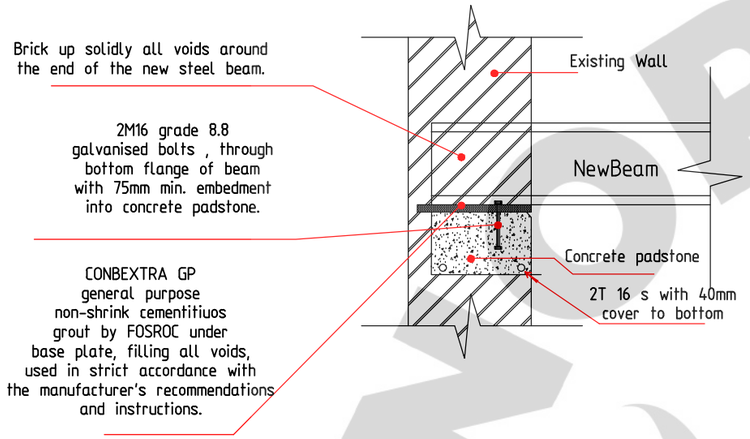
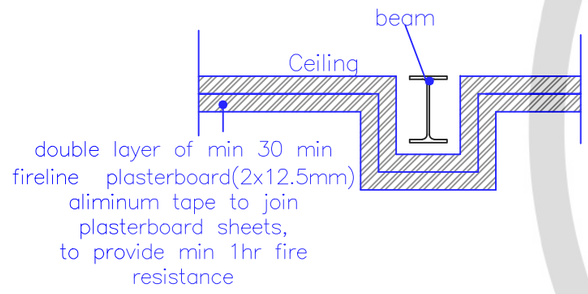
BEAM TO WALL CONNECTION



PROPOSED FIRE RESISTANCE TO STEEL BEAMS/COLUMN (No Scale)



EAVES DETAIL FOR LOFT CONVERSION

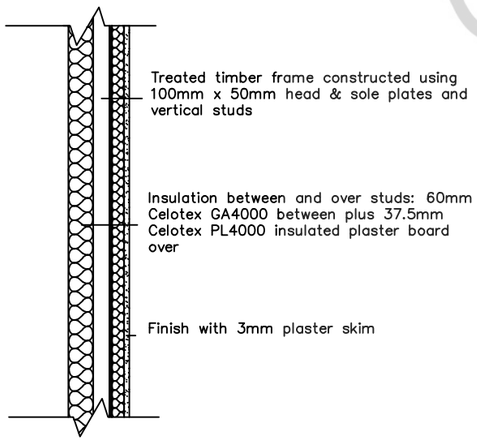
Ensure insulation is installed tightly between the rafters and over rafters to prevent thermal bridging

Ensure continuity of insulation

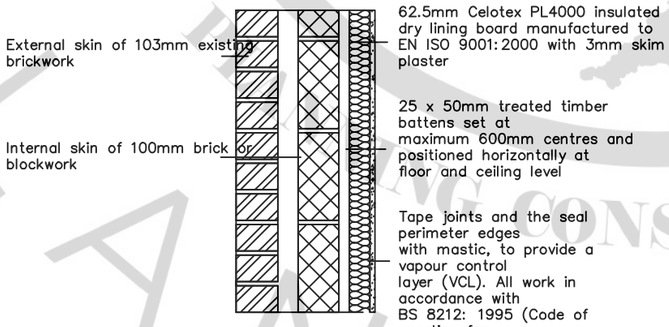
Eaves ventilator tray to ensure a 50mm ventilation gap

Cross ventilation to be provided by a proprietary eaves ventilation strip equivalent to a 25mm continuous gap at eaves level with insect grill and 50mm air gap between felt and insulation

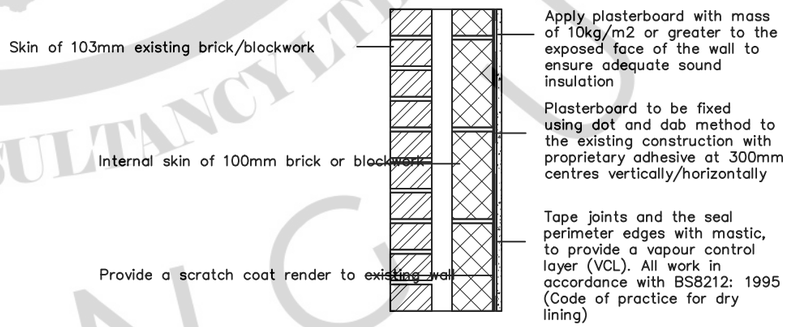
ASHLAR/DWARF WALLS



UPGRADING EXISTING CAVITY WALL



UPGRADING EXISTING PARTY WALL
Warm adjoining space



0 5m

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Project
98 Aveling Park Road, E17 4NT

