATURE WILL DROP BELOW 5 DEGREES CELSIUS WITHIN THE 5 DAYS IMMEDIATELY AFTER OF THE POUR.
9. ALL HOLES SHALL BE FORMED AND ALL INSERTS CAST IN AT THE TIME OF POURING CONCRETE. NO PART OF THE CONCRETE WORKS SHALL BE DRILLED OR CUT AWAY WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
10. REINFORCEMENT SHALL COMPLY WITH ONE OF THE FOLLOWING:
  - DEFORMED BARS TO BS 4449, GRADE B500 OR 460 (HIGH YIELD) TYPE 2, PREFIX T OR H ON DRAWINGS AND SCHEDULES.
  - MESH TO BS 4483
11. MAIN BAR SIZES AND SPACINGS WILL BE PROVIDED BY THE STRUCTURAL ENGINEER ON REQUEST.



- 12. REINFORCEMENT SHALL BE FIXED ADEQUATELY USING TIE WIRE OR STEEL CLIPS. CONCRETE COVER IS TO BE AS SPECIFIED ON THE DRAWINGS. CHAIRS AND SPACERS ARE TO BE PROVIDED AS NECESSARY TO MAINTAIN THE SPECIFIED COVER.
- 13. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL REINFORCEMENT IS TO BE LAPPED 40D (WHERE D IS DIAMETER OF THE LARGER BAR).
- 14. COVER TO ALL INTERNAL FACES OF CONCRETE TO BE 25MM. COVER TO ALL OTHER FACES OF CONCRETE TO BE 40MM.
- 15. ALL NEW GROUND BEARING SLABS TO HAVE 50MM BLINDING ON 150 WELL COMPACTED HARDCORE BELOW.

16. CURING

- THE CONTRACTOR IS TO PROVIDE SUITABLE CURING FOR ALL CONCRETE ELEMENTS TO COMPLY WITH THE REQUIREMENTS OF BS 8110-1:1997 TABLE 6.1, OR EUROCODE EQUIVALENT.
- PREVENT EVAPORATION FROM ALL SURFACES OF CONCRETE THROUGHOUT THE CURING PERIOD BELOW.
- RETAIN FORMWORK IN POSITION AND, WHERE NECESSARY TO SATISFY CURING PERIOD, COVER SURFACES IMMEDIATELY AFTER STRIKING.
- TOP SURFACES: COVER IMMEDIATELY AFTER PLACING AND COMPACTING. IF COVERING IS REMOVED FOR FINISHING OPERATIONS, REPLACE IT IMMEDIATELY AFTERWARDS.
- SURFACE TEMPERATURE: MAINTAIN ABOVE 5°C THROUGHOUT THE SPECIFIED CURING PERIOD OR FOUR DAYS, WHICHEVER IS LONGER.

17. MINIMUM CURING PERIODS IN DAYS:

CONDITIONS	CONCRETE MADE USING CEM1; SRPC (BS 4027); IIA	CONCRETE MADE USING IIB; IIIA; IIIB; IVB
DRYING WINDS OR DRY, SUNNY WEATHER	80/(T+10)	140/(T+10)
INTERMEDIATE CONDITIONS	60/(T+10)	80/(T+10)
DAMP WEATHER, PROTECTED FROM SUN AND WIND	NO SPECIAL REQUIREMENTS	NO SPECIAL REQUIREMENTS
'T' IS THE AVERAGE AIR TEMPERATURE IN DEGREES CELSIUS DURING THE CURING PERIOD		

CURING PERIODS FOR CONCRETES USING ADMIXTURES AND CONCRETE SURFACES WHICH, IN THE FINISHED BUILDING, WILL BE EXPOSED; WEARING SURFACE FLOORS AND PAVEMENTS; WATER RESISTANT CONCRETE: SUBMIT PROPOSALS.



