

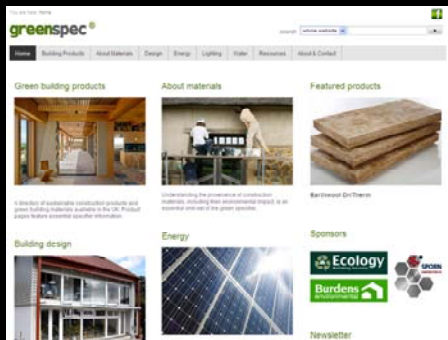
GreenSpec
www.greenspec.co.uk

CAP'EM
Cycle Assessment Procedure for Eco-Materials

www.capem.eu

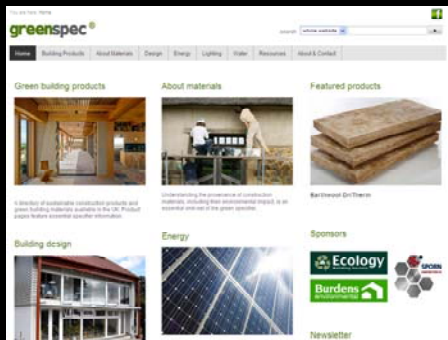
Case Study: Welsh Passivhaus

Biodiversity: Bats &
Low/Zero Carbon Buildings



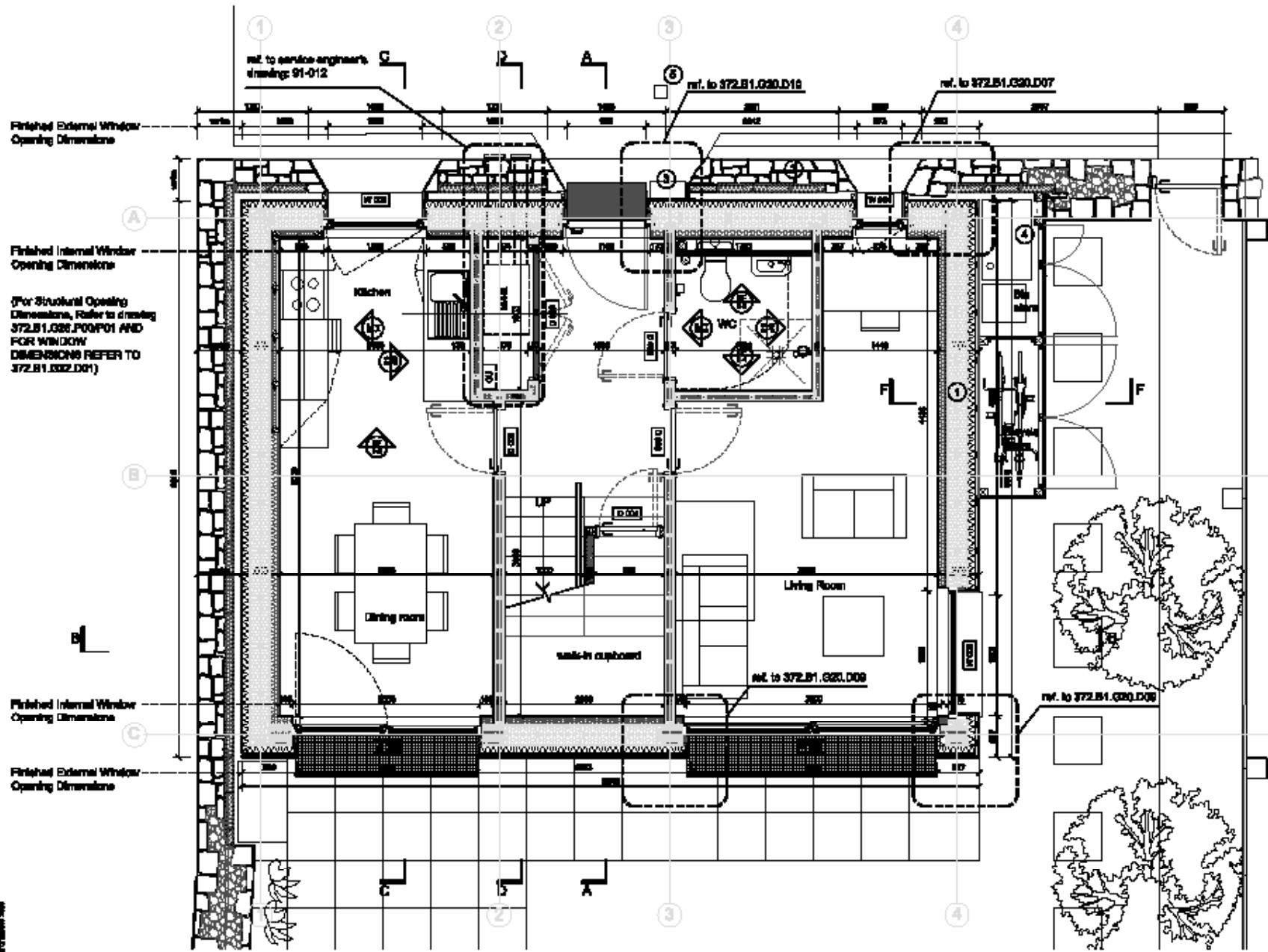
22/07/2010

- KGunnell@bats.org.uk
- Bere Architects would like us to make some suggestions for bat provision in the Passivehouses they are doing in Wales.
- I think this is a great opportunity to try showcase some of the suggestions from Carol's book,
- will be on show for 6 months to a year and monitored.
- Luckily the houses have lofts which are outside the air-tightness barrier.
- These would obviously make a great space for bats as long as we ensure access.
- Obviously we can make the usual recommendations in terms of access points, height and lighting



- I was wondering if you wouldn't mind looking at the attached drawings quickly
- See if there is something more novel,
- they might spark some specific ideas.
- preferably from the book,
- that we could also suggest?
- Unfortunately, they need this info by next week!





- ① Wall build up from outside to inside
Ground and First Floor
Weath Larch horizontal timber cladding
SW Counter battens
Pavetherm Plus insulation
DuPont Tyvek UV Faced breathable membrane
DWD board
SW Timber studs
Knauf Frame Thera Insulation (between studs)
OSB panel
Intello pro-alma plus vapour barrier
Hart, sbr timber battens
Steig Flax wood fibre insulation
Plasterboard and sbr
- ② Dry stone wall
- ③ Electric & gas routes & meterbox
- ④ Skirting & valentail ref. to drawing 372.B1.G20.D29 for details
- ⑤ Water meter set into pavement. Exact position to

Please refer to drawing package G20 for other frame drawings

Ground Floor Plan 1:50

- 1 Use appropriate materials only
- 2 Do not scale from this drawing
- 3 All dimensions to be checked on site and the Architect to be informed of any discrepancies before construction commences
- 4 All references to drawings refer to correct revision unless stated
- 5 Structural steel members before installation should be inspected and found to conform to drawings for details and coating and
- 6 All work and materials to be in accordance with current applicable statutory legislation and to comply with all relevant codes of practice and British and European standards.

NO	REVISION	DATE	BY	CHK
1	Rev 1	06.11.09		
2	Rev 2	01.10.09		
3	Rev 3	06.12.09		
4	Rev 4	12.01.10		
5	Rev 5	08.01.10		
6	Rev 6	08.01.10		
7	Rev 7	12.02.10		
8	Rev 8	15.03.10		
9	Change to doors in the store	13.03.10	02	02