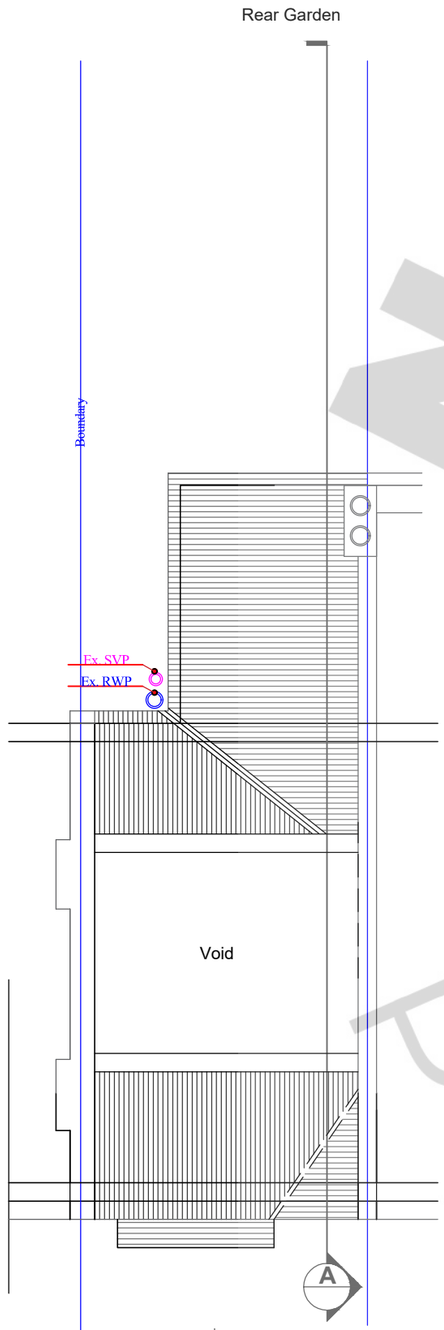
Drawing
Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

Title
Structural Details

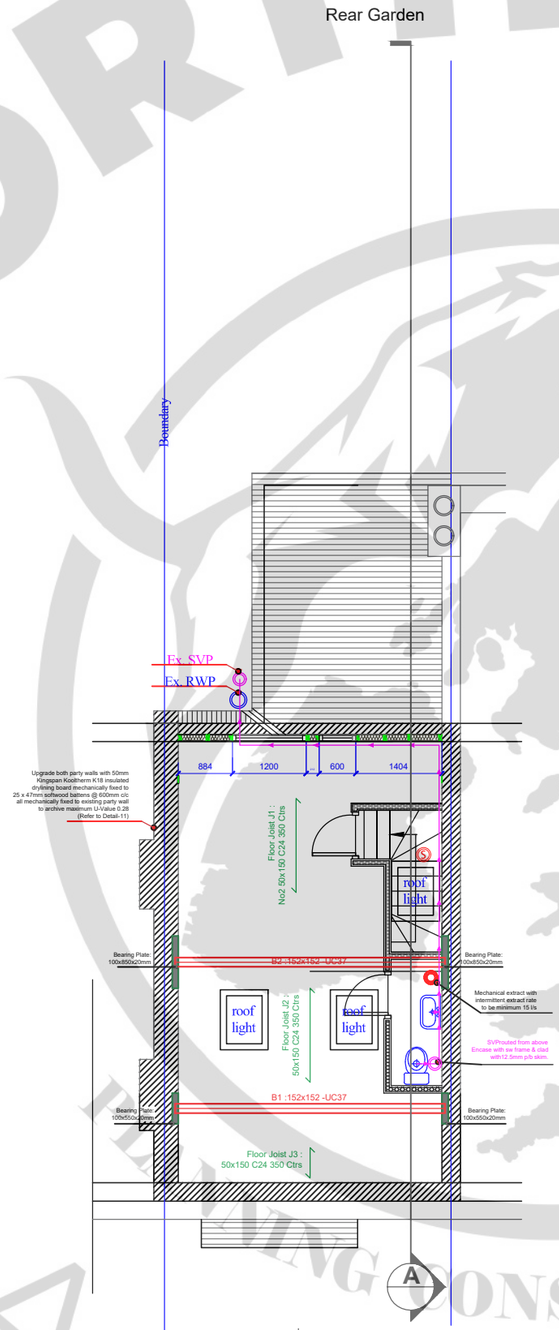
Drawing Status

Scale	Drawn	Checked	Date
@ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-008-17	v1.0

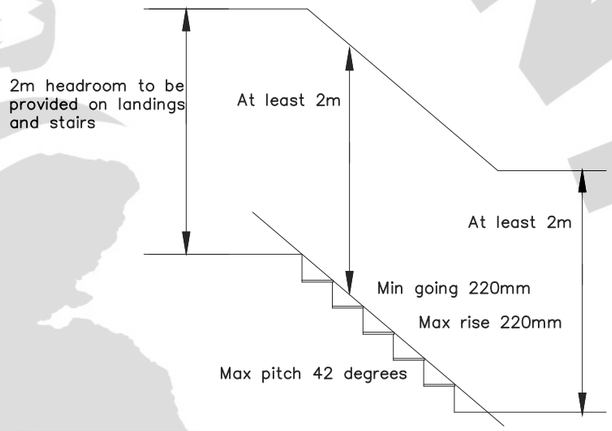


LOFT FLOOR
(as existing)



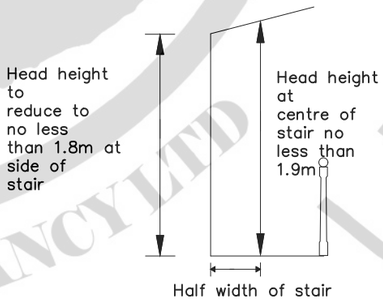
LOFT FLOOR
(as proposed)

HEADROOM FOR NEW STAIRS



Smoke Detectors
Heat detector
FD30 Minumum 30 min fire check doors
joist direction

REDUCED HEADROOM FOR LOFT STAIRS



0 5m

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Project
98 Aveling Park Road, E17 4NT

