STRUCTURAL INSPECTION REPORT

AT

REDUNDANT OUTBUILDINGS

BROAD OAK FARM

LLYNDIR LANE

ROSSETT

LL12 0AU

Huxtable Hodgson
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6538/DHU/CHe

10 October 2017

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Letter to Mr S Trowbridge dated 3rd October 2017

Sketches SK08-SK12

1. Introduction

1.1 We confirm having visited the property on 3 July 2017 to review its structural condition with a view to its conversion into domestic accommodation.

1.2 This report is intended for the benefit of the Planning Department to gauge whether the condition of the buildings have significantly altered since the previous structural 'planning' report undertaken by Adams Consulting Engineers dated 10 October 2008.

1.3 The ACE report related to all the various buildings A-K and Farmhouse as referenced on their enclosed sketch (SK01).

1.4 The current proposed scheme prepared by Cassidy & Ashton, Architects, intends only to convert buildings A, B and K which C & A refer to as buildings B, A and D respectively.

Barn B is intended as Units 1-2

Barn A is intended as Units 3-8

Barn D is intended as Units 9-13

Refer to their enclosed sketches (SK02 and SK03)

1.5 Our inspection consisted of a visual appraisal of Barns B, A and D with respect to gauging the condition of the external walls and their likely need for repair.

Our internal inspection was limited to viewing part of Barn A at ground floor and all of Barn D.

1.6 We understand that Broad Oak Farm was a pig farm until 2000/2001.

We are unaware of the age of the buildings.

We would estimate that the brick built Barns A and B are at least 100 years old, Barn D is much more recent consisting of a precast concrete portal framed structure clad in brick external walls.

1.7 The ACE report concluded that (their) buildings A, B and K were considered to be structurally sound and suitable for conversion.

2. Survey

Barn A

Refer to our sketch SK04 noting our following main observations.

East Elevation

2.1 Rendered wall above lean-to roof.

2.2 Timber pattress ‘plates’ and tie rods.

2.3 Undulating roof.

2.4 Wall leans out noticeably.

2.5 Wall leans out slightly.

South Elevation

2.6 Ivy covered wall.

2.7 Stonework section.

2.8 Noticeable cracks.

2.9 Rebuilt verge brickwork.

2.10 Weathered brickwork below stonework at ground level.

2.11 Blocked in openings along length of steel framed building.

2.12 White painted wall above blocked in openings.

2.13 Undulating Roof.

2.14 Severely undulating roof and slipped/missing slates.

2.15 First floor gable set back from single storey section below.

2.16 More recent single storey structure.

2.17 Stonework section at high level appears in poor condition.

North Elevation

2.18 Rebuilt brickwork above first floor window.

2.19 Wall out of plumb.

Widespread eroded mortar joints.

2.20 Wall takes an undulating line on plan together with some out of plumb most noticeable below eaves level.

2.21 Damp and weathered brickwork behind rwp.

2.22 Undulating roof.

2.23 Severely undulating roof.

West Elevation

2.24 Ivy covered wall.

2.25 Timber pattress plates and tie rods.

2.26 Older style brickwork.

2.27 Rebuilt section below window.

2.28 Bricked in window.

2.29 Undulating roof.

2.30 Straight joint/cracked and weathered brickwork.

2.31 Wall takes an undulating line on plan, cannot gauge behind ivy.

Barn B

Refer to our sketches SK05-SK06 noting our following main observations.

West Elevation

2.32 Rendered wall above lean-to roof.

2.33 Bricked in openings.

2.34 Long timber pattress plate and 2No. rods.

2.35 Stepped full height vertical crack.

2.36 Rebuilt brickwork.

2.37 High level stepped vertical crack.

2.38 Diagonal crack.

2.39 Low level weathered brickwork.

2.40 No significant wall out of plumb noted.

Wall appears in good condition.

2.41 No significant undulating roof line noted.

South Elevation

2.42 No significant out of plumb noted.

Wall appears in good condition.

2.43 Wall section not viewed.

East Elevation

2.44 Adjoining steel framed structure effectively conceals majority of wall, lower approximately 2 metre height only partly viewed.

No significant defects noted.

North Elevation

2.45 No significant defects noted.

Barn D

Refer to our sketch 6538/SK07 noting our following main observations.

2.46 Precast concrete portal framed building with brick external cladding walls and a mix of low level and full height brick internal walls.

Asbestos cement roof covering supported on concrete purlins.

2.47 No significant defects noted.

3. Discussion and Conclusions

Barn A

3.1 Comparing the past ACE external wall observations to our current observations we would say that there has been no significant changes in the condition of the walls which, whilst exhibiting widespread distortions in particular to the West and North elevations have remained stable.

3.2 With regard to the proposed conversion we would as normal envisage that the roof and floors will be replaced.

3.3 Subject to Planning considerations we would envisage that the most noticeable wall distortions would be corrected/rebuilt e.g. the upper sections of the walls which are leaning out due to roof spread.

3.4 In anticipation that widespread rebuilding will not be acceptable it will be necessary to give careful consideration as to how the new internal walls can be used to buttress/restrain the external walls and also allow the current unsightly pattress plates etc. to be removed.

3.5 As normal in due course the existing foundations will need to be inspected.

Barn B

3.6 The external walls, where visible, appear in good condition and we do not envisage the need for any major rebuilding.

Local repairs will be necessary e.g. to replace isolated weathered bricks or undertake crack stitch repairs and it will likely be a matter of discretion/agreement whether non matching sections of walling are replaced.

3.7 The East elevation is largely hidden by the adjacent steel framed building, however from what we could see we did not note any significant defects.

3.8 The roof line is very good, indicative of a sturdy roof.

3.9 Notwithstanding, we understand that a new second floor will present some headroom issues requiring at minimum modifications to the main roof trusses structure and this will need to be assessed at Building Regulations Stage as normal.

3.10 As normal we would expect that the first floor will be replaced, taking support from the new internal wall arrangement.

3.11 The existing foundations will need to be inspected in due course.

Barn D

3.12 It would appear that the precast concrete structure and external cladding walls are in good condition and suitable for re-use.

