

GEOFF METZLER & ASSOCIATES PTY LTD

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PROJECT: OLD BEGA HOSPITAL

ADDRESS: 301 NEWTOWN ROAD BEGA

DRAWING TITLE: **STRUCTURAL DETAILS**

JOB NUMBER: **M8163**

PAGE NUMBER: **1 OF 14**

APPROVED BY



JACK METZLER B.E. MIE. AUST. C.P. ENG.

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GENERAL NOTES

- G1 Do not obtain dimensions by scaling these drawings. Only principal structural dimensions are shown. All dimensions are in millimetres
- G2 Read these drawings in conjunction with all other contract documents and the requirements of the relevant building authority. Before proceeding with work clarify any discrepancies, verify all setting out dimensions
- G3 Maintain the structure in a stable condition during construction. Do not exceed the design live loads shown or cause any element to be overstressed

G4 Design loads in accordance with AS1170 :

Live load	Wind load
Domestic 1.5kPa	Wind velocity Vu50,Vp41,Vs38 m/s
Offices, corridor, parking 3kPa	Structural importance multiplier Mi = 1
Balconies,stairs 4kPa	Terrain category = 2 - Rural
Factories, plantrooms, shops 5kPa	1 - Urban
Roofs 0.25kPa	

FOUNDATIONS

- F1 Footings have been designed for an allowable bearing pressure of 150 kPa. Obtain approval for the proposed foundation material before placing concrete.
- F2 The design only applies for ground and foundation levels as shown on the drawings.
- F3 Site classification as to AS 2870 M foundation material CLAY. Backfill foundation walls so that the level of fill on one side of the wall is never more than 450 above the level on the other side, except where detailed retaining walls are used.

EARTHWORKS

- E1 Strip topsoil and organic material from subgrade.
- E2 Cut and fill site to design level -Where controlled fill is specified- select fill to be placed in max. 200mm layers and compacted to min. 95% Standard Proctor Density to AS 1289.
- E3 Provide 450 diameter or square piers at 2000mm centres to natural subgrade under perimeter ribs. Provide similar piers under internal ribs where fill beneath ribs exceeds 200mm uno.
- E4 If shale is exposed at cut area then all piers must be founded on shale.

MASONRY NOTES

- M1 All workmanship and materials in accordance with AS 3700 and AS 2733 .
- M2 Mortar shall be freshly prepared, uniformly mixed in the following ratio: 1:1/10:3 cement, lime, sand in accordance with ASA 123 and AS 3700 clause 2.2.2.
- M3 All perpend,except where required for weepholes,are to be fully filled with mortar.
- M4 Bottom course of blocks to have inspection openings to all cores to be grouted. Thoroughly clean all cores prior to reinforcement placing. Tie vertical steel to starters.
- M5 Grout all cores with grout strength grade 15. 150mm slump. Max. free drop in any one pour to be 1 metre. Stop pour 50 below top of block
- M6 Provide vertical control joints in walls at 10metre max. centres uno.

CONCRETE

- C1 Conform to AS 3600 and the ACSE Concrete Specification except where varied by the contract documents.
- C2 Provide concrete with a:
strength of $f_c = 20$ MPa footings $f_c = 25$ MPa Slab
maximum slump of 80.
maximum aggregate size of 20.
cement type A.
no admixtures or breccia.
- C3 Sizes of concrete elements do not include thickness of applied finishes.
- C4 Beam depths are written first and include slab thickness.
- C5 Do not make any construction joints, holes or chases in the concrete elements unless shown or approved by the Engineer.
- C6 Do not place pipes or conduits within the concrete cover to reinforcement.

C7 Reinforcement notation :

N - Grade D500N deformed bar to AS 4671	T - top of element
F - Hard drawn wire reinforcing fabric to AS 4671	B - bottom
R - Grade 230 R hot rolled plain bars to AS 4671	ew - each way
S - Grade 230 S hot rolled deformed bars to AS 4671	c/s - courses
W - Hard drawn plain wire to AS 1303	uno - unless noted otherwise.

Example: 8-N16@200T denotes 8 deformed bars of 16 diameter at 200 centres placed in the top of the element.

C8 Provide clear concrete cover to reinforcement as follows: uno.

Element	Interior	Exterior	Exterior Against Ground
Footings	50		
Columns Pedestals	35	75	
Slabs, Walls	20	40	30 on membrane
Beams	25	65	65
Blockwork 50mm from appropriate outside face			

- C9 Use maximum bar chair spacing of 60 diameters for supporting bars and 750 for fabric.
- C10 Provide laps only at locations shown unless otherwise approved by the Engineer.
- C11 For oblong fabrics, place top fabric main wires uppermost and bottom fabric main wires lowermost in direction of arrows.
- C12 Supply and lay fabric in flat sheets. Overlap first and second cross wires of each sheet by 30 at laps.
- C13 Do not weld reinforcement unless shown or approved by the Engineer.
- C14 Tie all unsupported bars to N 12@300 all laps 450.
- C15 Do not build brick or block work on suspended work until all shoring has been removed.
- C16 Prop cantilever slabs and beams from a firm support for a minimum of 28 days.
- C17 Provide the Engineer with 24 hours notice of reinforcement being ready for inspection. Do not order concrete until reinforcement has been approved.
- C18 Reinforcement is shown diagrammatically and not necessarily in true position.
- C19 All concrete shall be placed and cured in accordance with Section 19 AS 3600. Where curing compound is used it must be applied:
(A) onto slabs within 2 hours of finishing operation.
(B) onto walls and columns immediately after removal of framework.
- C20 Horizontal framework shall be stripped when approved by the Engineer.
- C21 Slabs and beams shall bear on only the beam, walls etc. shown on the drawings; all other building elements shall be kept 15mm clear from soffits of structure.
- C22 Where slabs or beams bear on masonry, the top course shall be level, smooth and covered with slip joint as detailed uno.

STEELWORKS NOTES GENERAL

- S1 All workmanship and materials shall be in accordance with current editions of SAA codes AS4100, AS1554 and ACSE Steel Specification,except as varied by the contract documents
- S2 Structural grade (Fy 300MPa) quality steel shall be used throughout unless noted otherwise
- S3 Submit all shop drawings to the Engineer for approval of general arrangement of structural elements before commencing fabrication
- S4 Steelwork not to be encased or not otherwise noted shall be given one coat of approved metallic primer at least 48 hours before dispatch
- S5 Steelwork to be encased in concrete shall not be painted but shall be given one coat of cement wash. Members to be wrapped with No. SL62 fabric or 5mm wire at 150mm pitch and encased in 20MPa concrete with minimum 50mm cover
- S6 The contractor shall provide and employ any additional temporary bracing etc. necessary to adequately and safely hold steelwork in position during construction
- S7 Proprietary items (e.g. purlins, bolts etc.) shall be installed in accordance with manufacturers specifications uno

STEELWORK

- S8 Unless noted otherwise use:
10mm thick gusset, fin and end plates, fully welded.
M20 dia blackbolts
6mm continuous fillet weld made with general purpose steel electrodes in accordance with AS 1554
- S9 Chip all welds free of slag
- S10 Do not grout under base plates until first level steelwork is plumb and fixed by welding or bolting
- S11 Bolts to be grade 4.6 Metric Hexagon Commercial Bolts to AS 1111 uno. H.S. Bolt denotes grade 8.8 highstrength steel bolts to AS 1252 - bolting category 8.8/S = snug tight. 8.8/T = fully tensioned.
- S12 All cold formed steel shall be in accordance with AS 1538.

TIMBER

- T1 All timber construction to conform with AS 1684 and the NSW Timber Framing Manual in addition to the details shown.