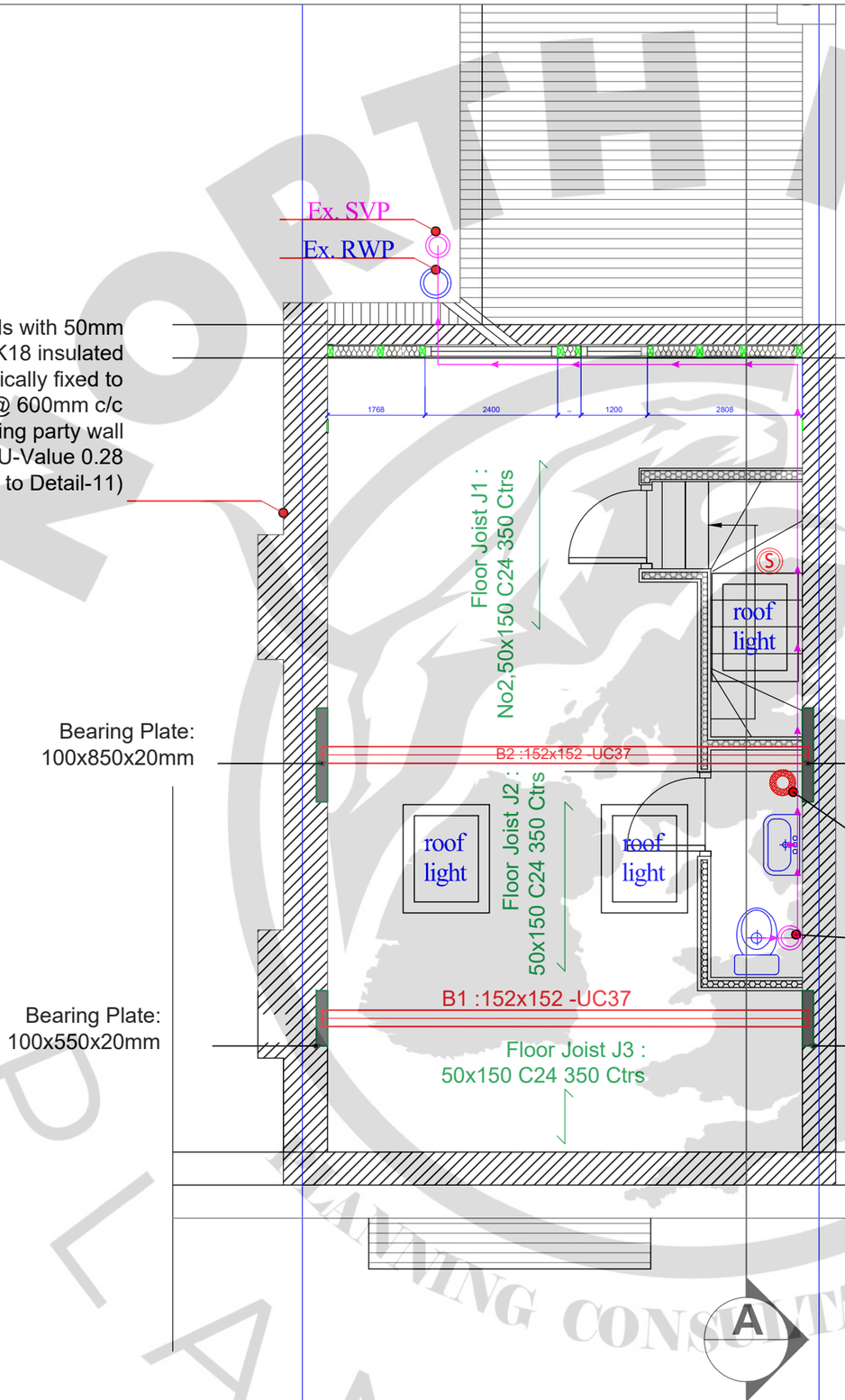
Drawing
Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

Title
Existing and proposed Loft Floor

Drawing Status

Scale	Drawn	Checked	Date
@ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-009-17	v1.0



NAME	SPAN	SIZE
B1	4.40m	152x152 -UC37
B2	4.40m	152x152 -UC37
RB	4.40m	152x152 -UC30
FLOOR JOIST J1	7.00m	No2,50x150 C24 @350 c/s
FLOOR JOIST J2	4.40m	50x150 C24 @350 c/s
FLOOR JOIST J3	1.15m	50x150 C24 @350 c/s
RAFTER JOIST R1	4.40m	50x170 C24 @350 c/s
FLAT ROOF JOIST	4.40m	50x200 C24 @350 c/s

LOFT FLOOR (as proposed)

0 5m

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Project
98 Aveling Park Road, E17 4NT

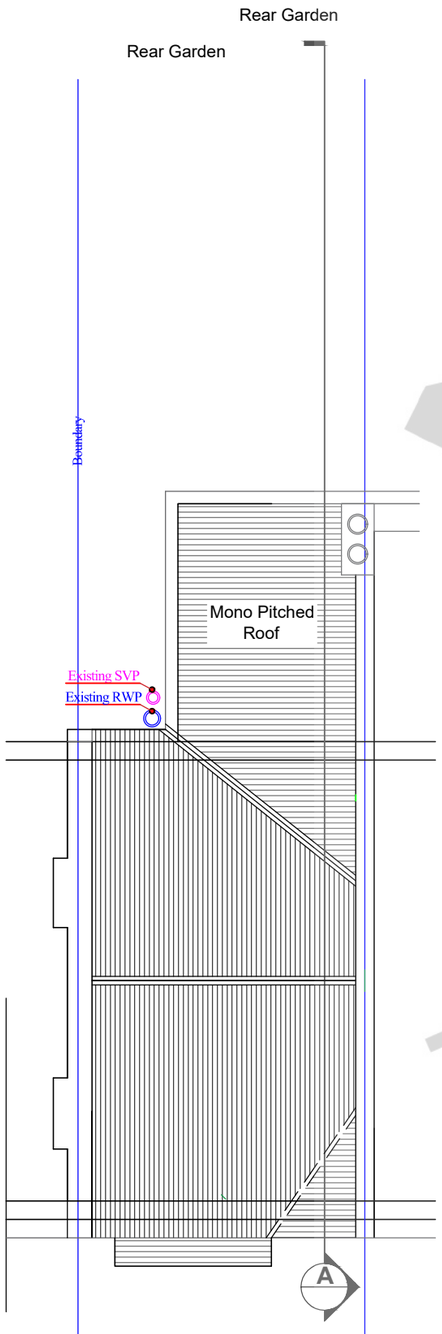
Drawing
Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