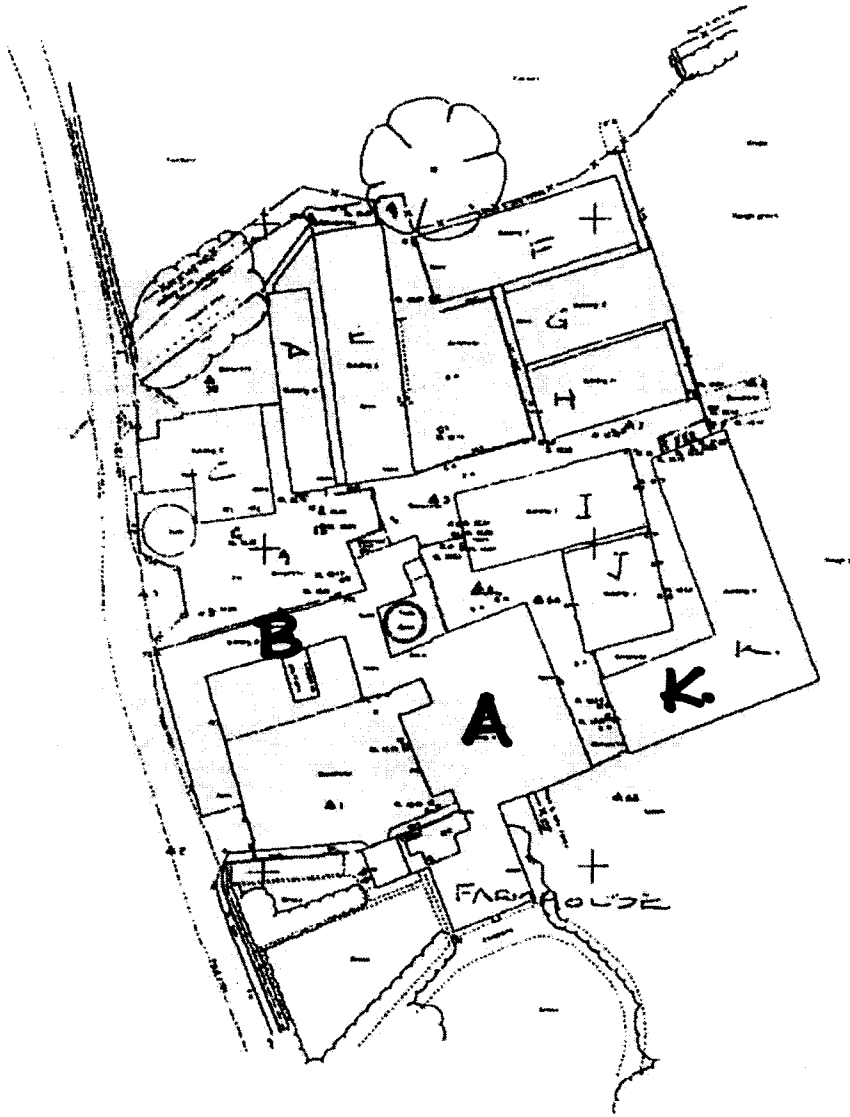
3.13 It has been suggested that the ‘At cost’ portal frames may be suitable to carry additional weight from the proposed replacement slated roof; this will need to be assessed in due course.

In the past we have overcome any doubts as to the strength of similar frames by ensuring that additional support is afforded by for example building cross walls up to the underside of the portal rafters.

3.14 The existing foundations will need to be inspected in due course, in particular the portal frame foundations should they be subject to increased loads.

4. Limitations

This report is limited to the items mentioned. We have not inspected woodwork or other parts of the structure which were covered, unexposed or inaccessible and we are therefore unable to report that any such part is free from defect.



· ADAMS CONSULTING ENGINEERS.
· 2008 REPORT
· SITE LAYOUT.

6538/SK01

BELGRAVE DEVELOPMENTS

mck

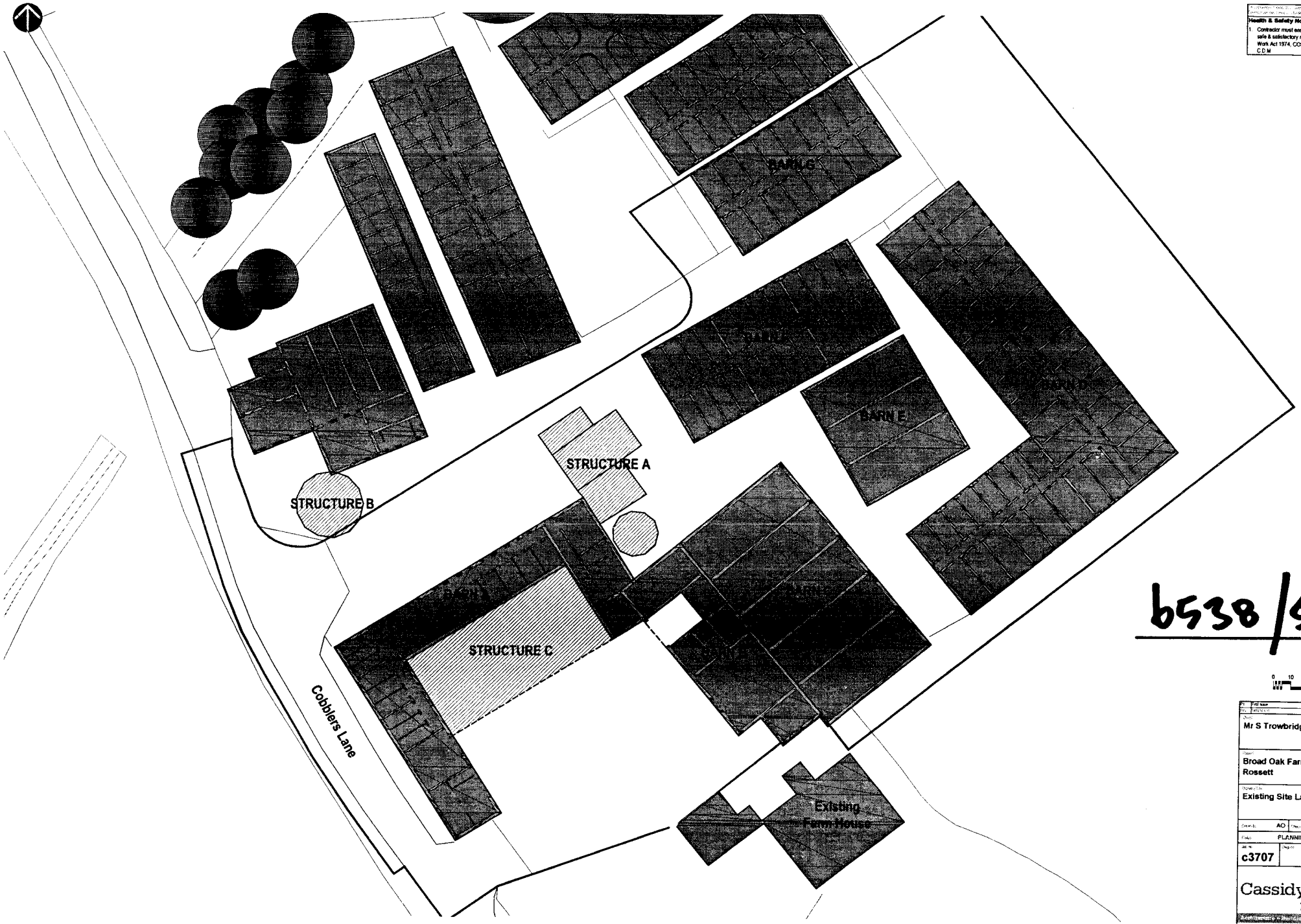
A2

PLANNING

BROAD OAK FARM
ROSSETT

TOPOGRAPHICAL SURVEY

06-919 | 0002



Health & Safety Notes

1. Contractor must ensure that all work on site is carried out in a safe & satisfactory manner, in accordance with Health & Safety At Work Act 1974, COSHH Regulations 2002 & requirements of C.D.M