T2 Minimum edge distances for bolted connections (unless noted otherwise):

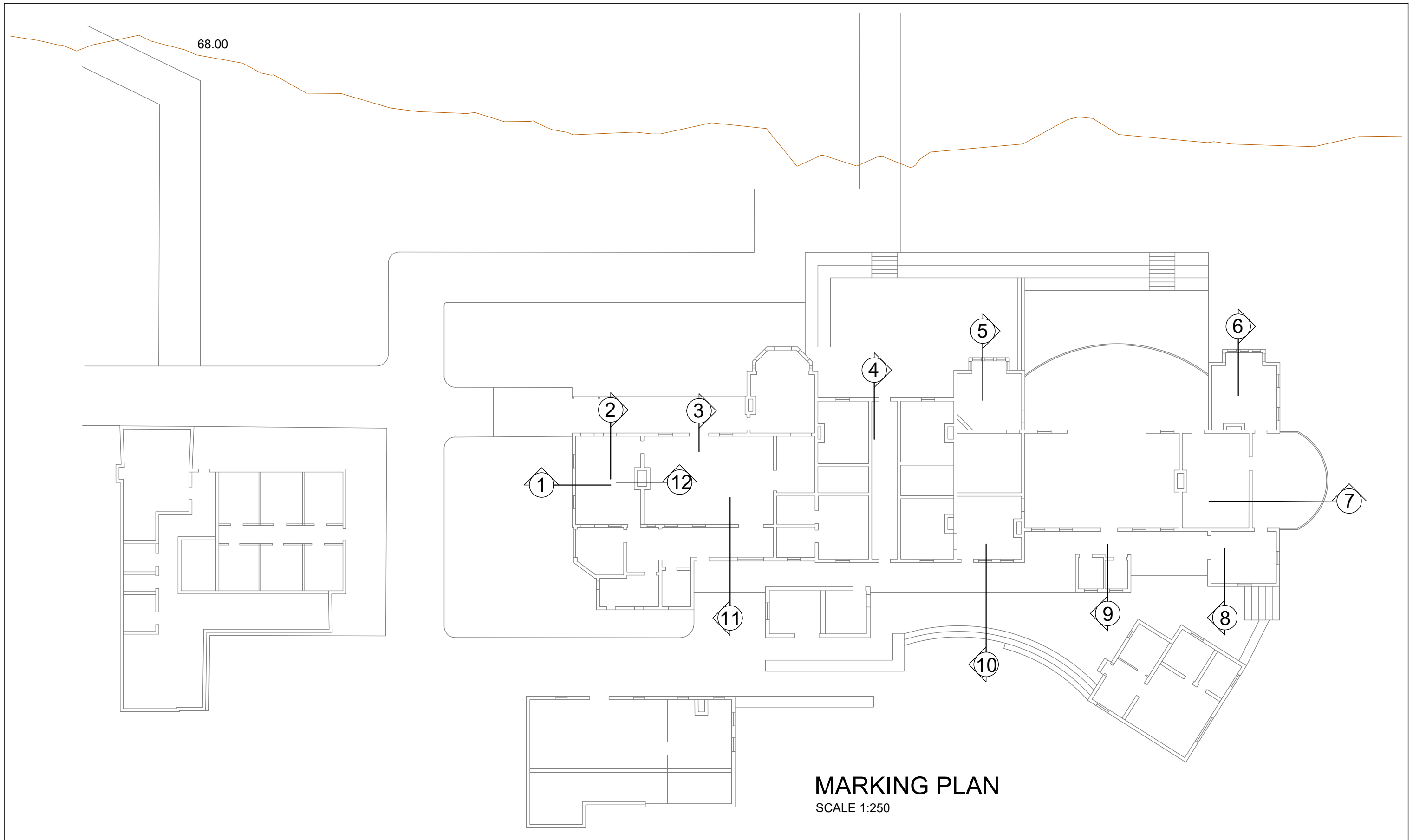
Bolt size	End grain	Cross grain
M12	75	50
M16	100	70

T3 Bolts to be grade 4.6 Metric Hexagon Commercial Bolts to AS 1111 uno

TIE DOWN

- TD1 Roof sheet to battens in accordance with roof sheet manufacturers specification.
- TD2 Battens to rafters with 2-3.75 dia x 100 deformed nails, or 1 No 14 Type 17 Bugle screw, 50 embedment.
- TD3 Trusses or rafters to top plate or beam with 2 framing anchors per connection. use 4-2.8 dia x 30 flathead nails per member.
- TD4 Roof beam and lintels to stud frame with 2-30 x 0.8 galvanised straps each end. Use 6-2.8 x 30 flathead nails each end.
- TD5 Top plates to studs with 30 x 0.8 galvanised strap every stud. Use 4-2.8 x 30 flathead nails each end, or looped strap ties, 4 nails per end.
- TD6 Bottom plate to studs with 30 x 0.8 galvanised strap every 2nd stud. Use 4-2.8 x 30 flathead nails each end. Studs and lintel support must be strapped.
- TD7 Bottom plate to floor structure with 2 No 14 Type 17 screws, or 30 x 0.8 galvanised strap @ 900 crs with 4 nails per end.
Note : At bracing panels fix bottom plate to each joist. Fix bottom plate to slab M10-900 bolts, adjacent to strapped studs. 1-M10 bolt to each side of bracing panels.
- TD8 Joist to bearers with 2-3.75 dia x 100 skew nails. Fix Joists to Bearers with 1-framing anchor on both sides of stud tie down points. Use 4-2.8 dia x 30 flathead nails per member.
- TD9 External Bearers to be bolted down to Footings at each Pier.
- TD10 At each end of Bracing Panels in Internal walls , Joists require Looped Strap tie down or 1 M10 bolt to Bearers and Bearers require tie down to footings similar to External Bearers. Joists with bracing panels across them require Looped Strap tie down at each end.

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MARKING PLAN
SCALE 1:250

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DRAWING - **MARKING PLAN**

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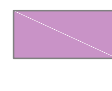
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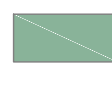
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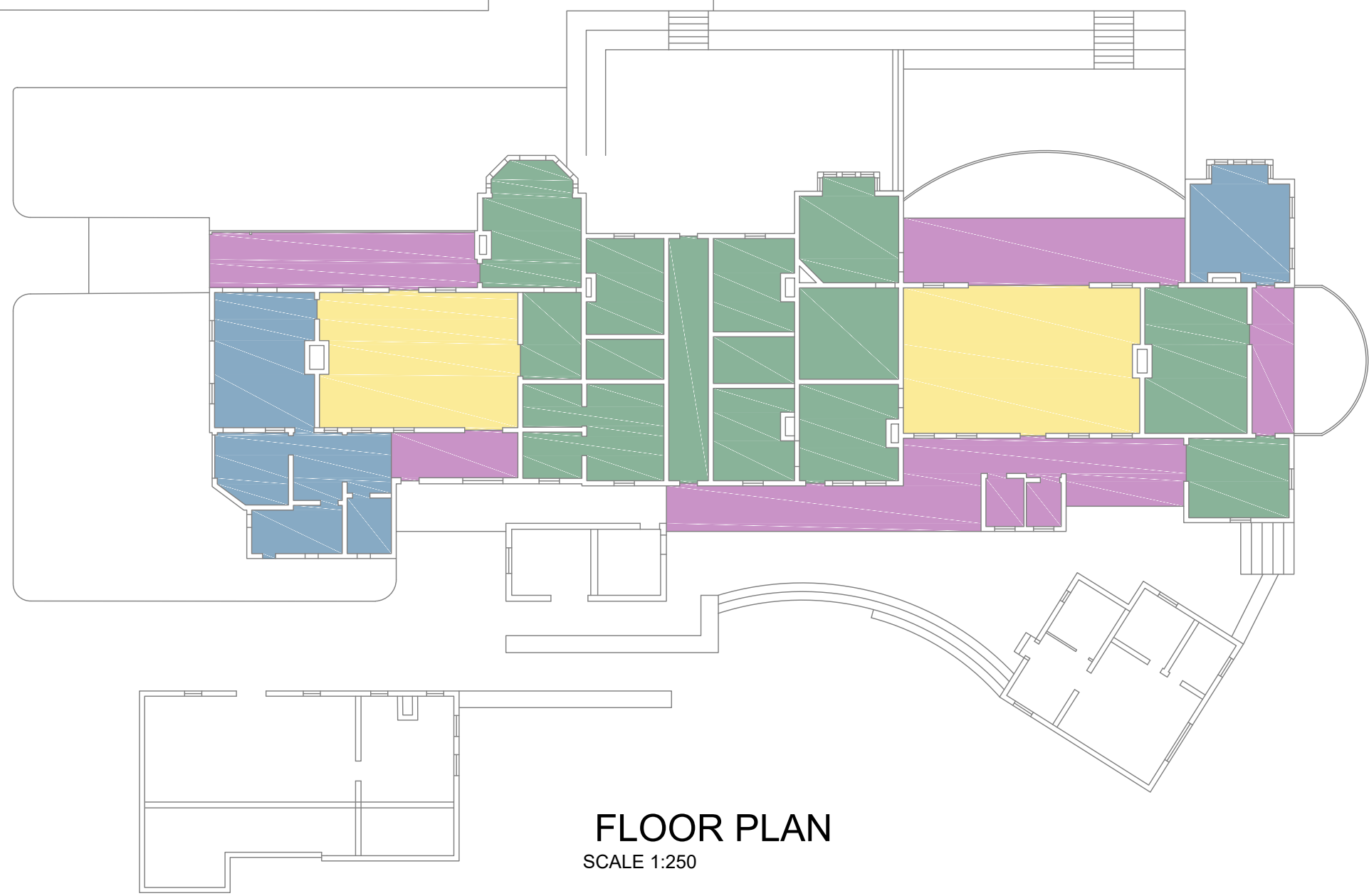
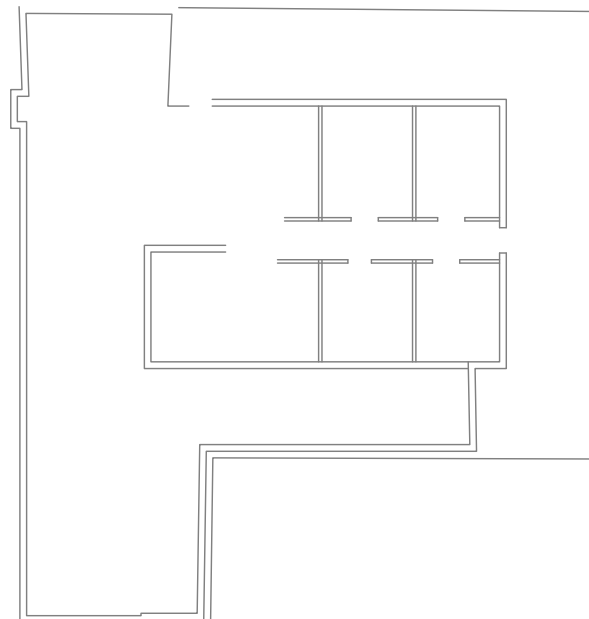
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 EXISTING FRAMING REMAINS
CHECK AND REPAIR FLOORING AS REQUIRED