Title
Proposed Loft Floor

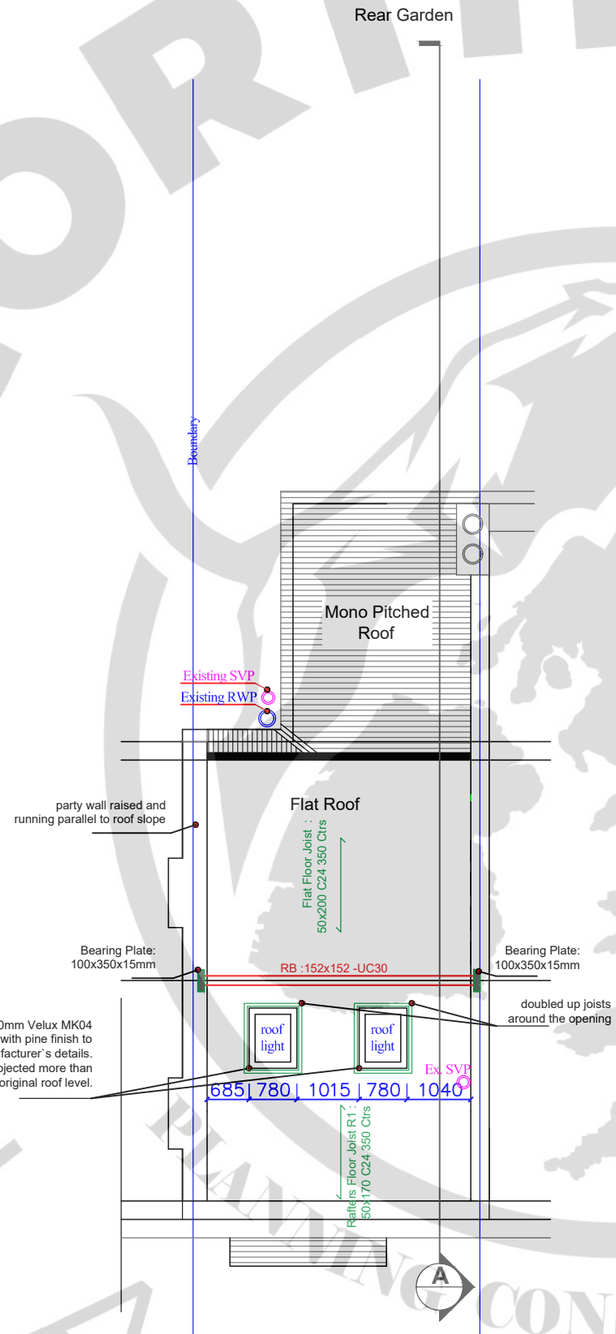
Drawing Status

Scale	Drawn	Checked	Date
1:50 @ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-010-17	v1.0

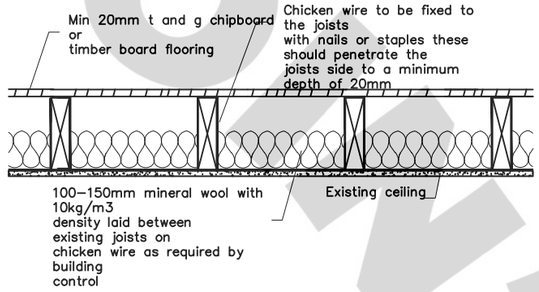


LOFT FLOOR
(as proposed)

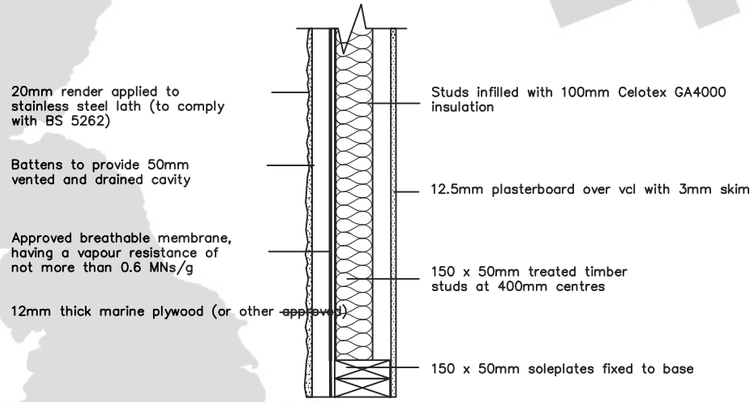


LOFT FLOOR
(as proposed)

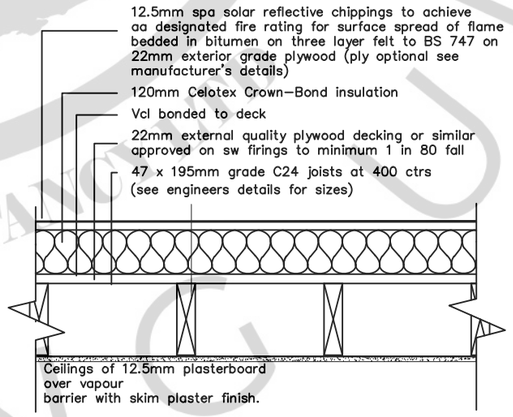
UPGRADING EXISTING LOFT FLOOR



TIMBER FRAMED WALL



WARM FLAT DORMER ROOF



0 5m

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Project
98 Aveling Park Road, E17 4NT