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18. FINISH: ALL CONCRETE SURFACES ARE TO HAVE A PLAIN SMOOTH FINISH WITH THE FOLLOWING.
- EVEN WIDTH PANELS ARRANGED IN A REGULAR PATTERN AS A FEATURE OF THE SURFACE
  - PERMISSIBLE DEVIATION OF SURFACES:
    - SUDDEN IRREGULARITIES (MAXIMUM): 5 MM.
    - GRADUAL IRREGULARITIES WHEN MEASURED FROM THE UNDERSIDE OF A 1 M STRAIGHTEDGE, PLACED ANYWHERE ON SURFACE (MAXIMUM): 5 MM.
  - VARIATIONS IN COLOUR:
    - PERMITTED: THOSE CAUSED BY IMPERMEABLE FORM LININGS.
    - NOT PERMITTED: DISCOLORATION CAUSED BY CONTAMINATION OR GROUT LEAKAGE.
  - SURFACE BLEMISHES:
    - PERMITTED: BLOWHOLES LESS THAN 10 MM IN DIAMETER AND AT AN AGREED FREQUENCY.
    - NOT PERMITTED: VOIDS, HONEYCOMBING, SEGREGATION AND OTHER LARGE DEFECTS.
    - FORMWORK TIE HOLES: IN A REGULAR PATTERN AND FILLED WITH MATCHING MORTAR

### TIMBER

1. NEW TIMBER IN THE WORKS IS TO BE SELECTED STRUCTURAL TIMBER NOT INFERIOR TO EUROPEAN REDWOOD/WHITEWOOD GRADE C24 TO BS EN 338:2009, UNLESS NOTED OTHERWISE ON DRAWINGS.
2. THE CONTRACTOR IS TO HAVE ALL EXISTING TIMBER, INCLUDING JOISTS, RAFTERS, STUDS, LINTELS, BUILT IN JOIST ENDS, WALL PLATES, ETC. ARE TO BE CHECKED FOR ROT (WET AND DRY) AND INFESTATION, BY A SPECIALIST COMPANY.
3. TIMBER FOUND TO HAVE ROT OR INFESTATION IS TO BE TREATED/REPAIRED/REPLACED IN ACCORDANCE WITH RECOMMENDATIONS FROM THE SPECIALIST COMPANY.
4. NEW TIMBER IN THE WORKS IS TO BE VACUUM IMPREGNATED WITH PRESERVATIVE TO BS EN 1995-1-1 AND BS EN 351-1 AND THE MANUFACTURER'S RECOMMENDATIONS. CUT ENDS ARE TO BE THOROUGHLY TREATED WITH BRUSH APPLIED COATS OF APPROPRIATE PRESERVATIVE BEFORE FIXING. ALL PRESERVATIVES ARE TO BE TO THE ARCHITECT'S APPROVAL.
5. STRUCTURAL TIMBERS MAY ONLY BE DRILLED OR CUT FOR SERVICES WITH WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER. DRILL HOLES AND NOTCHES IN JOISTS TO BE IN ACCORDANCE WITH NHBC STANDARDS CHAPTER 6.4-S9 AND BS EN 1995-1-1.
6. SIZES OF NEW STRUCTURAL TIMBERS NOTED ON DRAWINGS ARE SAWN BASIC SIZES.
7. JOIST HANGERS, STRAPS, CONNECTORS ETC. SHALL BE PURPOSE MADE AND OF THE MANUFACTURE OR PERFORMANCE STATED ON THE DRAWINGS. IF NOT SPECIFIED OTHERWISE ON DRAWINGS ALL JOIST HANGERS TO BE EXPAMET MAXI SPEEDY AND ALL STRAPS TO BE EXPAMET HD STRAPS.





