
+St. Osyth Priory, Essex

**Repairs and Alterations
to the
Tithe Barn, Dairy and Cart Lodge**



Outline Schedule of Work

September 2022

Carden & Godfrey

33 Clerkenwell Close

London EC1R 0A

1. Introduction

- 1.1 These brief schedules are intended to provide a broad outline of the Scope of Works required to repair and adapt each of the three buildings for their new joint purpose. Concentrating first on the considerable amount of repairs needed, the following paragraphs should be read in conjunction with Carden and Godfrey's drawings of the Barn, Dairy and Cart Lodge as existing, as well as the Concept Design plans, section and elevations showing the proposed alterations.
- 1.2 At RIBA work Stage 2, the Outline Schedules of Work are intended primarily to provide the Quantity Survey with sufficient information to establish the Draft Outline Cost Plan.
- 1.3 The inspection for these Schedules was by Ian Angus of Carden and Godfrey Architects on Monday 19th September 2022.

2. Repairs

2.1 The Tithe Barn



- 2.1.1 Replace decayed or missing oak sole plate at base of timber frames. Provisionally allow for replacing 50% of the full length plate along the south elevation and its return walls.

Include for rebuilding the wall plinth on existing shallow footings where replacing the sole plate, therefore allow for 50% rebuild to wall plinth.

2.1.2 To the main south side oak frame principal posts, prop and cut away their decayed bases average 1500mm from the sole plate, form halved and ledged joints and replace the decayed bases in well-seasoned oak. Repair prov. 12 no. principal posts in this way.

2.1.3 To the western bay of the barn, replace the decayed and collapsed Principal tie beam like for like in seasoned oak and reform mortices and (slip) tenon joints to connect tie beam to the north and south principal rafter feet and wall plates.

Include additionally for possible further repairs to the principal rafter feet and wall plate housings.

2.1.4 To the Barn's north wall roof bearings, supply and reinstate 2no. missing wall/ashlar posts and braces to principal truss no's 6 and 7 from the east.

2.1.5 To the Barn's 11 no. principal trusses, allow for simple reinforcement of connections to the south wall plate by use of discrete forged steel purpose-made anchor brackets, to augment the iron staples.

2.1.6 To the Barn's north wall bearings, supply and insert seasoned oak packing wedges between the pulled wall posts and the north wall masonry, 9no repairs in total (nos/ 6 and 7 to be fitted close against the wall, as originally.) to all 11no. north wall bearings, supply and fit discrete forged steel anchor brackets bolted back to wall and wall plate, to augment the existing iron staples.

2.1.7 Include a contingency for unknown further repairs and possible replacements to the roof carpentry and its joints.

2.1.8 Strip and salvage the roof tiles from all slopes, sort them and set aside provisionally 60 % sound tiles for re-use on the barn's south slopes. Supply and lay the balance of 40% new matching hand-made plain clay tiles on the Barn's north slope.

Include for all new tiling battens, and for supply and fixing counter-

Battens over new square-edge roof soffit boards nailed to top of rafters. Lay Rockwool semi-rigid insulation batts over boards and between counter battens dimensioned deeper than insulation batts in order to produce continuous air gap under the tiles.

Provisionally 12mm soffit boards, 50mm insulation batts, 75mm thick counter battens, leaving 25mm air gap below 25 x 19mm tiling battens.

At west gable, form secret recessed lead gutter to separate raised plane of roof tiling from gable parapet wall copings. Supply and lay new stone gable copings to west gable. At east end, include for retiling the continuous roof of the cottage and forming a raised verge at the east gable, using plain creasing tile bedded in lime mortar.

Include for similar salvage rate of 50% clay ridge tiles, and supplement with matching ½ round tiles.

2.1.9 To the south frame weatherboards allow for labelling and salvaging the earliest wide boards, mostly at high level on the main south frame. Their locations are to be photo-plotted and numbered before removal. Similarly label and plot the later, sound, narrower boards, mostly from the sides and gable of the mistreys.

Once labeled and plotted, remove all boards, taking care to brace the frames first.

