

- slates
- battens
- underlay
- eaves ventilator

part b)

mineral wool firestop or proprietary cavity barrier

fascia
soffit
gutter
vent

triple glazing
window frame with
thermal break

cill
render
outer leaf

wallplate on mortar
inner leaf
lintel
wet plaster finish
flexible sealant (airtightness)

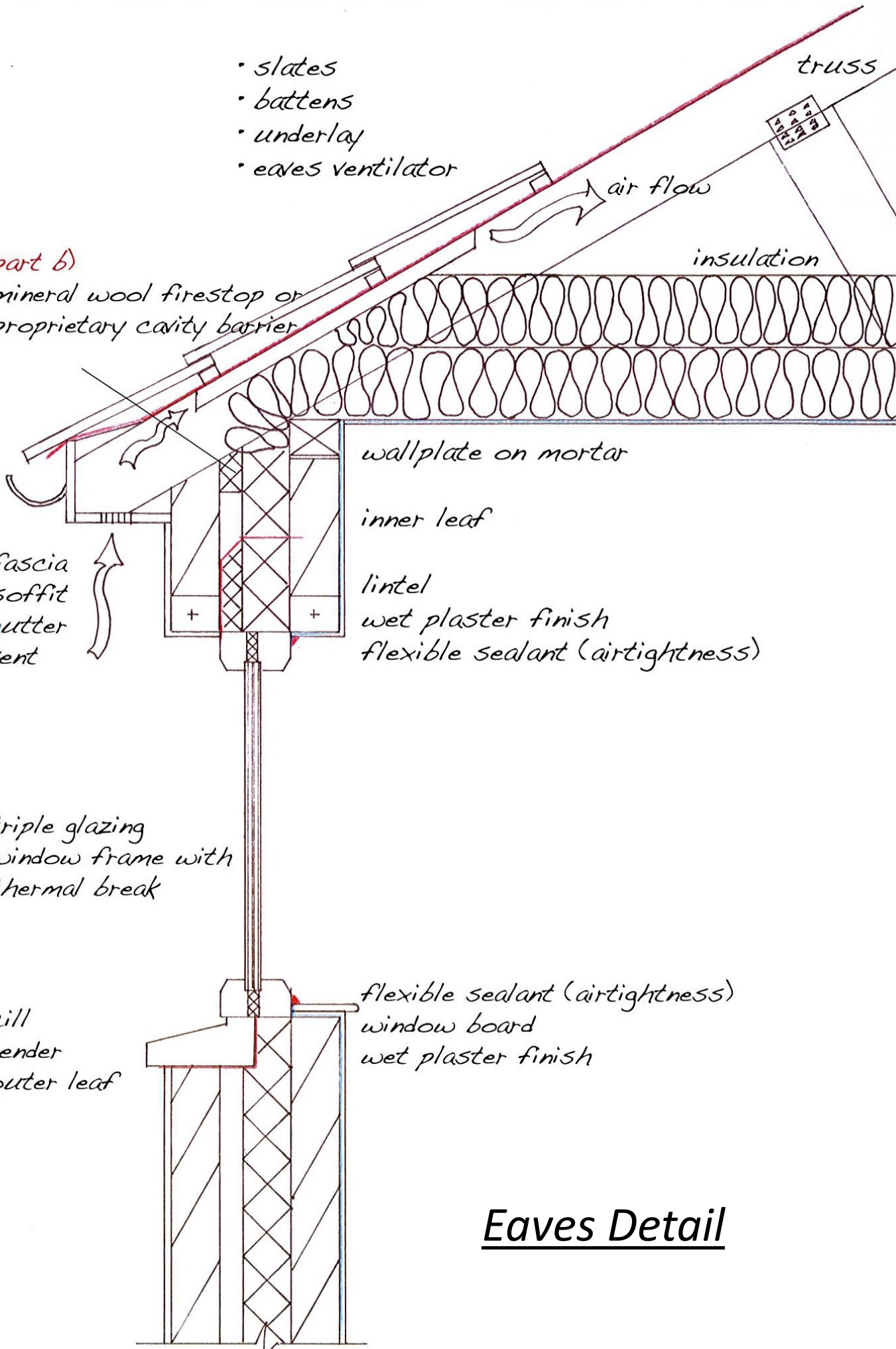
flexible sealant (airtightness)
window board
wet plaster finish

