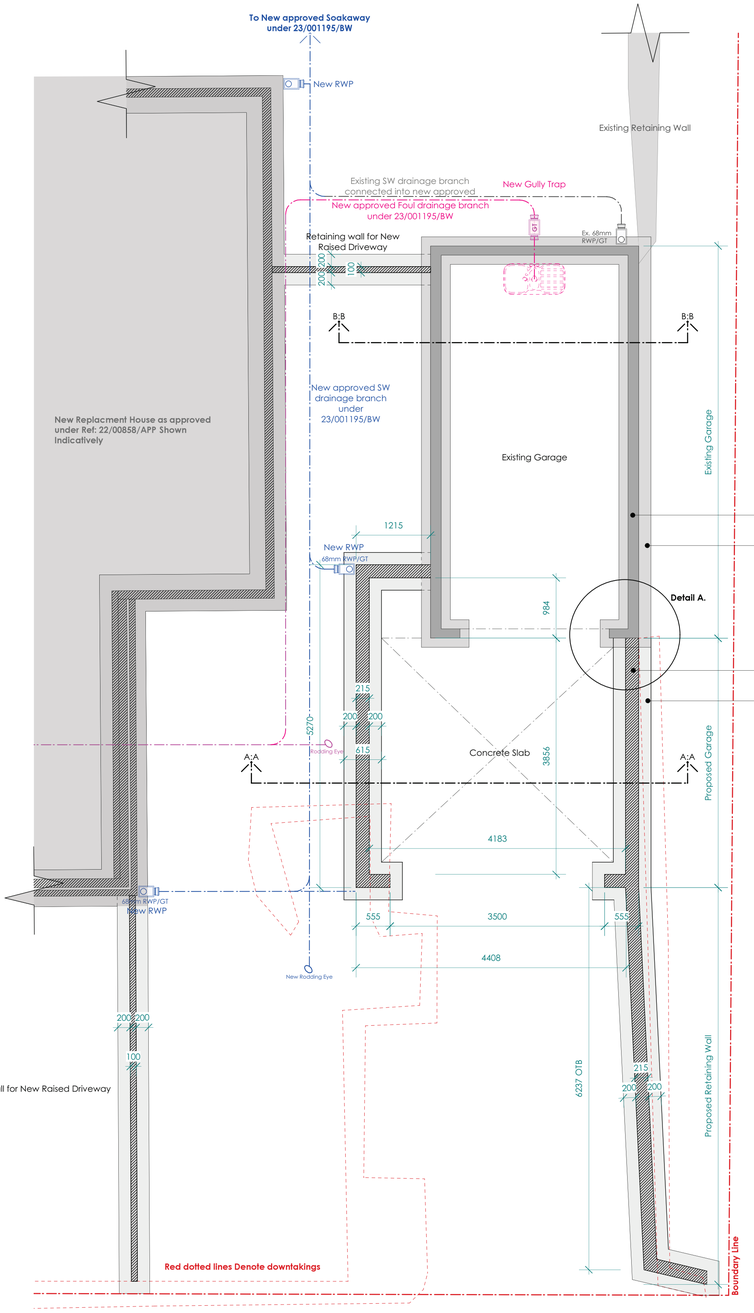
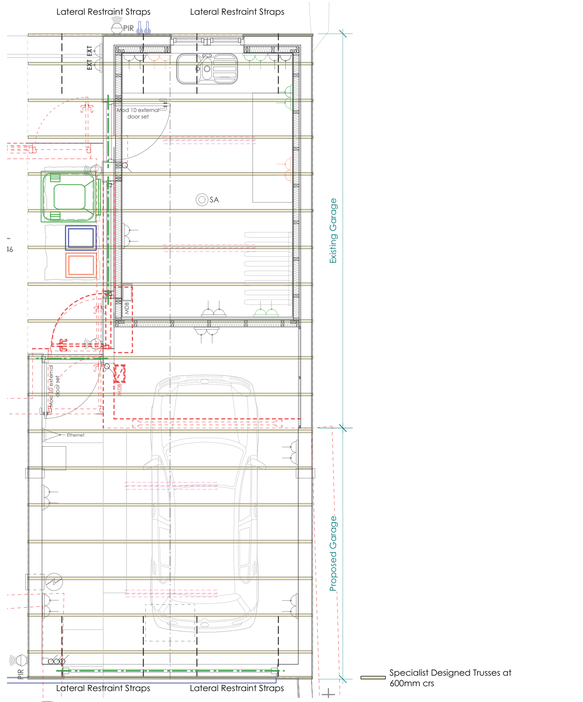