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8. ALL TIMBER CONNECTORS, SCREWS, NAILS, JOIST HANGERS, STEEL STRAPS ETC. ARE TO BE GALVANISED OR SHERADISED. ALL SUCH ITEMS ARE TO BE FIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
9. JOISTS TO BE DOUBLED UNDER ALL NEW PARTITIONS.
10. SKEW SCREWING SHOULD GENERALLY BE CARRIED OUT USING 3.5MM DIAMETER X 75MM LONG MINIMUM DRYWALL SCREWS.
11. UNLESS OTHERWISE SPECIFIED, SECURELY FIX FULL DEPTH SOLID TIMBER NOGGINS BETWEEN JOISTS AS FOLLOWS:
  - JOIST SPANS OF UP TO 3.5M: ONE ROW AT THIRD SPANS AND AT THE BEARINGS/SUPPORTS.
  - JOIST SPANS OVER 3.5M: ROWS AT QUARTER SPANS, MID SPAN AND AT THE BEARINGS.
  - AT POSITIONS OF JOINTS IN PLY SHEETING.
12. WHERE SECTIONS OF FLOOR OR ROOF ARE SEPARATED BY A STEEL BEAM INSTALL 1250MM LONG 30 X 5MM STRAPS AT 800MM C/C FOR CONTINUITY.
13. ALL FLOORS AND ROOFS TO HAVE 18MM THICK PLYWOOD DECKING SCREWED TO ALL JOISTS, RAFTERS, NOGGINS AND STUD WALLS AND TEK SCREWED TO TOP OF ALL STEEL BEAMS.
14. ALL STUD WALLS TO BE FORMED FROM 75 X 100 THICK C24 STUDS AT 400MM CENTRES, WITH STUDS DOUBLED AT CORNERS AND EDGES OF OPENINGS, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL STUDS TO BE RESTRAINED WITH EXPAMET ANGLE BRACKETS ON EACH SIDE OF STUDS AT TOP AND BOTTOM.
15. ALL STUD WALLS TO HAVE MINIMUM 12MM THICK PLYWOOD SHEATHING SCREWED TO ALL STUDS, NOGGINS, BLOCKING, ETC. ON BOTH SIDES UNLESS NOTED OTHERWISE ON DRAWINGS.
16. SOLEPLATES/WALL PLATES ARE TO BE POSITIVELY FIXED TO THE FLOOR/SUBSTRATE. M8 BOLTS / COACH SCREWS / RESIN ANCHORS AT 400 CTRS.
17. PLYWOOD DECKING/SHEATHING TO BE FIXED TO JOISTS USING 3.5MM MINIMUM DIAMETER SCREWS AT 150 CENTRES ALONG EDGES AND AT 300MM CENTRES ELSEWHERE. NOGGINS TO BE FIXED UNDER PLYWOOD PANEL JOINTS WHERE PERPENDICULAR TO JOISTS UNLESS TONGUE AND GROOVE BOARDS USED. PLYWOOD FIXED TO STEEL BEAMS WITH EVOLUTION TEK SCREWS AT 150 CENTRES.
18. ALL EXTERNAL WALLS ARE TO BE STRAPPED TO ADJACENT FLOOR AND ROOF JOISTS/RAFTERS (BOTH AT JOIST ENDS AND PARALLEL TO JOISTS) WITH MIN. 750 LONG EXPAMET HD STRAPS AT 800MM C/C. FULL HEIGHT SOLID SW BLOCKING TO BE ADDED AT ALL STRAP LOCATIONS WHERE STRAPS ARE RUNNING PERPENDICULAR TO JOIST SPAN. STRAPS ANCHORED TO WALLS WITH 2NO, HILTI HY-70 M8 ANCHORS AND SCREWED TO JOISTS AND BLOCKING.

### **STEELWORK**

1. ALL WORKMANSHIP IS TO COMPLY WITH BS EN 1993-1-1 AND BS EN 1090-2 AND THE LATEST EDITION OF THE NATIONAL STRUCTURAL STEELWORK SPECIFICATION (NSSS) FOR BUILDING CONSTRUCTION, AND ALL CLAUSES, INCLUDING APPENDICES ARE DEEMED TO BE PART OF THIS SPECIFICATION.