6538/SK02

0 10 20 30 50mm

P1	First issue	04.09.2015
Rev	Description	Date

Client
Mr S Trowbridge

Project
Broad Oak Farm
Rossett

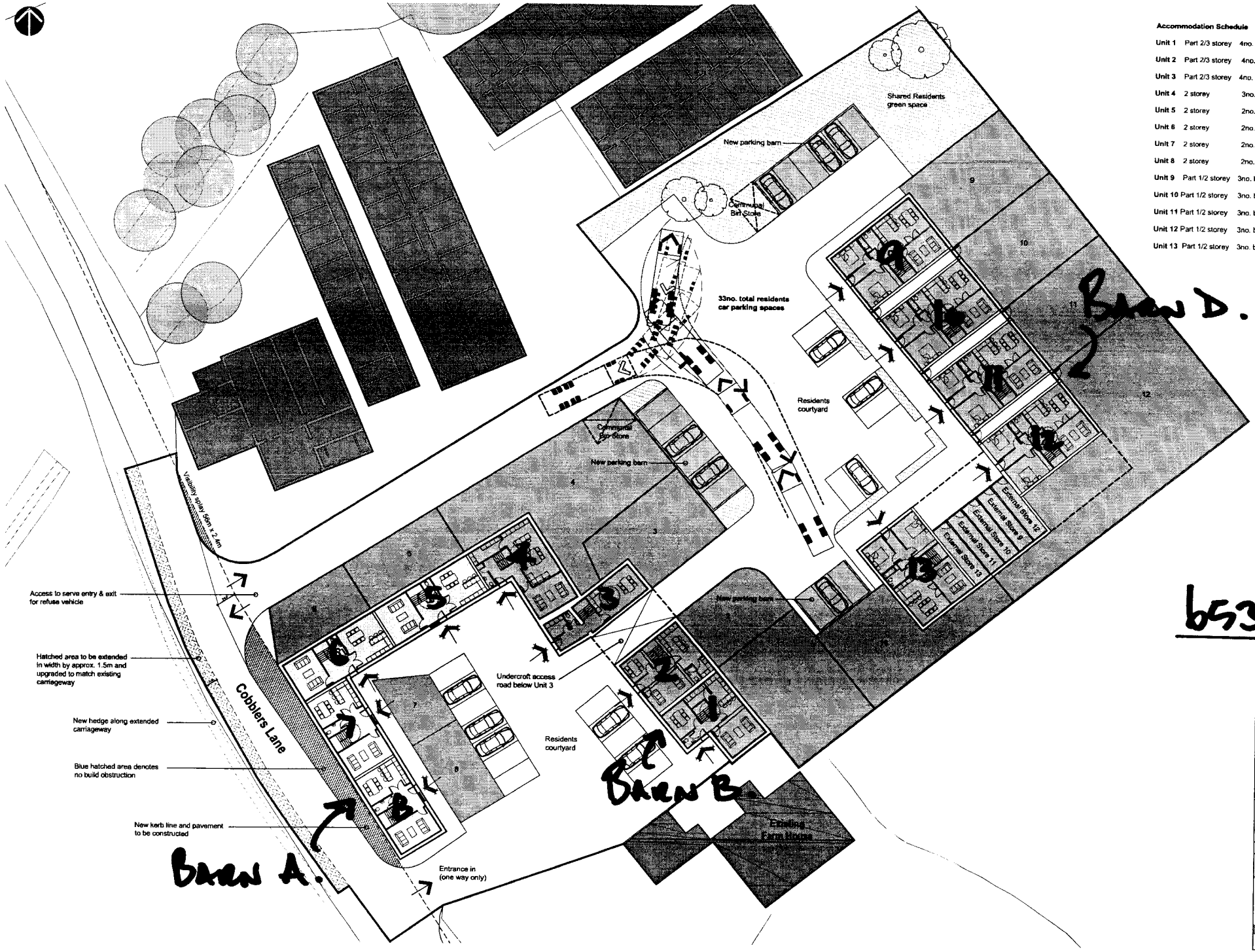
Drawing Title
Existing Site Layout

Drawn by	AO	Checked by	XX	Date	30.05.2017
Status	PLANNING	Scale @ A1	1:200		
Job No.	c3707	Drawing No.	L02	Rev.	P1

Cassidy+Ashton

Architecture & Building Services Design Consultants

10 Hunters Walk, Canal Street, Chester, CH1 4EB



Accommodation Schedule

Unit 1	Part 2/3 storey	4no. bed	138sqm	(1,485sqft)
Unit 2	Part 2/3 storey	4no. bed	147sqm	(1,582sqft)
Unit 3	Part 2/3 storey	4no. bed	147sqm	(1,582sqft)
Unit 4	2 storey	3no. bed	120sqm	(1,292sqft)
Unit 5	2 storey	2no. bed	105sqm	(1,130sqft)
Unit 6	2 storey	2no. bed	102sqm	(1,098sqft)
Unit 7	2 storey	2no. bed	92sqm	(990sqft)
Unit 8	2 storey	2no. bed	92sqm	(990sqft)
Unit 9	Part 1/2 storey	3no. bed	107sqm	(1,152sqft)
Unit 10	Part 1/2 storey	3no. bed	107sqm	(1,152sqft)
Unit 11	Part 1/2 storey	3no. bed	107sqm	(1,152sqft)
Unit 12	Part 1/2 storey	3no. bed	107sqm	(1,152sqft)
Unit 13	Part 1/2 storey	3no. bed	107sqm	(1,152sqft)