G20 General Arrangement

CONSTRUCTION ISSUE

April 2010

Project: Future Works Housing
3 bed house

Subject: Ground floor plan

Scale: 1:50 @ A3

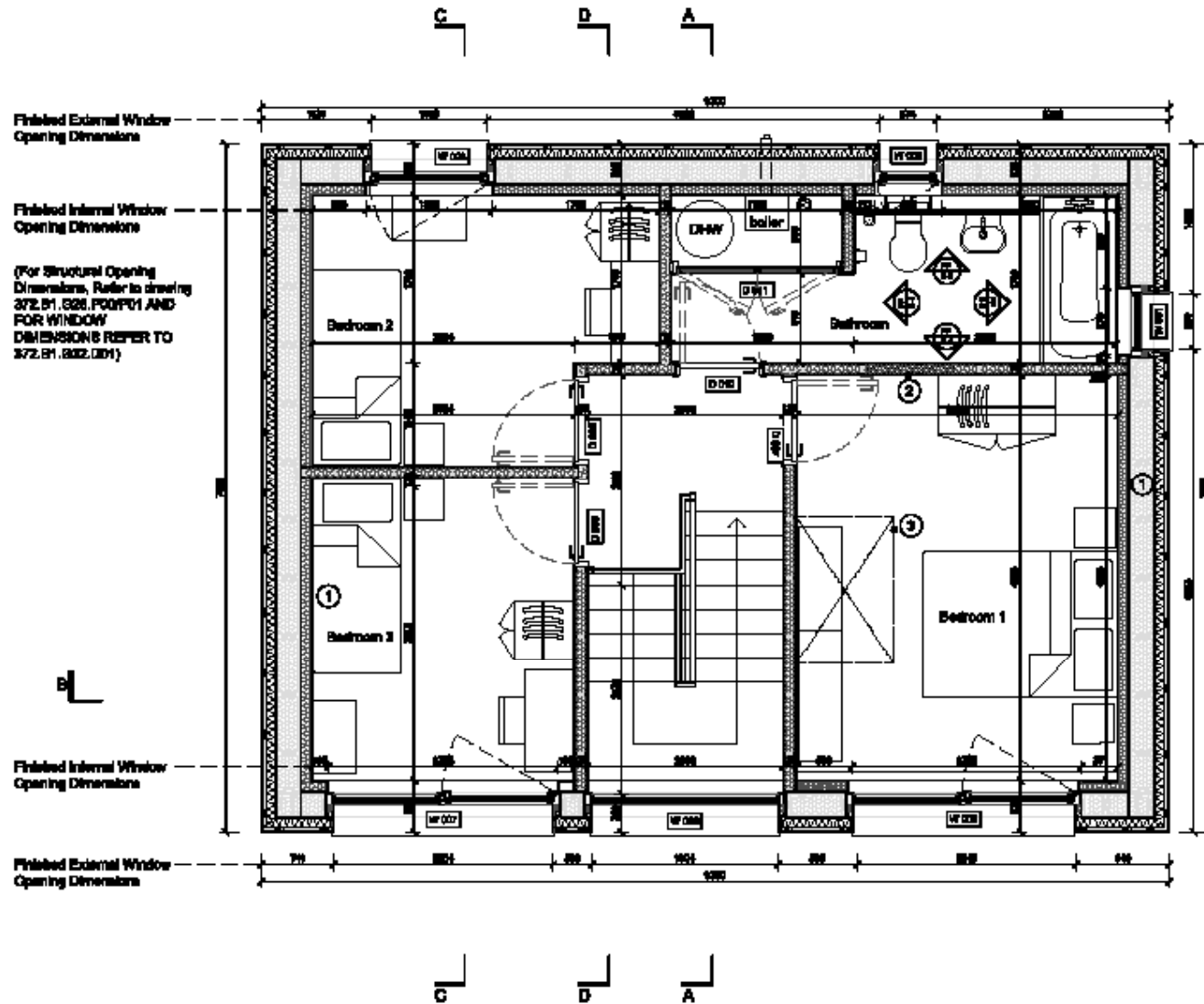
Date: 22.12.09

bere:architects

79 Pease Road, London, N6 2SH
T +44 (0)20 7289 0800 F +44 (0)20 7464 8872

Project | Issued

0372.B1.G20.PC



- ① Wall build up from outside to inside (from end of First Floor Welsh Larch horizontal timber cladding SWV Counter battens Peratherm Plus insulation DePois Tyvak UV Facade weather membrane DWD board SWV Timber studs Knauf FrameTherm insulation (between studs) OSB panel Intello pro-clima plus vapour barrier Hort. air timber battens Sticks: Flex wood fibre insulation Floorboard end stud)
- ② Knock out panel for hole in bathroom
- ③ 1000x1800 void for future lift

Please refer to drawing package G26 for other frame drawings

First Floor Plan 1:50

- 1. Use as general arrangement only
- 2. Do not scale from this drawing
- 3. All dimensions to be checked on site and the Architect to be informed of any discrepancies before construction commences
- 4. All references to drawings refer to correct revision unless stated
- 5. Structural and services before others shown in building work. Refer to manufacturer drawings for details and setting out
- 6. All work and materials to be in accordance with current applicable statutory legislation and to comply with all relevant codes of practice and British and European standards.

REV	DESCRIPTION	DATE	BY	CHK
1	Rev Issue	06.11.08	MB	---
2	For contract	01.10.09	MB	---
3	For contract	02.10.09	MB	---
4	For contract	13.04.10	MB	---
5	For contract	03.05.10	MB	---
6	For contract	17.02.10	MB	---
7	For contract	12.02.10	MB	---
8	Revised door & floor frame	03.02.10	MB	---

G20 General Arrangement

CONSTRUCTION ISSUE

April 2010

Project: Future Works Housing
3 bed house

Subject: First Floor Plan

Scale: 1:50 @ A3

Date: 22.12.09

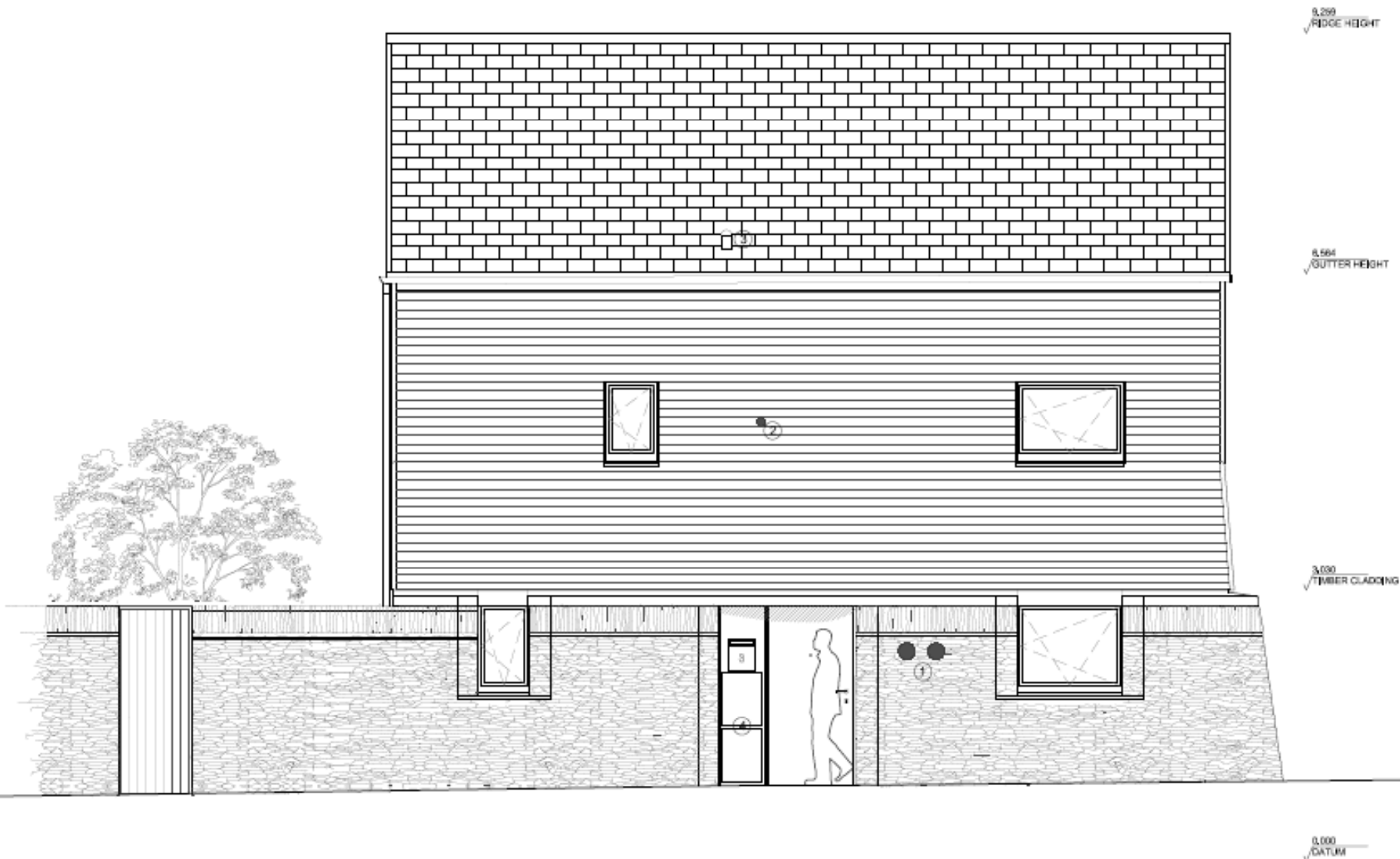
bere:architects

78 Pease Road, London, NE 25H
T +44 (0) 20 7289 8888 F +44 (0) 20 7461 8872

Page | 1 of 1

0372.B1.G20.P0

03/04/2010 10:50 AM



on 1:50

- ① Heat Recovery Ventilation system Intake and exhaust grilles.
- ② Boiler Flue exhaust.
- ③ SVP to green roof.
- ④ Gas & Electric Meters

Rev	Description	Date	By	Chk
A	Revised elev. double door entrance	03/04/22	XX	XX
B		17/05/22	XX	XX