Drawing
Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

Title
Proposed Roof Floor

Drawing Status

Scale	Drawn	Checked	Date
1:50 @ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-011-17	v1.0

22mm external quality plywood decking or similar on firings, min 1 in 80 fall

126mm PIR insulation

Stone chippings on three layer felt to BS 747 (additional ply above felt if required by manufacturer)

Timber nosing piece

Mineral surfaced welted drip, min 75mm deep

Insulation between and over studs 60mm Celotex GA4000 between plus 37.5mm Celotex PL4000 insulated plaster board over

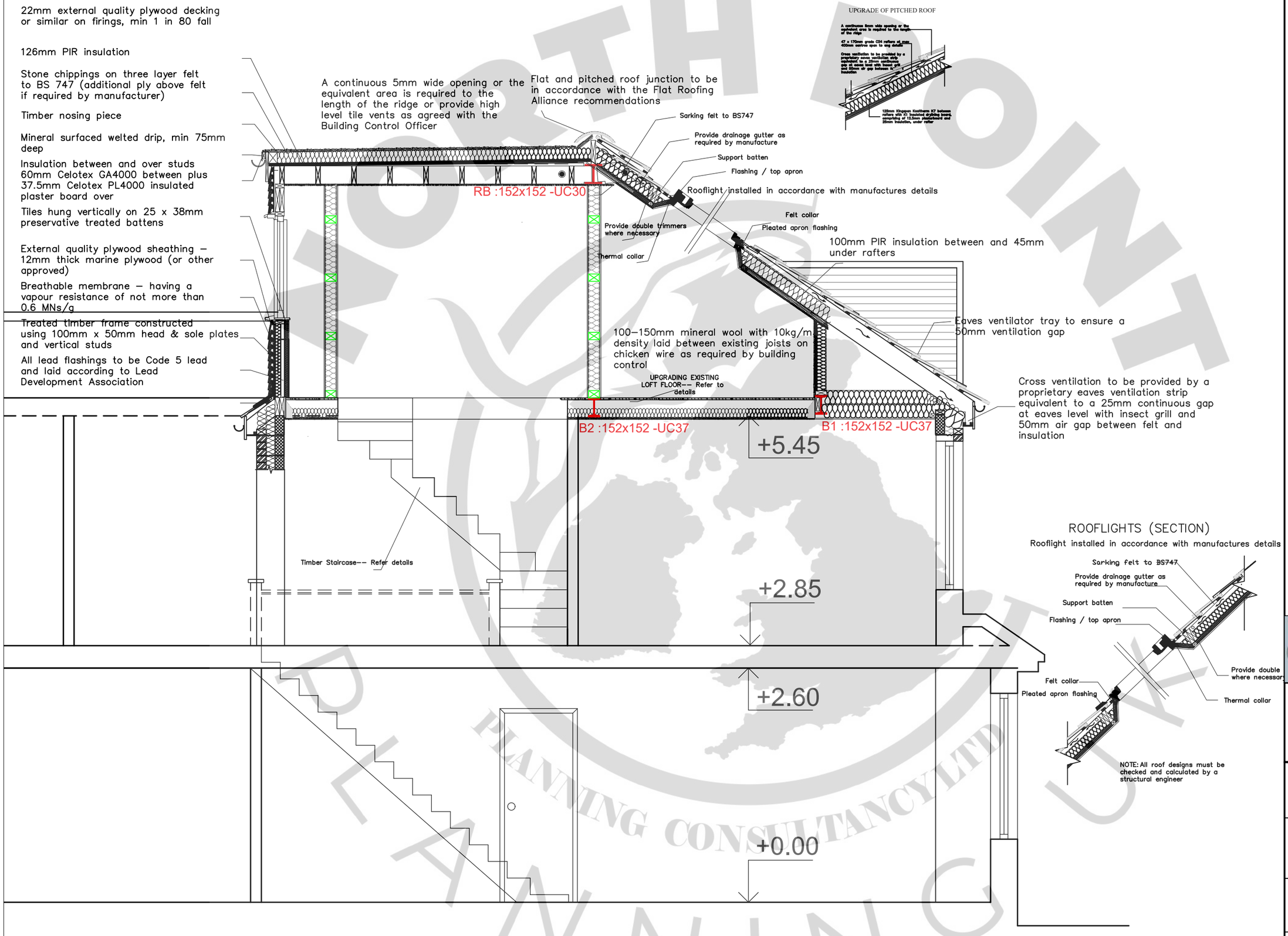
Tiles hung vertically on 25 x 38mm preservative treated battens

External quality plywood sheathing – 12mm thick marine plywood (or other approved)

Breathable membrane – having a vapour resistance of not more than 0.6 MNs/g

Treated timber frame constructed using 100mm x 50mm head & sole plates and vertical studs

All lead flashings to be Code 5 lead and laid according to Lead Development Association



ROOFLIGHTS (SECTION)

