Proposed Two Storey and Single Storey Rear Extension
at 15 The Island Upper Tean ST10 4JE

Scale 1-50 (A1) - proposed layout Dwg ref TI2d Aug 2025

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***Important Note:**
The author of this drawing may be considered the Principal Designer only insofar as obtaining formal statutory approvals including Building Regulation consent. The Designer will not inspect, supervise or instruct the works on site and such responsibility must not be inferred, assumed or supposed from the drawings and any supporting documents.
The Client and their Principle Contractor as Duty Holders have a responsibility to verify all dimensions either written or scaled from the drawings and identifying existing covered foundation and drainage lines on site and any discrepancies or changes in the design or specifications are to be referred to the Designer to check for compliance.
The construction of the development in accordance with this drawing does not constitute or imply any guarantee, latent defect assurance or warranty.
The Client and the Principal Contractor must understand and accept their responsibilities in their role as Duty Holders under The Building Regulations 2010 (as amended) and The Building Safety Act 2022.
Relevant requirements of CDM or Health and Safety Legislation are the responsibility of the Principal Contractor.
All works are to be carried out with full agreement of the Client and and any disturbance to existing structures or boundary features are to be made good to satisfaction of all parties.
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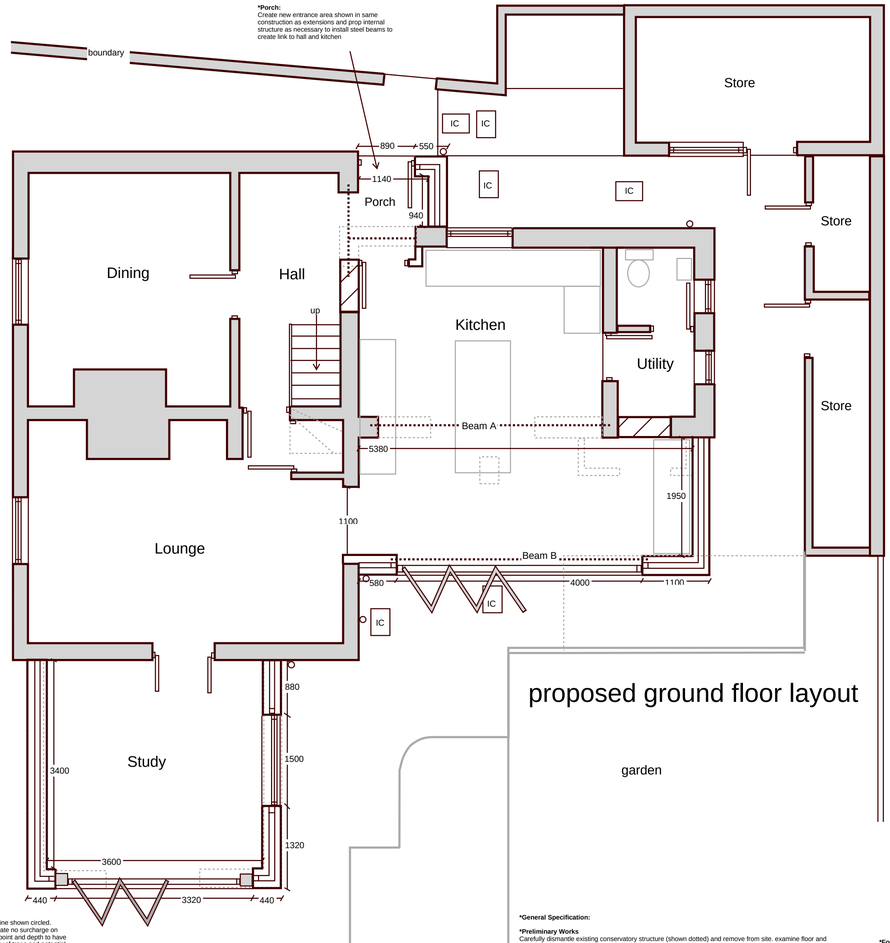
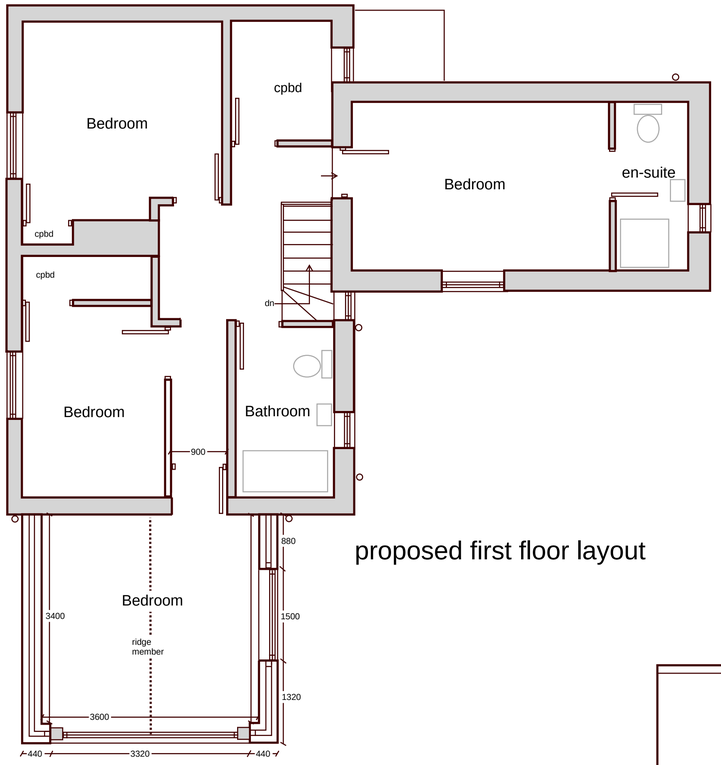
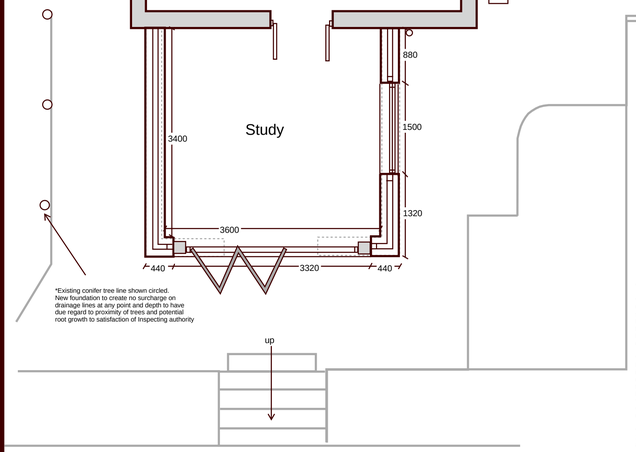