G20 General Arrangement

Project: Future Works Housing

bere:architects

9.259
RIDGE HEIGHT

8.584
GUTTER HEIGHT

3.650
TIMBER CLADDING

0.000
DATUM



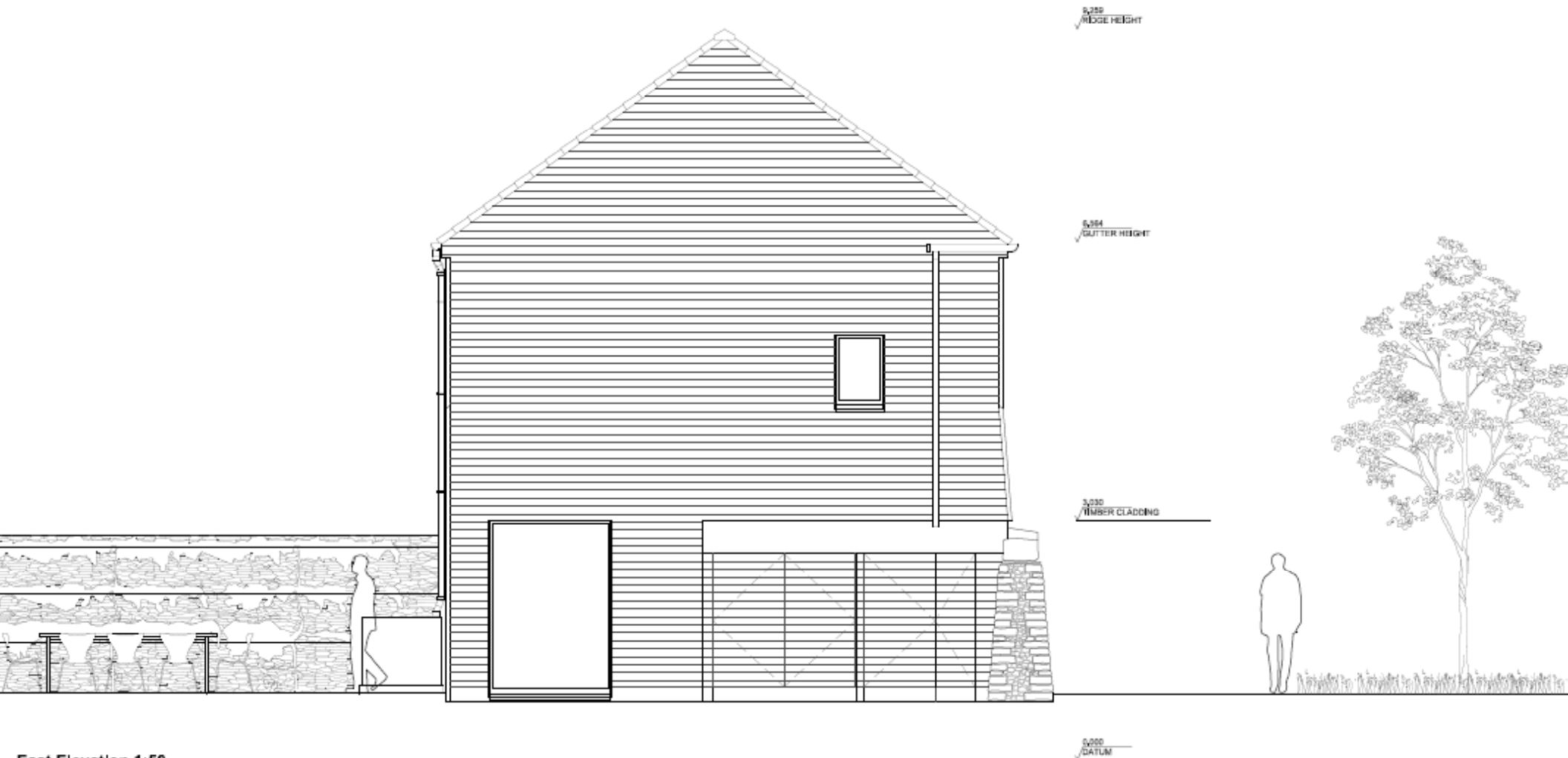
Elevation 1:50

Rev	Description	Date	By	Chk
A	Issued when drafted	00/AM/YY	XX	XX
B	Revised	17/05/16	XX	XX

G20 General Arrangement

Project: Future Works Housing

bere:architect



East Elevation 1:50

Figured dimensions only
not scale from this drawing
Dimensions to be checked on site and the Architect to be
made of any discrepancies before construction commences.
References to drawings refer to current revision of that drawing
and services referred to shown in indicative only. Refer
contractor's drawings for details and setting out
work and materials to be in accordance with current applicable
story legislation and to comply with all relevant codes of
practice and British and European standards

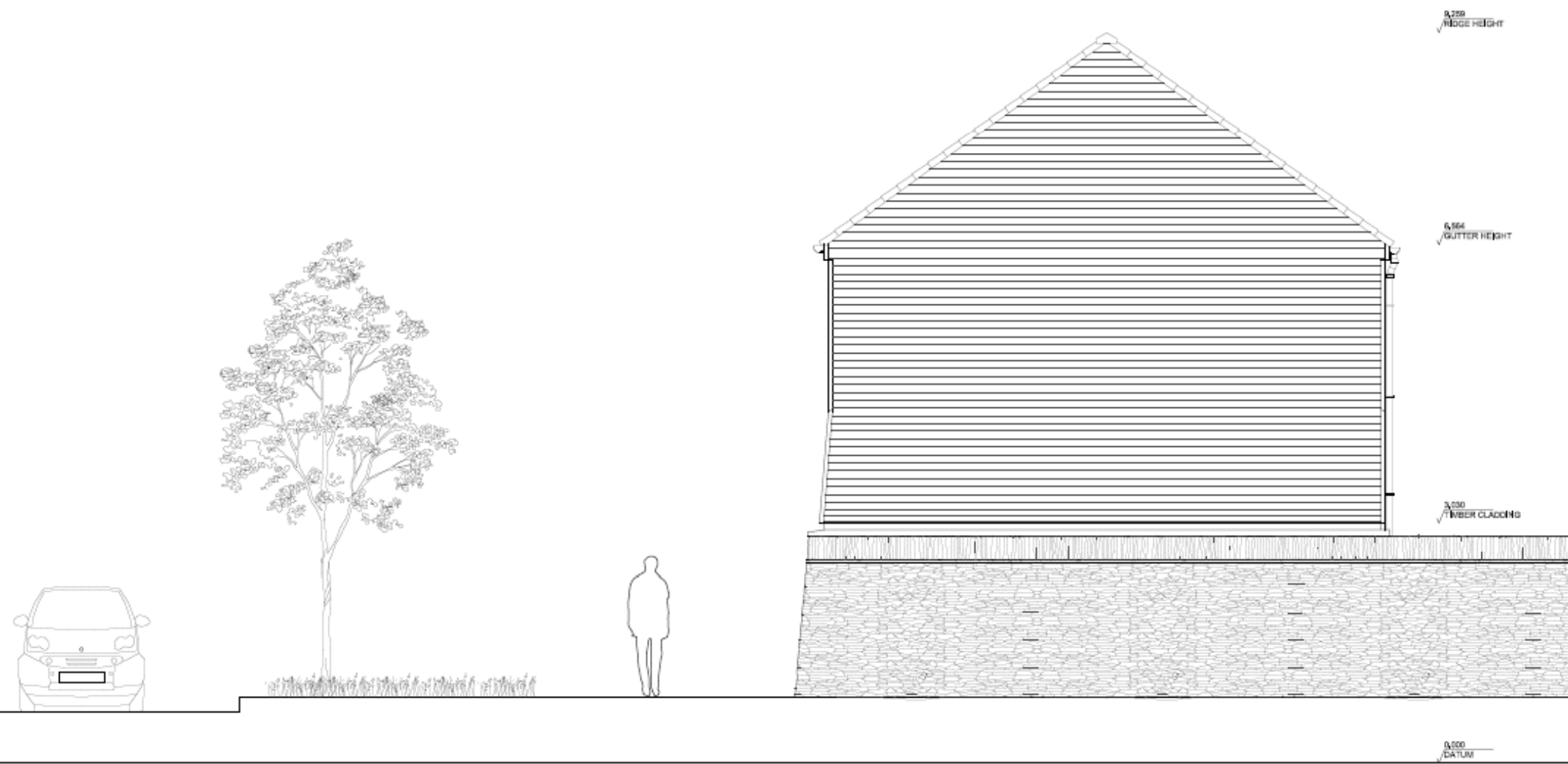
Rev	Description	Date	By	CHK
A	Issued when drafted	00.00.10	JK	JK
B	For comment	17.03.10	JK	JK
C	For comment	12.03.10	JK	JK
D	Final for construction	16.03.10	JK	JK
E	For construction	01.04.10	JK	JK

G20 General Arrangement

CONSTRUCTION ISSUE
April 2010

Project: Future Works Housing
3 bed house
Subject: East Elevation
Scale: 1:50 @ A3
Date: 15.01.10

bere:architects
73 Poets Road, London, N5 2BH
T +44 (0) 20 7359 4933 F +44 (0) 20 7424 8572 bere@bereva.com
Project | Drawing | Rev
0372.B1.G20.E02 | **E**



West Elevation 1:50

Figured dimensions only
 not scale from this drawing
 Dimensions to be checked on site and the Architect to be
 advised of any discrepancies before construction commences
 References to drawings refer to current revision of that drawing
 Council and services information shown is indicative only. Refer
 to local authority drawings for details and setting out
 work and materials to be in accordance with current applicable
 copy legislation and to comply with all relevant codes of
 practice and British and European standards

Rev	Description	Date	By	CHK
A	Initial scheme drafted	03.06.11	OK	XX
B	Revised scheme drafted	17.02.10	OK	XX
C	For Comment	12.03.10	OK	JK
D	Structural frame	16.03.10	OK	JK
E	Roof construction	01.04.10	JK	JK