 EXISTING FRAMING & H.W FRAMING REMAINS
TO VERANDAHS. NOMINAL REPAIRING TO
LOCAL SPOTS

 RENEW FLOOR FRAMING NOMINAL 200X63
HYPAN BEARERS & 200X45 JOISTS
SUPPORT ON EXISTING STRIP & PAD FOOTINGS

 CHECK AND REUSE EXISTING H.W BEARERS
AND JOISTS ASSUME 50% JOISTS REPLACED
WITH NEW HYPAN



FLOOR PLAN
SCALE 1:250

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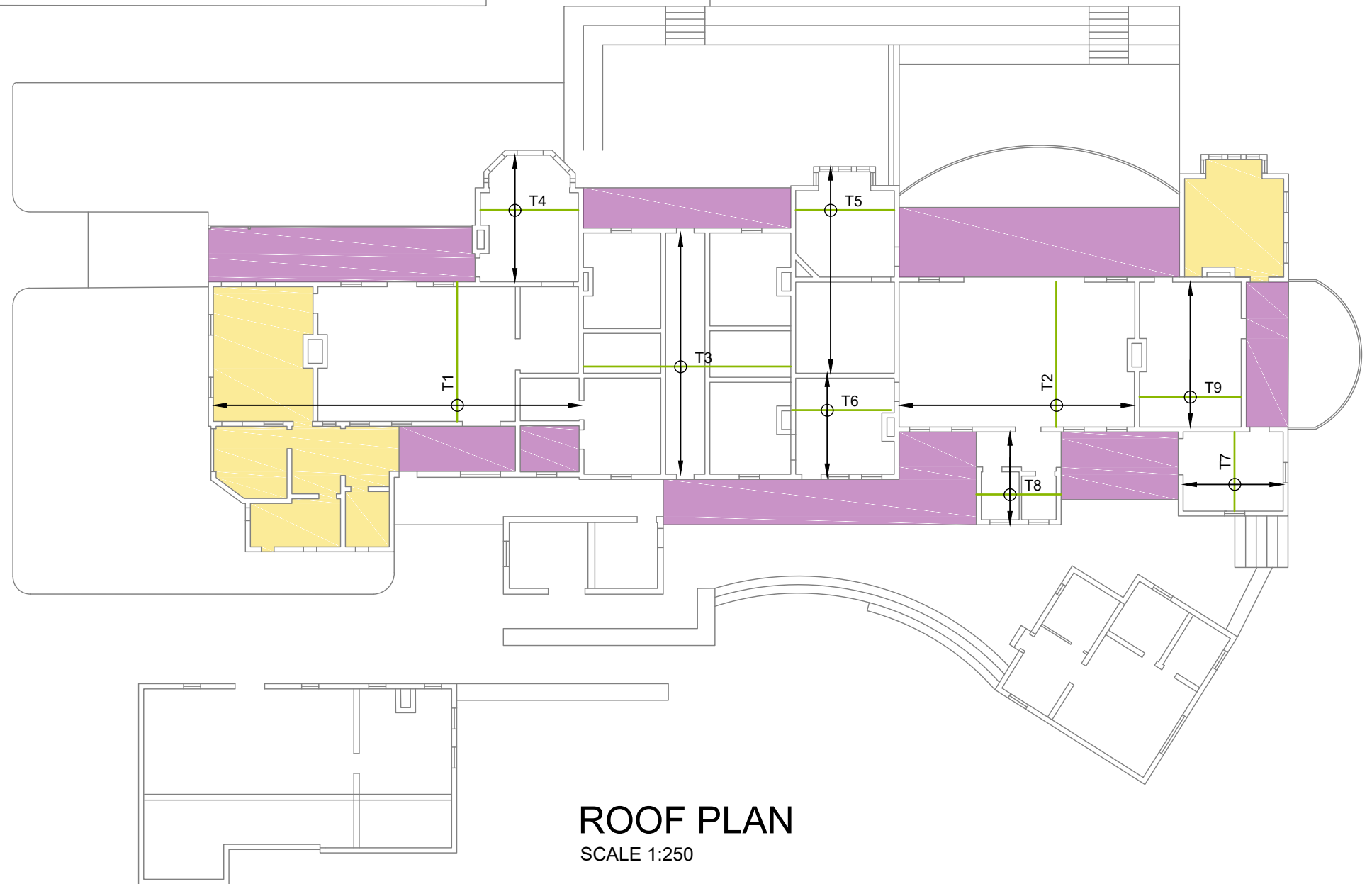
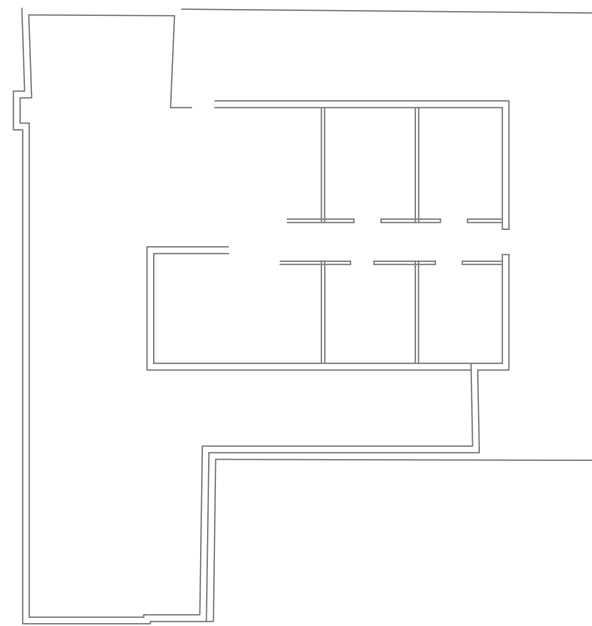
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EXISTING VERANDAH ROOFS REMAIN TO PROVIDE STABILITY TO THE BRICKWORK AT STAGE 1. NOMINAL REPAIR TO LOCAL AREAS