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2. ALL STRUCTURAL STEEL SECTIONS ARE TO BE MINIMUM GRADE S355 TO THE APPLICABLE CODE FROM THE FOLLOWING LIST; BS 4-1:2005, BS EN 10210-2:2006, BS EN 10025-2:2004.
3. ALL BOLTS ARE TO BE GRADE 8.8 BLACK BOLTS TO BS 4190 UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.
4. SITE WELDING SHALL NOT BE PERMITTED.
5. SETTING OUT DIMENSIONS ARE TO BE OBTAINED FROM THE ARCHITECT'S DRAWINGS. THE STEELWORK FABRICATOR SHALL OBTAIN ALL NECESSARY DIMENSIONS FROM SITE.
6. THE CONTRACTOR IS TO CARRY OUT A FULL SITE SURVEY TO ESTABLISH THE LENGTHS OF ALL STEEL MEMBERS CONNECTING TO EXISTING STRUCTURE PRIOR TO PREPARATION OF FABRICATION DRAWINGS.
7. NO SPLICES ARE PERMITTED IN ANY ELEMENTS.
8. ALL WELDING IS TO COMPLY WITH BS EN 1011 PARTS 1 & 2. ALL WELDS ARE TO BE 6MM FILLET WELDS OR FULL-STRENGTH BUTT WELDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
9. WHERE ENDPLATES, CAPPING PLATES, BASEPLATES, ETC. ARE SHOWN AT THE END OF A STEEL ELEMENT, THESE ARE TO BE WELDED TO THE STEEL ELEMENT WITH A 6MM FILLET WELD. THAT WELD IS TO EXTEND AROUND THE ENTIRE CONTRACT PERIMETER BETWEEN THE PLATE AND STEEL ELEMENT.
10. MINIMUM CONNECTION BETWEEN STEEL ELEMENTS TO BE 4NO. M16 BOLTS WITH 15 THICK END PLATE.
11. WHERE ANY DIFFERENT STEEL MATERIALS OR STEEL MATERIALS WITH DIFFERENT FINISHES (E.G. PAINTED STEEL, GALVANISED STEEL, STAINLESS STEEL, ETC.) IN CONTACT OR ARE CONNECTED TOGETHER, ALL CONTACT SURFACES BETWEEN THEM ARE TO BE ISOLATED TO PREVENT CONTACT AND CORROSION.
12. THE CONTRACTOR IS TO DESIGN AND DETAIL ALL CONNECTIONS (INCLUDING THOSE BETWEEN STEEL AND OTHER MATERIALS), NOT ALREADY DETAILED ON THE STRUCTURAL ENGINEER'S DRAWINGS, IN ACCORDANCE WITH THE APPROPRIATE, CURRENT EUROCODE, BRITISH STANDARDS (IF STILL APPLICABLE) OR OTHER APPLICABLE STANDARD AND BUILDING REGULATION WHERE SUCH EXISTS.
13. DETAILING OF STEELWORK
  - ALL STEELWORK ELEMENTS SHALL BE DETAILED BY THE CONTRACTOR.
  - THE CONTRACTOR IS TO PREPARE A FULL 3D MODEL OF ALL STEELWORK IN THE BUILDING ON A SPECIALIST DETAILING PACKAGE TO ENSURE THAT ALL ELEMENTS, JUNCTIONS, DIMENSIONS, ETC. FIT TOGETHER CORRECTLY AND DO NOT PROJECT OUTSIDE OF THE STRUCTURAL ZONES.
  - A FULL SET OF FABRICATION DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR FOR COMMENT BY THE ARCHITECT/STRUCTURAL ENGINEER.
  - THE CONTRACTOR MUST ALLOW TIME AND COSTS FOR AT LEAST THREE SUBMISSIONS/RE-SUBMISSIONS OF FABRICATION DRAWINGS FOLLOWED BY COMMENTS FROM THE DESIGN TEAM WITHIN THEIR PROGRAMME.



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- THE CONTRACTOR'S PROGRAMME MUST ALLOW AT LEAST 10 WORKING DAYS BETWEEN THE ENGINEER'S RECEIPT OF A FULL SET OF FABRICATION DRAWINGS AND THE ENGINEER RETURNING COMMENTS. THIS TIME PERIOD APPLIES TO EACH SUBMISSION/RE-SUBMISSION OF FABRICATION DRAWINGS.

14. ALL BOLT POCKETS, SPACES BELOW BASE PLATES, ETC. AT COLUMN BASES AND BEAM BEARINGS TO BE COMPLETELY FILLED WITH FOSROC CONBEXTRA GROUT.

### PROTECTIVE COATINGS

15. ALL STEELWORK IS TO BE BLAST CLEANING TO SA 2½ TO BS EN ISO 8501-1 (WELDS/EDGES/AREAS WITH SURFACE IMPERFECTIONS: TO BS EN ISO 8501-3, PREPARATION GRADE) PRIOR TO THE APPLICATION OF ANY COATING.
16. ALL PAINTING SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN ISO 12944, BS EN 1090-2 AND THE PAINT MANUFACTURER'S INSTRUCTIONS. PAINT SYSTEMS AS SPECIFIED BELOW ARE BY SHERWIN-WILLIAMS PROTECTIVE & MARINE COATINGS. NO ALTERNATIVE MANUFACTURERS ARE PERMITTED.
17. ALL STEELWORK WILL BE PROTECTED AS FOLLOWS, DEPENDING ON WHICH OF THE THREE CATEGORIES BELOW FALLS INTO. SHOULD DIFFERENT PARTS OF AN ELEMENT FALL UNDER TWO DIFFERENT CATEGORIES, THE WHOLE BEAM MUST BE PROTECTED TO COMPLY WITH THE MORE ONEROUS CATEGORY:

**CATEGORY 1:** A WARM, DRY BUILDING WITH NO RISK OF CONDENSATION ON STEELWORK I.E. INTERNAL STEELWORK CONCEALED AND FIRE PROTECTED WITH PLASTER FINISHES  
ALL SURFACES, WHICH SHALL BE DRY, SHALL BE PAINTED WITH 75 MICRONS DRY FILM THICKNESS OF MACROPOXY C400V3. THIS COAT SHOULD BE APPLIED IN THE WORKS WITH ANY SUBSEQUENT DAMAGE MADE GOOD ON SITE.