Rooflight installed in accordance with manufactures details

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Project

98 Aveling Park Road, E17 4NT

Drawing

Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

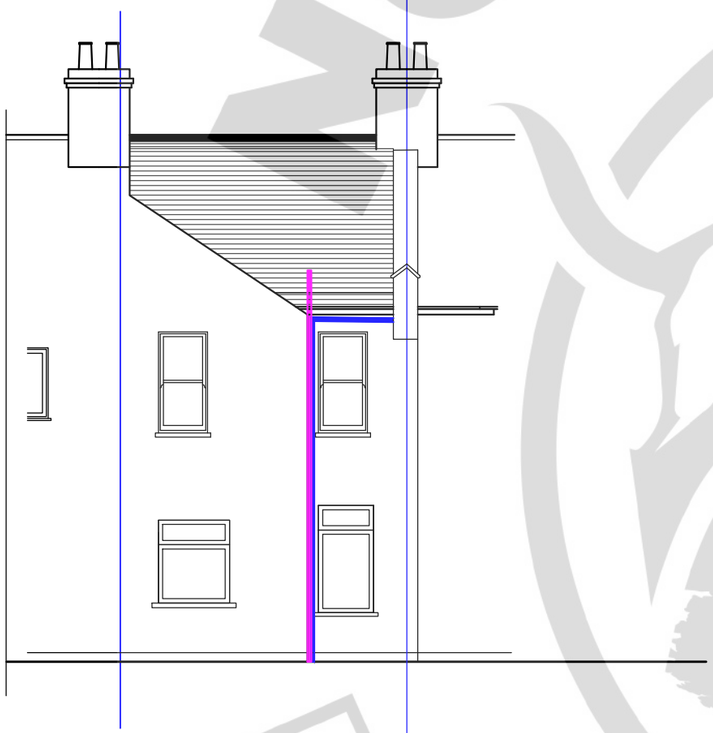
Title

Existing and Proposed rear elevation Plan

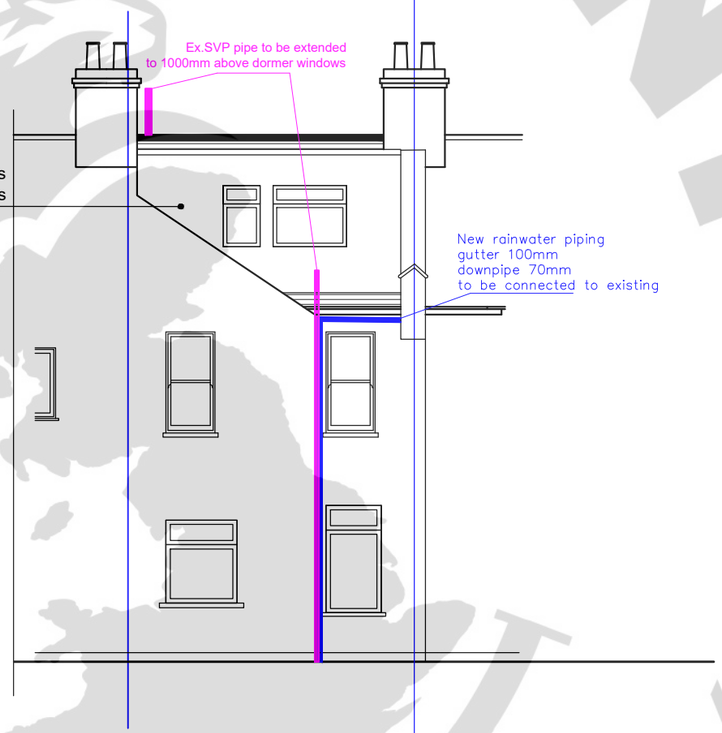
Drawing Status

Scale	Drawn	Checked	Date
1:100@ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-013-17	v1.0



REAR ELEVATION
(as existing)



REAR ELEVATION
(as proposed)

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Project
98 Aveling Park Road, E17 4NT

Drawing
Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

Title
Proposed Section Floor Plan

Drawing Status

Scale	Drawn	Checked	Date
@ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-012-17	v1.0

BUILDING REGULATIONS

NOTES

PLANNING NOTE
A loft conversion for your house is considered to be permitted development and not requiring an application for planning permission, subject to the following limits and conditions:

A volume allowance of 40 cubic metres additional roof space for terraced houses*
A volume allowance of 50 cubic metres additional roof space for detached and semi-detached houses*
No extension beyond the plane of the existing roof slope of the principal elevation that fronts the highway
No extension to be higher than the highest part of the roof
Materials to be similar in appearance to the existing house
No verandas, balconies or raised platforms
Side-facing windows to be obscure-glazed; any opening to be 1.7m above the floor
Roof extensions not to be permitted development in designated areas
Roof extensions, apart from hip to gable ones, to be set back, as far as practicable, at least 20cm from the eaves
*Bear in mind that any previous roof space additions must be included within the volume allowances listed above. Although you may not have created additional space, a previous owner may have done so.
(Ref - planningportal.gov.uk)

UPGRADE OF PITCHED ROOF
(imposed load max 0.75 kN/m^2 - dead load max 0.75 kN/m^2)
Vented roof - pitch 22-45°
To achieve U-value 0.18 W/m^{2}K
Existing roof structure to be assessed by a structural engineer and any alterations to be carried out in strict accordance with structural engineer 's details and calculations which must be approved by building control before works commence on site.
The existing roof condition must be checked and be free from defects as required by the Building Control Officer any defective coverings or felt to be replaced in accordance with manufacturer 's details.
Roof construction - 47 x 150mm Grade C24 rafters at max 400mm centres max span 3.47m. Insulation to be 100mm Celotex GA4000 between rafters and 52mm Celotex PL4000 insulated plasterboard under rafters. Finish with 5mm skim coat of finishing plaster to the underside of all ceilings.
Maintain a 50mm air gap above insulation to ventilate roof. Provide opening at eaves level at least equal to continuous strip 25mm wide and opening at ridge equal to continuous strip 5mm wide to promote ventilation or provide equivalent high and low level tile vents in accordance with manufactures details.
THIS IS A GENERAL GUIDE BASED ON NORMAL LOADING CONDITIONS FOUND IN DOMESTIC CONSTRUCTION. IT IS YOUR RESPONSIBILITY TO ASSESS YOUR DESIGN TO ASCERTAIN WHETHER ENGINEER'S DETAILS/CALCULATIONS ARE REQUIRED. PLEASE REFER TO THE TRADA DOCUMENT - 'SPAN TABLES FOR SOLID TIMBER MEMBERS IN FLOORS, CEILINGS AND ROOFS FOR DWELLINGS' OR ASK YOUR BUILDING CONTROL OFFICER FOR ADVICE.