6538/SK03

0 10 20 30 50mm

P1 First Issue 04.09.2015

Client: Mr S Trowbridge

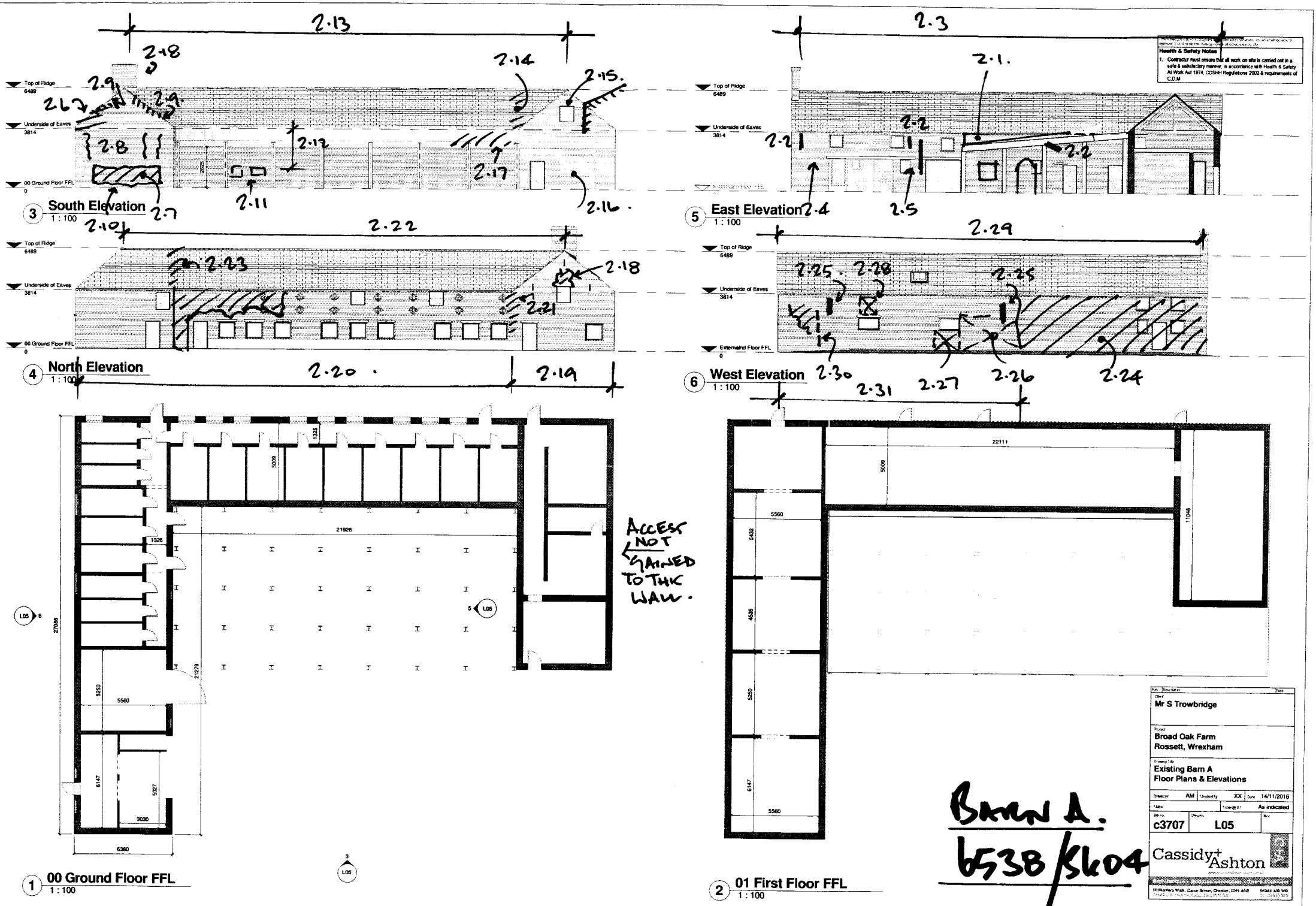
Project: Broad Oak Farm Rossett

Drawing Title: Proposed Site Layout

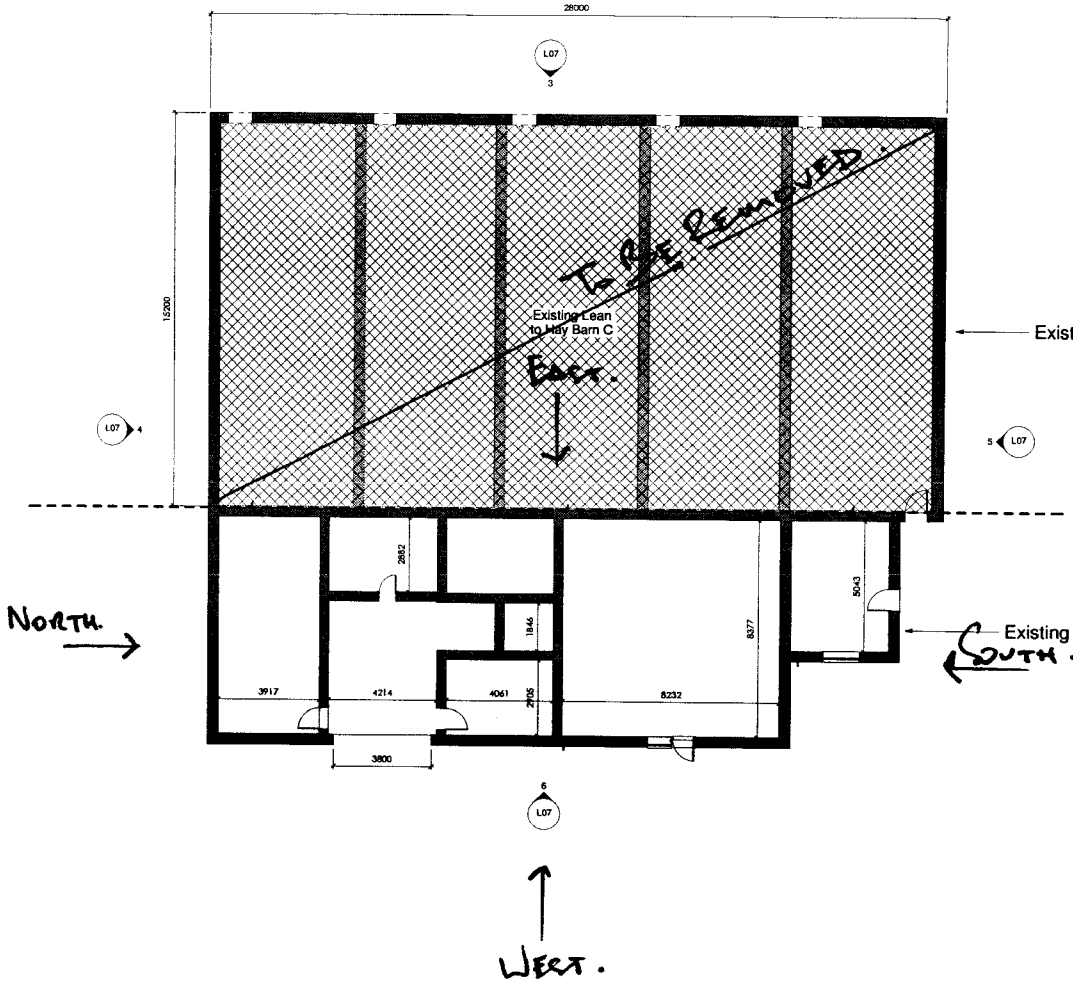
Drawn by: AO	Checked by: XX	Date: 30.05.2017	
Scale: PLANNING	Scale @ A1: 1:200		
Job No: c3707	Drawing No: L04	Rev: P1	

Cassidy+Ashton

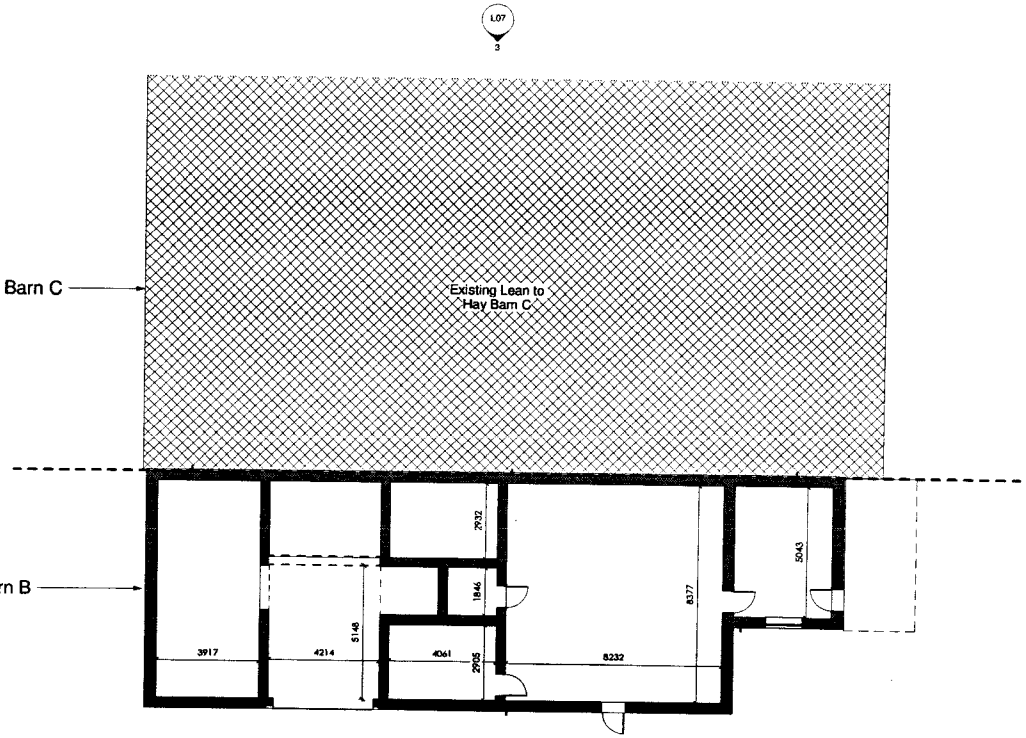
19 Hunters Walk, Canal Street, Chester, CH1 4EB