NEW PREFABRICATED TRUSSES ALLOW FOR CREEPER TRUSSES OVER TO MATCH ARCHITECTS ROOF PLAN

EXISTING ROOF FRAMING REMAINS ALLOW TO REPAIR AND RE-FIX MEMBERS AS REQUIRED



ROOF PLAN
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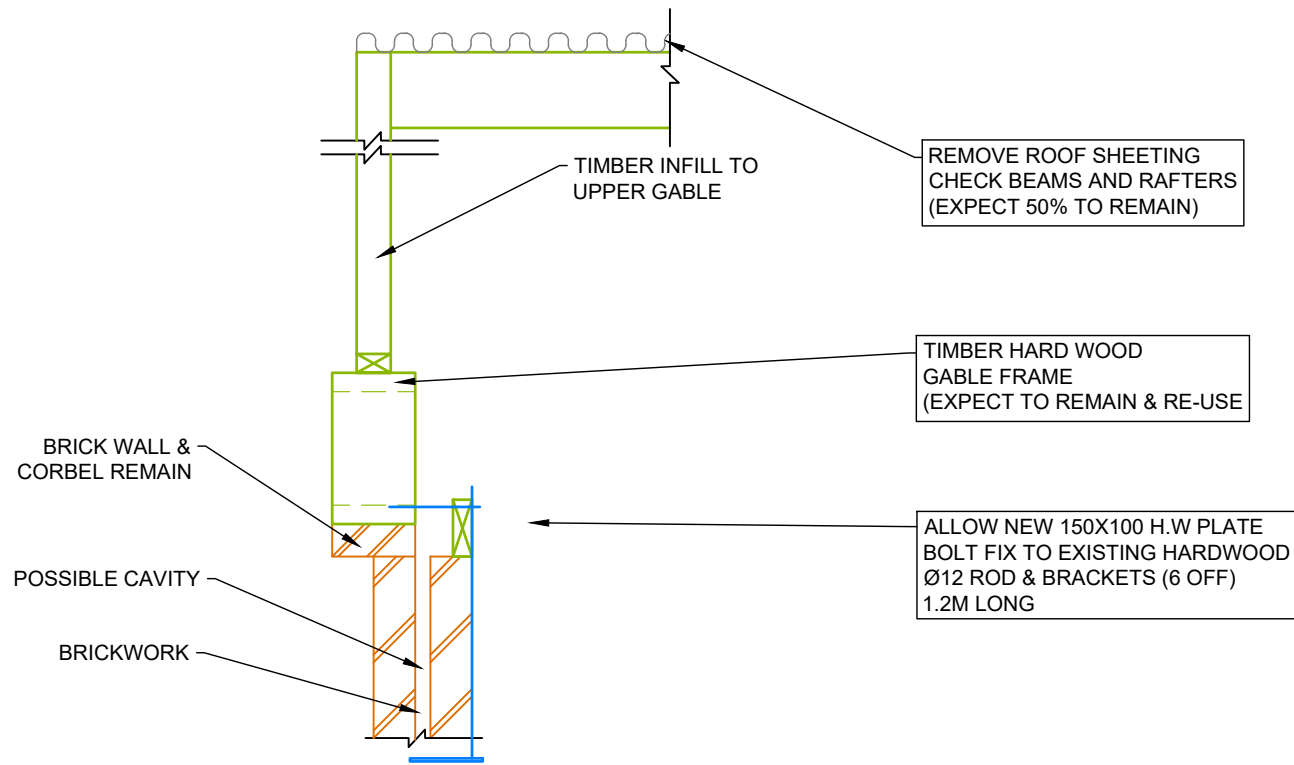
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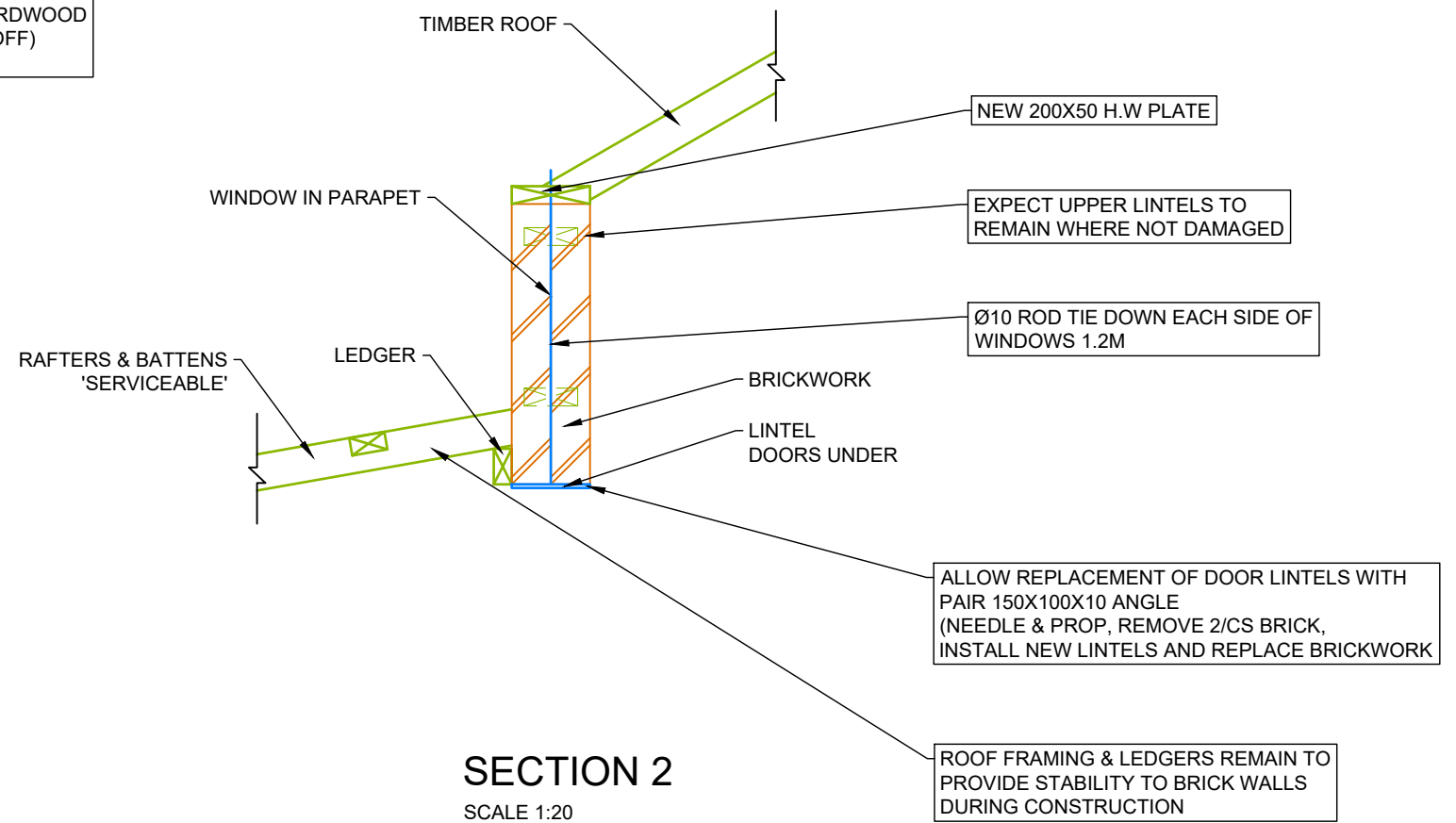