PARTY WALL ACT

The owner should they need to do so under the requirements of the Party Wall Act 1996 has a duty to serve a Party Structure Notice on any adjoining owner if the building work involves works on or to an existing Party Wall including:
- Support of beam
- Insertion of DPC through wall
- Raising of wall or cutting of projections
- Demolition and rebuilding
- Underpinning
- Insertion of lead flashings
- Excavations within 3 metres of an existing structure where the new foundations will go deeper than adjoining foundations, or within 6 metres of an existing structure where the new foundations are within a 45 degree line of the adjoining foundations.

A Party wall agreement is to be in place prior to start of works on site.

EXISTING STRUCTURE

Existing structure including foundations, floor, beams, walls, roof and lintels are to be exposed and checked for adequacy prior to commencement of work and as required by the Building Control Officer.

DORMER CONSTRUCTION

To achieve minimum U Value of 0.28W/m^{2}K Structure to engineer's details and calculations. Render finish (to comply with BS EN 13914-1:2005) - applied in 3 coats at least 20mm thick to stainless steel render lath. Render should be finished onto an approved render stop. Render lath fixed to vertical 25 x 50mm preservative treated battens to provide vented and drained cavity fixed to breathable membrane (having a vapour resistance of not more than 0.6 MNs/g) and 12mm thick W.B.P external quality plywood sheathing (or other approved). Ply fixed to treated timber frame studs constructed using 100mm x 50mm head and sole plates and vertical studs (with noggins) at 400mm centres or to structural engineer's details and calculations. Insulation between and over studs; 60mm Celotex GA4000 between and 37.5mm Celotex PL4000 with vcl over studs. Finish with 3mm skim coat of finishing plaster. All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally. Dormer walls built off existing masonry walls to have galvanised mild steel straps placed at 900 centres. Dormer cheeks within 1m of the boundary to be lined externally with 12.5mm Supalux and 12.5mm Gyproc FireLine board internally to achieve 1/2 hour fire resistance from both sides.

SMOKE DETECTION
Mains operated linked smoke alarm detection system to BS EN 14604 and BS5839-6:2004 to at least a Grade D category LD3 standard to be mains powered with battery back up to be placed on each storey with an additional interlinked heat detector at ceiling level in kitchens if requried by BCO. Smoke alarms should be sited so that there is a smoke alarm in the circulation space on all levels/ storeys and within 7.5m of the door to every habitable room. If ceiling mounted they should be 300mm from the walls and light fittings. Where the kitchen area is not separated from the stairway or circulation space by a door, there should be an interlinked heat detector in the kitchen.

INTERNAL LIGHTING
Install low energy light fittings that only take lamps having a luminous efficiency greater than 45 lumens per circuit watt and a total output greater than 400 lamp lumens. Not less than three energy efficient light fittings per four of all the light fittings in the main dwelling spaces to comply with Part L of the current Building Regulations.

WARM FLAT DORMER ROOF

(imposed load max 1.0 kN/m^2 - dead load max 0.75 kN/m^2)
To achieve U value 0.18 W/m^{2}K
12.5mm spa solar reflective chippings to achieve aa designated fire rating for surface spread of flame bedded in bitumen on three layer felt to BS 6229:2003 on 22mm external quality ply (ply optional, see manufacturer's details) over 120mm Celotex Crown-Up insulation. Insulation bonded to VCL which is bonded to 22mm exterior grade plywood on firrings to give 1:60 fall on 47 x 195mm C24 timber joists at 400 centres max span 4.51m (see engineer's details for sizes). Ceilings of 12.5mm plasterboard over vapour barrier with skim plaster finish.
Provide restraint to flat roof by fixing of 30 x 5 x 1000mm ms galvanised lateral restraint straps at maximum 2000mm centres fixed to 100 x 50mm wall plates and anchored to wall.
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INTERNAL STUD PARTITIONS

100mm x 50mm softwood treated timbers studs at 400mm cts with 50 x 100mm head and sole plates and solid intermediate horizontal noggins at 1/3 height or 450mm c/cs. Provide min 10kg/m^3 density acoustic soundproof quilt tightly packed (eg. 100mm Rockwool or Isowool mineral fibre sound insulation) in all voids the full depth of the stud. Partitions built off doubled up joists where partitions run parallel or provide noggins where at right angles. Walls faced throughout with 12.5mm plaster board with skim plaster finish. Taped and jointed complete with beads and stops.

HEATING
Extend all heating and hot water services from existing and provide new TVRs to radiators. Heating system to be designed, installed, tested and fully certified by a GAS SAFE registered specialist. All work to be in accordance with the Local Water Authorities by laws, Gas safety requirements and IEEE regulations.

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Project
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Drawing
Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

Title
Building Regulation Notes

Drawing Status

Scale	Drawn	Checked	Date
@ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-013-17	v1.0

PITCHED ROOF VENTILATION
Maintain a 50mm air gap above insulation in the roof pitch to ventilate roof. Provide opening at eaves level at least equal to continuous strip 25mm wide and opening at ridge equal to continuous strip 5mm wide to promote ventilation.

