

1 New ridge beam (Beam No.1) in accordance with the structural calculations sheets provided. Beam to have continuous 170 x 4,7mm C16 timber rails (with timber packers behind to bring the rails flush with edge of the flanges) on both sides of the web (bearing onto the bottom flange) bolted together through the neutral axis of the web using M16 bolts at not more than 800mm centres. Beam to also have continuous 195 x 4,7mm C16 timber plate bolted to the top flange (using M12 bolts at 400mm centres - staggered either side of the web). All timbers are to end approx. 150mm short of the ends of the beam to allow the beam to bear directly onto new padstones (see the structural calculations sheets provided) built into the existing masonry flank walls.

2 New rear floor / dormer support beam (Beam No.2) in accordance with the structural calculations sheets provided. Beam to have continuous 220 x 4,7mm C16 timber rail (with timber packers behind to bring the rail flush with the edge of the flange) bearing on the bottom flange and bolted through the neutral axis of the web using M16 bolts at 400mm centres - staggered either side of the outer section of the top flange (using M16 bolts at not more than 800mm centres). All timbers to end approx. 150mm short of the ends of the beam to allow the beam to bear directly onto new padstones (see the structural calculations sheets provided) built into the existing masonry flank walls. NOTE: Beam No.3 (not shown here) is to have timber bearer sections bolted to it as per Beam No.2.

3 New timber dormer wall (and dormer side cheek walls) constructed using 100 x 50mm CLS bottom rail (screw-fixed to Beam No.2), 100 x 50mm CLS studs fixed at 400mm centres, and 100 x 50mm CLS noggin's fixed at approx. mid-height (staggered to aid fixing). Timbers to be doubled-up and screw-fixed together around proposed window openings as shown. Bottom rail to be permanently tied down to Beam No.2 using proprietary 30 x 5mm (thick) galvanised restraint straps with 90deg bend (length cut to suit) spaced at 800mm horizontal centres as shown.

4 Cross-beam for flat roof bearing constructed using 2No. 220 x 4,7mm continuous C24 timber sections, bolted together at not more than 800mm centres using M12 bolts. New beam to be tied down to the new timber studs below using 900mm (long) (with 90deg bend) x 30mm (wide) x 5mm (thick) proprietary galvanised restraint straps fixed to alternate studs (800mm centres) and at both sides of window openings as shown.

NOTE: ALL CONNECTIONS OF RESTRAINT STRAPS TO TIMBERS, AND JOIST HANGERS TO TIMBERS ARE TO BE FIXED USING EITHER 50mm No.12 WOOD SCREWS, OR 75mm GALVANISED CLOUT NAILS

5 New flat roof structure comprising C24 joists at 400mm centres and noggin's at mid-span - staggered to aid fixing. Joist section dimensions to be as shown in Section A-A provided. New joists are to be tied down to Beam No.1 using proprietary galvanised timber-to-timber-beam joist hangers (approx. 270mm x 50mm). Opposite ends of roof joists to bear onto cross-beam (No.4), are to over-hang the cross-beam by 100mm, and are to be tied down to the cross-beam using proprietary heavy duty twist ties - length cut to suit, if required.

6 New floor structure comprising C24, or C16 joists at 400mm centres and noggin's at mid-span - staggered to aid fixing. Joist section dimensions to be as shown in Section A-A provided. New joists are to be tied down to Beam No.2 and Beam No.3 using proprietary galvanised timber-to timber-beam joist hangers (approx. 270mm x 50mm).

7 New ceiling structure comprising 145 x 38mm C16 joists at 400mm centres. New joists are to be tied down to Beam No.1 using proprietary galvanised timber-to timber-beam joist hangers (approx. 270mm x 50mm). Opposite ends of joists to be cut to the angle of the existing (or proposed) rafters, are to lap to the outer edge of the rafters, and are to be bolted to the rafters using M16 bolts (1No. per connection).

NOTE: STRUCTURAL STEEL BEAMS ARE TO BE PRIMED IN PROPRIETARY RED OXIDE PAINT PRIOR TO TIMBER RAILS AND PLATES BEING FIXED, AND PRIOR TO INSTALLATION

NOTE: PROVIDE LATERAL RESTRAINT TO FLANK WALL(S) USING PROPRIETARY 300mm LONG (WITH 90DEG. BEND 150mm FROM END) x 30mm (WIDE) x 5mm (THICK) GALVANISED RESTRAINT STRAPS, FIXED ACROSS THREE FLOOR JOISTS / RAFTERS / FLAT ROOF JOISTS (INCLUDING FOR TIMBER BLOCKS FIXED BETWEEN THE JOISTS / RAFTERS) AT 1200mm CENTRES.