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SECTION 2
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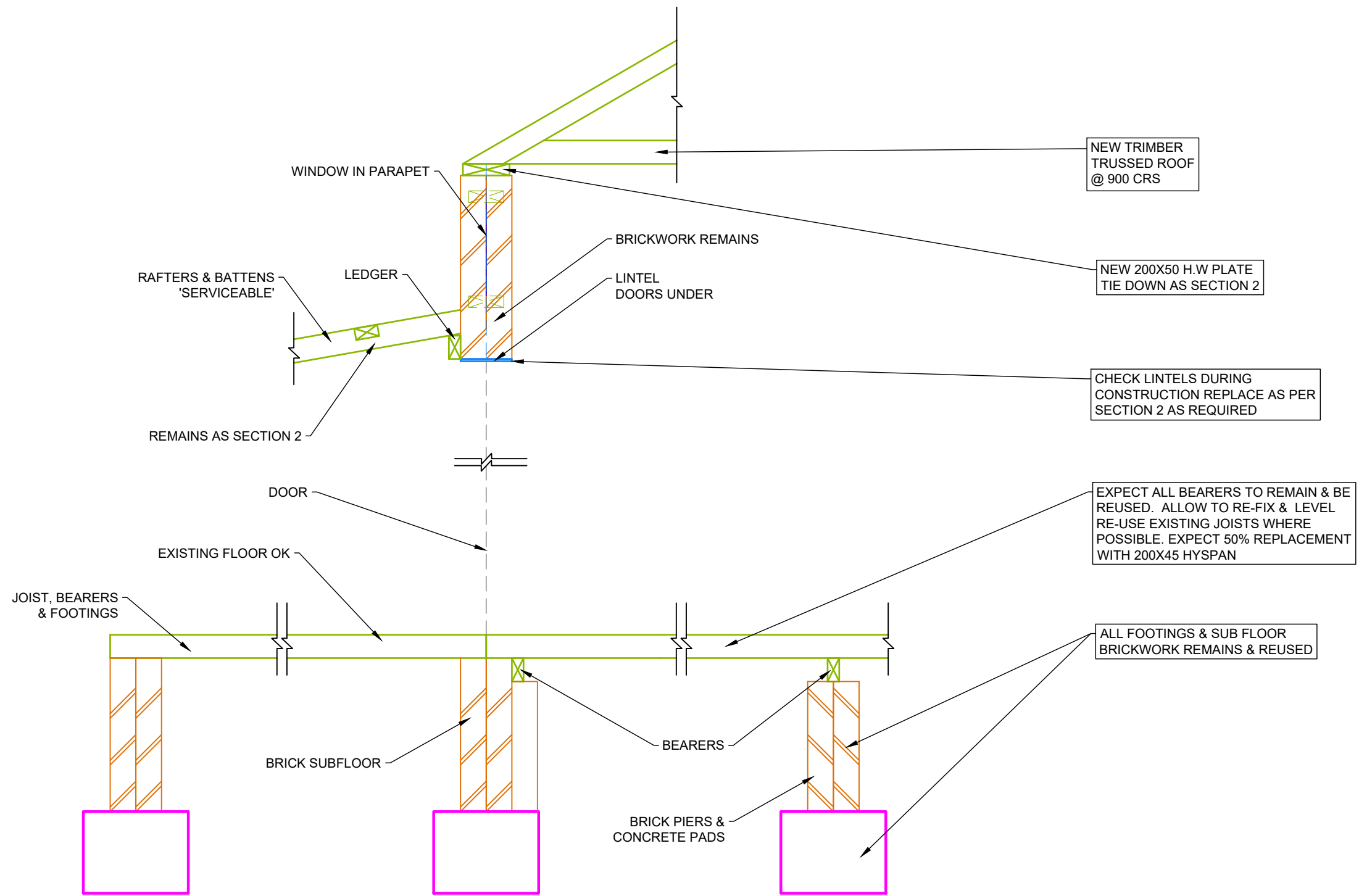
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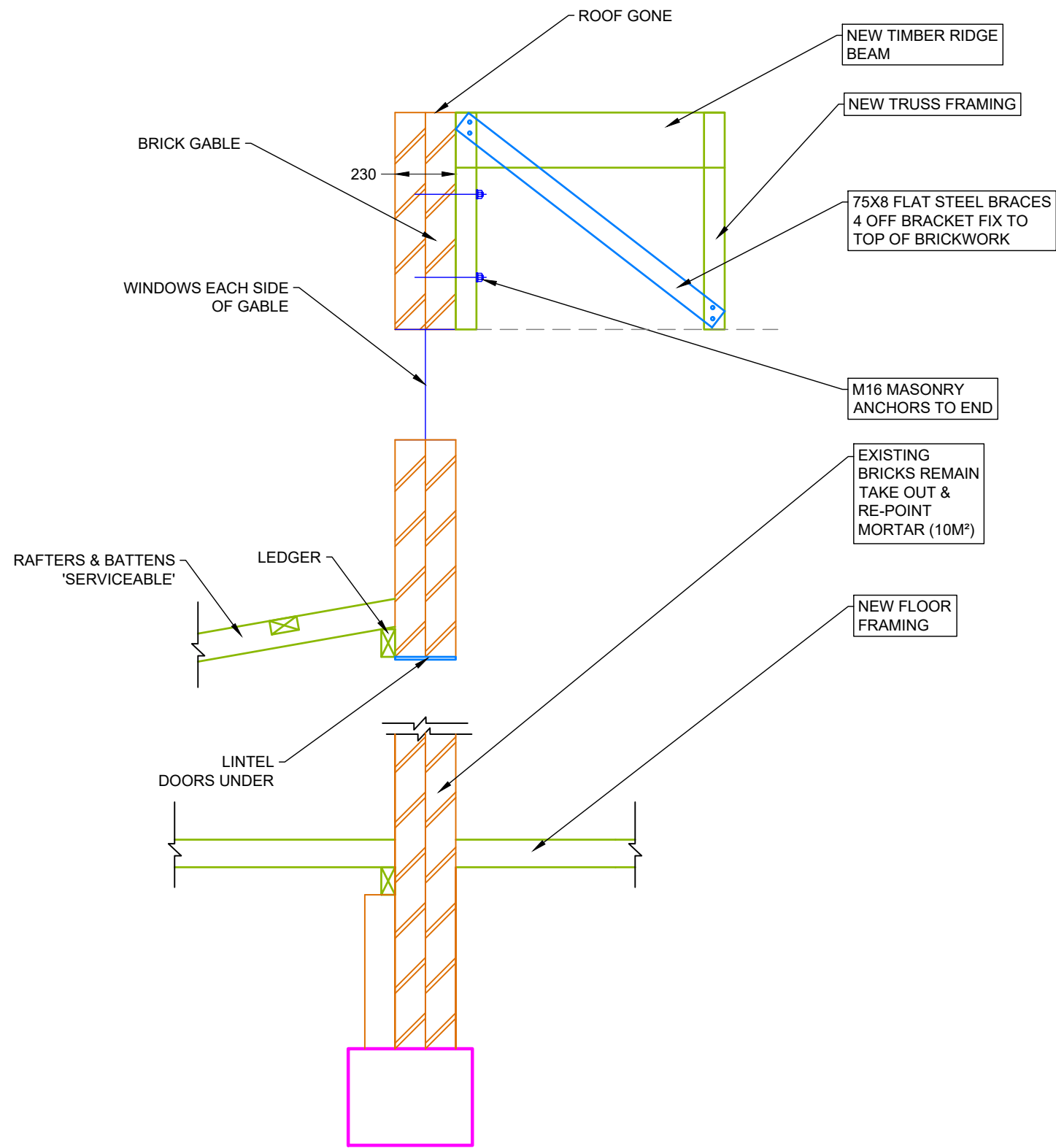
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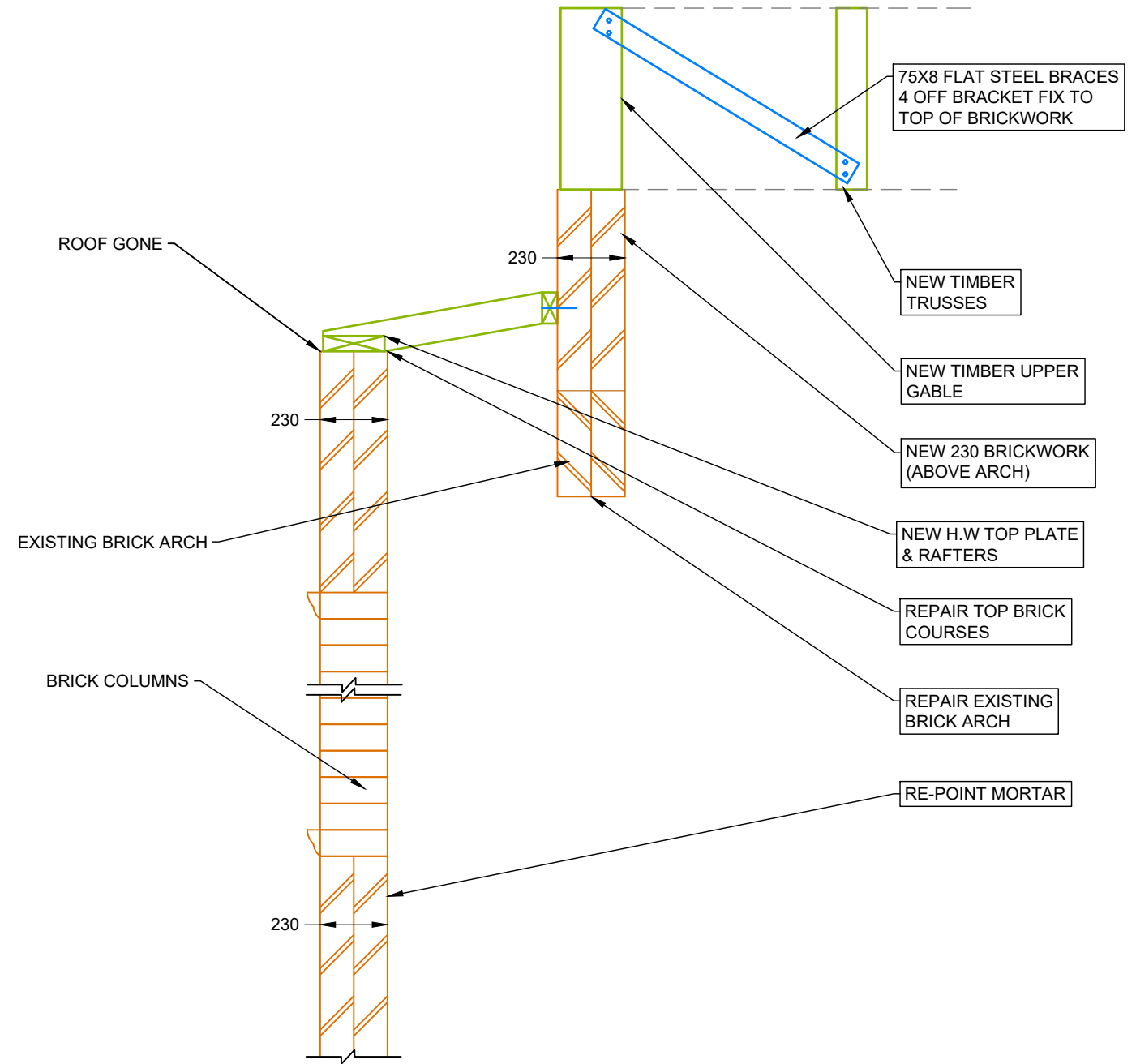
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SECTION 5