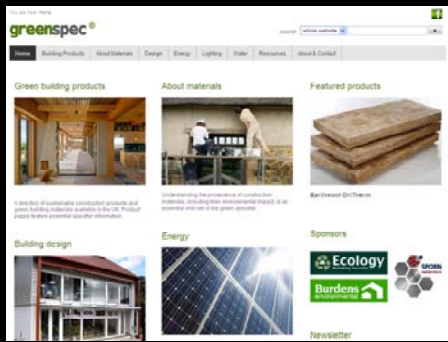
G20 General Arrangement

CONSTRUCTION ISSUE
 April 2010

Project: Future Works Housing
 3 bed house
Subject: West Elevation
Scale: 1:50 @ A3
Date: 15.01.10

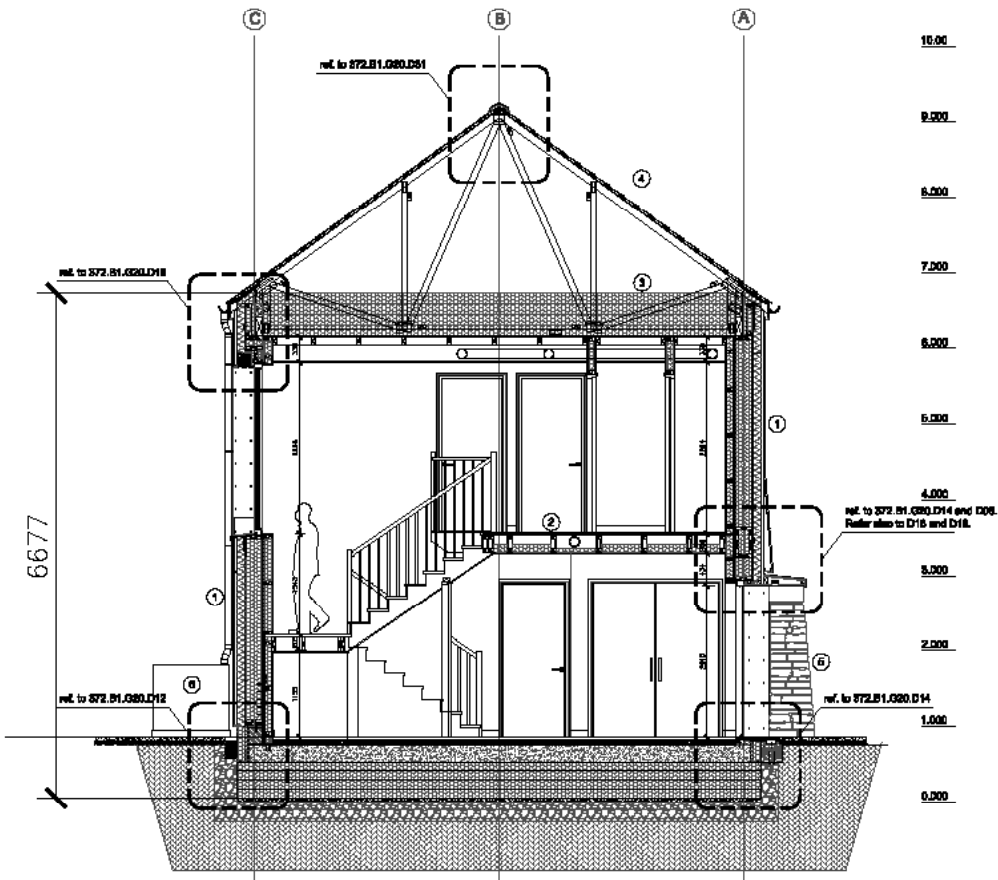
bere:architects
 73 Poets Road, London, N5 2SH
 T +44 (0) 20 7359 4903 F +44 (0) 20 7424 5572 bere@berevaik
 Project Drawing Rev
0372.B1.G20.E03 E





Feedback

- I have studied the drawings and photographs of the Welsh Passivhaus and have the following observations:
- The trussed roof makes flying in the roof impractical so no need to encourage those bats that want flying space.



- | | | |
|---|---|--|
| <p>① Wall built up from outside to inside</p> <p>Ground and First Floor</p> <p>Washed Larch horizontal timber cladding 30 mm</p> <p>SMY Counter battens 22 mm</p> <p>Powertech Plus insulation 130 mm</p> <p>DuPont Tyvek UV Facade weather membrane</p> <p>DWD board 15 mm</p> <p>SMY Timber studs 220 mm</p> <p>Knauf Fibre Therm insulation (between studs) 220 mm</p> <p>OSB panel 18 mm</p> <p>Intello pro-clima plus vapour barrier 120 mm</p> <p>1.5x1.5 m Bluebat battens 130 mm</p> <p>Staplo Flexwood fibre insulation 15 mm</p> <p>Plasterboard and skim 15 mm</p> | <p>② Ceiling above Ground Floor built up from above</p> <p>Floor finish (600 by UNHA) 15 mm</p> <p>Chipboard 22 mm</p> <p>Ecopolyst with loose fill insulation in between joists 15 mm</p> <p>Plasterboard and skim 15 mm</p> <p>③ Ceiling above First floor built up from above</p> <p>Timber roof truss 140 mm</p> <p>Knauf FibreTherm insulation 2x140 mm</p> <p>OSB panel 18 mm</p> <p>Intello pro-clima plus vapour barrier 120 mm</p> <p>Void 100 mm</p> <p>Timber battens 80 x 100mm 100 mm</p> <p>Plasterboard and skim 15 mm</p> | <p>④ Steep roof built up from outside to inside</p> <p>Roof and Overlays reconstituted white film 10mm</p> <p>Timber battens 22mm</p> <p>VetTech Underlay 140mm</p> <p>Traber truss 140mm</p> <p>⑤ Dry stone wall</p> <p>⑥ Watercist</p> |
|---|---|--|

Section AA 1:50

CONSTRUCTION ISSUE
April 2010

Project: Future Works Housing
3 bed house

Subject: Section AA

Scale: 1:50 @ A3

Date: 22.12.09

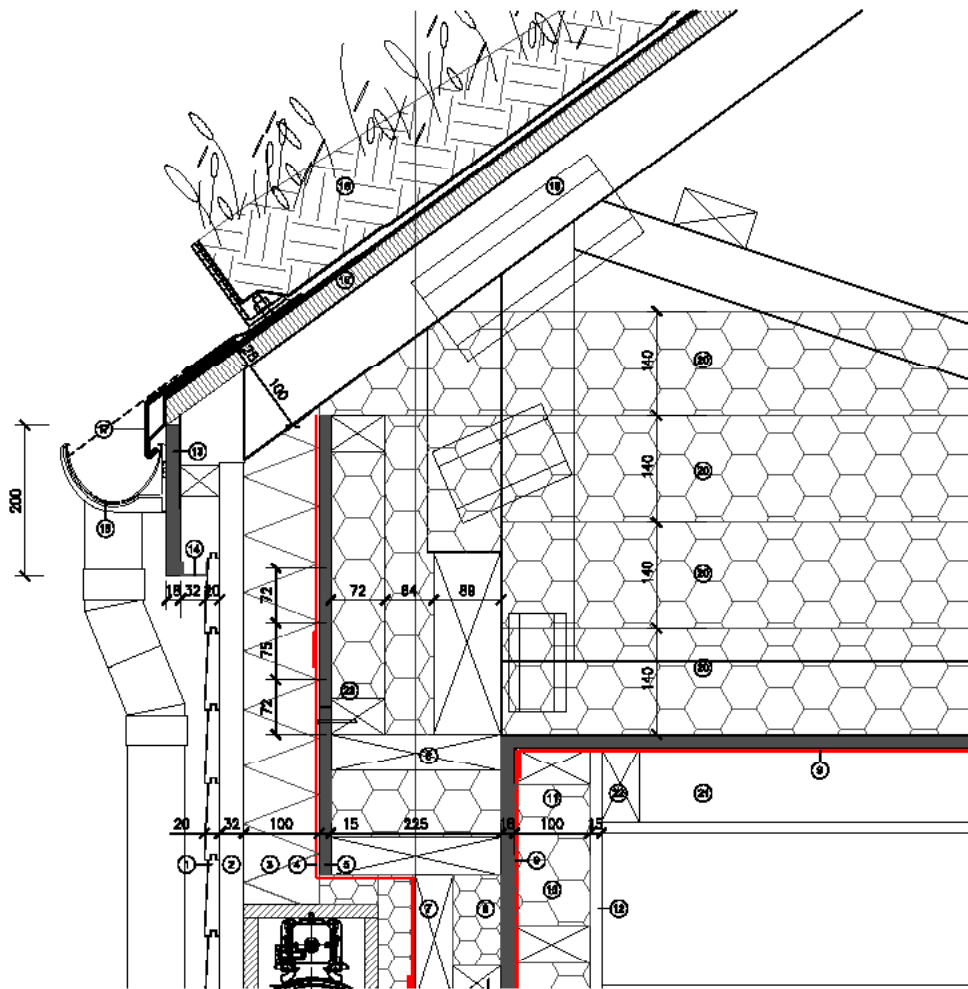
bere:architects
73 Poole Road, London, NE 20H
T +44 (0) 20 7328 0299 F +44 (0) 20 7431 0271 info@bere.co.uk