Health & Safety Notes
1. Contractor must ensure that all work on site is carried out in a safe & satisfactory manner, in accordance with Health & Safety At Work Act 1974, COSHH Regulations 2002 & requirements of C.D.M
Top of Ridge 6489
Underside of Eaves 3814
00 Ground Floor FFL 0
3 South Elevation 1 : 100
4 North Elevation 1 : 100
5 East Elevation 1 : 100
6 West Elevation 1 : 100
1 00 Ground Floor FFL 1 : 100
2 01 First Floor FFL 1 : 100
ACCESS NOT GAINED TO THIS WALL.
BARN A.
6538/5604
Mr S Trowbridge
Broad Oak Farm
Rossett, Wrexham
Existing Barn A
Floor Plans & Elevations
AM
XX
14/11/2016
As indicated
c3707
L05
Cassidy+Ashton



0 Existing Ground Floor
1 : 100



1 Existing First Floor
1 : 100

BARN B

6538/SK05

Rev	Description	Date

Client
Mr S Trowbridge

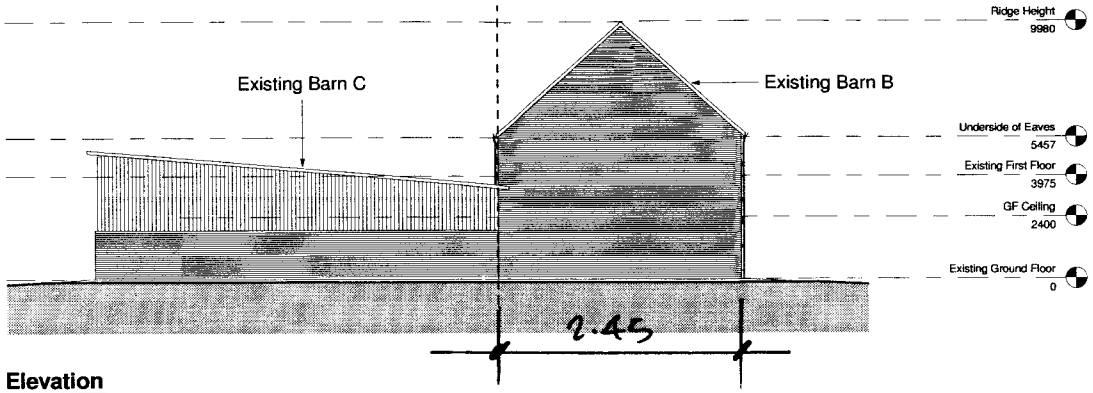
Project
Broad Oak Farm, Rossett Wrexham

Drawing Title
Existing Barns B & C - Floor Plans

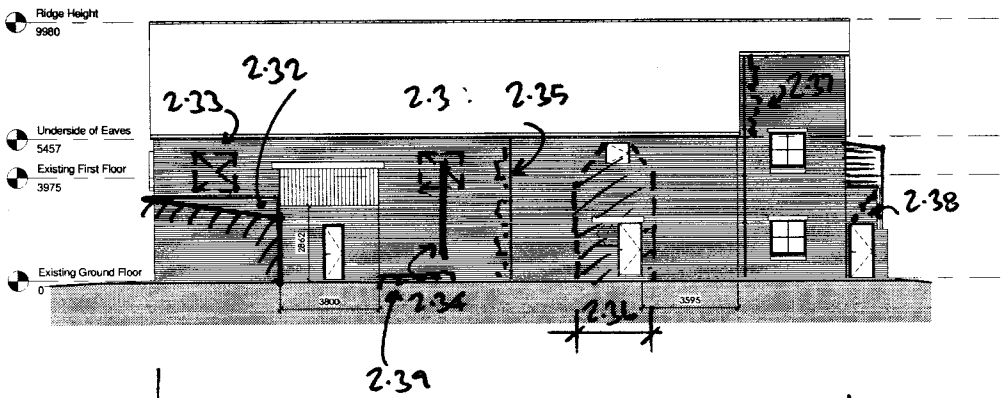
Drawn	AM	Checked	Checker	Date	24/11/2016
Status		Scale @	1 : 100		
Job No.	C3707	Drawing No.	L06	Rev	

Cassidy+Ashton

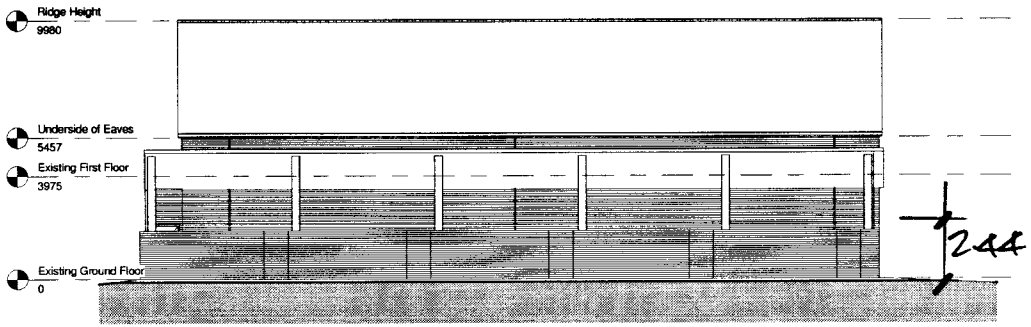
16 Hunters Walk, Canal Street, Chester, CH1 4EB 01244 403 999



