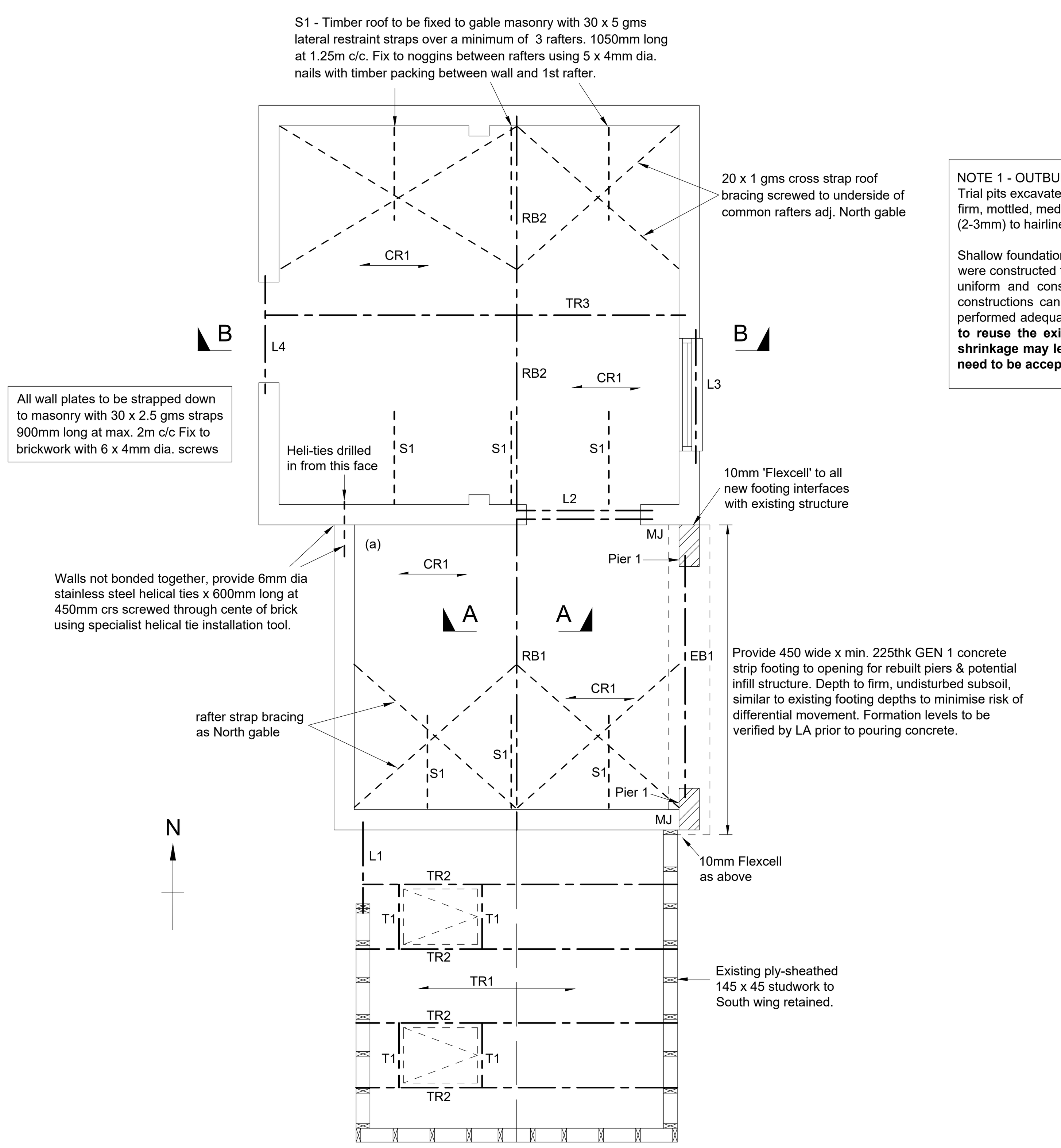


Key Plan - Ground Floor As Proposed @ 1:50

NOTE 1 - OUTBUILDING FOUNDATIONS
Trial pits excavated on the central & North bays exposed straight brick footings, formed at 0.4m depth below ground on moist, firm, mottled, medium brown, slightly sandy clay subsoil. No significant trees are located nearby. A small quantity of small (2-3mm) to hairline (<1mm) cracks were logged on the outbuilding external and internal walls.

