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Pickhill Farm, Talwrn, Cross Lanes, Wrexham

Alterations to Property

STRUCTURAL SKETCHES

February 2026

Rev.A – 03.Aug.26

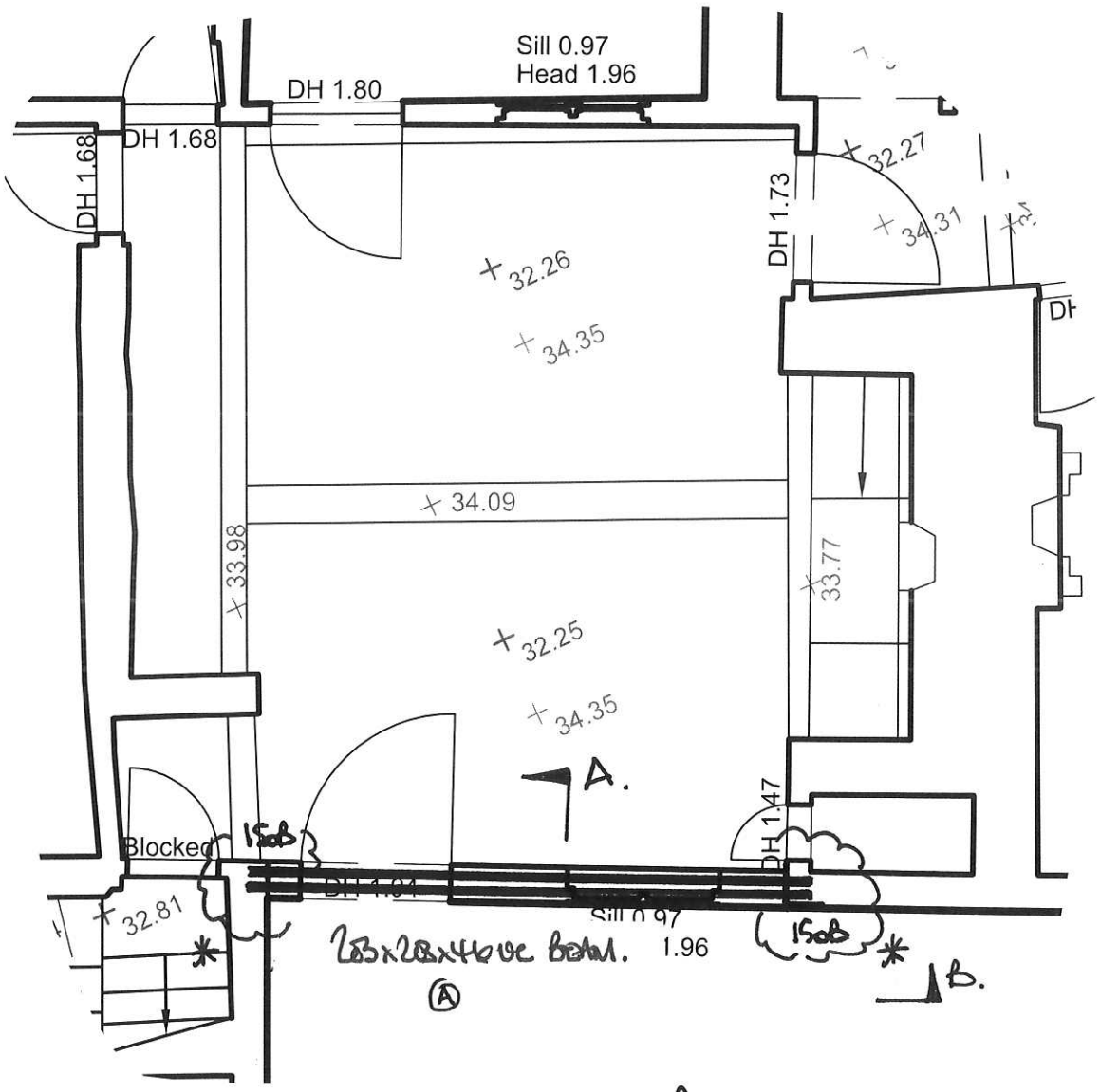
Job No. 2024124

SCHEME

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Alterations to Property

PAGE No.	SK01.	
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Prepared by	AWT	02/26.
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PLAN @ GROUND FLOOR.

Key:

150B – 150mm Load Bearing.

* – Condition of Brickwork at Bearing To be assessed at site once

(A) Exposed.