Proceed with the remainder of the main frame repairs, and allow a Provisional contingency for unseen minor repairs to the secondary frame members, once they are exposed.

Prior to reinstating and supplementing the weatherboards, install lining sheets between the frame posts and braces and lay insulation batts within the voids between timbers. Fix slender vertical counter/levelling battens to the frame posts, approx. 20mm thick, in order to create air gap between the insulation and the weatherboard cladding. Vapor barrier (Class A Building Paper) to be laid between new lining sheets and inside face of insulation batts.

Supply and fix new lightly-stained weatherboards to 80% of the south

elevation, and reinstate prov. 20% existing boards in their original locations.

Repair or replicate all timber windows and doors as existing, but adapted for double-or secondary glazing in conjunction with alterations (see separate Alterations Schedule below).

2.2 The Dairy



2.2.1 Strip the plain clay roof tiles, salvage the hips and ridge tiles and set aside provisional 60% of the plain tiles for re-use. Supplement with 40% new matching hand made clay plain tiles, to go on the long east slope. The salvaged tiles to go back on the long west slope and north hip. Supplement 40% hips and ridges.

2.2.2 Raise the roof to accommodate 50mm insulation as for and in conjunction with the Barn roof, forming tiled valleys between the two as existing.

Include provisionally for unknown minor repairs to the roof structure, and relay the roof slopes with new tiling battens on new counter-battens on new soffit lining boards to underside of common rafters, with up to 100mm insulation batts to fill the bays between rafters. The new soffit lining boards to incorporate a vapor barrier on their upper face. e.g foil-backed plasterboard.

2.2.3 To the external brick walls, carry out local crack-filling, brick replacements and repointing to east and west elevations, approx.. 8Sq metres.

2.2.4 Repair all windows and doors as existing, with thorough overhaul and tightening of joints, ironmongery, re-weathering of sills, deep surface preparation and repainting inside and out.

2.2.5 To the 1st floor structure, re-form the bearings of prov. 6no. main beams, and form spliced extensions to 3no. rotten beam ends.

Allow for strengthening the joints between the floor and principal E-W beams using galvanized steel angles, concealed within floor void.

Take up and replace the 1st floor boards, using T&G ex. 25mm. floor Boards, laid over dense new sound insulation within the floor voids.

2.2.6 Repair approx.. 50% of the ceilings over the ground floor using matching lath and hair-reinforced lime plaster.

Provisionally include for the similar plaster repairs to damaged partitions and external wall plaster.

2.2.7 Include for virtually rebuilding the existing southeast staircase, with new treads and risers, augmented carriage supports and retained side partition. (See also Alterations below).

2.2.8 Include for fixing protective thin screen over the surviving stave, wattles and daub panels at 1st floor on the south wall frame. (north frame of Barn).

2.2.9 Include for repairing the floor at ground floor level as existing, in lobby and workshop.

2.3 The Cart Lodge



2.3.1 Once the lodge has been cleared of storage and subject to further detailed examination of the internal carpentry, including the roof, allow for propping of the building all around the perimeter, in stages, from solid ground to the undersides of wall plate and principal tie beams.

2.3.2 Label, plot and remove the weatherboarding from the west side, to provide access to the timber frame.

Reduce the shingle/gravel ground topping around the outside of the lodge, in order to expose the remains of the oak sole plate and reveal the tip of the (assumed) minimal foundation brickwork.

2.3.3 Working in alternate sections, cut out and replace the oak sole plate, using matching section and lengths of new well-seasoned oak.

2.3.4 Cut out and form spliced and ledged extensions to the principal posts, prov. 900mm high, and thereby replace the decayed bottoms of prov. 10no. posts, joined with mortice and tenon as originally. Pull the south frame back to vertical and renew Southeast brace and strengthen joints.

2.3.5 Strip the interlocking clay tiles and set aside all round tiles and ridges for re-use. Assume prov. 50% re-use of salvaged tiles, to be laid on the west slope, with 50% balance of new matching tiles on the east slope.