Proposed Foundation Plan
Scale: 1:50



Roof Plan
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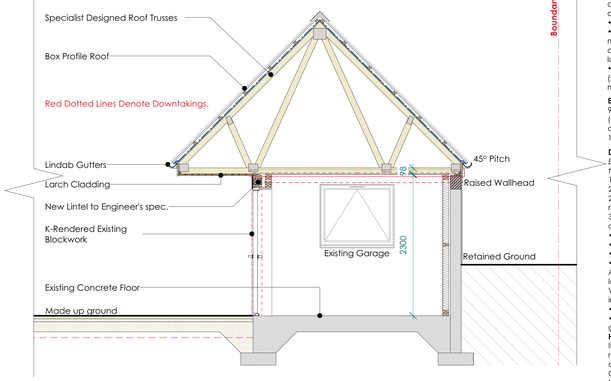

Proposed Section B:B
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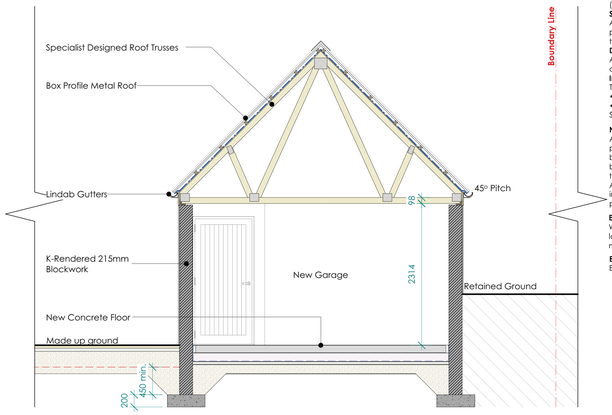

Proposed Section A:A
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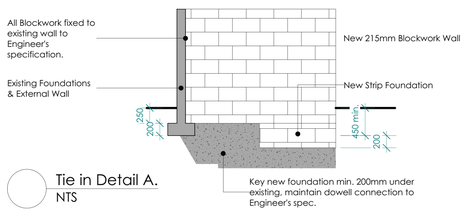

Tie in Detail A.
NTS

FOUNDATIONS:
Foundations to comprise of 200mm thick x 615mm wide C35 concrete strip foundations, with bottom A393 mesh (min 50mm cover to all rebar) to blockwork walls. Foundations to be min 450mm below finished ground level (or to the existing house foundations/ to load bearing strata or to be taken to the invert level of any adjacent drains if lower than specified depth - whichever is greater). Foundations have been designed on the basis of a safe capacity bearing **100kN/sqm**. Any stepped foundations should be designed so that the height of steps should be of no greater height than the foundation thickness. Any overlap should be greater than twice the step height, foundation thickness or at least 300mm. Foundation concrete to be in accordance with BS 8110 and BS EN 1992-2, Eurocode 2:Design of Concrete structures. Allow at least 7 days curing time after foundations have been poured before building work commences.

EXISTING GARAGE WALL CONSTRUCTION:
Existing Blockwork walls to be raised approx **225mm with new blockwork** to engineer's specification. New **100x25mm Timber wall plate** in preparation for new roof trusses. DPC cover are to be incorporated around all openings, wallhead, first floor level, corners and gables at maximum 8000mm centres vertically.
Internally, on the existing blockwork wall **25mm cavity** then 95mm non-loadbearing kit formed by **95x45mm C16 reg and treated studs at 600mm crs**, with **95mm Knauf FrameTherm Roll 35** between studs, and finished on the internal face with **12.7mm plasterboard** taped and filled ready for decoration.

PROPOSED GARAGE WALL CONSTRUCTION:
215mm Blockwork walls to Engineer's specification, with**100x25mm Timber wall plate** in preparation for new roof trusses. DPC cover are to be incorporated around all openings, wallhead, first floor level, corners and gables at maximum 8000mm centres vertically.

WORKSHOP STEEL ROOF CONSTRUCTION:
Steadmans box profile roofing (or eq approved) on **min. 50mm x 75mm timber counter battens @ 900mm ctrs** creating a 50mm cavity on Specialist designed trusses **@ 600mm ctrs** with **195mm mineral wool between trusses** with. Finished with **12.7mm foilbacked plasterboard** having all joints taped, filled and staggered ready for decoration.