Project: _____ Rev: _____
0372.B1.G20.S00 J

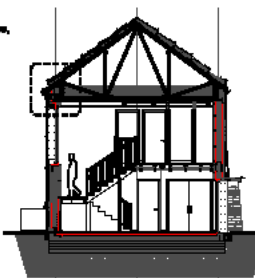
G20 General Arrangement

Roof Roost Access

- The eaves has a generous slot 30mm (currently closed by insect screen perforated metal)
- There is a 32mm batten zone to gain access to the back of the fascia
- There is a 100 mm ventilation/rafter zone to the attic space



- 1 NBS H21.120
20mm Horizontal Welsh Larch cladding fixed with star headed stainless steel screws, mitred at corners.
- 2 NBS H21.130
32x45mm s4s counter battens, fixed through Pevsnerm insulation with 16mm self-draining stainless steel batten.
- 3 NBS P10
100 mm Pevsnerm Plus Wood fibre insulation, bottom edge to be primed and taped in accordance with manufacturers instructions. Isolated by battens.
- 4 NBS H21
DuPont Tyvek UV Faced breather membrane
- 5 NBS K14.445
16 mm waterproof Agapan DHD board with breather membrane to outer face.
- 6 NBS G80
225mm x 60mm s4s timber studs, untreated
- 7 NBS P10
225 mm Knauf FramTherm insulation boards between stud studs
- 8 NBS K11.619
low VOC 18 mm G80 panel
- 9 NBS P10 210
Pro clonal Intello plus air-tightness membrane.
- 10 NBS G20
130 x 50 mm horizontal s4s timber battens
- 11 NBS P10
100mm Bataco Fibre wood fibre insulation between horizontal s4s studs.
- 12 NBS K10
12.5 mm Plyboard screwed to timber battens and s4s framed wall primed.
- 13 NBS H21.120
Stave the WSP Firmin Birch Ply Facade. Board to be primed and painted with Blikens Celol Opaque BL primer and BL Opaque 80
- 14 NBS G20L916
800 Round rapped mesh. Perforated aluminium sheet, 3mm round holes, sloped pitch
- 15 Melloy A100 aluminium rivetless gutter fixed to fascia board at 1m centres, in accordance with manufacturers recommendations. To be supplied in heritage black.
- 16 Bernall roof covering in accordance with specification.
- 17 Re-rimmed roof line
- 18 Green roof to be designed by Dusty Design of Living Roots
- 19 Timber roof truss
- 20 NBS P10
4 layers of 140 mm Knauf FramTherm insulation. Laid with staggered joints
- 21 100mm void
- 22 NBS G20
100x50mm s4s battens
- NBS G20
Ladder ring batten with timber nogles to R.Ring design and specification.



DOTTED RED LINES INDICATE POSITION OF MEMBRANES. SEE KEY AND NOTES FOR DETAILS.

1 Use Special dimensions only
2 Do not scale from this drawing
3 All dimensions to be obtained on site and the Architect is to be advised if they diverge from the construction documents
4 All dimensions to drawings refer to nominal values unless otherwise stated
5 Work on and pointing to construction shown is indicative only. Refer to manufacturer's drawings for details and setting out
6 All work and materials to be in accordance with current applicable statutory regulations and to comply with all relevant codes of practice and British and European standards.

No	Description	Date	By	Chk
1	100	12.02.10		
2	100	12.02.10		

G20 General Arrangement

CONSTRUCTION ISSUE

April 2010

Project: Future Works Housing
3 bed house

Subject: Roof
Eaves Detail

Scale: 1:5 @ A3

Date: 11.02.10

bere:architects

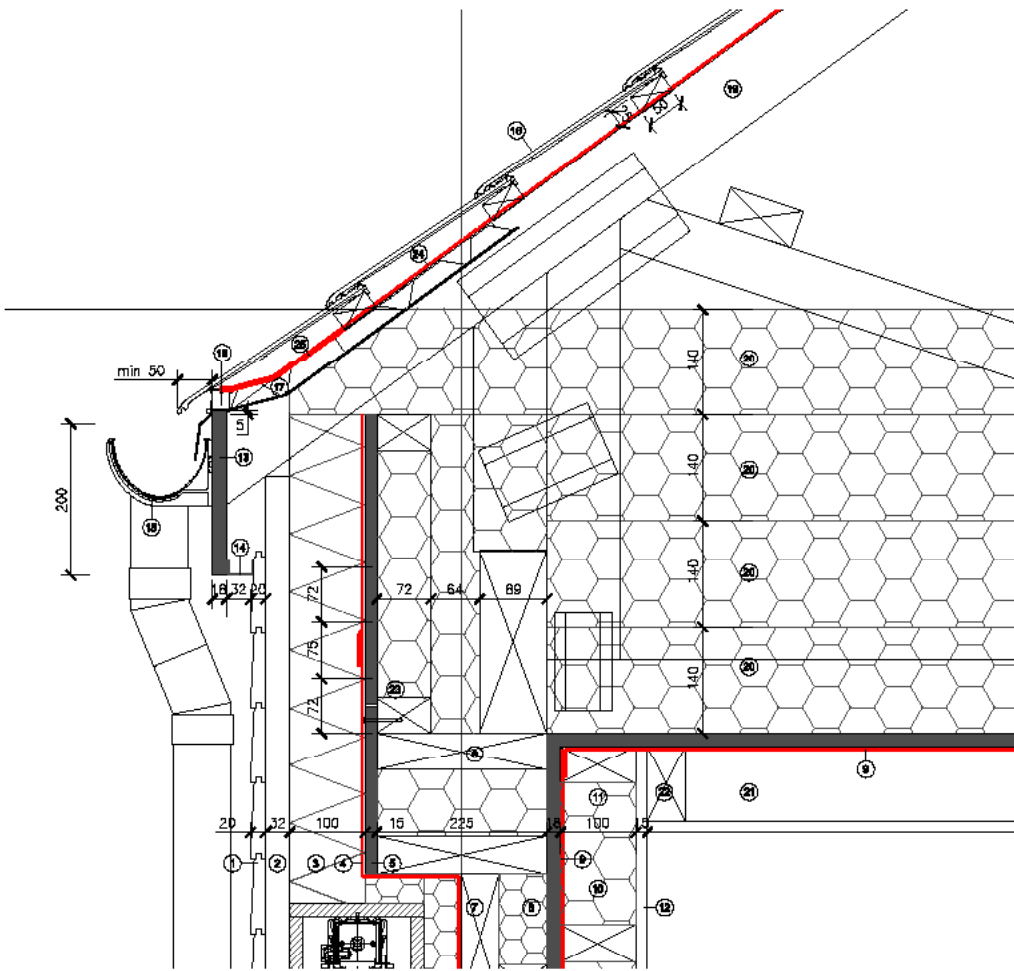
13 Peck Road, London, N6 2RN
T +44 (0)20 7626 0300 F +44 (0)20 7626 0371 bere@bere.co.uk

Page | Drawing | No

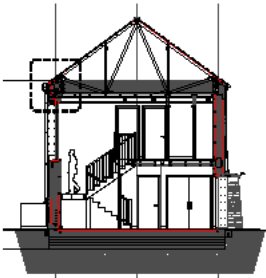
0372.B1.G20.D16 B

Roof Roost Conditions

- The drawings of the roof is illustrated with a green roof which may excluded some heat
- The building has slate so it is probably warmer inside
- I do not know which membrane they have used at slate batten level.



- 1 NBS H21.120
20mm Horizontal Wash Larch cladding fixed with star headed stainless steel screws, spiked at eaves
- 2 NBS H21.116
220mm air counter battens, fixed through Pevotherm insulation with Hella Intex G20 stainless steel strage
- 3 NBS P10
100mm Pevotherm Plus Wood fibre insulation, bottom edge to be primed and taped in accordance with manufacturer's instructions. Half-fixed by battens.
- 4 NBS H21
DuPont Tyvek LV Facade breather membrane
- 5 NBS K11.448
15mm waterproof Aqapan DWD board with breather membrane to outer face.
- 6 NBS G20
225mm x 60mm air timber studs, untreated
- 7 NBS P10
220mm air counter FramTherm insulation boards between air studs
- 8 NBS K11.616
low VOC 18mm OSB panel
- 9 NBS P10.215
Pev otherm trisilo plus air-tightness membrane.
- 10 NBS G20
100 x 80mm horizontal air timber battens
- 11 NBS P10
100mm Stoiko Flex wood fibre insulation between horizontal air studs.
- 12 NBS K10
2.5mm Phenolicboard screwed to timber battens and sides finished and painted.
- 13 NBS H21.120
*Green W6 W6P Fenchel Birch Ply Facade. Board to be primed and painted with Silmaro Dural Opaque 8L primer and 8L Opaque 8Lc. Seal down above rafters.
- 14 NBS G20.H10
80s fanned insect mesh. Perforated aluminium sheet, 3mm round holes, staggered pitch
- 15 Merley Akura (deep flow) aluminium sub-roof gutter fixed to fascia board at 1% overfall in accordance with manufacturer recommendations. To be supplied in heritage black.
- 16 NBS NB1.108
100 x 300mm Fibreclad Generation reconstituted slate tiles in slate grey (ref. 80) fixed to 80 x 30mm battens.
- 17 NBS NB1.108
Rachford Square Ventilation Tray
- 18 NBS NB1.108
Fascia grille unit fixed into fascia board with long start dressed into gutter
- 19 Timber roof truss
- 20 NBS P10
4 layers of 140mm Knauf FramTherm insulation. Laid with staggered joints
- 21 120mm void
- 22 NBS G20
100x30mm air battens
- 23 NBS G20
Ladder (top beam with timber rostr to S.Eng design and specifications.
- 24 NBS NB1.100
Lay Valttech underlay over PVC apron from top centre of fascia grille unit, ensuring grille is clear.
- 25 NBS NB1.100
PVC apron



DOTTED RED LINES INDICATE POSITION OF SCISSORBAR. SEE KEY AND NOTES FOR DETAILS.