**CATEGORY 2:** FOR STEELWORK WITHIN THE PERIMETER WALL OF A BUILDING, SUCH AS WITHIN THE INNER LEAF OF A CAVITY WALL BUT NOT IN CONTACT WITH THE EXTERNAL LEAF:  
ALL SURFACES, WHICH SHALL BE DRY, SHALL BE PAINTED WITH 125 MICRONS DRY FILM THICKNESS OF MACROPOXY C400V3. THIS COAT SHOULD BE APPLIED IN THE WORKS WITH ANY SUBSEQUENT DAMAGE MADE GOOD ON SITE.

**CATEGORY 3:** FOR STEELWORK IN CONTACT WITH THE EXTERNAL LEAF:  
ALL SURFACES, WHICH SHALL BE DRY, SHALL BE PAINTED WITH 300 MICRONS DRY FILM THICKNESS OF MACROPOXY C400V3. THIS COAT SHOULD BE APPLIED IN THE WORKS WITH ANY SUBSEQUENT DAMAGE MADE GOOD ON SITE.

### INTUMESCENT PAINT

18. ALL STEELWORK TO BE FIRE PROTECTED WITH INTUMESCENT PAINT TO PROVIDE A MINIMUM OF 1 HOUR FIRE PROTECTION, UNLESS OTHERWISE NOTED BY THE ARCHITECT.
19. INTUMESCENT PAINT, UNLESS NOTED OTHERWISE BY THE ARCHITECT, IS TO BE FIRETEX. SPECIFIC PRODUCT SELECTION, THICKNESS AND APPLICATION REQUIREMENTS ARE TO BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER. THE CONTRACTOR IS TO CONTACT SHERWIN-WILLIAMS PAINTS AND ESTABLISH A SUITABLE INTUMESCENT PAINT SPEC PRIOR



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TO RETURNING THEIR TENDER TO ENSURE THAT ADEQUATE ALLOWANCE IS MADE IN THEIR TENDER PRICE AND PROGRAMME.

### LINTELS

1. EXISTING LINTELS TO BE EXPOSED ON SITE FOR INSPECTION WHERE REQUESTED BY THE STRUCTURAL ENGINEER.
2. PRECAST CONCRETE LINTELS ARE TO BE TO BS5977 BY NAYLOR INDUSTRIES. SIZES AND TYPES AS INDICATED ON THE DRAWINGS. END BEARING LENGTHS ARE TO BE AT LEAST 150MM, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. GALVANISED STEEL LINTELS ARE TO BE TO BS 5977 BY CATNIC, PONTYPANDY INDUSTRIAL ESTATE, CAERPHILLY CF83 3GL.
4. THE CONTRACTOR SHALL OBTAIN THE ARCHITECT'S WRITTEN APPROVAL, PRIOR TO COMMENCEMENT OF THE WORK, TO THE USE OF LINTELS BY ALTERNATIVE MANUFACTURERS TO THOSE LISTED ABOVE

### MASONRY

1. WORKMANSHIP IS TO COMPLY GENERALLY WITH THE APPROPRIATE, CURRENT EUROCODE, BRITISH STANDARDS (IF STILL APPLICABLE) OR OTHER APPLICABLE STANDARD.
2. NEW BRICKWORK ABOVE DPC IS TO BE MINIMUM CLASS 3 SET IN 1:1:6 MORTAR, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. NEW BLOCKWORK IS TO BE MINIMUM STRENGTH 7.3N/MM<sup>2</sup> SET IN 1:1:6 MORTAR, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. BRICKWORK AND BLOCKWORK ARE TO BE LAID PROPERLY BONDED AS AGREED WITH THE ARCHITECT AND FULLY BONDED INTO EXISTING WORK, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
5. ALL MASONRY BELOW DPC IS TO BE SET IN 1:3 (CEMENT:SAND WITH PLASTICISER) MORTAR WITH SULPHATE RESISTING CEMENT, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
6. NEW BRICKWORK BELOW DPC AND IN RETAINING WALLS IS TO BE CLASS B ENGINEERING BRICKS.
7. NEW BLOCKWORK BELOW DPC IS TO BE SPECIFIED AS SUITABLE FOR SUCH USE BY THE MANUFACTURER, AND OF MINIMUM STRENGTH 7.3N/MM<sup>2</sup>, OR AS NOTED ON THE DRAWINGS.
8. CAVITY WALLS EXTENDING BELOW EXTERNAL GROUND LEVEL ARE TO HAVE A MORTAR FILLED CAVITY.
9. DO NOT LAY MASONRY WHEN THE AMBIENT AIR TEMPERATURE IS LESS THAN 5° CELSIUS.
10. CAVITY WALL TIES SHALL BE STAINLESS STEEL ANCON STAIFIX RT2 STAINLESS STEEL TIES (OR SIMILAR EQUIVALENT) SPACED AT 450MM CENTRES VERTICALLY, 900MM CENTRES HORIZONTALLY STAGGERED, AND AT 250MM CENTRES VERTICALLY 150MM FROM ALL OPENINGS, CORNERS AND REVEALS. MINIMUM EMBEDMENT TO BE 60MM INTO EACH MASONRY LEAF.