- 2.3.6 Fit new soffit linings and vapor barrier on top of the rafters, with insulation batts, prov. 50mm thick, above, as scheduled for the Tithe Barn, and with new counter-battens to lift the roof carcass sufficiently to provide 25mm air gap between the insulation and the underside of roof tiling.

Provide and fix 25 x 19mm tiling battens and lay the new and salvaged roof tiles and ridges, with double course at eaves, plain tile creasing course at gable verges, and allowing for new barge board details at east and west gables, (projecting beyond proposed new full-height glazing -see Section 3 below).

- 2.3.7 Allow a Provisional Contingency for repairs to the secondary elements of the timber frame and roof carpentry, to be ascertained and scheduled under Scheme Design Stage 3&4, and subject to inspections following removal of the weatherboards.

- 2.3.8 Reinstate 50% salvaged sound timber weatherboards to their original locations, on proposed new construction of internal lining boards and insulation (or foil-backed insulated plasterboard) set between the frame members, new slender vertical counter battens to provide 25mm air gap, and new and old weatherboards nailed traditionally to the counter battens, maintaining the existing gentle wavy planes of cladding.

- 2.3.9 Repair or replace the side windows and doors as existing, like for like, and in tandem with the Alterations.

3. Alterations

3.1 The Tithe Barn

- 3.1.1 Remove existing floor throughout and lay new, insulated floor with underfloor heating. Allow for a new nom. 150mm RC slab on heavy duty damp proof membrane on well compacted hard core, with min 50mm Kingspan Thermafloor TF70 or similar approved under the underfloor heating with min. 80mm screed and final floor covering of herringbone brick. All laid to ensure level access to the external ground level. New three steps to the west end of the barn with new metal framed glazed balustrade.

- 3.1.2 Existing roof to be stripped carefully as indicated under section 2.0 above. Nom. nom 50mm Rockwool Flexi insulation on pale coloured edge squared soffit boards fixed to the top of the rafters with battens, counter battens, and breather membrane to ensure min.25-50mm air gap above insulation.
New coping stones to the west wall.

- 3.1.3 Build two new infill extensions as indicated on the drawings to accommodate new WCs block and bar store.

For the external cladding of the new extensions, make sure that the existing boards on the main body of the barn are carefully removed, marked up and reinstated on the north wall of the new extensions. The new walls are to be insulated with nom. 200mm Rockwool Flexi in between external cladding and internal cladding of 15mm Fermacell boards. Allow for 50mm battens and breather membrane to create 50mm ventilated cavity. Allow for decoration of the interior including tiling the walls to the back of the wash hand basins, urinals and floors.

Allow for all mid to high end sanitary ware including disabled WC doc M pack.

Allow for a new slim lined, double glazed casement window in the men's WCs, to match existing east window on the same elevation.

Roof to the new extensions to be covered using hand made tiles to match existing. Insulate with min. 150mm Rockwool Flexi or similar approved over new nom. 150mm rafters with battens, counter battens and breather membrane. Allow for code 5 lead flashings as required.

- 3.1.4 Allow for new slim lined full height timber windows and doors to all three entrances to the barn. Doors to be sensor operated. Central, main entrance to have fixed double-glazed top section. All scribed to fit existing structure.

Repair / renew existing windows.

Repair and refurbish existing shutters and keep.

- 3.1.5 Gallery to be extended. 25mm sound insulation laid over joists on 18mm

plywood with new timber, wide boards floor. Renew the joists and repair south ends and bearings of principal north – south beams.

Create protective corridor nom. 1700mm wide with solid 130mm insulated partition (10mm Rockwool Flexi between the studs) and 15 Fermacell boards on both sides. The enclosure to have pitched ceiling above to emulate barn architecture. Two timber framed glazed doors. 30 minutes fire retention. New metal framed glazed balustrade to the edge of the gallery.

New timber framed glazed door between Tithe Barn and Dairy.

Restore existing fireplace.

3.1.6 Existing south walls to be repaired, insulated, and reinstated as described under 2.1.9 above.

3.2. Dairy

3.2.1 The new floor from the Tithe Barn to continue through to ground floor of the Dairy, including underfloor heating insulation etc., to establish the same floor levels between two buildings. Kitchen floor to be tiled to suit commercial new kitchen.