Shallow foundations on shrinkable clay subsoil are prone to movement due to variations in soil moisture content. If these footings were constructed to modern standards they would be approximately 1m deep. However, where conditions around the building are uniform and consistent, the seasonal movements are relatively minor and the robust masonry and flexible timber frame constructions can accommodate such movement without significant damage. It is notable that the existing foundations have performed adequately to date, despite the UK recently experiencing the greatest drought on record since 1976. **It is acceptable to reuse the existing footings as they bear onto the clay subsoil, in prolonged drought conditions excessive clay shrinkage may lead to cracking in the masonry or plaster finishes, although not a structural concern such a risk would need to be accepted by the client.** Larger cracks in masonry should be repaired using 'Helifix' bars as detail 1.

1. GENERAL
All sizes listed below are minimum requirements. Larger sections may be used for insulation or aesthetic purposes if required.
LA - Local Authority
SST - Simpson Strong Tie
u.n.o. - unless noted otherwise

MJ - New masonry piers/walls to be tied to existing structure using SST C2K Crocodile Wall Extension Profiles or equivalent
S1 - Provide lateral restraint straps to roof off masonry gables - see plan for spec.

2. MEMBER LEDGER
TR1 - Existing raised tie roof trusses to be retained
T1 - Double rafter & ceiling joist trimmers to form rooflight opening, fix off trusses TR2 each end with heavy duty angle cleats.
TR2 - Double up TR1 trusses either side of rooflights to support T1 trimmers
CR1 - 120 x 45 C16 common rafters @ 400mm crs, fixed to sides of ridge beams as section A-A.
RB1 - 145 x 90 C24 ridge beam comprising 2 no. 45thk timbers with 1 no. 8mm steel flitch plate - see section A-A & detail 2.
RB2 - 145 x 90 (2 no. 145 x 45) C24 ridge beam, propped at midspan by truss TR3. Fix CR1 rafters to side of ridge beam as RB1.
TR3 - Principal feature truss to support RB2 at midspan & improve lateral restraint to bowed West wall - see section B-B.
EB1 - 145 x 90 (2 no. 145 x 45) C24 replacement eaves beam
Pier 1 - Existing masonry piers to central bay degraded. Rebuild in min. 450 x 225thk brickwork

3. LINTEL SCHEDULE
Lintels to new openings to be standard lintels to suit wall construction u.n.o. below. Do not use steel 'crinkle' lintels.
Lintels on external walls min. 150mm end bearings on masonry or fully over double studs u.n.o.

L1 - 95 x 90 (2 no. 95 x 45) C16
L2 - 2 no. IG Box 100 standard duty steel box lintels
L3 - 95 x 90 (2 no. 95 x 45) C16
L4 - 95 x 90 (2 no. 95 x 45) C24

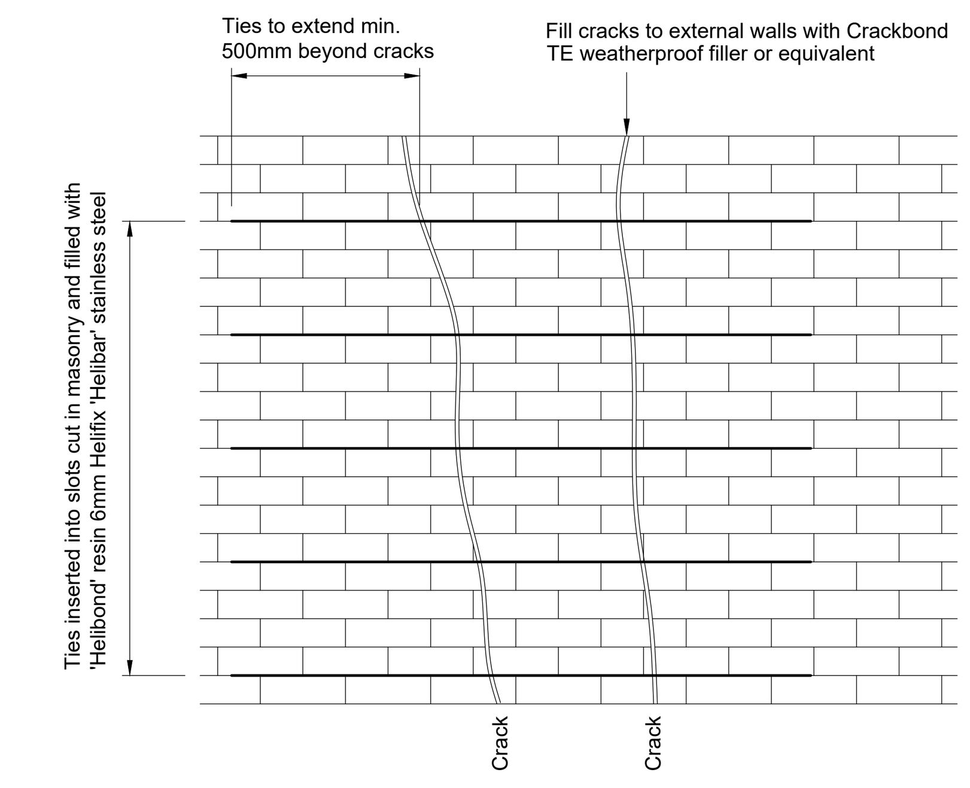
4. REPAIR SCHEDULE
Generally - Expose all concealed areas of timber work and inspect for signs of defects or decay. Repair any affected areas to be retained splicing in 'like-for-like' sections.