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11. WHERE BLOCKWORK/BRICKWORK IS TO BE BUILT UP TO THE UNDERSIDE A STEEL BEAM OVER, ANCON IHR-B HEAD RESTRAINT TIES SHOULD BE INSTALLED AT 450MM CTRS TEK SCREWED TO THE UNDERSIDE OF THE STEEL BEAM.
12. IN DRY WEATHER, BRICKS ARE TO BE SOAKED IN WATER BEFORE BEING LAID, AND TOPS OF WALLS TO BE RAISED ARE TO BE SIMILARLY SOAKED BEFORE WORK IS RECOMMENCED.
13. BRICKWORK AND BLOCKWORK IS TO BE CARRIED UP IN A UNIFORM MANNER AND IS TO BE RAKED BACK AND NOT TOOTHED UP, NO SECTION RISING MORE THAN ONE METRE ABOVE THE REMAINDER. BRICKWORK BUILT WITH STANDARD 65MM BRICKS SHALL RISE AT THE RATE OF FOUR COURSES TO 300MM. NO MORE THAN SIXTEEN COURSES SHALL BE BUILT IN A DAY.
14. CRACK CONTROL BRICK REINFORCEMENT IS TO BE PROVIDED OVER DOORS, OVER AND UNDER WINDOWS AND AT CHANGES IN PROFILE (E.G. WHERE THE BUILDING STEPS FROM TWO STOREYS TO ONE STOREY), AS FOLLOWS: 2 LAYERS OF ANCON AMR IN THE TWO BED JOINT IMMEDIATELY ADJACENT TO THE OPENING. TO EXTEND 600MM BEYOND THE OPENING ON BOTH SIDES AND 600MM EITHER SIDE OF THE CHANGE IN PROFILE.
15. MASONRY REPAIR/MAKING GOOD TO EXISTING ADJACENT TO DEMOLITION AND EXTENDING EXISTING SHOULD GENERALLY BE MADE BY STITCHING IN BRICKWORK UNLESS NOTED OTHERWISE ON THE DRAWINGS.
16. ALL NEW AND EXISTING EXTERNAL WALLS ARE TO BE STRAPPED TO ADJACENT FLOOR AND ROOF JOISTS/RAFTERS (BOTH AT JOIST ENDS AND PARALLEL TO JOISTS) WITH MIN. 750 LONG EXPAMET HD STRAPS AT 800MM C/C. FULL HEIGHT SOLID SW BLOCKING TO BE ADDED AT ALL STRAP LOCATIONS WHERE STRAPS ARE RUNNING PERPENDICULAR TO JOIST SPAN. STRAPS ANCHORED TO WALLS WITH 2NO, HILTI HY-70 M8 ANCHORS AND SCREWED TO JOISTS AND BLOCKING

### **NOTES TO CLIENT:**

THE INTRODUCTION OF STRUCTURAL STEELWORK INTO AN EXISTING BUILDING TO ALLOW REMOVAL OF LOAD BEARING WALLS IS MAJOR INTERVENTION.

NEW STEEL BEAMS WILL DEFLECT UNDER LOAD, THEREFORE WHEN THE TEMPORARY PROPS ARE REMOVED THERE MAY BE SOME MOVEMENT OF THE STRUCTURE ABOVE, CAUSING CRACKING IN THE FINISHES. THE DESIGN MINIMISES THIS, HOWEVER CANNOT PREVENT THIS.