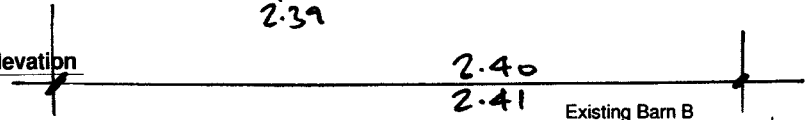
4 **North Elevation**
1 : 100

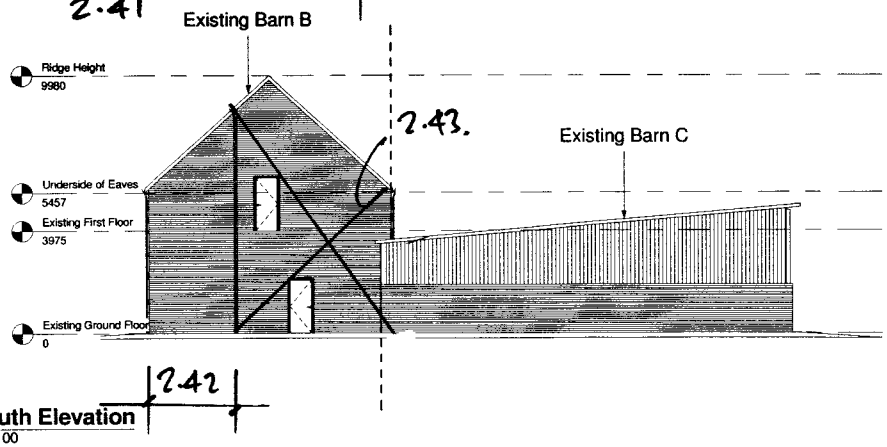


6 **West Elevation**
1 : 100



3 **East Elevation**
1 : 100





5 **South Elevation**
1 : 100

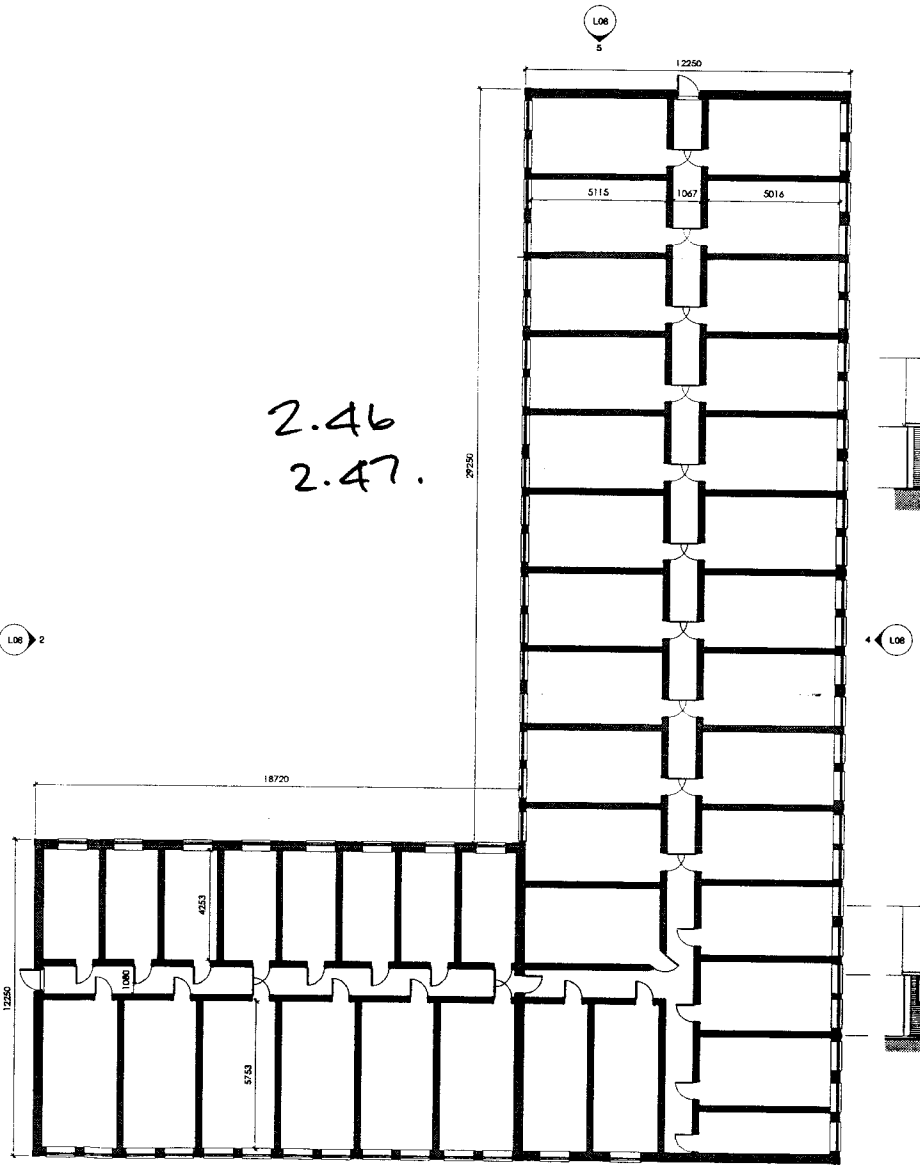
BARN B

6538/SK06

Client	Mr S Trowbridge
Project	Broad Oak Farm, Rossett Wrexham
Drawing Title	Existing Barn B & C - Elevations
Drawn AM	Checked Checker
Date	15/11/2016
Status	Scale @ 1 : 100
Job No. C3707	Drawing No. L07
Rev	

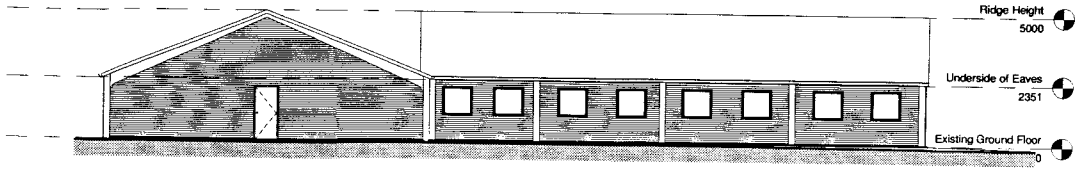
Cassidy+Ashton

10 Hunters Walk, Canal Street, Chester, CH1 4EB

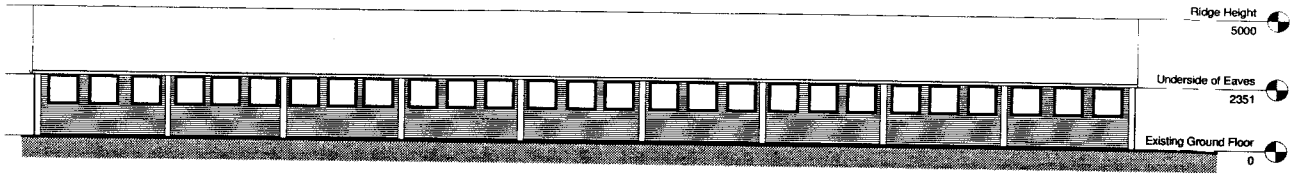


2.46
2.47.

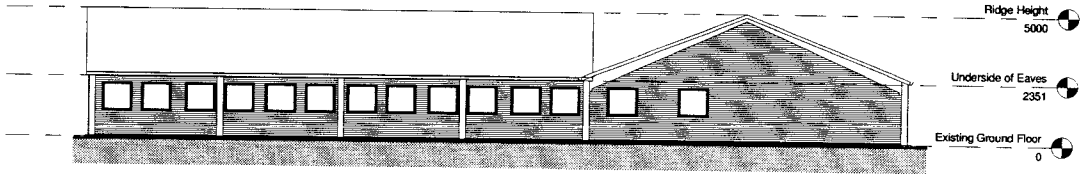
1 Existing Ground Floor
1 : 100



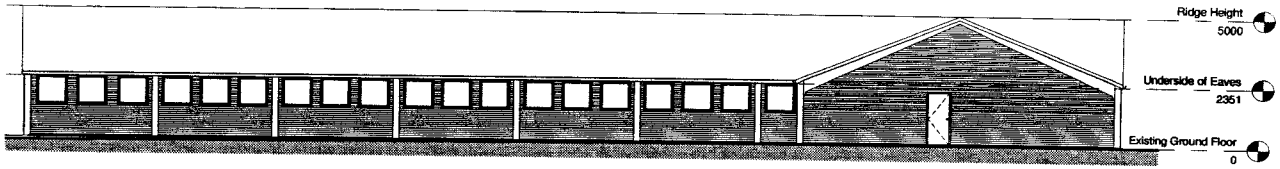
5 North Elevation
1 : 100



4 East Elevation
1 : 100



3 South Elevation
1 : 100



2 West Elevation
1 : 100

Client
Mr S Trowbridge

Project
Broad Oak Farm, Rossett Wrexham

Drawing Title
Existing Barn D, Floor Plans & Elevations

Drawn	Checked	Date
AM	Checker	16/11/2016

Scale 1 : 100

Job No.	Drawing No.	Rev
C3707	L08	

Cassidy+Ashton

Barn D.
6538/SK07

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN A

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN A

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN A

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN A

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN A

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN B

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN B

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN B

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN D

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN D

BROAD OAK FARM
SURVEY PHOTOS
3 JULY 2017

BARN D

7. Addendum Discussion and Conclusions

7.1 It is understood that the Planning Officer wishes for additional comment regarding the following:

(a) that the condition of the buildings essentially remain as reported in the Adams Consulting Engineers report dated October 2008

(b) that the current conversion proposals prepared by Cassidy and Ashton can be implemented without prejudicing the integrity of the buildings.