Repair detached gutters & down pipes & clear of all vegetation, ensuring discharge to suitable drainage away from building.

Some areas of mortar bed erosion evident in external walls, notably near ground level - repoint affected areas. Repair largest masonry cracks using 'Helifix' bars as detail 1 (<2mm not required).

(a) Provide 'Heli-Ties' to bond North & central bay external walls where not bonded together, see plan.

5. Temporary Wall Propping (L2 install) :
Prop existing wall with 152 x 89 UB steel needles at max. 900mm c/c or "Strongboy" props, to manufacturers design/specification (8.1kN/m line load, unfactored). Props to be adequately laced at max. 1.5m c/c and braced diagonally with standard scaffold tube & fittings and to be erected no more than 1.5 degrees out of vertical. Props to bear on suitable spreader plates on firm ground/structure.

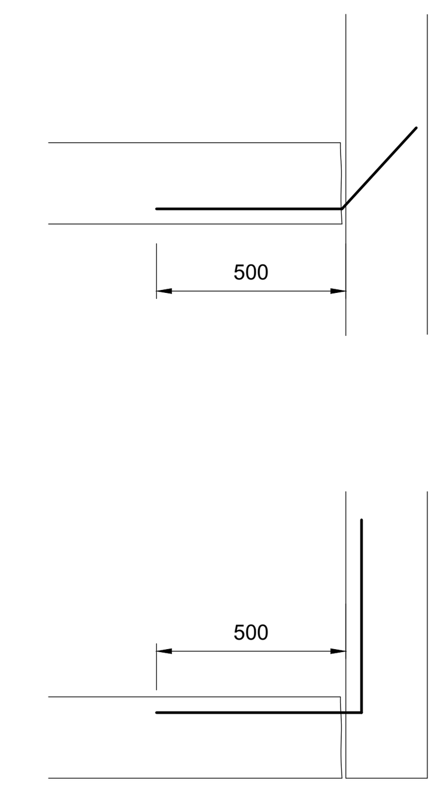


NOTE - Where cracks are less than 500mm from an external corner or an opening the bars should be bent at least 100mm round the corner and bonded into the return wall or bent and fixed into the reveal

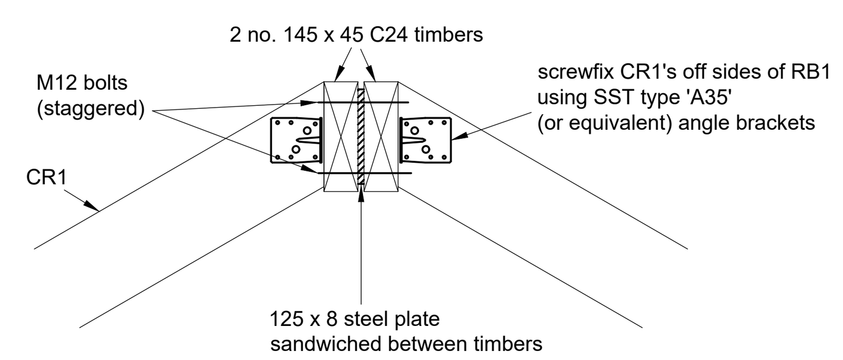
Tie bar vertical spacing	300mm
Depth of slot	40mm