THE DESIGN PROVIDED IS BASED ON THE INFORMATION AVAILABLE AT THIS TIME. ONCE THE PROJECT COMMENCES IT IS POSSIBLE THAT CHANGES WILL BE REQUIRED, DUE TO UNFORESEEN CIRCUMSTANCES FOUND BY THE BUILDER/CONTRACTOR.



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**Designers' Risk Assessment:**

<b><u>Ref No</u></b>	<b><u>Hazard</u></b>	<b><u>Risk</u></b>	<b><u>Design Mitigation Action</u></b>	<b><u>Residual Risk Owner</u></b>
001	Uncertain ground profile	Different strength of the ground designed and different datum levels	Additional SI at work area to assist in identifying risk level.	Contractor
002	Asbestos presence	Possible program delay and risk from site personnel injury (long term health issues).	Site investigation prior to the construction to get confirmation about asbestos in the affected area.	Contractor
003	Accuracy of the existing structures position and information. Lack of survey information in critical conditions.	The designed elements will not fit, re-design will be required. Structural elements need to be amended on site. Effect on program and cost.	Carry out site survey and review information prior and during detailed design. Design the new structure with flexibility to adopt site requirements. Where possible allow for tolerance.	Contractor
004	Services not removed, redirected during enabling works. Not identified services affected by construction.	Program delays. Health and safety risks to site personnel (i.e. electrocution by power cables).	Carry out surveys and assessments together with enabling works team to identify zones effected. Redirect existing services prior to construction works.	Contractor
005	Location of the existing sewer, drainage and pipes position and information. Lack/incorrect survey information.	The foundations/structure designed elements will not fit/meet the BC and utility provider (Thames Water, East Anglia Water, etc.) regulations. Re-design will be required. Structural elements need to be amended on site. Effect on program and cost.	The Contractor shall notify the Engineer, after carrying out site survey (if needed CCTV), the exact positions/information to review the design.	Contractor
006	Uncertain conditions and properties of existing masonry walls.	Eventual crushing and breaking due to transferred loads from proposed structures.	Site to be investigated thoroughly prior to construction and obtain masonry properties and details.	Contractor
007	Lack of headroom during construction	Limited space causing problems during	Contractor to find suitable construction method to enable safety of personnel.	Contractor



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		construction and possible delays.		
008	Excessive noise during construction	Damage of hearing to site personnel.	Noise monitoring system to be installed by contractor.	Contractor
009	Restricted access/egress	Awkward or difficult access or egress to and from the work area. / Long distances, carrying materials, equipment, etc.	Attend site induction and ensure all personnel aware of building emergency procedures at all times. Ensure all personnel are signed in with site security or reception and receive instruction re designated work area emergency signals/alarms	Contractor
010	Internal traffic (pedestrians)	Risks to other persons while when in ECEX work area and/or when transporting materials to and from work location.	Client to notify other site personnel of access restrictions.	Contractor
011	Environmental conditions – Extreme heat, Humidity, High winds, Lightning	Risk of injury due to heat exhaustion, moving materials, lightning	Forecast will be checked before work commences.  Conditions will be continually monitored throughout the period of work and if conditions deteriorate, work will be postponed or aborted.  All materials storage must take into account environmental conditions.	Contractor
012	Materials (i.e. concrete, steel, timber) not placed to specified standards	Eventual failure of structural members	Contractor to ensure products meet specifications from engineer's drawings.	Contractor
013	Constructability of reinforcement for concrete due to limited space.	Risk from site injury personnel and difficulty of moving equipment.	Sufficient space has been designed for. Temporary works to also take this into account.	Contractor
014	Spillage of materials/tripping from site personnel	Spillage of substances likely to cause a slip hazard.	Ensure cleaned on arrival. Stop work if a spillage occurs and clean area completely before recommencing.	Contractor
015		Trailing cables when using corded tools or extension leads etc.	Keep leads tidy and out of pedestrian routes	Contractor
016		Incorrectly or poorly stored materials and equipment which can fall, slip or move causing	Supervisor to identify / agree a suitable storage location on arrival at work site.  Ensure all materials kept out of pedestrian	Contractor