7.2 With regard to 7.1 (a) we enclose our letter to Mr Trowbridge dated 3 October 2017 confirming in our view that the structural condition of the buildings essentially remain as reported in the ACE report dated October 2008.

7.3 With regard to 7.1 (b) we enclose copies of the C & A conversion proposals for Barns A, B and D. (Sketches SK08-SK12).

The proposed layouts are essentially cellular in form with many internal sub-division walls within units together with party walls between units.

The party walls in particular will act as sturdy buttressing walls across the buildings and will substantially enhance the overall future stability of the buildings.

The upper floors will be strapped/connected to the external walls to provide improved lateral restraint to the walls.

The roof will be detailed to ensure that the potential for ongoing roof spread is minimised.

Hence, it is clear that the overall stability of the buildings will be considerably enhanced by virtue of the proposed conversion works.

6538st/DHU/CHe

3 October 2017

Huxtable Hodgson

Consulting Civil and Structural Engineers
100 Brook Street Chester CH1 3DU
tel: 01244 409490 fax: 01244 409022

Mr S Trowbridge
84 Cherry Lane
Lymm
Cheshire
WA13 0PD

Sent via e-mail to: strowbridge@hotmail.co.uk

Dear Mr Trowbridge

Broad Oak Farm, Rossett

Further to our recent discussion.

I understand that Planners are asking for confirmation that, in my view, the structural condition of the buildings essentially remain as reported in the Adams Consulting Engineers Report dated October 2008.

Accordingly, I would respond as follows:

Barn A

My point 3.1 state that 'there has been no significant change in the condition' compared with the Adams Report.

Hence, I believe that Barn A remains in a similar structural condition to its condition in October 2008.

Barn B

Adam's Report, point 3.1.4 states that the barn is considered to be structurally competent.

My report, point 3.6, states that it appears in good condition.

Hence I believe that Barn B remains in a similar structural condition to its condition in October 2008.

Barn D

Adam's Report, point 3.9.3, states that the existing frames and brick infill are structurally sound.

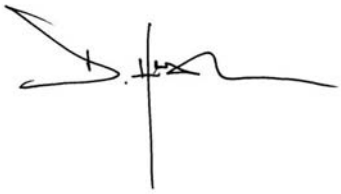
My report, point 3.12, states the same.

Hence, I believe that Barn D remains in a similar structural condition to its condition in October 2008.

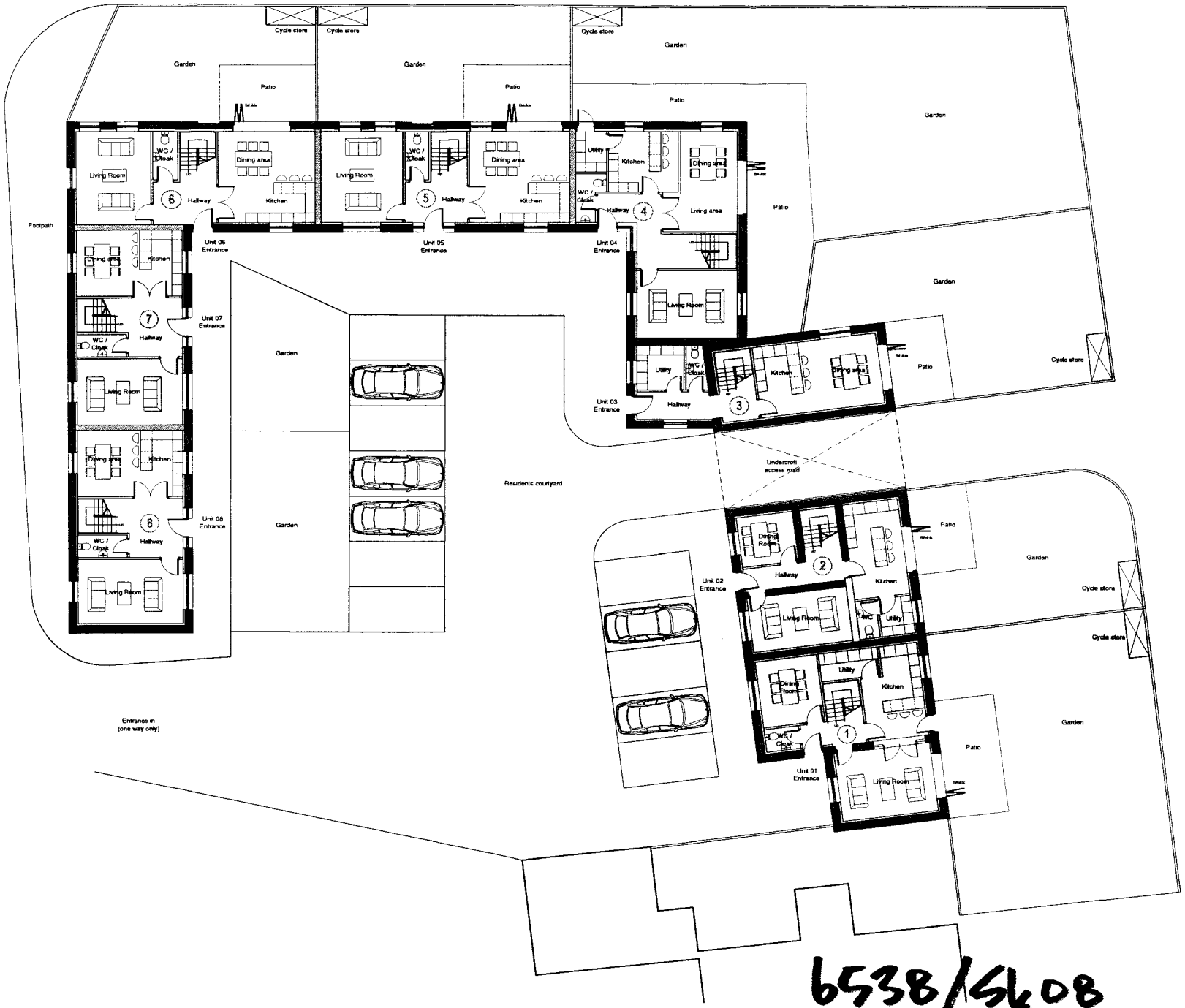
Cont…/

I hope that this addendum letter clarifies my view that the condition of the buildings have not substantially altered since October 2008.