No	Description	Date	By	Site
1	Rev	17/03/10	JB	
2	Rev	01/04/10	JB	

G20 General Arrangement

CONSTRUCTION ISSUE
April 2010

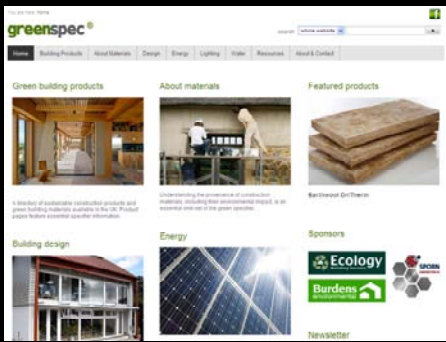
Project: Future Works Housing
3 bed house
Subject: Roof Eaves Detail
Scale: 1:5 @ A3
Date: 11.02.10

bere:architects
73 Poole Road, LONDON, NE 20H
T +44 (0) 20 7339 6399 F +44 (0) 20 7438 8073 bere@bere.co.uk

Project: Working | Rev
0372.B1.G20.D16 C

Roof Eaves Roost?

- There is room for a roost at eaves but there may be too much light from the eaves gap
- It is already built so not practical to change anything at this stage



GreenSpec

www.greenspec.co.uk

CAP'EM

Cycle Assessment Procedure for Eco-Materials



www.capem.eu

Wall Roost?

- There little scope for adding a box behind the cladding without compromising the U value of the walls.

Climbing/hanging surface:

- **dense wood fibre thermal insulation board**
 - vertically behind the cladding
 - which may cause tangles
 - but may also break under force thus freeing the claws (guesswork)
- **glass mineral wood insulation quilt**
 - cut on site by site labour to form slope
 - I think this is impractical as a climbing surface
- **glass mineral wood insulation quilt**
 - uncut rolls to ceiling of attic

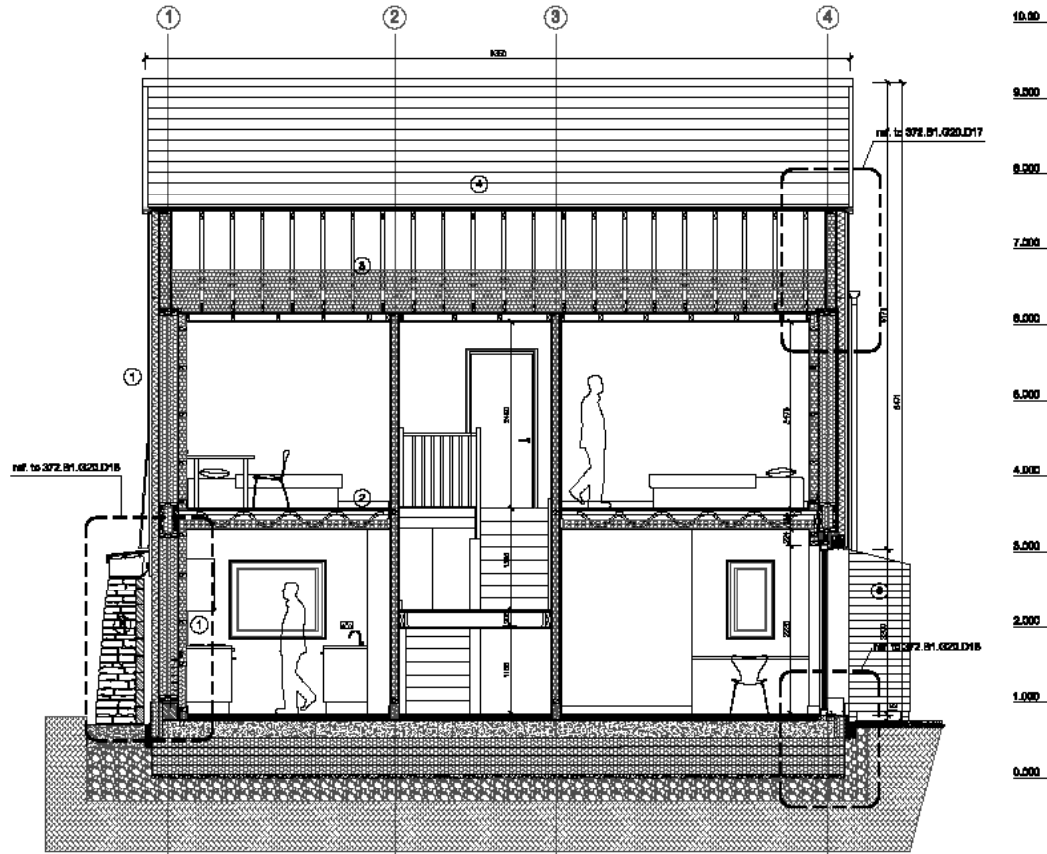
Material choice:

- I think both materials are impractical surfaces to gain access to the attic to any bat or bird box
- adding provision for roosts at this late stage is risky and impractical



However another opportunity?

- The photos of the gable shows a discrete opening (for maintenance?) to the attic space
- I think we need to explore with bere:architects what has been provided and how that can be adapted/extended for access and roosts.



- ① Wall built up from outside to inside
Ground and First Floor
Waleh Larch horizontal fibre cladding 20 mm
S/W Counter battens 30 mm
Fibreclay Tiles insulation 100 mm
DuPont Tyvek UV Faced breathable membrane
DWD board 16 mm
S/W Timber studs 225 mm
Knauf Frame Thermo insulation (between studs) 225 mm
OSB panel 15 mm
Inferno pro-oliva plus vapour barrier
Hot air liner battens 100 mm
Stanko Flex wood fibre insulation 100 mm
Plasterboard and skim 15 mm
- ② Ceiling above Ground floor built up from above
Floor Batah (Bo by LWHA) 18 mm
Chipboard 22 mm
Canted side beam 216 mm
Insulation in between joists
Plasterboard and skim 15 mm
- ③ Sloped roof built up from outside to inside
Rusford Canadian reconstituted slate tiles 10mm
Timber battens 29mm
Valltech underlay
Timber truss 140mm
- ④ Dry stone wall
- ⑤ Ceiling above First floor built up from above
Timber roof truss 140 mm
Knauf Frame Thermo insulation 4x140 mm
OSB panel 18 mm
Inferno pro-oliva plus vapour barrier
Wool 100 mm
Timber battens 50 x 100mm 100 mm
Plasterboard and skim 15 mm
- ⑥ Structure & exterior

Section BB 1:50

CONSTRUCTION ISSUE
April 2010

1 Use General dimensions only
2 Do not reference B16 drawing
3 All dimensions to be checked on site and the Architect to be informed if any discrepancies between drawings
4 All references to drawings refer to correct version of that drawing
5 Worked out and verified before construction begins by building surveyor. Refer to construction specification for details and ordering info
6 All work and materials to be in accordance with current applicable statutory regulations and to comply with all relevant codes of practice and British and European standards

Rev	Description	Date	By	CHK
A	Final Issue	08.11.09	pk	---
B	For concrete	01.12.09	pk	---
C	For concrete	02.12.09	pk	---
D	For concrete	23.01.10	SH	---
E	For concrete	23.01.10	SH	---
F	For concrete	12.02.10	SH	---
G	For concrete	12.02.10	SH	---
H	Structural Frame updated	19.03.10	pk	---
I	Roof construction	07.04.10	pk	---