Contact Details:
Helifix Ltd.
Tel. 020 8735 5222
Fax. 020 8735 5223
www.helifix.co.uk

Detail 1 - Typ. Masonry Crack Repairs

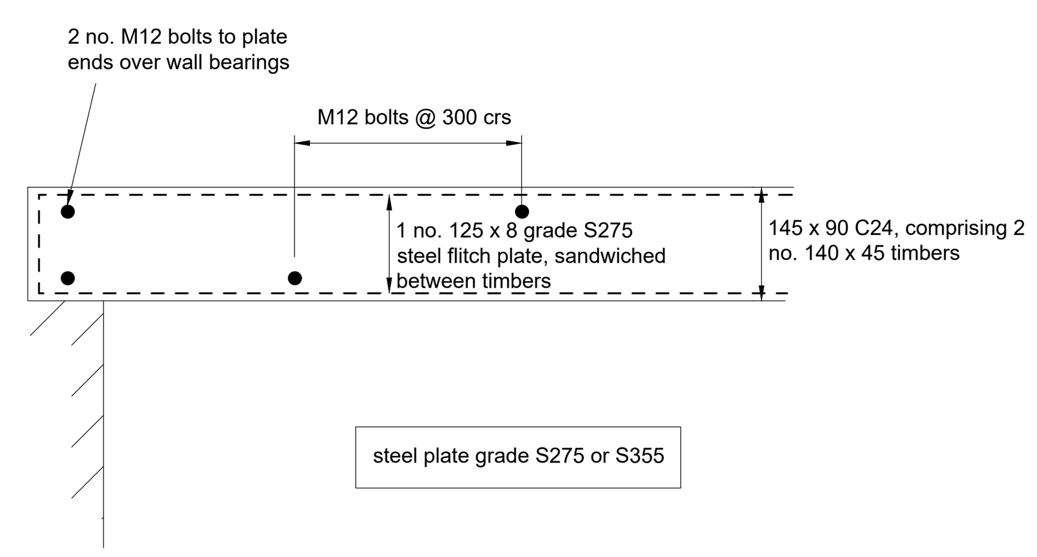


Detail for Re-Connecting Corners

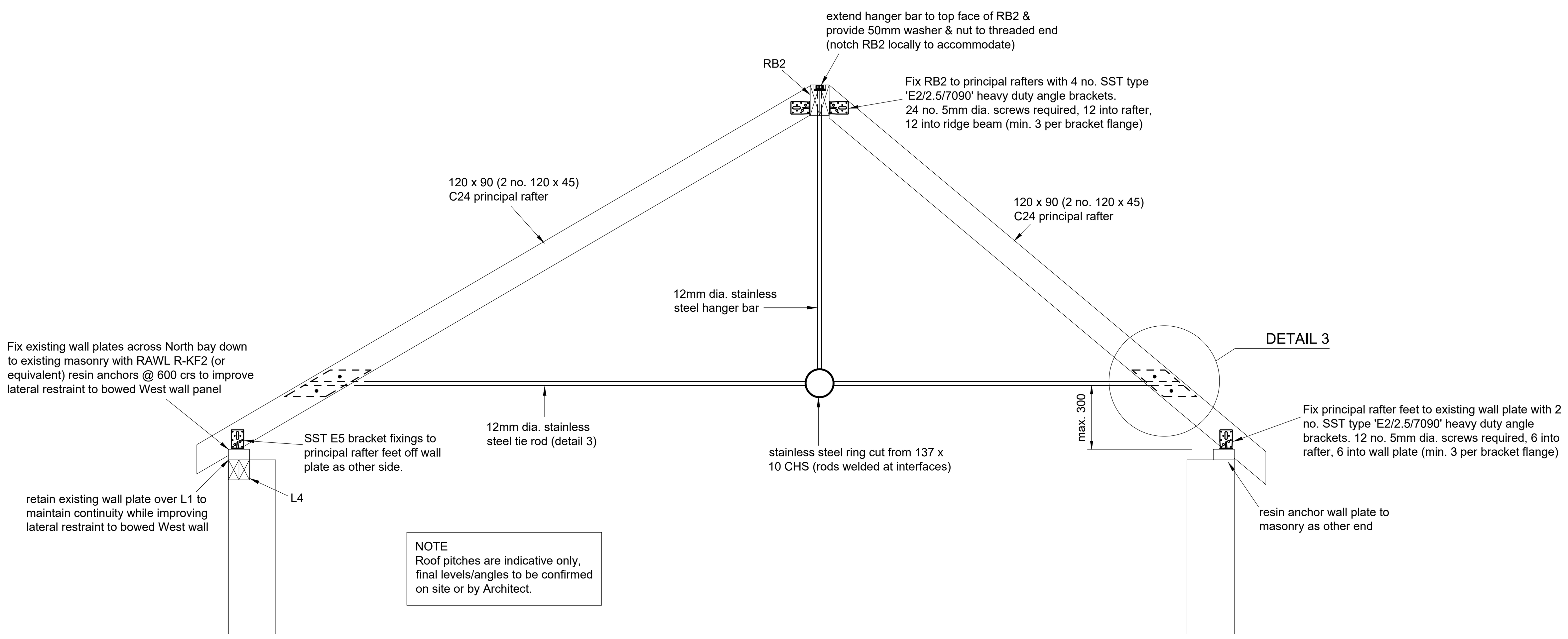


Section A-A Thru' RB1 Flitch

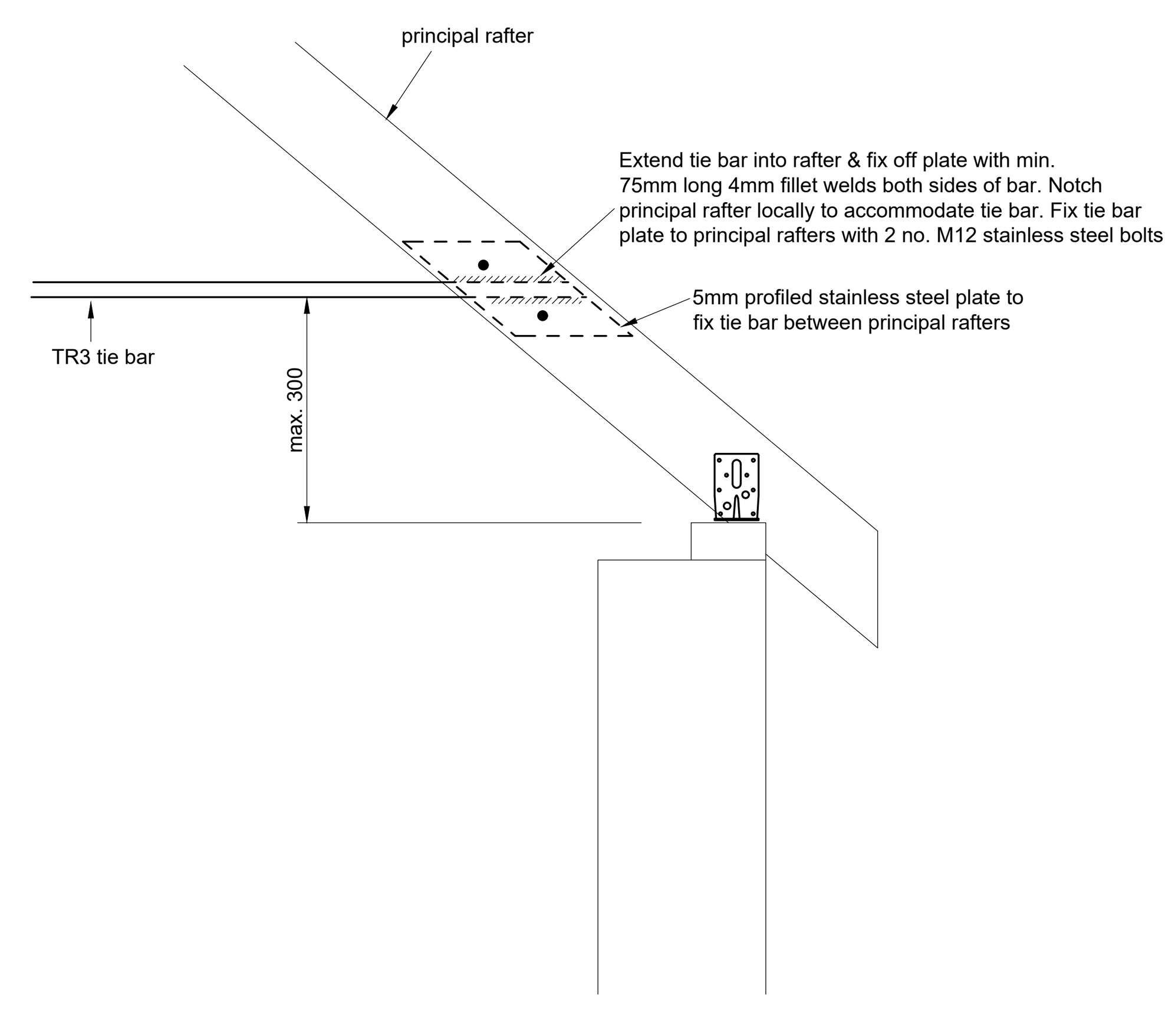
Flitch Bolt Arrangements as Detail 2



Detail 2 - RB1 Flitch Beam @ 1:10



Section B-B @ 1:20
Truss TR3



Detail 3 @ 1:10
Typ. View on TR3 Tie Rod Fixing off Principal Rafter

CONSTRUCTION NOTES

DO NOT SCALE DIMENSIONS FROM THIS DRAWING

These structural details are provided on the basis that the work will be carried out by an experienced contractor familiar with the general requirements of the Building Regulations, CDM Regulations and usual good building practice.

All setting out dimensions relating to any existing structures are to be verified by the contractor on site prior to ordering any materials.

Refer to Architect's drawings for detailed setting out dimensions

All steelwork is to be CE Marked by an accredited fabricator and is to receive the following protective treatment:
Blast clean SA2.5 to BS EN ISO 8501-1:2001
2 coats Dulux Trade Metalshield Zinc Phosphate Primer or equivalent. Dry film thickness 50 microns