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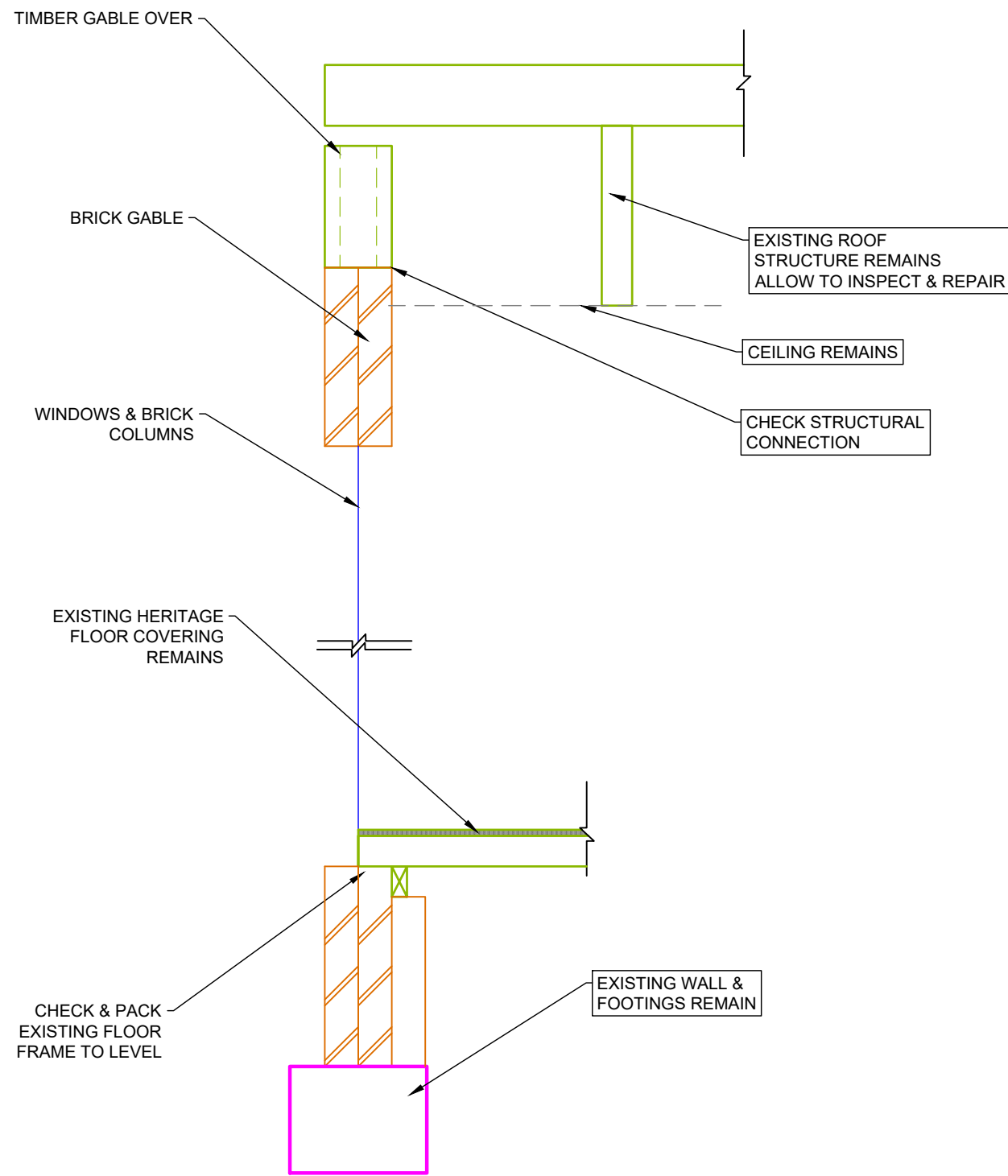
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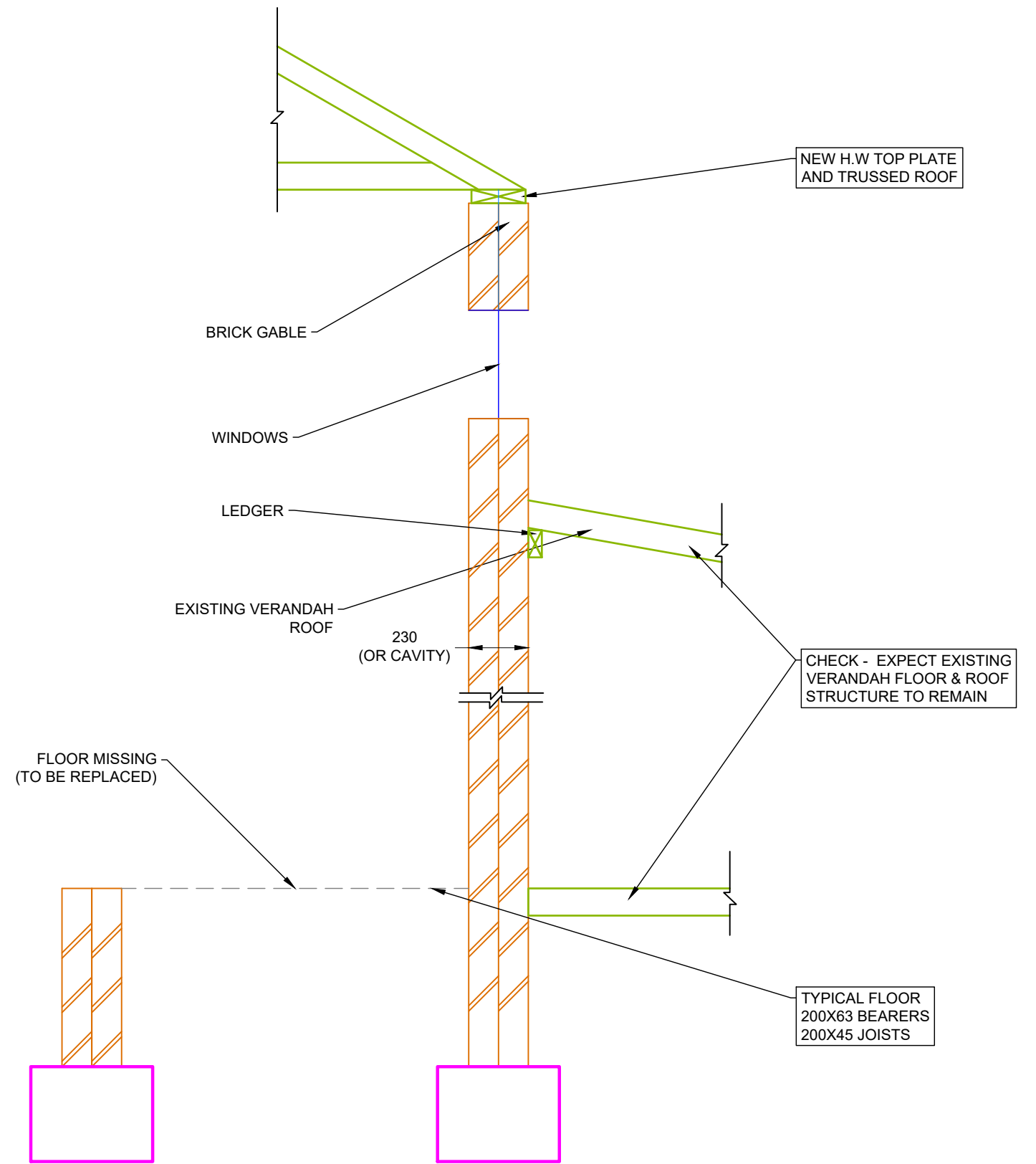
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SECTION 7
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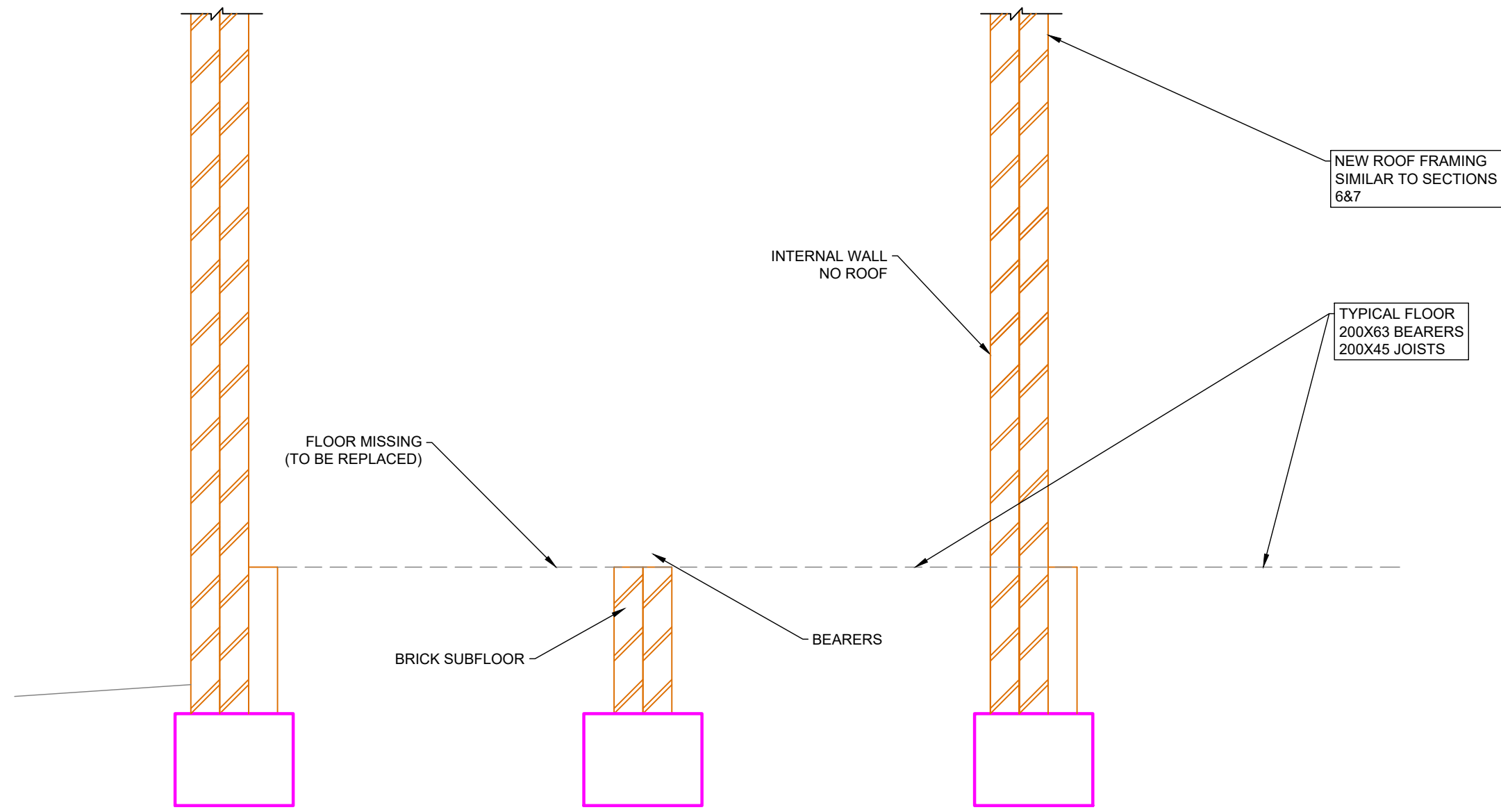
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SECTION 8