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		injuries. Stored materials causing trip hazard in work area or adjacent thoroughfares	routes. Clean up all waste to storage area regularly.  Ensure work area clean prior to leaving site at end of shift or if site left unattended.	
017		Slippery surfaces within work area caused by wet, greasy or other potential slip risks. Change from dry to wet floor surface	Supervisor to assess and warn other operatives. Safety footwear with non-slip soles to be worn	Contractor
018	Plant starting automatically	Risk of surprise to operative causing tools/materials to be dropped to lower level	Ensure all rotating elements mechanically isolated to prevent accidental rotation by installation of rope, clamps or wedges as determined by Site Supervisor	Contractor
019	Falling objects	Possible program delay and risk from site personnel injury.	All personnel to wear appropriate head protection when in the exclusion zone. No personnel other than those directly involved in the works to be permitted within the exclusion zone.  Supervisor to notify building personnel of works locations and ensure that non personnel are excluded or have permission of supervisor to enter the exclusion zone and adhere to PPE requirements at all times.	Contractor
020	Manual handling  (heavy/awkward/sharp objects)	Potential for muscular injury, cuts and crushing injuries when carrying, lifting and installing materials, tools and equipment related to the task in hand	All personnel have received manual handling training in accordance with current regulations.  All personnel will carry out a site risk assessment of access routes and ensure area clear of obstructions.  All personnel will wear foot and hand protection. Do not carry loads that will obscure vision.	Contractor
021	Use of Lifting Equipment (using contract crane lifts)	Possible program delay and risk from site personnel injury.	The method statement and risk assessment from nominated crane contractor will take priority at all times during lifting operations	Contractor
022	Moving machinery	Possible program delay and risk from site personnel injury.	All personnel to be made aware of "other plant" in vicinity and ensure correct safety procedures adopted.  All personnel to wear high visibility jackets as a minimum requirement when mobile plant	Contractor



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			operating in vicinity	
023	Tools (power tools/leads)	The use of electrically powered equipment with risk of electric shock / death	On each first use during a working day all staff will make a visual check of the equipment they are to use. If there is any evidence of damage to the case, cabling or plug return to toolbox for off-site inspection / repair	Contractor
024	Working at height using steps	Falling from steps	Place on a firm and level surface and check stability prior to use. Ensure top of stepladder is not used for access and only for materials to be temporarily stored	Contractor
025	Excavations left exposed longer than necessary	Deterioration from the weather or other causes	The excavations shall not be left exposed for more than 24 hours. If the formation deteriorates it shall be cleaned out and reformed to the Engineer's satisfaction	Contractor
026	Water percolation or waterlogging during excavation	Significant changes in strata	Contractor shall construct temporary ditches, drains, and sumps, and provide any pumps that may be necessary to achieve this. The Contractor shall notify the Engineer immediately if water percolation or waterlogging becomes apparent and he shall obtain the written permission of the Engineer before carrying out any continuous pumping or other method of removal of the water	Contractor
027	Formwork and supporting members not sufficiently strong	Possible program delay and risk from site personnel injury	The vertical propping of all formwork shall be carried down sufficiently far to provide the necessary support without damage, overstress or displacement of any part of the construction.	Contractor



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## Loading

<b>Sloping Roof</b>	Tiles =	0.57
	Battens, Felt, Insulation =	0.08
	Rafters =	0.10
	Sub Total DL	0.75
	Imposed (roof+loft) =	0.75
	<b>Total</b>	<b>1.50 kN/m<sup>2</sup></b>

<b>Flat Roof</b>	Roof sheeting =	0.15
	Roof felt =	0.15
	Insulation =	0.20
	Firrings & Joists =	0.20
	Plasterboard =	0.12
	Sub Total DL	0.85
Imposed =	0.75	
	<b>Total</b>	<b>1.63 kN/m<sup>2</sup></b>

<b>Floor</b>	Flooring =	0.19
	Joists =	0.20
	Ceiling =	0.15
	Sub Total DL	<b>0.54</b>
	Imposed =	1.50
	<b>Total</b>	<b>2.04 kN/m<sup>2</sup></b>

<b>External Solid Brick wall</b>	215mm brick wall =	4.30
	Plaster =	0.25
	<b>Total</b>	<b>4.55 kN/m<sup>2</sup></b>

<b>External Cavity Wall</b>	103mm brickwall =	2.20
	100mm blockwall =	1.40
	Plaster =	0.25
	<b>Total</b>	<b>3.85 kN/m<sup>2</sup></b>

<b>Internal Brick wall</b>	100mm brickwall =	2.20
	Plaster =	0.50
	<b>Total</b>	<b>2.70 kN/m<sup>2</sup></b>

**Stud Wall = 0.50 kN/m<sup>2</sup>**