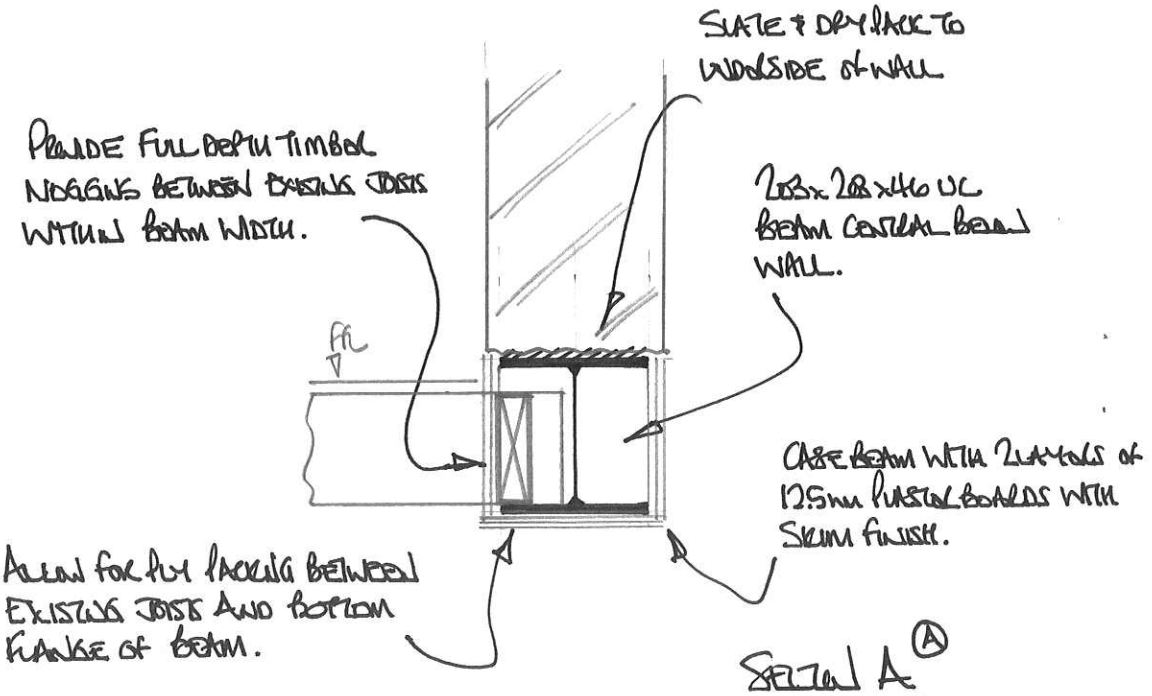
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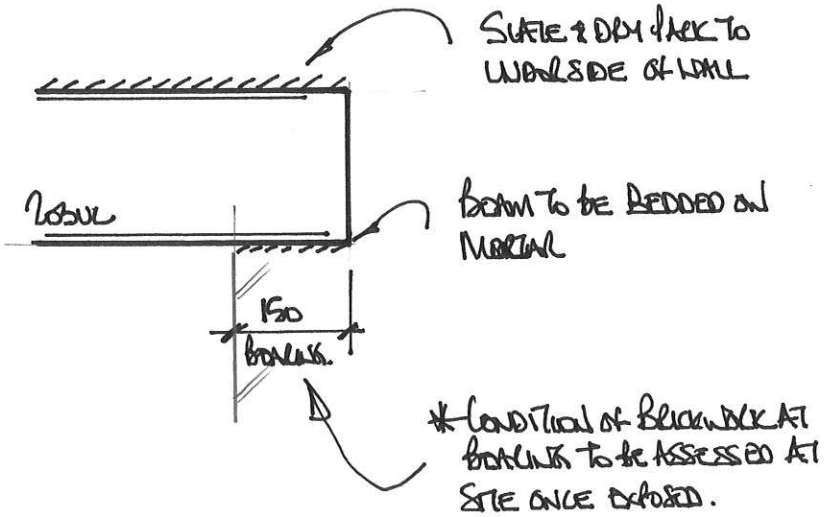
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SECTION A (A)



SECTION B (A)