GARAGE STEEL ROOF CONSTRUCTION:
Steadmans box profile roofing (or eq approved) on **min. 50mm x 75mm purlins @ 900mm ctrs** creating a 50mm cavity on **Gildevale Protect A1 roofing membrane** underlay *(BS 5250 Code of practice for the control of condensation in buildings)* over **9mm OSB sheeting** fixed to **proprietary timber ganggnailed roof trusses at 600mm centres.** *(The installationof Protect A1 must be strictly in accordance with the relevant requirements of BS 5534, the suppliers instructions and requirements of BRE Certificate 072/00.)* Trusses to be fixed to timber frame with proprietary truss clips. Lateral restraint straps to be incorporated at high and low level spanning at least 3No. truss members and securely fixed into blockwork. Straps to comply with BS 5268 Part 3 2006 Appendix B. Fix straps to rafters with not less than 4 no.50x8 gauge sherardised screws evenly spaced, locate at least one screw 150mm off bottom end of strap. 100mmx25mm longitudinal roof bracing where indicated on sections. Roof trusses to be designed and manufactured in accordance with BS 5268 Part 3 2006 by specialist manufacturer. Bracing to be in accordance with BS 5268 and manufacturers requirements.

TRUSSES:
Roof trusses to be designed and manufactured in accordance with BS 5268 Part 3 2006 by specialist manufacturer. Prefabricated gang nailed roof trusses @ 600mm ctrs and to truss manufacturers design and recommendations. Trusses to be nailed to timber frame with TCP50 50mm galvanised truss clips

LATERAL RESTRAINTS:
Lateral restraint straps to be incorporated at high and low level spanning at least 3No. truss members and securely fixed into blockwork. Straps to comply with BS 5268 Part 3 2006 Appendix B. Fix straps to rafters not less than 4 no.50x8 gauge sherardised screws evenly spaced, locate at least one screw 150mm off bottom end of strap. 100mmx25mm longitudual roof bracing where indicated on sections.

SEPARATING PARTITIONS:
Partition formed with 95x45mm C16 reg treated studs at 600mm centres with 2no 95x45mm C16 reg and treated top and bottom rails. One row of dwangs incorporated at mid-height. 2 layers of screw fix 12.7mm taper-edge plain plasterboard then cavity void formed with 25x38mm timbers finish both sides with all joints staggered, taped and filled ready for decoration.
Minimum 25mm mineral wool (min density of 10Kg/m³) and 70mm glasswool insulation between studs
Note: Surface mounted pipes, wires and services only along wall without service void.

WINDOWS:
To be high performance **UPVC** windows with U-Value no greater than 1.4W/m2K. 4mm glazing, 16mm airspace, 4mm glazing all to be low 'E' glass (En-0.05). 12000mm² trickle ventialtion to apartments and 10000mm² trickle ventilation to bathrooms, ensuites and Kitchens.
An openable window or rooflight, that provides natural ventilation to meet standard 3.14, should have controls for opening, positioned at least 350 mm from any internal corner, projecting wall or similar obstruction and at a height of:
• not more than 1.7 m above floor level, where access to controls is unobstructed; or
• not more than 1.5 m above floor level, where access to controls is limited by a fixed obstruction of not more than 900 mm high which projects not more than 600 mm in front of the position of the controls, such as a kitchen base unit. Where obstruction is greater, a remote means of opening, in an unobstructed location, should be provided; or
• not more than 1.2 m above floor level, in an unobstructed location, within an enhanced apartment (see clause 3.11.2) or within accessible sanitary accommodation (see clause 3.12.3) not provided with mechanical ventilation.

EXTERNAL DOORS:
920mm wide x 1981 high external doors to be high performance **UPVC/TIMBER** with mortice latch/lock (Slever) and Yale Lock. Main entrance door to have a minimum 800mm clear opening. All glazing to be as the window specification. Doors to be fitted with draught proof strips and to achieve U-Value of 1.4W/m2K. Doors to have a max 170mm step up into house.