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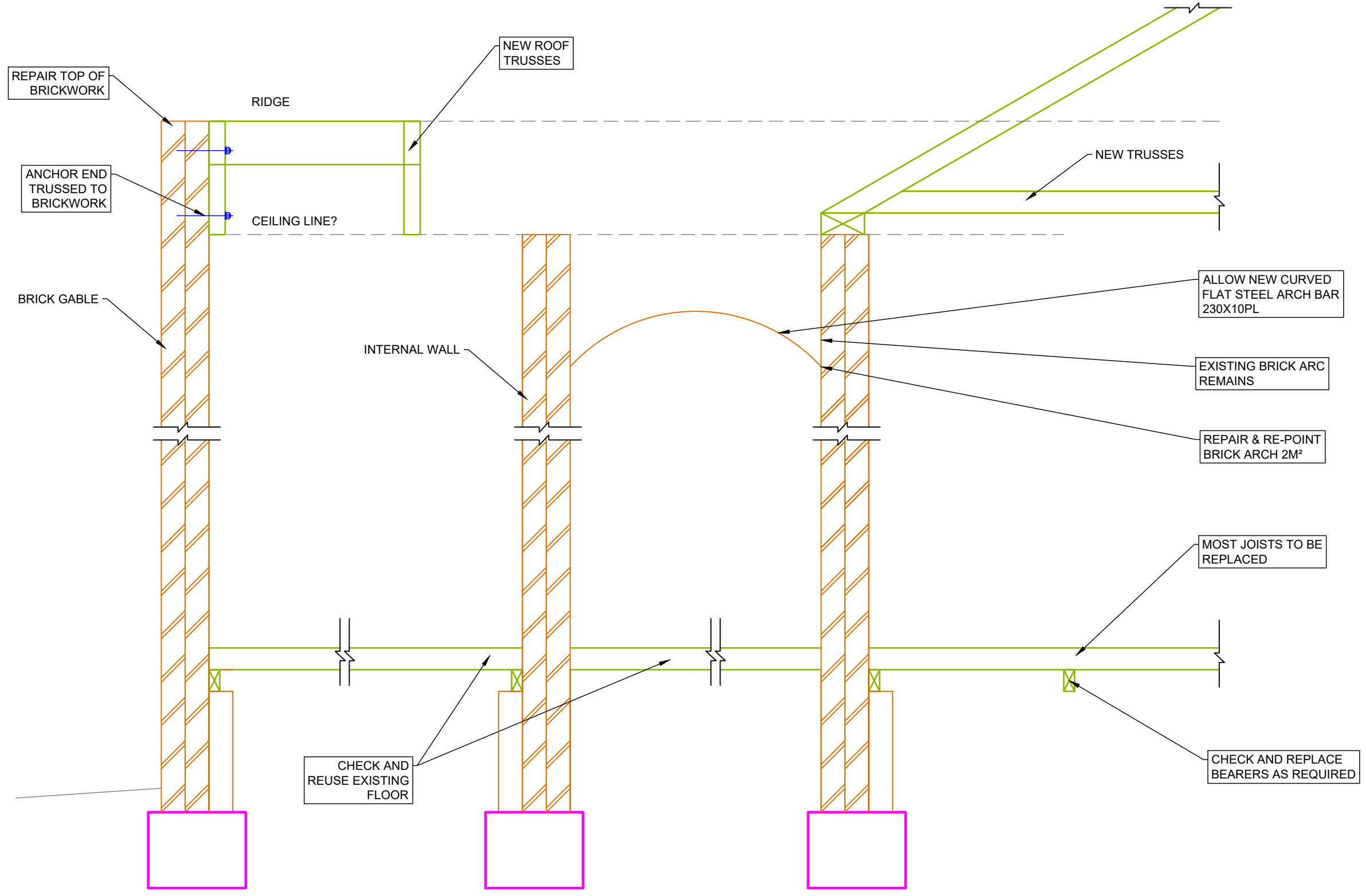
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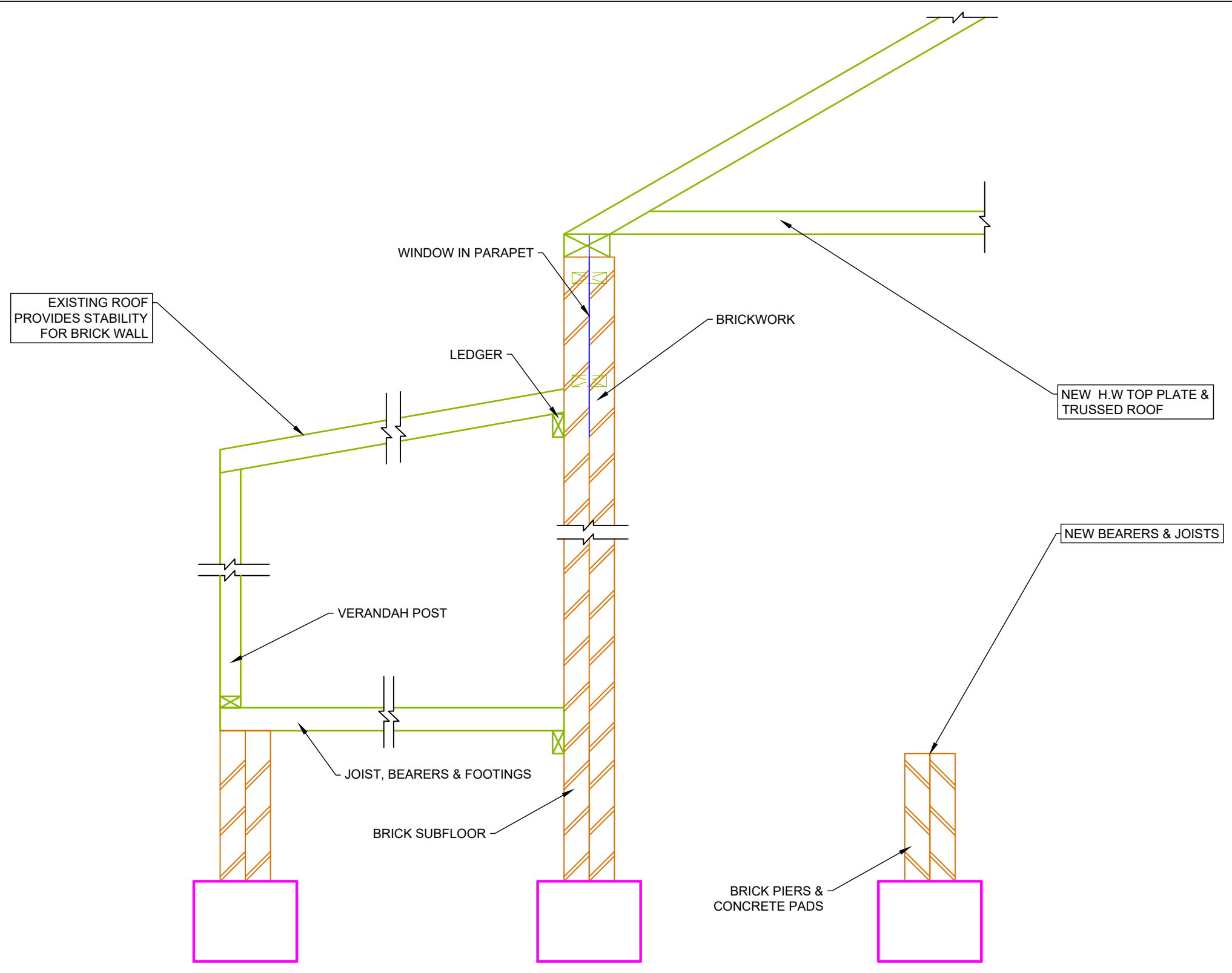
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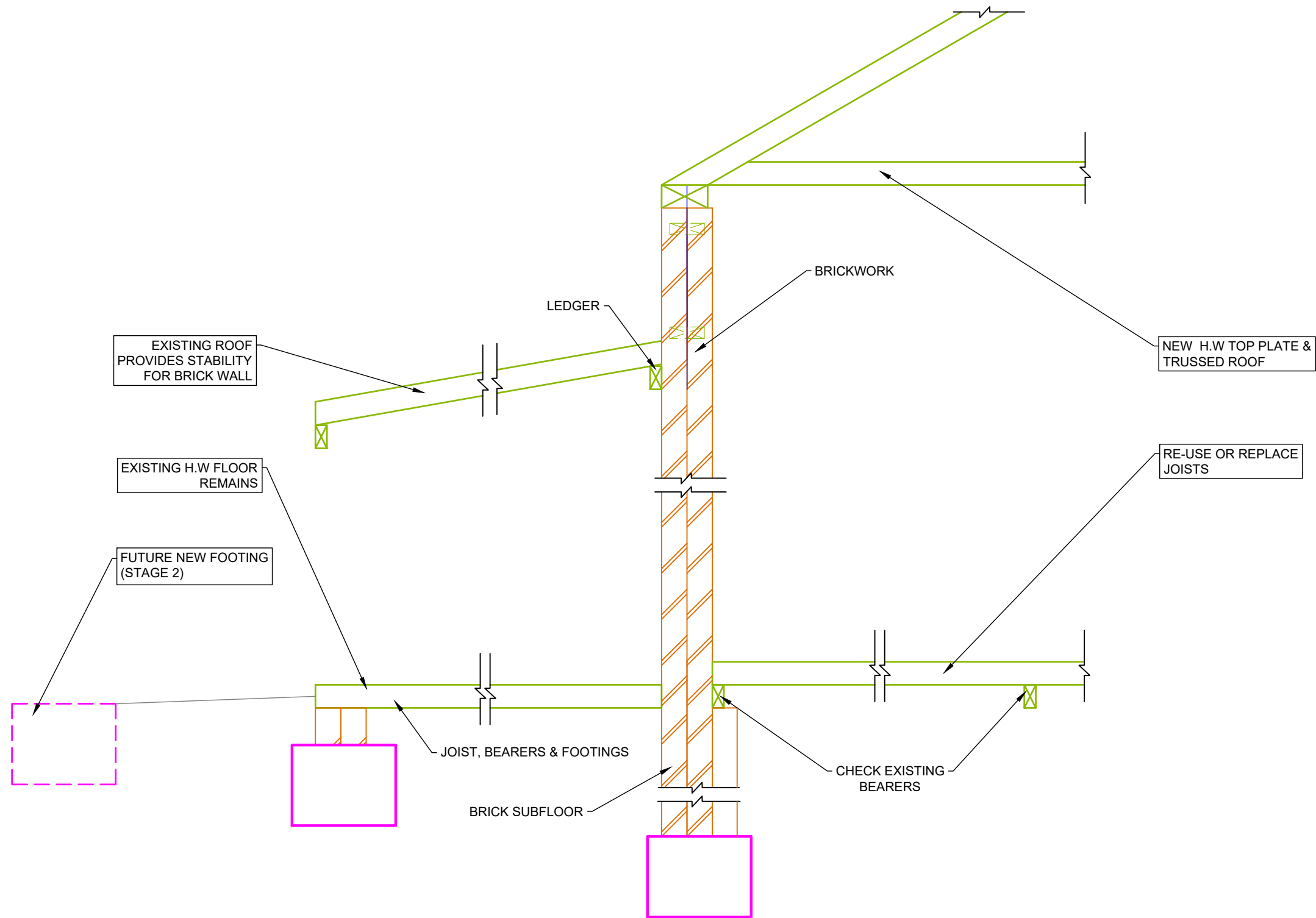
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JOB NO - **M8163** Sheet No - **12**