G20 General Arrangement

Project: Future Works Housing
3 bed house

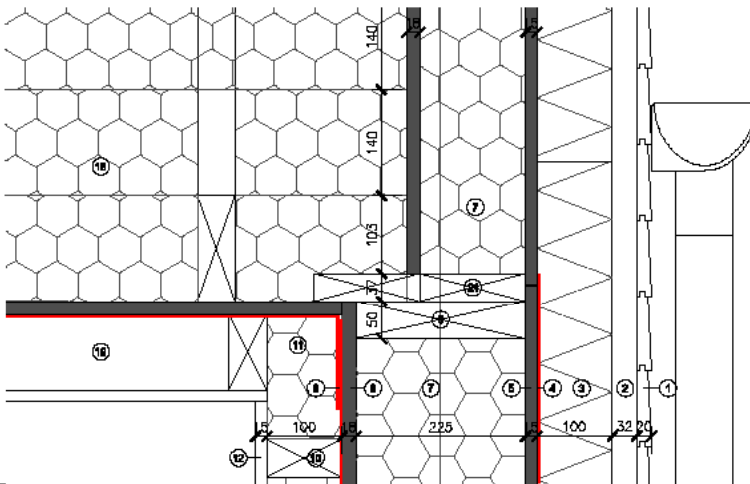
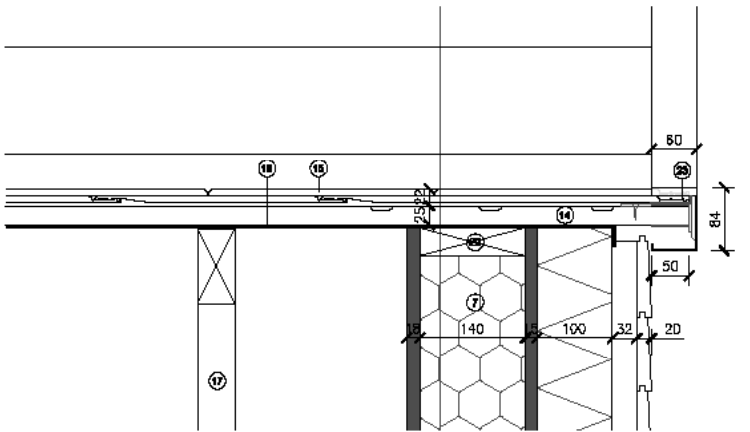
Subject: Section BB

Scale: 1:50 @ A3

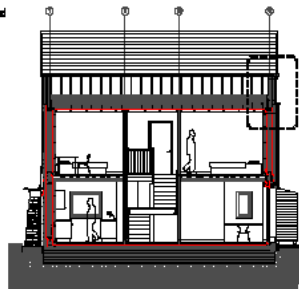
Date: 22.12.09

bere:architects
73 Poole Road, London, NE 20H
T +44 (0) 20 7328 0200 F +44 (0) 20 7431 0271 info@bere.co.uk

Project: **0372.B1.G20.S01**



- 1 NBS H21.120
20mm Horizontal Welsh Larch cladding fixed with steel headed stainless steel screws.
- 2 NBS H21.118
220mm air cavity battens, fixed through Pevsitherm insulation with Hailfa Inflow500 stainless steel fixings
- 3 NBS P10
100 mm Pevsitherm Plus Wood fibre insulation, bottom edge to be pinned and lapped in accordance with manufacturers instructions. Lapped by battens into timber studs.
- 4 NBS
DuPont Tyvek UV Facade breather membrane
NBS K11.445
10 mm waterproof Aqapan DHD board with breather membrane to outer face.
- 5 NBS G20
225mm x 50mm air timber studs, untreated
- 6 NBS P10
225 mm Knauf FramerTherm insulation boards between air studs
- 7 NBS K11.615
100mm x 15mm CBB panel
- 8 NBS
Pro stone Intello plus air-tightness membrane.
- 9 NBS
100 x 60 mm horizontal air linear battens
- 10 NBS
100mm Steico Flex wood fibre insulation between horizontal air studs.
- 11 NBS
12.5 mm Plasterboard screwed to timber battens and also finished and painted
- 12 NBS H21.120
18mm thick WSP Finnish Birch Ply board
- 13 NBS H21.118
25 x 25mm timber battens extending 50mm beyond the face of the larch timber cladding
- 14 NBS H21.108
300 x 350mm Redland Cambrian reconstructed slate tile in slate grey (ref. 30) fixed to 90 x 25mm battens.
- 15 NBS M01.125
Vertical underlay
- 16 NBS
Timber roof truss
- 17 NBS P10
4 layers of 140 mm Knauf FramerTherm insulation. Laid with staggered joints
- 18 100mm void
- 19 NBS
100x50mm air battens
- 20 NBS G20
Rings drawn to B.Eng design and specification.
- 21 NBS G20
140mm x 57mm air timber studs, untreated
- 22 NBS M01.125
Redland Arid-Dry Varge Limit Clp



DOTTED RED LINE INDICATE POSITION OF ROOF BRANES, SEE KEY AND NOTES FOR DETAILS.

1 User Manual drawings only
2 Do not withdraw B&B drawing
3 All dimensions to be checked on site and the Architect to be informed of any discrepancies before work commences
4 All alterations to drawings require consent, written or oral
5 Worked out and verified before construction begins to help the contractor
6 All work and materials to be in accordance with current applicable building and British and European standards

No	Description	Date	By	Chk
A	Rev Issue	17/02/10	me	js
B	Rev Issue added	01/02/10	me	js
C	Rev Issue added	01/02/10	me	js

G20 General Arrangement

CONSTRUCTION ISSUE
April 2010

Project: Future Works Housing
3 bed house

Subject: Roof
Eaves Detail

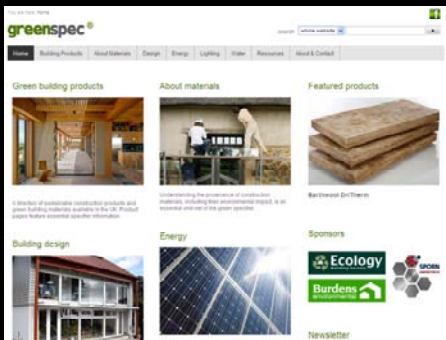
Scale: 1:5 @ A3

Date: 11.02.10

bere:architects
73 Poole Road, London, NE 20H
T +44 (0) 20 7269 6299 F +44 (0) 20 7431 6271 info@berearchitects.com

Project: _____
Drawing: _____
Rev: _____

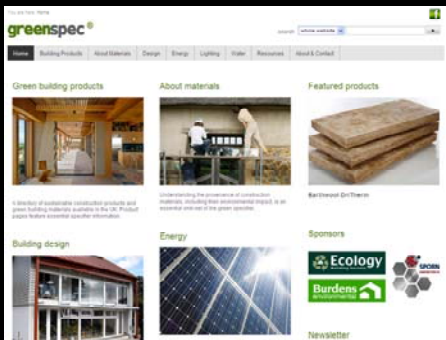
0372.B1.G20.D17 C



Flight access:

- But access flight paths between detached houses on a street and probably fence/hedges between may make this an impractical roost as well.





Wall crevices?

- The stone wall at ground floor walls is too low to provide roosts with practical access.

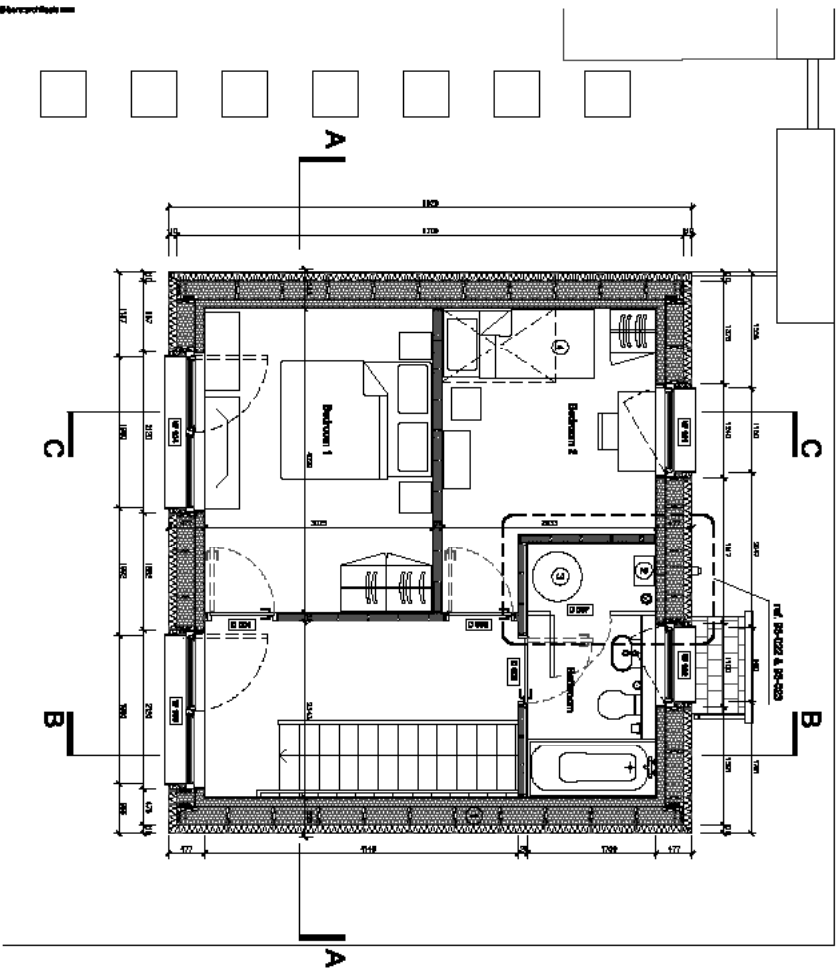
Verge crevice?