DOOR & WINDOW SECURITY:
External doors/doors between dwellings and conservatories/doors between dwellings and garages/doors to flats or maisonettes should be designed and installed to resist forced entry by
1) by meeting the recommendations for physical security in Section 2 of Secured by Design' (ACPO, 2009); or
2) by use of doorsets and windows which are tested and certified by a *notified body* as meeting a recognised standard for security such as BS PAS 24: 2016 for doorsets or BS 7950: 1997 for windows
3) by use of doorsets and windows manufactured to meet recognized product standards and defined component performance as follows
• BS 7412: 2007, for PVC-U units;
• BS 644: 2012, for timber window units;
• BS 4873: 2009, for aluminium alloy units;
• BS 6510: 2010, for steel-framed units
Any glazing in or adjacent to a door leaf which could be accessed by the breaking of glass should be laminated or of similarly robust material.
Vulnerable windows should be constructed to resist attempts to force framesand, if openable, ironmongery. Windows which can be opened should befitted with either:
• a keyed locking system that uses a removable key; or
• a keyless locking system, together with glazing which incorporates laminated glass or a similarly robust glazing material.
Hinges
If single swing the doorset should be fitted with at least one and a half pairs of hinges meeting the recommendations of BS EN 1935: 2002 for hinge grade 11 or above. Hinges fitted to an outward-opening door should be of a type that does not permit the hinge pin to be removed unless the door is open. Otherwise, hinge bolts should be fitted to ensure the door leaf will remain secure when closed.
Locking
A doorset should include a single-point locking device to BS 3621: 2017 (for keyed egress) or to BS 8621: 2017 (for keyless egress) or a multipoint locking system. A deadlocking facility should be provided. Any lock cylinder should be in accordance with BS EN 1303: 2005, grade 5 key security and grade 2 attack resistance as a minimum.
To limit unauthorised access, a communal entrance door fitted with an access control system (see clause 4.63) should be self-closing and self-locking, with keyless operation of any lock from within the common area. To accommodate access control systems, a doorset may incorporate electronic or magnetic remote release and a means of access which includes keyless electronic solutions (keypad, proximity swipe, etc).
Sliding Doors
A sliding door should have a multi-point deadlocking system with 3 or more hook or similar bolts. To prevent removal of the door, an anti-lift device should be fitted. Shoot bolts, if used, should locate into the head of the frame.
Double Doors
A doorset with more than one door leaf should include a means of securing any secondary leaf at head and foot to allow the primary leaf to be securely locked.
Installation and fixing of doors and windows
To ensure a robust installation, fixing of a doorset or window should be in accordance with:
• the recommendations given in section 8 of BS 8213-4: 2016; or
• manufacturer's written instructions where these meet or exceed the recommendation within this British Standard.

NEW DOWNLIGHTS:
All downlighters to be low energy LED (max 50 watt) recessed downlighters located at a maximum of 1 per 2m². Fire rated downlighters (providing min 30mins fire resistance to BS 476: Part 21 (Fire Rating)) to be installed within any ceiling with a supporting floor above, within any roof where the downlighter will be in close proximity to a PIR insulation and within the ceiling of an attic truss (or any other roof where the roof structure provides support to the floor below).
Astro DL cover intumescent hood to maintain fire resistance and allow for a continuous covering of roof insulation. Gaps on and around recessed downlighters to first floor ceiling to be sealed with caulk or fire proof expanding foam to limit air infiltration in accordance with BS 9250:2007.

EXTERNAL LIGHTS:
Wall mounted external light fitting with PIR sensor and photocell. Fitting to be rated not more than 100 lamp-watts per light fitting or have an efficacy of at least 45 lumens per circuit-watt. A manual switch may be provded to override operation of automatic controls

ENERGY EFFICENCY:
Energy efficient light fitting. Luminous efficacy to be at least 45 lumens/circuit watt.

ELECTRICAL:
Final positions of all lights and plug socket outlets to be agreed on site with client. Electrical installation to be designed, constructed, installed and rested as such to comply with recomendations of BS 7671:2018, current IEE regs and Building Standards 'Scotland'. Smoke detectors to dwellings where no storey is greater than 200m² should be provided with one or more smoke alarms located on each storey with a standby supply to BS EN 14604:2005, inter connected and installed in accordance with current Building Standards 'Scotland'. Electrical work to be certified by a member of SELECT or NIEIC only. A minimum of 100% of the fixed light fittings and lamps installed in a dwelling should be low energy type. The fittings may be either;
• dedicated fittings which will have a separate control gear and will only take fluorescent lamps (pin based lamps); or
• fittings including lamps with integrated control gear (bayonet or Edison screw base lamps), e.g. tubular fluorescent and compact fluorescent fittings (CFL's) with luminous efficacy at least 40 lumens/circuit watt.

Outlets and controls of electrical fixtures and systems should be positioned at least 350 mm from any internal corner, projecting wall or similar obstruction and, unless the need for a higher location can be demonstrated, not more than 1.2 m above floor level. This would include fixtures such as sockets, switches, fire alarm call points and timer controls or programmers. Within this height range:
• light switches should be positioned at a height of between 900 mm and 1.1 m above floor level.
• standard switched or unswitched socket outlets and outlets for other services such as telephone or television should be positioned at least 400mm above floor level. Above an obstruction, such as a worktop, fixtures should be at least 150 mm above the projecting surface. Where socket outlets are concealed, such as to the rear of white goods in a kitchen , separate switching should be provided in an accessible position, to allow appliances to be isolated.