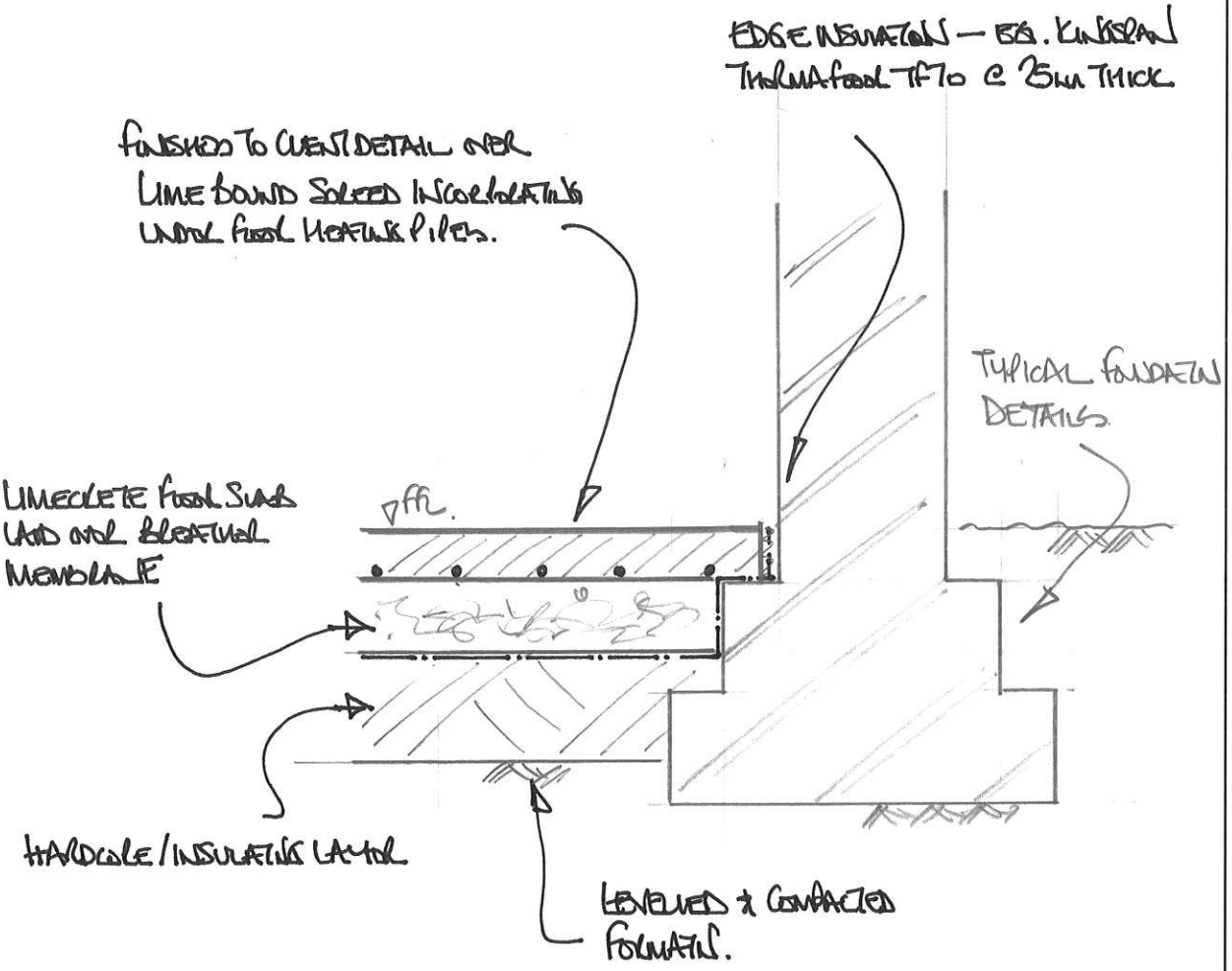
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TYPICAL LIMECRETE FLOOR DETAIL

NOTE: LIMECRETE FLOOR SYSTEM SHALL CARRY CABC TYPE APPROVAL.

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	Initials	**Date**
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Alterations to Property

NOTES/SPECIFICATION

CALCULATED BEAM DEFLECTIONS HAVE BEEN LIMITED TO SPAN/360 WHERE POSSIBLE. HOWEVER, DEFLECTIONS OF THIS MAGNITUDE MAY CAUSE SUPERFICIAL NON-STRUCTURAL CRACKING TO FINISHES AND ELEVATIONS UPON RELEASE OF TEMPORARY PROPPING. THEREFORE, ALLOWANCES SHOULD BE MADE FOR CRACK REPAIRS FOLLOWING INSTALLATION.

ALL DIMENSIONS, BEAM SPANS AND MEMBER LENGTHS ARE FOR THE PURPOSES OF CALCULATION ONLY AND SHOULD NOT BE RELIED UPON FOR THE ORDERING OF MATERIALS. THE SUPPLIER OR CONTRACTOR SHOULD CHECK THE LENGTHS OF ALL MEMBERS (INCLUDING ALLOWANCES FOR BEARINGS) PRIOR TO PLACING ORDERS.

General

1. The Structural Design Report is based on information provided by the Architect or on the assumptions as set out within. Should any variation between the information provided or assumed conditions be identified, they should be brought to the attention of the Project Architect or Structural Engineer as soon as possible.
2. All dimensions in millimetres unless noted otherwise. All dimensions shall be checked by the Contractor prior to commencement and any discrepancies brought to the attention of the Project Architect or Structural Engineer as soon as possible.
3. The Contractor shall be responsible for the provision of adequate propping to the existing walls and floors. All propping shall be tight and locked off prior to removal of existing supports, walls or floor construction.