per coat.
Under coat and coloured top coat (if required) to architect's specification

Bolt holes in steel members to be set out in accordance with BCSA publication No. 5/79 "Metric Practice for Structural Steelworks", 3rd Edn., 1979 u.n.o.
All steelwork is to be fabricated & erected in accordance with the current edition of the National Structural Steelwork Specification for Building Construction.

All timber structures to be constructed in accordance with the latest edition of the TRADA National Structural Timber Specification & typical standard details given in the TRADA Timber Frame Construction manual.

All timber beams and trimmers comprising 2 or more pieces are to be bolted together with M10 bolts at 500mm staggered c/c

Loadbearing Masonry to have minimum compressive strengths as follows unless noted otherwise:
Brickwork 10 N/mm^2
Blockwork 3.6 N/mm^2
Blocks below ground to be min. 7.3N/mm^2 or 1500kg/m^3 density
All mortar to be class M4 - designation (iii)

NOTE - DISCREPANCIES BETWEEN THIS DRAWING, THE ARCHITECT'S DETAILS OR SITE CONDITIONS ARE TO BE REPORTED TO WEYBREADS LTD IMMEDIATELY. THE CONTRACTOR SHALL AWAIT INSTRUCTION FROM US PRIOR TO PROCEEDING WITH ANY FURTHER WORKS ON SITE

CONSTRUCTION (Design & Management) REGULATIONS 2015:
The structural design has been carried out with due consideration for safety during construction, occupation and maintenance of the finished structure. The Works contains no extraordinary hazards or risks that are not present during routine construction operations or would readily be apparent to a competent contractor. The project does not involve specialist methods or sequence of operations.
The Principal Contractor shall include a detailed method statement for all demolition works in the Construction Phase H&S plan. A copy of the Plan shall be forwarded to Weybreads Ltd, the Client and the Architect/Agent prior to commencing any work on site.
Unless specifically detailed on this drawing, all Temporary Works shall be designed and detailed by the Contractor in accordance with BS5975:2019.

Rev	Date	Details
-	-	-

In the event of any queries please contact:
Jason Albanie BSc (Hons) I.Eng. MICE

WEYBREADS LTD
CONSULTING STRUCTURAL ENGINEERS

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Email: jason@weybreads.com

Title Meadow View, Wingfield
Proposed Outbuilding Conversion
Structural Data

For T. Feavearyear — Date 21-May-23

Job No.	Drg No.	CAD Plot Scale	Rev
23/048	D1	1:50 @ A1	-