proposed ground floor layout



proposed first floor layout



***General Specification:**

***Preliminary Works**
Carefully dismantle existing conservatory structure (shown dotted) and remove from site. examine floor and substructure to assess suitability to retain subject to prior discussion with inspecting authority.
Plan extensions programme to ensure minimum disturbance and exposure to rear living space. Remove all rubble from site to approved tip facility. Expose existing house foundation to assess type of base and ground conditions. Examine and expose as necessary existing drainage lines and inverts etc to assess location and prepare for extension excavation work.

***Walls (External):**
Faced brick to match existing and to satisfaction of planning authority. Min 100mm cavity enclosing Dritherm 32 insulation fill to manufacturer specification and internal leaf of approved 100mm load bearing thermal block work (maximum 0.15W/mK) faced internally with 52.2mm PIR plasterboard finish (40mm PIR+12.5mm plasterboard) on treated battens or cement dabs.This or similar construction to achieve max 0.18W/m2 k U-Value
Install Thermabate or similar insulated cavity closures at all opening jambs.
*Note: new walling to be effectively bonded to existing structure to satisfaction of inspecting authority surveyor and wall ties to be stainless steel suitable for 100mm cavity width and compliant with DD140. set at 5 per m2 and at each block course at jambs.

***Internal Walls (non load bearing):**
100x47 sw timber stud faced on 100x75mm sole plate and dpc faced with plasterboard incorporating vapour check and enclosing 100mm rockwool acoustic grade insulation.

***Extensions Roof:**
Plain double lap tiles to match main house colour and suitable for pitch (lowest approx.16 degrees to kitchen extension eg Sandtoft 20/20 with 100mm headlap) fixed in place in accord with manufacturer specification and BS5534 on treated batterns on approved breathable membrane over 190x47mm sw C16 rafters at 450mm centres birds-mouthed and screwed through truss type steel clips to continuous 100x75mm sw wall plate anchored to supporting wall by galvanised ms straps at max.1000mm centres.
Head of rafters screwed to ridge beam (two storey extension -see engineer notes) and members tied with continuous galvanised metal strap fixings to restrict spread - see notes.
The glazed gable frame will be housed within a fabricated cranked Beam supporting the proposed ridge beam with a welded plate connection (See notes on beam design sheets).

***Roof Insulation:**
Pitched ceilings to have Celotex GA400 (100mm) insulation board between rafters ensuring min 50mm air gap behind roof membrane and under-draw with Celotex PL 4060 insulation backed plasterboard (60mm+12.5mm plasterboard)incorporating vapour check membrane all to manufacturer specification - insulate to full length of rafters.
Note: This or similar construction to achieve max 0.15 w/m2k U-Value.