MD BOARDS:
MDB with RCD breakers & EPC Certificate and Sustainability Statement above

ELECTRIC POSITIONS:
Final positions of electrics to be confirmed on site by client **and installed in accordance with CM DESIGN ACCESS TO MANUAL CONTROL DRAWING.**

PLUMBING:
All supply pipes to be in copper piping with proprietary protected preformed insulation to BS5422:2009
Thermostatic Mixing Valve (anti scald valve) fitted at point of delivery to bath, bidets and shower heads and should not allow water temperature to exceed 48 degrees celsius in order to prevent scalding

RAINWATER GOODS:
Lindab gutters with brackets at 600mm centres. 68mm diameter Lindab downpipes with holderbats at 1800mm centres. All rainwater pipework to be constructed and installed to BS EN 12056-3: 2000

DRAINAGE:
All new drains to be laid and tested to the satisfaction of the local authority. All drains to be a minimum of 450mm below finished ground level. **Drains below driveway to be min 900mm below finished ground level.** All drains to have a min fall of 1:80. All pipes to be 110mm underground quality UPVC pipes and encased in pea-gravel before infilling. Any pipes passing under walls are to be haunched over. Access in drainage to be provided where any changes of direction occurs and at head of runs. Access to be provided on internal drainage where directional changes occur at head of drain and where waste pipe enters stack. Ensure shower traps are accessible. Bend at foot of vertical stack must have a radius of not less than 200mm or should consist of two of at least 45 degrees.
All drainage below concrete floor to be 110mm UPVC pipes. Connect to sanitaryware with appropriate reducers in order to comply with the following:
All sanitary pipework to be installed in accordance with BS EN 12056-2:2000
Sinks 40mm diameter waste pipe.
Drains which pass below foundations are to be protected by the provision of reinforcing within the strip foundation which pass over drains extending minimum 900mm beyond each side of drain track. Where a drain passes through a wall the wall will require to be provided with a lintel over the drain opening.
All drainage should be constructed and installed in accordance with the recommendations in BS EN 12056-1:2000, BS EN 752: 2017 and BS EN 1610:2015

WATER EFFICIENT FITTINGS:
Water efficient fittings to be provided to all toilets and wash hand basins within a dwelling. Dual flush WC cisterns should have an average flush volume of not more than 4.5 litres. Single flush WC cisterns should have a flush volume of not more than 4.5 litres. Taps serving wash or hand rinse basins should have a flow rate of not more than 6 litres per minute.
When installing low volume flush WC's, the pipe diameter, discharge and gradient inter-relationship of the drainage system is critical in order that the new and any existing sections of the drain operate as intended. Plumbing and associated water installations should be carried out and commissioned by persons who possess sufficient technical knowledge, relevant practical skills and experience for the nature of the work undertaken. An approved certifier of construction, who has been assessed to have the professional skills and relevant experience, can certify compliance of plumbing, heating or drainage installations.

DISUSED DRAINS:
Any formerd disused drains to be disconnected from the drainage system as near as possible to the point of connection in a manner that does not damage any pipe that is still in use and ensures the sewer system is watertight. Where possible, the redundant drains are to be removed. If this is not feasible, the disused drains are to be capped at both ends and at any additional point of connection.

GARAGE DOOR:
Garage door to be (8'6") retractable. Opening to be linteled internaly with 1No steel beam to engineers specification and linteled externally with 1No Robeslee Precast lintel with min 150mm end bearing.

Garage ventilation:
High & Low level vents to comply with Part 3.14.12 of the Building Standards Domestic Technical Handbook.

DO NOT SCALE OFF DRAWINGS.ALL SIZES ARE TO BE CHECKED CONFIMED ON SITE PRIOR TO COMMENCEMENT OF WORKS/ORDERING OF MATERIALS. NO WORK TO COMMENCE BEFORE APPROPRIATE APPROVALS ARE GRANTED CONTRACTORS RESPONSIBILITY TO ENSURE POSSESSION OF APPROVED DRAWINGS

CONTRACTOR/CLIENT TO ENSURE THAT ONLY THE APPROVED BUILDING WARRANT DRAWINGS ARE USED FOR CONSTRUCTION

DRAWINGS TO BE READ IN CONJUNCTION WITH APPOINTED STRUCTURAL ENGINEER'S DRAWINGS. (REFER TO STRUCTURAL ENGINEER DRAWING REGISTERED)

DRAFT ONLY

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Mr. & Mrs. Sword

NEW REPLACEMENT HOUSE & ASSOCIATED WORKS AT 3 FLEURS DRIVE, ELGIN IV30 1SS

GARAGE DETAILED PROPOSALS
Foundation & Roof plans

Date:	Amendments:	Rev:

Drawn By:	Date:	Checked By:	Date:
M.D	11.09.23		

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