Timber

4. All softwood to be Grade C16 or C24 as shown on the sketches. All timber shall be pressure impregnated with preservative unless noted otherwise. All hardwood to be visually graded and seasoned oak with a grading equivalent to THA/TH1 or D30.
5. Multiple sections to be bolted together using M10 bolts at 600mm centres max. complete with star or ring washers between sections and oversize washers to external faces.
6. Restraint straps shall comprise galvanised mild steel strip with 6mm diameter holes punched at 15mm offset centres.
7. Lateral Restraint (LR) straps shall be 30x5mm strip secured using No.10x50 plated wood screws. For timber members running parallel with beam/wall, straps should be fixed over at least 3 joists of rafters with two fixings to each member with solid noggins in between. For timbers perpendicular to beam/wall, straps should have a minimum length of 600mm and be fixed with at least 4 fixings at not less than 110mm centres.
8. Vertical Restraint (VR) straps shall be 30x2.5mm strip extending at least 1000mm down the wall and shall be fixed using a minimum of 4 screws in plugged holes. At least one screw should be located within 150mm of the bottom of the strap.

Steelwork

9. The Execution Class for the project is EXC2 to BSEN1090-1.
10. All steelwork shall be Grade S355JR to BSEN10025. Hollow section steelwork shall be Grade S355JR to BSEN10210 (HF) or BSEN10219 (CF). All steelwork shall be thoroughly cleaned and painted with a zinc phosphate primer. Damage incurred during installation shall be repaired by over coating. Steelwork below ground or within cavities shall be additionally protected with two coats of bituminous paint.
11. Exposed steelwork requiring fire protection shall be protected by fire resistant boarding with a minimum fire rating of 1hr as installed.

12. Multiple steel sections shall be placed centrally under each leaf or skin of wall to be supported. Sections shall be connected together using M16 bolts with spacer tubes at maximum 750mm centres to ensure correct spacing of beams.
13. Minimum bearing to be 100mm onto adjacent masonry unless noted otherwise. Bearings onto padstones to be 100mm minimum. Padstones shall be cast using GEN3 concrete to sizes specified.
14. Beams under existing load bearing walls shall be placed centrally under leaf and packed tight to the underside of the wall using semi-dry mortar and slate packs unless noted otherwise.
15. Steel connections shall be made using bolts and welds as indicated on the sketches. All bolts shall be Grade 8.8 with a BZP or galvanised finish. CSK denotes countersunk head to exposed face of steelwork. Welds shall comprise 6mm FW unless noted otherwise and shall be formed using electrodes suitable for the grade of steelwork.

Lintels

16. Lintels shall comprise proprietary steel or precast concrete elements as detailed on the sketches. Lintels shall be installed in strict accordance with the manufacturer's details.
17. All lintels shall have minimum 150mm long bearings unless noted otherwise.

Foundations

18. Concrete for strip and pad footings to be Designated Mix FND2. Concrete for blinding (where required) shall be Designated Mix GEN1. All concrete to comply with BS8500.
19. Foundation sizes indicated on the sketches are nominal. Should the Contractor elect to cast bases against open excavation then the cost of any over break shall be borne by the Contractor.
20. Holding down fixings shall comprise proprietary expanding anchors to the sizes shown on the drawings. Minimum embedment shall be as specified by the manufacturer subject to a minimum of 75mm. The Contractor may use cast-in or resin anchors as an alternative. All fixings to be Grade 8.8 with a BZP or galvanised finish. All materials shall be subject to the approval of the Structural Engineer.
21. All concrete shall be mechanically vibrated after placing to remove all air from the mix.

Ground Bearing Floor Slab

22. Ground bearing floor slab shall comprise:
    a. Finishes to Client details,
    b. Screed formed out of hydraulic lime and recycled glass aggregates incorporating the underfloor heating pipes,
    c. Limecrete floor slab comprising a blend of hydraulic lime and pumice (thickness as required by type approval),
    d. Breather membrane,
    e. Hardcore/insulating layer comprising a recycled foamglass aggregate or coated lightweight expanded clay aggregate (thickness as required by type approval),
    f. Levelled and lightly compacted formation.
    g. Allow for 25mm thickness of Kingspan Thermafloor TF70 to all external edges of the floor.
23. The limecrete floor system shall carry an LABC system-type Approval. Project specific calculations shall be carried out supplied by the floor system supplier to ensure compliance with Building Regulations.