NEW STAIRCASE
Dimensions to be checked and measured on site prior to fabrication of stairs. Timber stairs to comply with BS585 and with Part K of the Building Regulations. Max rise 220mm, min going 220mm. Two risers plus one going should be between 550 and 700mm. Tapered treads to have going in centre of tread at least the same as the going on the straight. Min 50mm going of tapered treads measured at narrow end. Pitch not to exceed 42 degrees. The width and length of every landing should be at least as great as the smallest width of the flight. Doors which swing across a landing at the bottom of a flight should leave a clear space of at least 400mm across the full width of the flight. Min 2.0m headroom measured vertically above pitch line of stairs and landings. However, if there is not enough space to achieve this height the headroom will be satisfactory if the height measured at the centre of the stair width is I.9 m reducing to 1.8m at one side of the stair. Handrail on staircase to be 900mm above the pitchline, handrail to be at least one side if stairs are less than 1m wide and on both sides if they are wider. Ensure a clear width between handrails of minimum 600mm. Balustrading designed to be unclimbable and should contain no space through which a 100mm sphere could pass. Allow for all structure as designed by a Structural Engineer.

STUD ASHLAR/DWARF WALL
To achieve minimum U Value of 0.28W/m ^{2}K
Construct stud wall using 100mm x 50mm head and sole plates and vertical studs (with noggins) at 400mm centres or to structural engineer's details and calculations. Insulation between and over studs; 60mm Celotex GA4000 between plus 37.5mm Celotex PL4000 insulated plasterboard with VCL.
Finish with 3mm skim coat of finishing plaster.
All junctions to have water tight construction, seal all perimeter joints with tape internally and with silicon sealant externally.

FLAT ROOF VENTILATION
Cross ventilation to be provided on opposing sides by a proprietary eaves ventilation strip equivalent to 25mm continuous with fly proof screen. Flat roof insulation is to be continuous with the wall insulation but stopped back to allow a continuous 50mm air gap above the insulation for ventilation.

UPGRADE OF EXISTING FLOORS

Ensure first floor achieves modified half-hour fire resistance.
New second floor -Joists to be 50mm minimum from
chimney breasts. (joist size to structural engin
eer's
details and calculations) Provide min 20mm t and g chipboard or timber board flooring. In areas such as kitchens, utility rooms and bathrooms flooring to be moisture resistant grade in accordance with BS EN 312:2010). Identification marking must be laid upper most to allow easy identification. To upgrade to half hour fire resistance and provide adequate sound insulation lay minimum 150mm Rockwool insulating material or equivalent on chicken wire between joists and extended to eaves. Chicken wire to be fixed to the joists with nails or staples these should penetrate the joists side to a minimum depth of 20mm, in accordance with BRE-Digest 208 1988. Joists spans over 2.5m to be strutted at mid span use 38 x 38mm herringbone strutting or 38mm solid strutting (at least 2/3 of joist depth). Provide lateral restraint where joists run parallel to walls. Floors are to be strapped to walls with 1000mm x 30mm x 5mm galvanised mild steel straps or other approved in compliance with BS EN 845-1 at max 2.0m centres, straps to be taken across minimum 3 no. joists. Straps to be built into walls. Provide 38mm wide x ¾ depth solid noggins between joists at strap positions.

UPGRADING PARTY WALL (warm adjoining space)
The existing walls must be checked for stability and be free from defects as required by the Building Control Officer. Provide scratch coat render to existing wall. Apply plasterboard with mass of 10kg/m2 or greater to the exposed face of the wall to ensure adequate sound insulation in accordance with Approved Document E.

ELECTRICAL WORKS
All electrical work required to meet the requirements of Part P (electrical safety) must be designed, installed, inspected and tested by a competent person registered under a competent person self certification scheme such as BRE certification Ltd, BSI, NICEIC Certification Services or Zurich Ltd. An appropriate BS7671 Electrical Installation Certificate is to be issued for the work by a person competent to do so. A copy of a certificate will be given to the Council.

RAINWATER DRAINAGE
New rainwater goods to be new 110mm upvc half round gutters taken to and connected into 68mm dia upvc downpipes

ABOVE GROUND DRAINAGE
All new above ground drainage and plumbing to comply with BS EN 12056-2:2000 for sanitary pipework. All drainage to be in accordance with part H of the Building Regulations. Wastes to have 75mm deep anti vac bottle traps and rodding eyes to be provided at changes of direction.

Size of wastes pipes and max length of branch connections (if max length is exceeded then anti vacuum traps to be used)
Wash basin - 1.7m for 32mm pipe 4m for 40mm pipe
Bath/shower - 3m for 40mm pipe 4m for 50mm pipe
W/c - 6m for 100mm pipe for single WC
All branch pipes to connect to 110mm soil and vent pipe terminating min 900mm above any openings within 3m.
Or to 110mm upvc soil pipe with accessible internal air admittance valve complying with BS EN 12380, placed at a height so that the outlet is above the trap of the highest fitting.
Waste pipes not to connect within 200mm of the WC connection. Supply hot and cold water to all fittings as appropriate.

NEW WINDOWS
New windows to be double glazed with 16mm argon gap and soft coat low-E glass. Window Energy Rating to be Band C or better and to achieve U-value of 1.6 W/m ^{2}K.

All dimensions must be checked on site. The contractor shall be responsible for taking all necessary site dimensions and levels and for all exploratory works to verify any existing structure before commencement of works.

The contractor will be responsible for the correct setting out of the work on site. Any given dimension is for the contractor's guidance only and should be verified on site.

No liability of any kind is accepted by the engineer for any error or omission. Where new work is near/on boundary line/ party wall the property owner is to serve party wall notice to the adjoining property/land owner in accordance with the requirements of the' party wall ete.' Act 1996.

All details to comply with current Building Regulations and Local Authority Approvals. Work not to commence before final approval of plans by L.A. Drawings prepared from plans & information supplied by architect - no site survey carried out by engineer.

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Project
98 Aveling Park Road, E17 4NT

Drawing
Construction of a rear roof extension to main rear roofslope together with installation of two rooflights to the front roof

Title
Building Regulation Notes 2

Drawing Status

Scale	Drawn	Checked	Date
@ A3	H.E.		20-06-17

Drawing/Job No	Revision
NP-014-17	v1.0