insulation

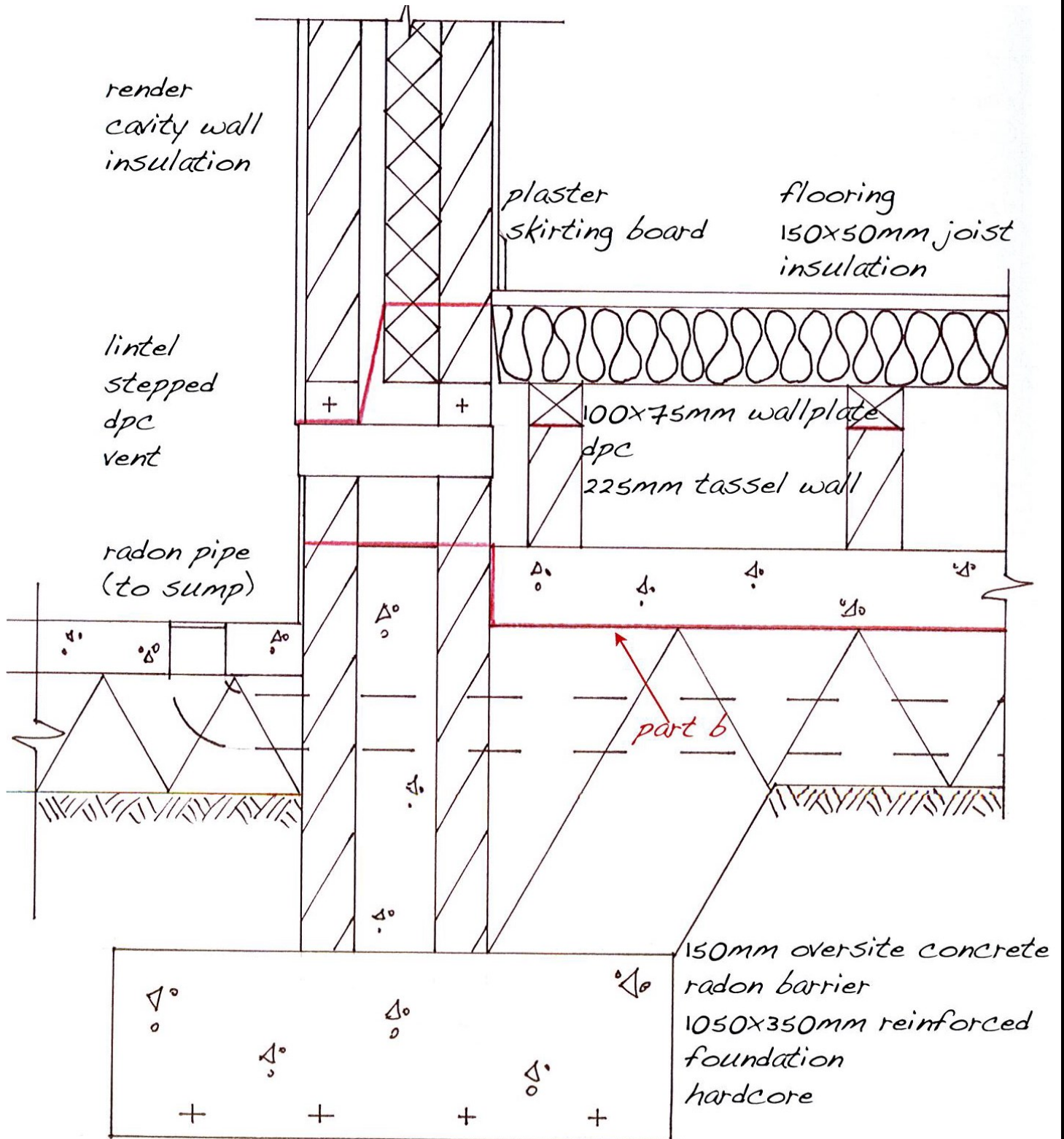
truss

air flow

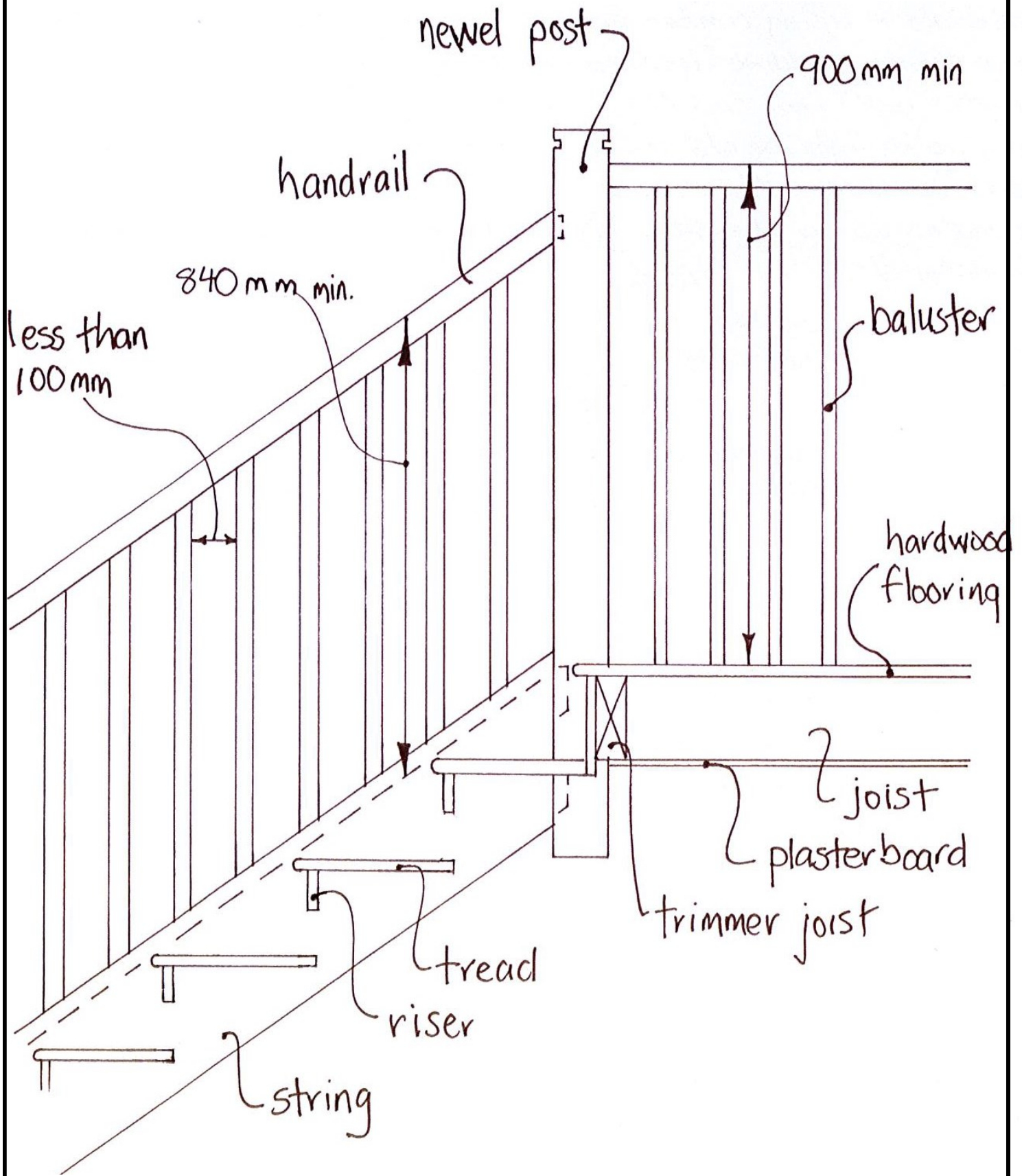
Eaves Detail



Suspended Timber Floor



Stairs Landing



Door Threshold

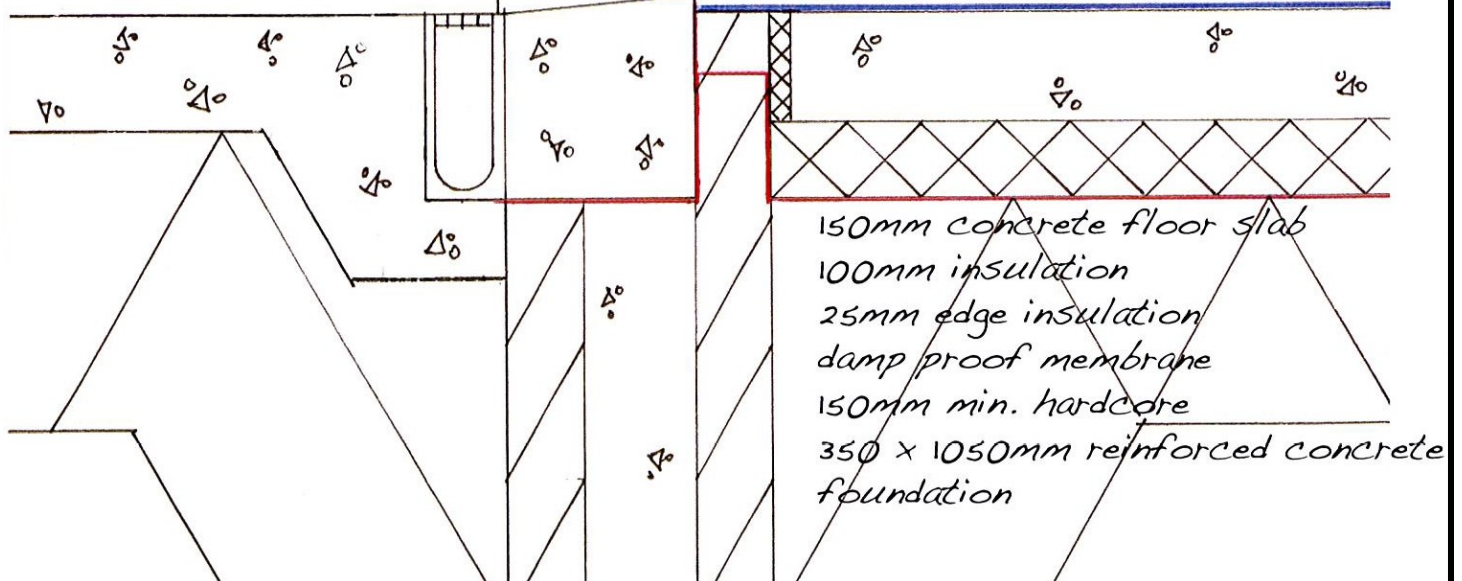
cavity wall:
 18mm external render
 100mm outer leaf
 150mm cavity
 100mm insulation
 100mm inner leaf
 15mm internal plaster

door head:
 cavity sealed with extra insulation
 stepped dpc (red line)
 reinforced concrete lintels
 150x80 rebated door frame with airtightness seal