3.2.2 New commercial kitchen to be installed.

3.2.3 Walls to be tiled or white rock applied as agreed with conservation officer.

3.2.4 New timber staircase min. 1200mm wide in the south-west corner of the kitchen. Two sets of double doors to allow large deliveries. A new door at the bottom of the staircase to lead to first floor of the Dairy.

3.2.5 Install dumbwaiter to carry food to the first floor.

3.2.6 Install 6-8 persons passenger lift, taking account of all associated building work, including a lift pit and overrun. Lift walls 150mm rc concrete.

3.2.7 New timber staircase in the far south-west corner to go around the lift.

3.2.8 First floor structure needs potentially significant structural repairs. South end to be lowered to allow level access to the gallery of the Tithe Barn.

Potentially the rest of the floor will need to be lowered; allow for associated works.

New timber floor throughout with 100mm Rockwool Flexi between the joists for sound insulation. New ceiling below.

Should the north end of the floor stay at current level, allow for three new steps.

New swing door and new partitions to create staff areas as shown on C&G drawing 5215/1002 rev. C. All partitions to be 130mm wide with 15mm Fermacell boards on both sides and 100mm Rockwool Flexi between the studs. Allow for all new timber doors as indicated on the drawing. FD30 partly glazed doors to top of protected staircase and staff areas. Allow for decorations.

Allow for all sanitary ware, and 8 lockers.

3.2.9 Allow to create two disabled WCs, including 130mm partitions as described above under 3.2.8 and doc M packs. Allow for tiling walls behind wash hand basins.

3.2.10 Roof to be insulated between and above rafters using Rockwool Flexi See C&G drawing 5157/1002 rev.B. New foiled back plasterboard ceiling throughout.
Three new rooflights on the west slope.

3.3 Cart Shed and West Infill Extensions

3.3.1 Build new extension to connect Dairy and Cart Lodge. External new walls are to be insulated with nom. 200mm Rockwool Flexi in between external cladding and internal cladding of 15mm Fermacell boards. Allow for 50mm battens and breather membrane to create 50mm ventilated cavity. Allow for decoration of the interior including tiling the walls to the back of the wash hand basin.

Allow for disabled WC doc M pack.

Floor to continue at the same level and to same spec. as Dairy.

Pitched roofs above the plant room and disabled WC covered with handmade clay tiles and insulated with Rockwool Flexi in between and

above rafters.

Flat roof part of the extension – typical warm roof construction with nom. 300mm Rockwool Hardrock above rafters between 18mm WBP boards, breather membrane and single ply Sarnafil membrane. Two rainwater outlets to come out in the plant room and disabled WC. One rooflight centrally.

- 3.3.2 The Cart Lodge timber structure to be fully repaired as described under 2.0 above. Walls to be insulated in between timber studs with 50mm Rockwool Flexi, breather membrane and battens to create min. 25-50mm ventilated cavity with existing weatherboarding externally.

New floor to be riven stone or herringbone brick finish (TBC) on min.80mm screed over underfloor heating on separating layer, min. 50mm Kingspan Thermafloor TF on new rc 150mm concrete slab on heavy duty damp proof membrane on well compacted hard core. Level to match the floor level in the Dairy. Cut new sole plates as necessary to allow level access.

Roof to be stripped and insulated as Tithe Barn, above pale coloured square edge boards over rafters.

Three new conservation rooflights.

- 3.3.3 Allow for timber framed, slim lined double-glazed doors on both ends of the Lodge, pulled back from the front of the face of the building. North end glazing to be lightly sandblasted to obscure the view of the north courtyard.

3.4 Services

- 3.4.1 Services will be brought in from the west end courtyard, through the new disabled WC and under the kitchen staircase and /or plantroom.

New services throughout, incl. lighting.

- 3.4.2 Drainage connection to discharge southwest, exact location TBC.

- 3.4.3 Allow provisional sum/allowance for M&E.