- gable wall at the ridge
- add tapered battens and weatherboarding
- to outer surface of existing weatherboarding
- It will almost disappear except for a shadow line
- Bats will crawl up into gap



To be fair

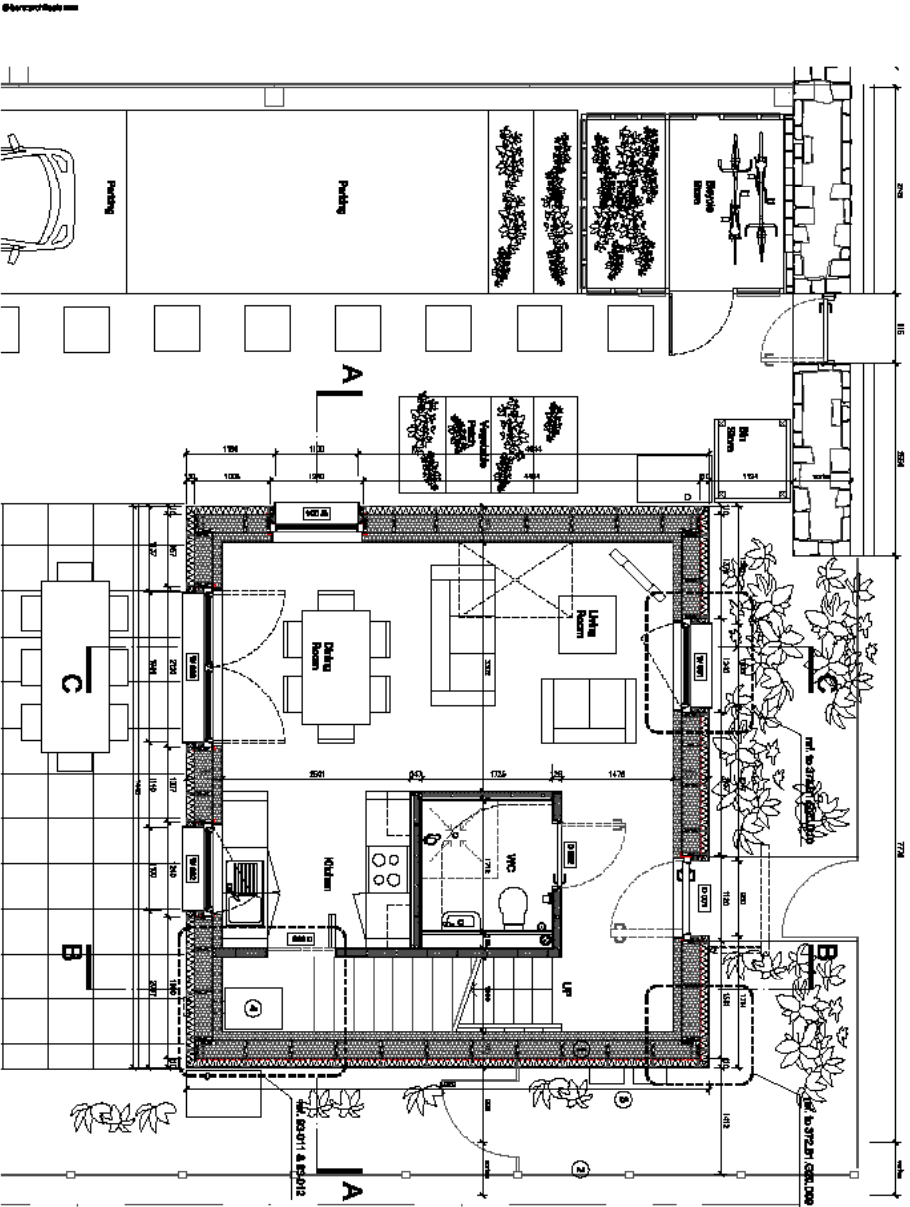
- Bere Architects approached BCT some time before
- the advice received was discouraging
- So opportunities were lost for both bats and architects
- We hope the new book will help to avoid this ever occurring again



- ① Wall build up from side ground level first floor level to level of roof level. Type: Insulation sandwich (100) Timber studs (100) Timber walls (100) Timber floors (100) Pro. stone blende 200 x 400 level, see structure details. Plasterboard 125 mm in (100) Plasterboard 125 mm in (100)
- ② Insulation
- ③ Stair (not water-closet) (100)
- ④ Kerol out-pipe in floor (100)

Please refer to 1
room drawings

First Floor



- ① Wall build up from outside to inside ground level first floor level to level of roof level. Type: Insulation sandwich (100) Timber studs (100) Timber walls (100) Timber floors (100) Pro. stone blende 200 x 400 level, see structure details. Plasterboard 125 mm in (100) Plasterboard 125 mm in (100)
- ② Timber finish
- ③ Electric & gas system
- ④ Ventilation system see measurement drawings
- ⑤ See floor plan
- ⑥ Floor finish and paint in floor above for floor 1

Please refer to 1
room drawings

Ground Floor Plan 1:50

G20 General Arrangement

- 1. All dimensions are in millimetres
- 2. All dimensions are to the centre of the wall unless otherwise stated
- 3. All dimensions are to the centre of the window unless otherwise stated
- 4. All dimensions are to the centre of the door unless otherwise stated
- 5. All dimensions are to the centre of the staircase unless otherwise stated
- 6. All dimensions are to the centre of the chimney unless otherwise stated
- 7. All dimensions are to the centre of the roof unless otherwise stated
- 8. All dimensions are to the centre of the ground level unless otherwise stated
- 9. All dimensions are to the centre of the level unless otherwise stated
- 10. All dimensions are to the centre of the level unless otherwise stated

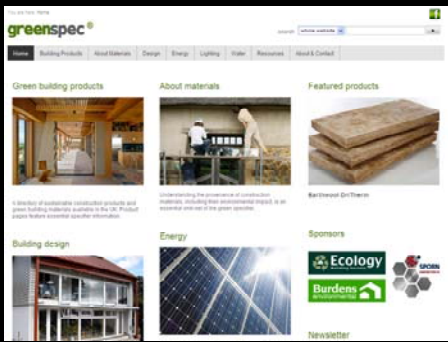
Project: Palfun House Housing
 Subject: 2 bed house
 Scale: 1:50 @ A3
 Date: 22.03.10

here:architects
 27 Park Road, London, W10 6PP
 T: +44 (0)20 7734 4444
 F: +44 (0)20 7734 4444
 Email: info@herearchitects.com

0376.B1.G20
 No B

14/09/2010

© NGS 2010 BrianMurphyWelshPassivhaus



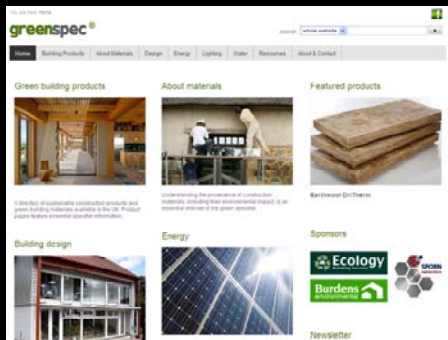
GreenSpec
www.greenspec.co.uk

CAP'EM
Cycle Assessment Procedure for Eco-Materials

www.capem.eu

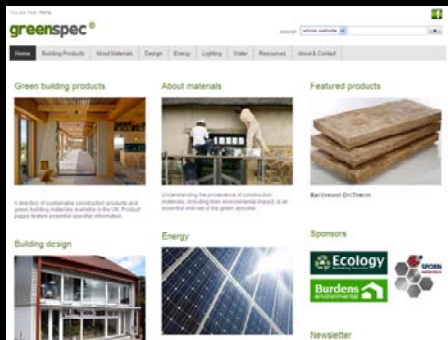
Another GreenSpec CPD file to download soon

See www.scribd.com/brianspecman



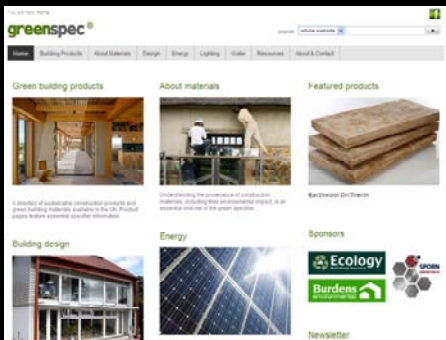
Sampler

- This is a cut down version of the original file to give you a sample of the whole
- It's the front end of the file with the middle and rear end deleted
- Go to www.GreenSpec.co.uk to download the whole file
- You will find a large number of other files there too



Feedback

- These files are created by generalists with a big dollop of green flavour
- These files are updated from time to time
- We are not experts so from time to time these file may get out of date or may be wrong.
- If you feel that we have got it wrong please let us know so we can put it right.



© GreenSpec

- **Brian Murphy BSc Dip Arch (Hons+Dist)**
- **Architect by Training**
- **Specification Writer by Choice**
- **Greening up my act since 1999**
- **Founder of www.greenspec.co.uk**
- **E BrianSpecMan@aol.com**
- **Twitter: <http://twitter.com/brianspecman>**
- **Scribd: www.scribd.com/brianspecman**
- **Facebook: <http://www.facebook.com/pages/GreenSpec/77375462337>**