timber door panel with thermal break

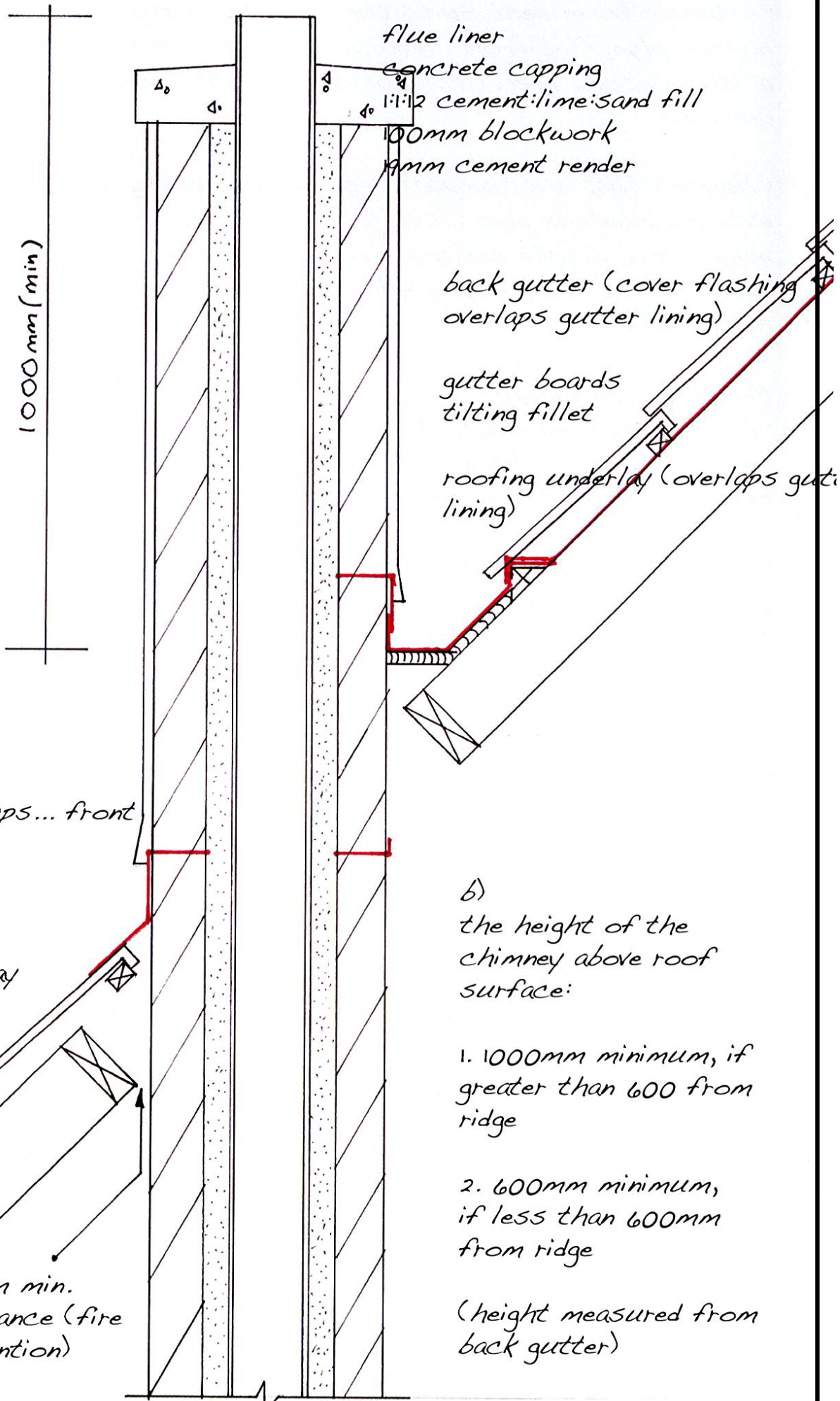
exclusion of rainwater:
 15mm maximum threshold seal
 cill with maximum 15 degree slope
 cill wrapped in dpc
 drainage channel
 concrete footpath
 hardcore

airtightness (blue line):
 plaster finish to blockwork
 flexible sealant between skirting board and floor finish
 grouted tile finish
 interlocking threshold seal



Roof & Chimney Junction

> 600mm to ridge →



flue liner
 concrete capping
 1:1:2 cement:lime:sand fill
 100mm blockwork
 19mm cement render

back gutter (cover flashing overlaps gutter lining)

gutter boards
 tilting fillet

roofing underlay (overlaps gutter lining)

1000mm (min)

dpc tray overlaps... front apron

roof tiles
 battens
 roofing underlay
 rafter
 trimmer

40mm min. clearance (fire prevention)

b) the height of the chimney above roof surface:

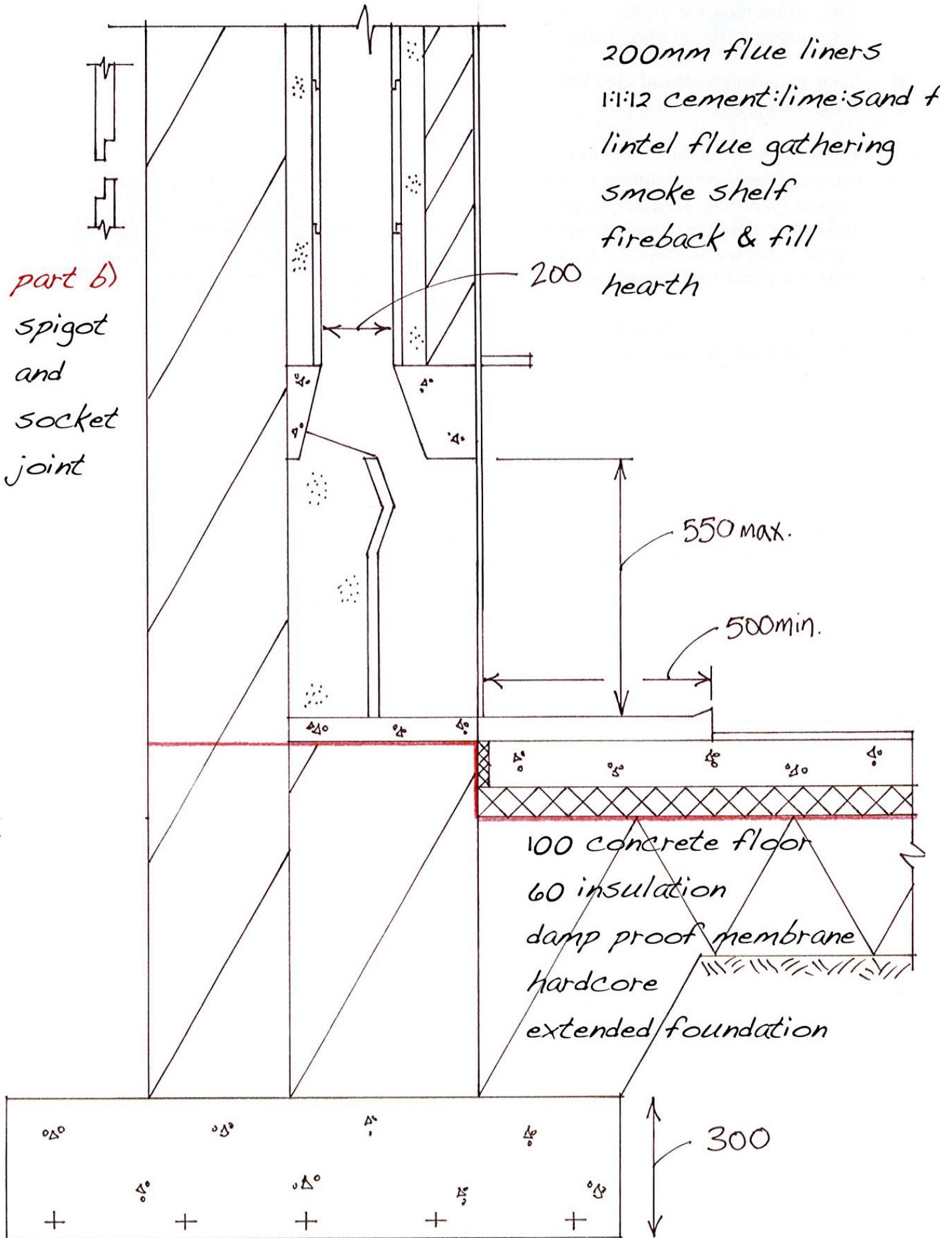
1. 1000mm minimum, if greater than 600 from ridge
2. 600mm minimum, if less than 600mm from ridge

(height measured from back gutter)