***Fenestration:**
Install high performance double glazed window and doors etc. at rear shown max 1.40 w/m2 k U-Value
Total window and door opening casements to represent minimum 5% of adjacent floor as natural vent plus min 8000mm2 trickle ventilators to head of frame. Ensure that all doors and critical window areas are fitted with laminated or toughened safety glazing compliant with current BS:EN:12150. ***Escape Windows**: Where required provide opening casements to habitable rooms capable of safe egress in emergency i.e. min 0.33m2 clear opening (say 800x450mm) set within 1100mm of internal floor level.

***Foundation Detail:**
Subject to prior exposure of existing house foundation lay 600x300mm concrete strip foundation at depth to to suit site conditions and to satisfactory bearing strata to approval of inspecting authority. Reinforce throughout with 2 no layers B503 steel mesh.
*New foundation to create no surcharge on drainage lines at any point and depth to have due regard to proximity of trees and potential root growth

***Floor :**
Extension floor slab to comprise floor finish to client requirement on min 60mm screed or power float finish to 100mm concrete slab reinforced with A193 steel mesh on 1200g dpm over Celotex GA 4000 (100mm) or similar approved insulation board turned up in 25mm thickness at floor perimeter to avoid cold bridge. Lay further dpm over well blinded 150mm min. compacted natural stone sulphate free hardcore.
*Note incorporate approved under floor heating if required by client subject to advice of Approved Heating Engineer.
*U-Value max 0.18W/m2k

***First Floor:**
21mm tdg boarding across 190x50mm sw C16 joists at max 450mm centres supported off heavy duty galvanised ms joist hangers fixed to comply with manufacturer specification. Provide suitable strutting at mid span with end wedges as necessary. Under draw joists with plasterboard to achieve min 30 minutes fire resistance incorporating vapour control membrane and enclosing 200mm Rockwool Flexi between joists to achieve maximum 0.18W/m2k. *
Note any notching of floor joists for services to be minimal and compliant with BS5268 part 2-1991.

***Drainage:**
See preliminary work notes - expose existing drain runs at rear at outset of work. Replace existing pipe work across rear yard if required in 100mm pvc on granular bed and surround at falls to match existing subject to prior assessment of condition of pipe work.
Ensure adequate support and protection to all pipes passing through walls and under new floor to complete satisfaction of inspecting authority.
All new drainage will comply with the requirements of the inspecting authority and BS EN 12056.
The existing drainage lines will be traced and exposed prior to building work commencing on site - see preliminary work notes above.
Pvc rainwater goods discharging to accessible, trapped gullies with drain branch to existing system as above or approved garden soak away chamber sized and sited to satisfaction of inspecting authority surveyor and subject to a suitable percolation test. Internal plumbing to satisfy BS5572 with 75mm deep seal traps as required.

***Flashings:**
Install Code 4 lead cover flash and soakers at tiled roof abutment with house wall ensuring min 150mm up-stand dressed into mortar joints and made good. Subject to assessment of exposure and requirements of inspecting authority install 2000g dpc cavity tray to existing external wall to discharge over flashing up stand from new roof.

***Heating:**
Any boiler alterations and flue discharge criteria plus any extended space heating to be to the full requirements of a suitably qualified heating engineer and assessment of existing heating system plus compliant with current Part J Building Regulations. Install thermostatic control valves as necessary.

***Ventilation:**
Natural ventilation from opening casements plus install mechanical extract fan to kitchen area set to achieve min 60 litres/sec extract rate (30 litres/sec if over cooker hood) plus install mechanical extract fan to new utility room set to achieve min 15 litres/sec extract rate.

***Electrical Work:**
All notifiable electrical work to be carried out by a suitably qualified contractor registered with an approved national body. A formal completion certificate to be issued in compliance with current Part P building regulations and to satisfaction of inspecting authority surveyor.
Note: all lighting to be low energy type to client spec. and suitable provision will be made for fixed lighting with a luminous efficacy of 45 lumens per circuit - watt.
Install sockets to extension area to requirements of client and provide co-axial and satellite ports if needed.
*Subject to assessment of existing alarm in situ install a mains operated inter-linked smoke alarm system with battery back up to circulation areas and critical locations in compliance with BS5839 and to satisfaction of inspecting authority surveyor.

***Structural Works:**
Check direction of existing first floor joists and first floor walling to ensure assumed loadings in steel work calculations are verified.
*Note Contractor to assess bearing capacity of existing retained masonry to receive ends of new Beams and if necessary rebuild in bonded 7N/mm2 engineering quality concrete brick/ block to required bearing capacity beneath spreader pad stones to full satisfaction of inspecting authority.
*Install steel beams encased in gyproc fire line board to achieve min. 30 minutes fire resistance. See Engineer's design sheets for all structural beam etc information.

proposed front elevation to road (south east)

***Glazed Gable Frame:**
Purpose made solid oak frame fabricated by specialists to house new glazed frames as indicated. Alternatively use natural oak cladding to encase steel frame structure with cranked beam support to ridge beam member.

proposed side elevation (north east)

proposed rear elevation (north west)

proposed side elevation (south west)