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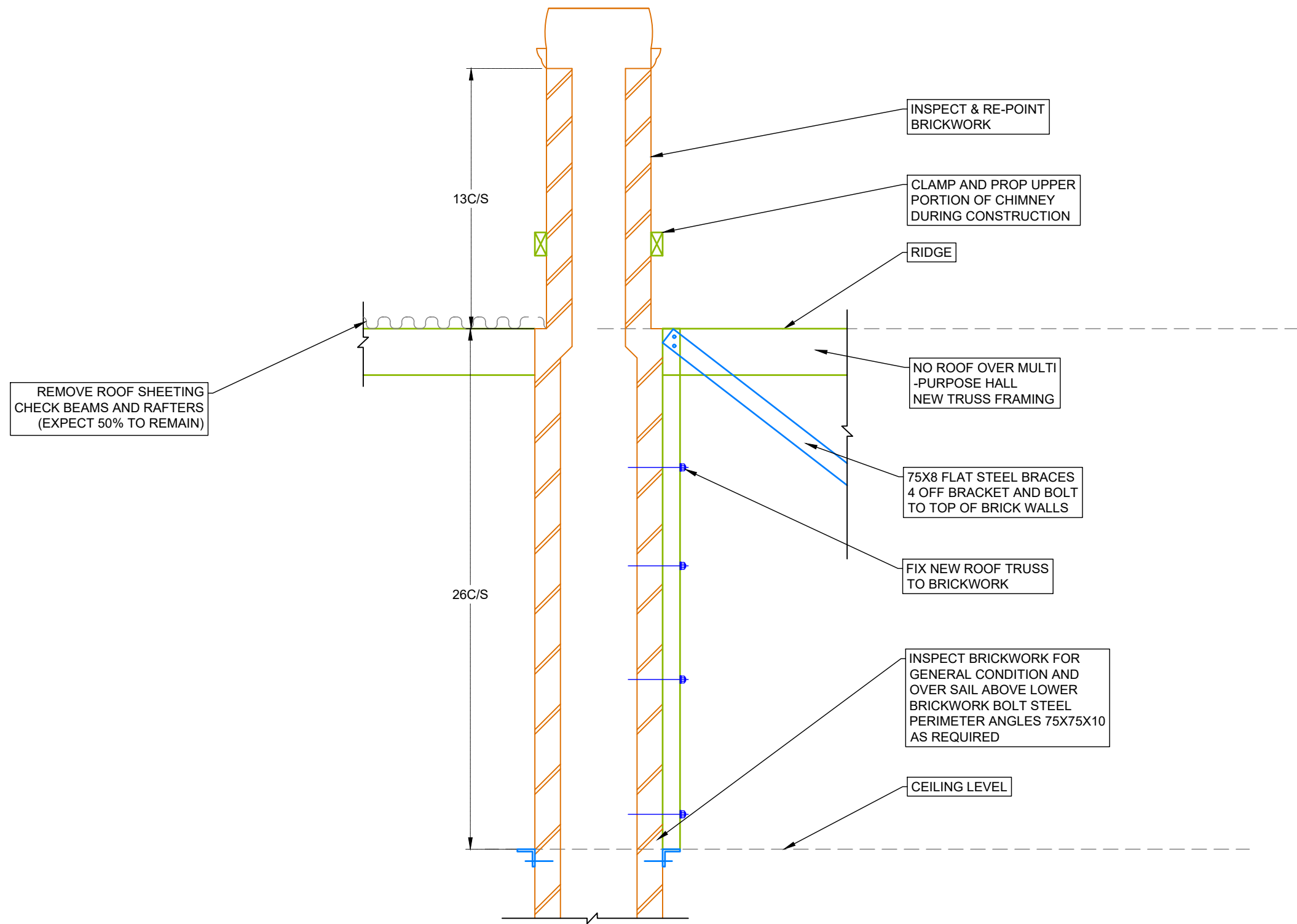
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DRAWING - **D9**

JOB NO - **M8163** Sheet No - **14**

APPROVED - JACK METZLER - B.E. MIE. AUST. C.P. ENG.

SCALE:
AS SHOWN @ A3
DRAWN BY:
AM

REVISION

A