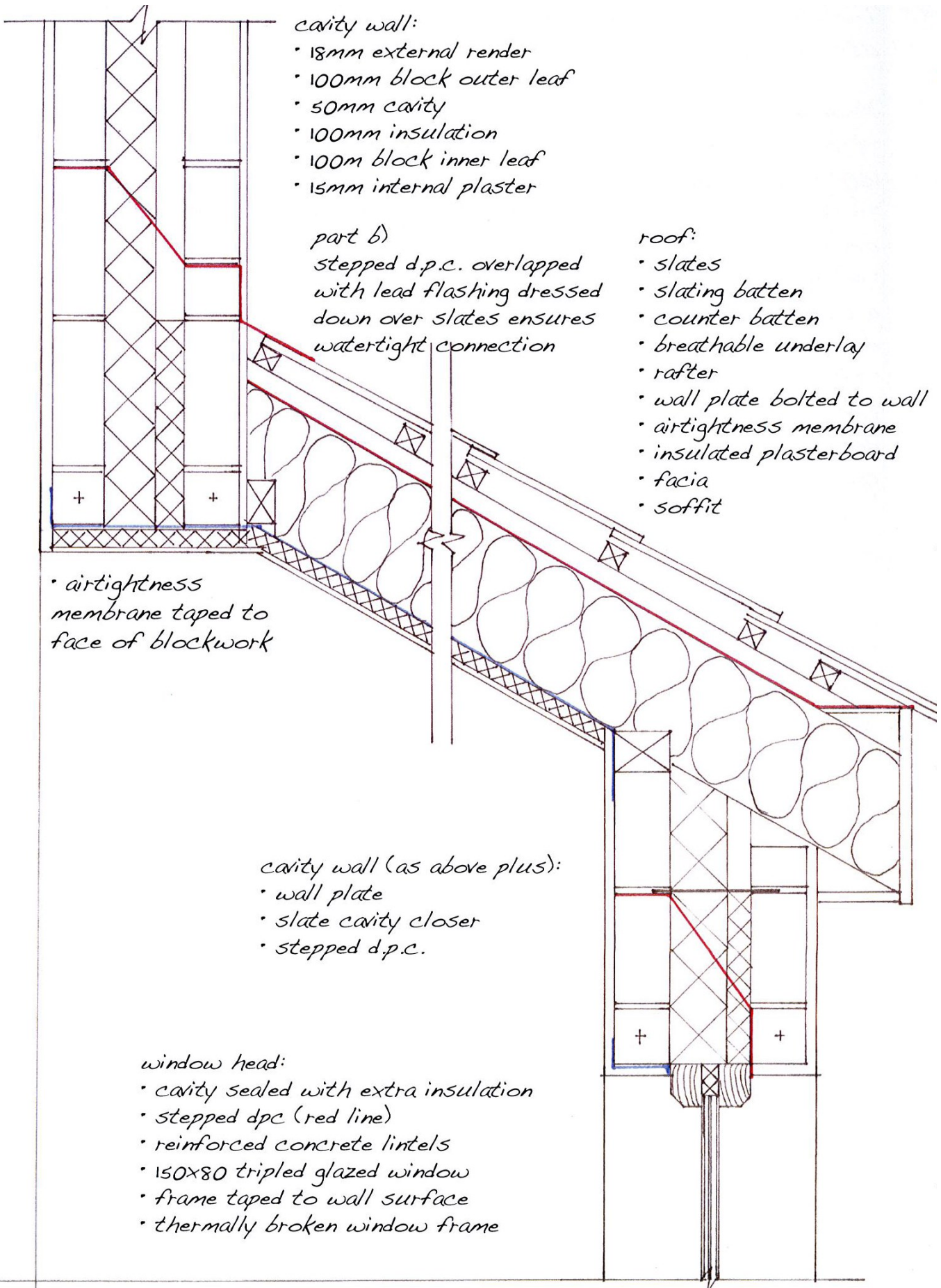
Note: this solution is drawn scale 1:10 so it will fit on an A4 sheet - the question requires a 1:5 solution (that's twice as big as this drawing).

Chimney Detail

party wall



Lean to Roof



cavity wall:

- 18mm external render
- 100mm block outer leaf
- 50mm cavity
- 100mm insulation
- 100mm block inner leaf
- 15mm internal plaster

part b)

stepped d.p.c. overlapped with lead flashing dressed down over slates ensures watertight connection

roof:

- slates
- slating batten
- counter batten
- breathable underlay
- rafter
- wall plate bolted to wall
- airtightness membrane
- insulated plasterboard
- fascia
- soffit

• airtightness membrane taped to face of blockwork

cavity wall (as above plus):

- wall plate
- slate cavity closer
- stepped d.p.c.

window head:

- cavity sealed with extra insulation
- stepped d.p.c. (red line)
- reinforced concrete lintels
- 150x80 triple glazed window
- frame taped to wall surface
- thermally broken window frame

timber frame cavity wall:

- 18mm external render
- 100mm block outer leaf
- 50mm cavity
- breather membrane
- 10mm plywood sheathing
- 150mm timber studs/ insulation
- 10mm OSB (airtightness layer)
- OSB joints taped for airtightness
- 50mm service cavity (filled with insulation)
- 10mm plasterboard
- skirting board

floor:

- 200mm joists
- floor decking
- plasterboard

part b)

- oriented strand board (OSB3) is the airtightness layer
- all joints are taped with airtightness tapes
- the airtightness membrane is installed around the edge of the floor cassette in the factory, flaps of membrane are left free so they can be dressed and taped onto the face of the wall after the floor has been installed,
- the OSB is taped to the door frame

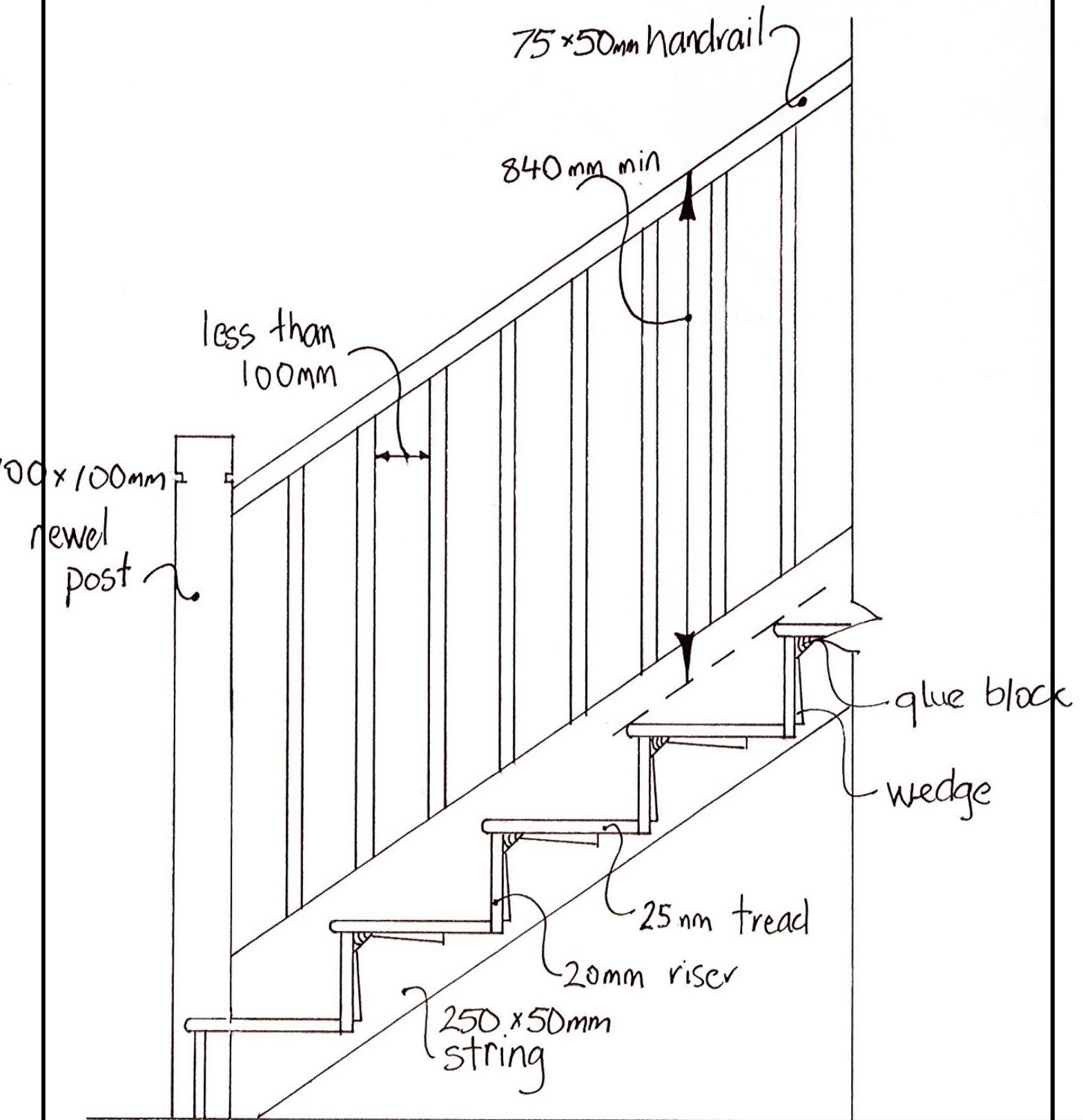
Timber Frame Wall & Joist

SCALE 1:5

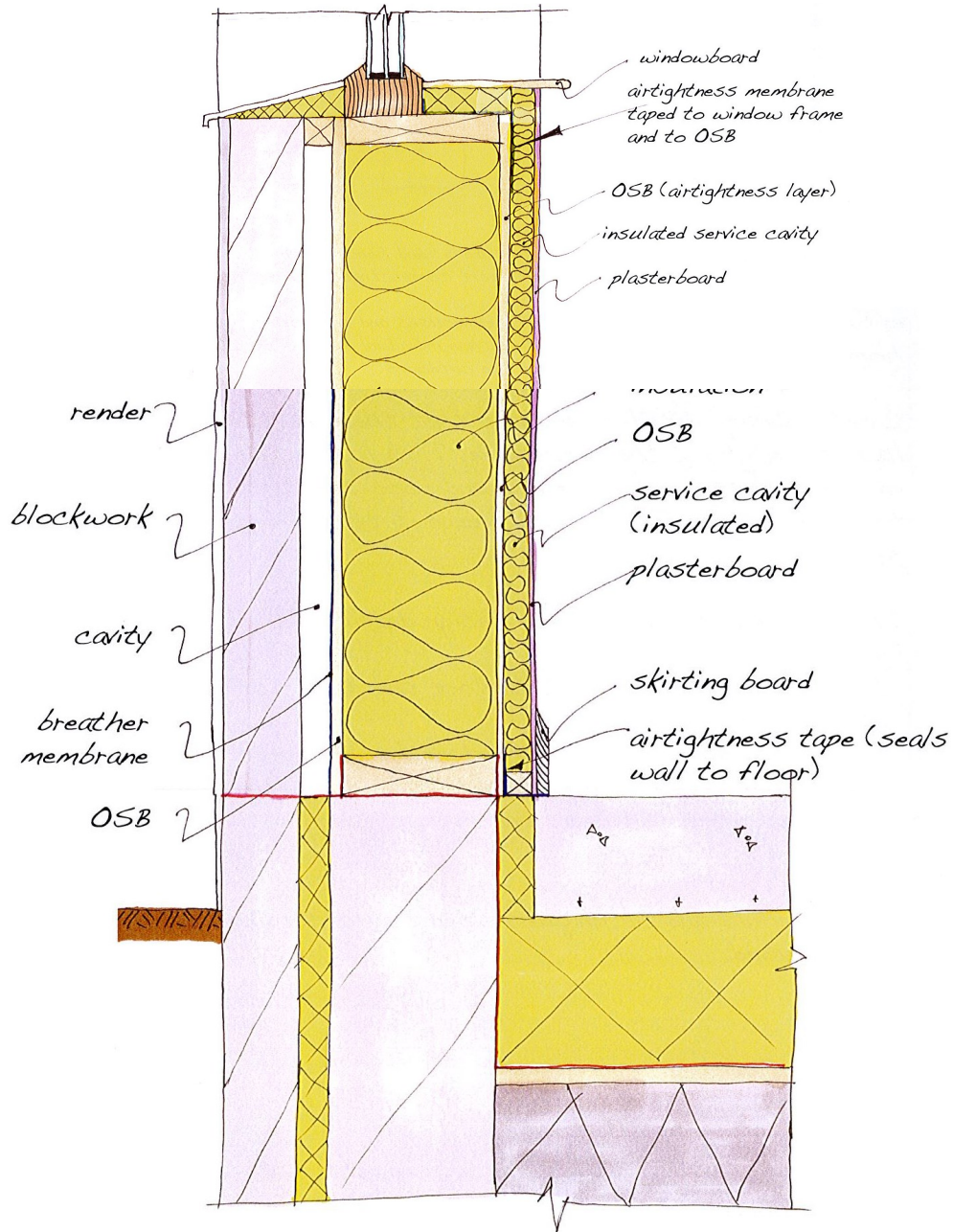
door head:

- cavity sealed with batten
- stepped dpc (red line)
- reinforced concrete lintel
- door frame taped to OSB
- thermally broken door frame
- thermally broken door leaf

Stairs

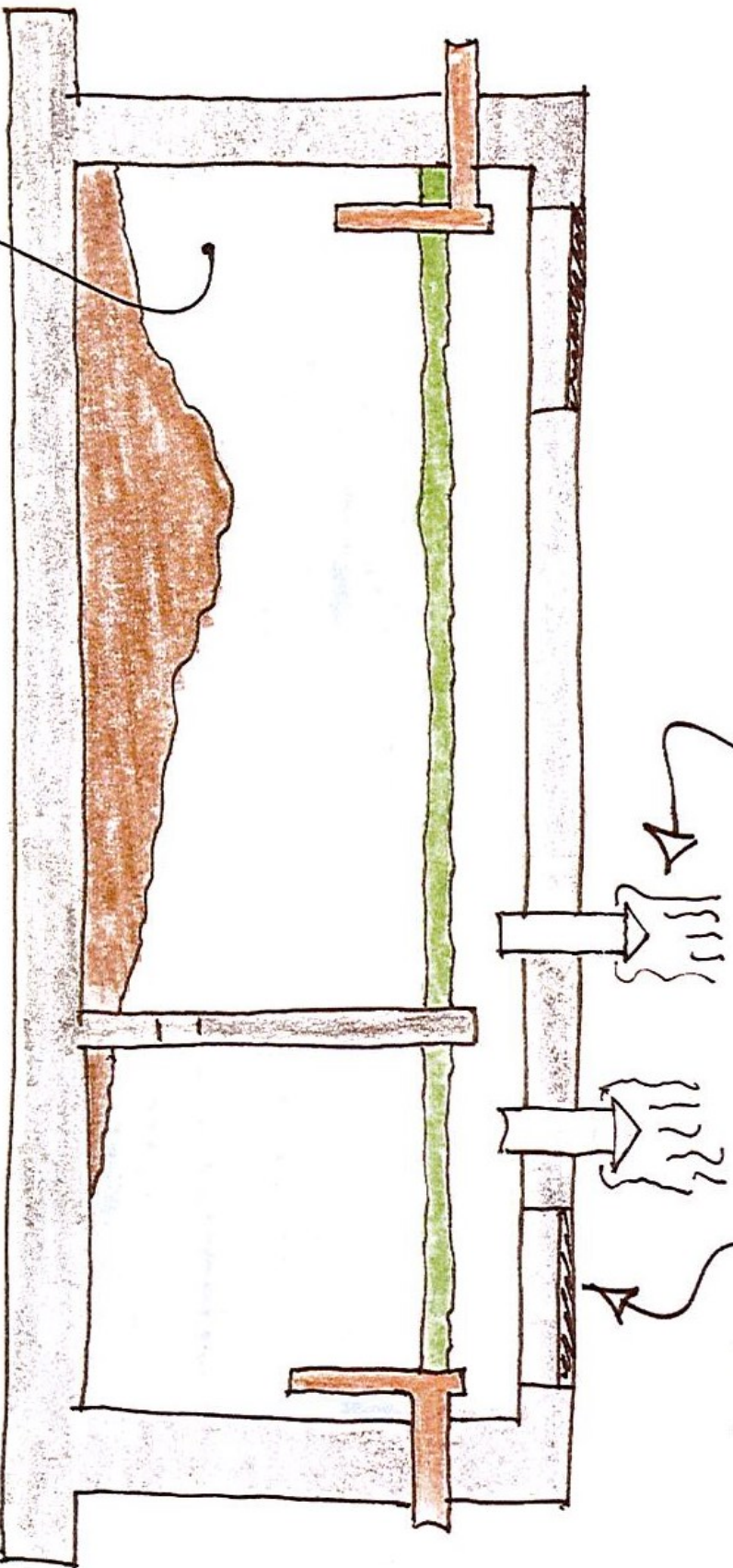


Passive House



vent to ensure methane
and other waste gases are
dispersed

access covers to
allow sludge to be
removed



primary settlement chamber
where solid waste is broken
down by anaerobic bacteria

Septic Tank