Yours sincerely



Huxtable Hodgson
e-mail: info@huxtablehodgson.co.uk



6538/SK08

0 10 20 30 50mm

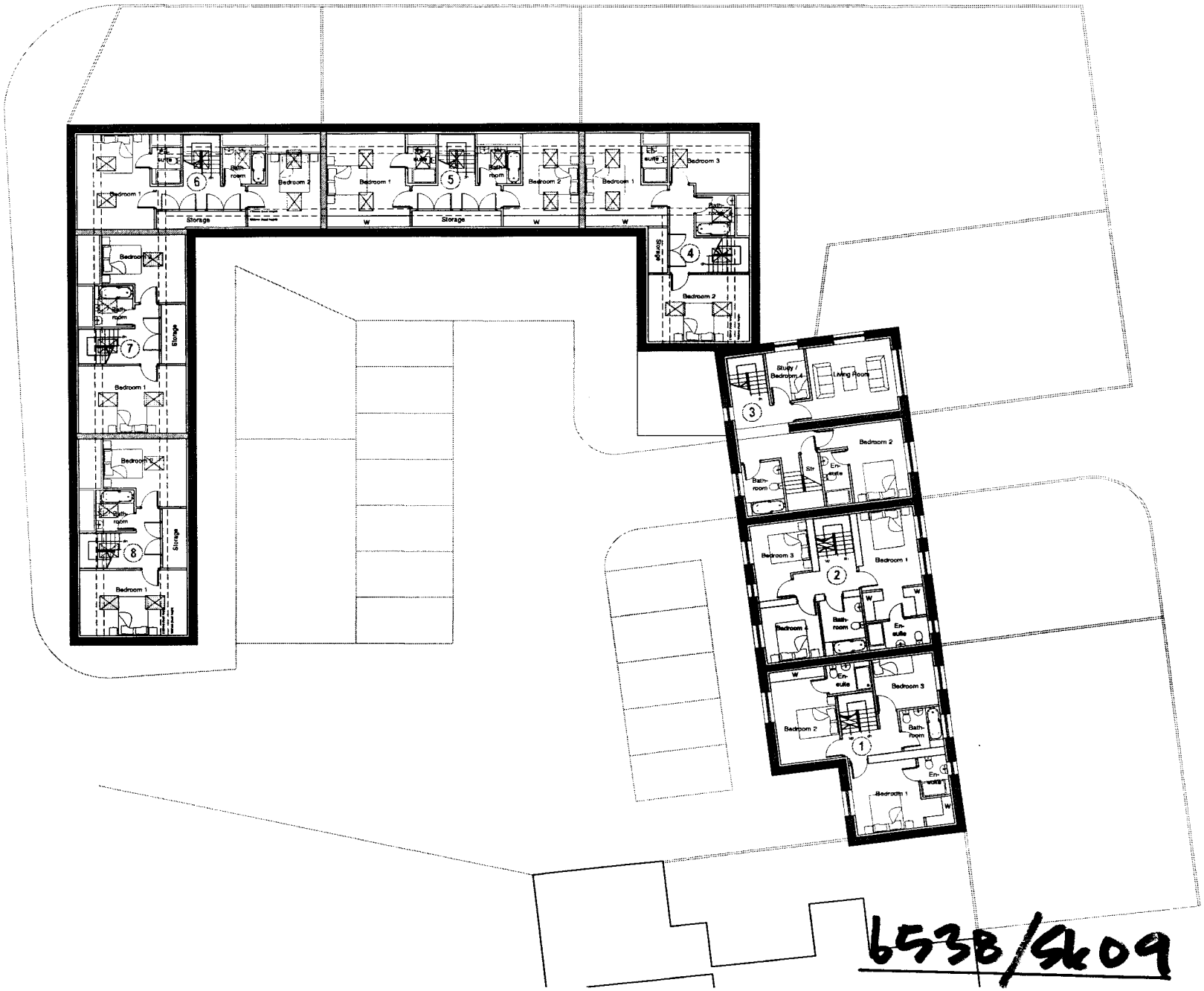
Mr S Trowbridge

Broad Oak Farm
Rossett

Residential Unit 1 - 8
Proposed Ground Floor GA

AO	XX	30.05.2017	
PLANNING		1:100	
c3707	L12	P2	

Cassidy+Ashton



0 10 20 30 50mm

P1	First Issue	04.06.2016

Client
Mr S Trowbridge

Project
Broad Oak Farm
Rossett

Drawing Title
Residential Unit 1 - 8
Proposed First Floor GA

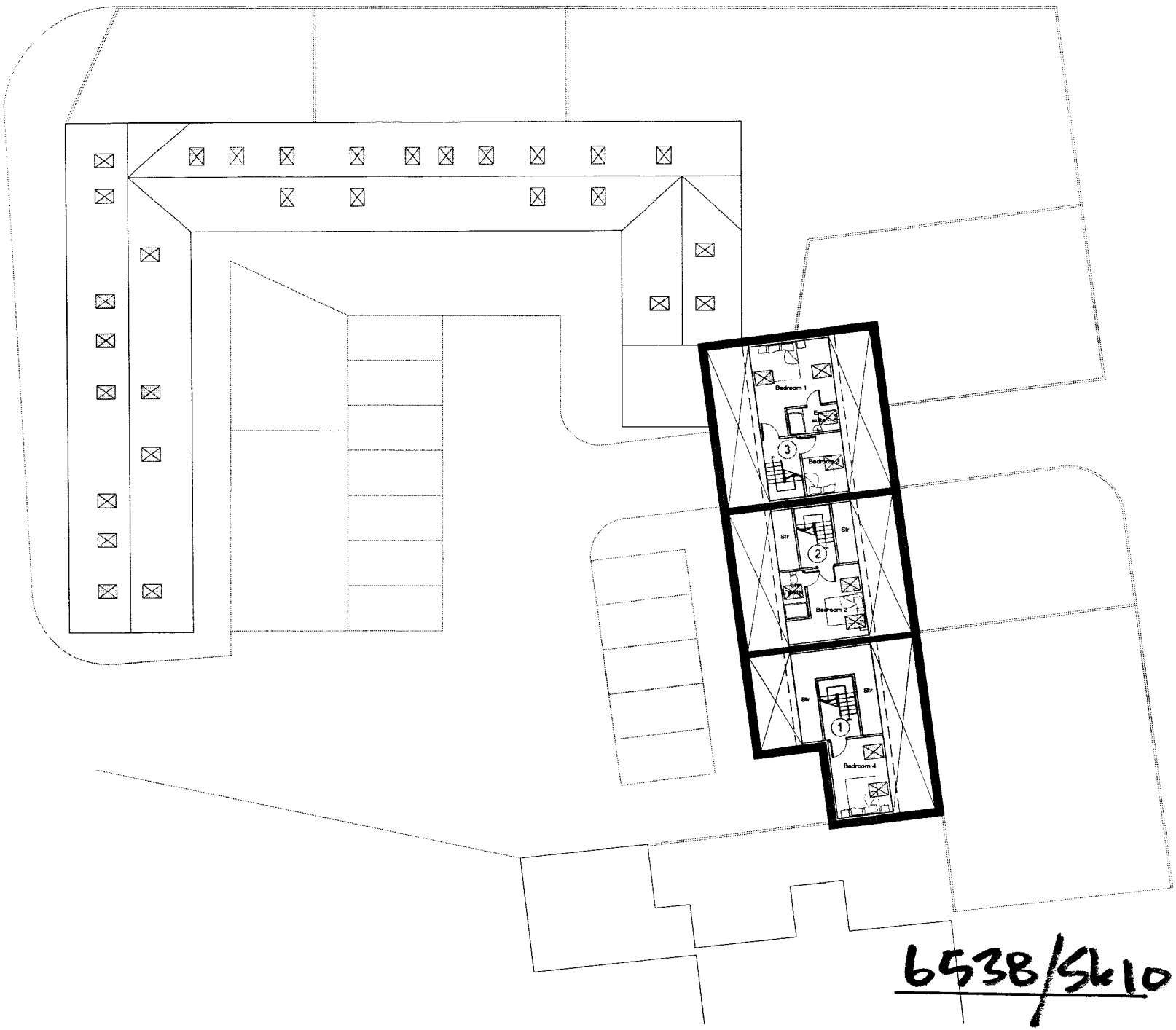
Drawn by	AO	Checked by	XX	Date	30.05.2017
Scale	PLANNING	Original Size	1:100		
Job No	c3707	Drawing No	L13	Rev	P2

Cassidy+Ashton

Cassidy+Ashton Limited, Chartered Architects, Chartered Surveyors, Chartered Engineers, Chartered Surveyors

10 Hamlet Walk, Canal Street, Chester, CH1 4EB 617.44.402.968

6538/SK09



6538/SK10

0 10 20 30 50mm

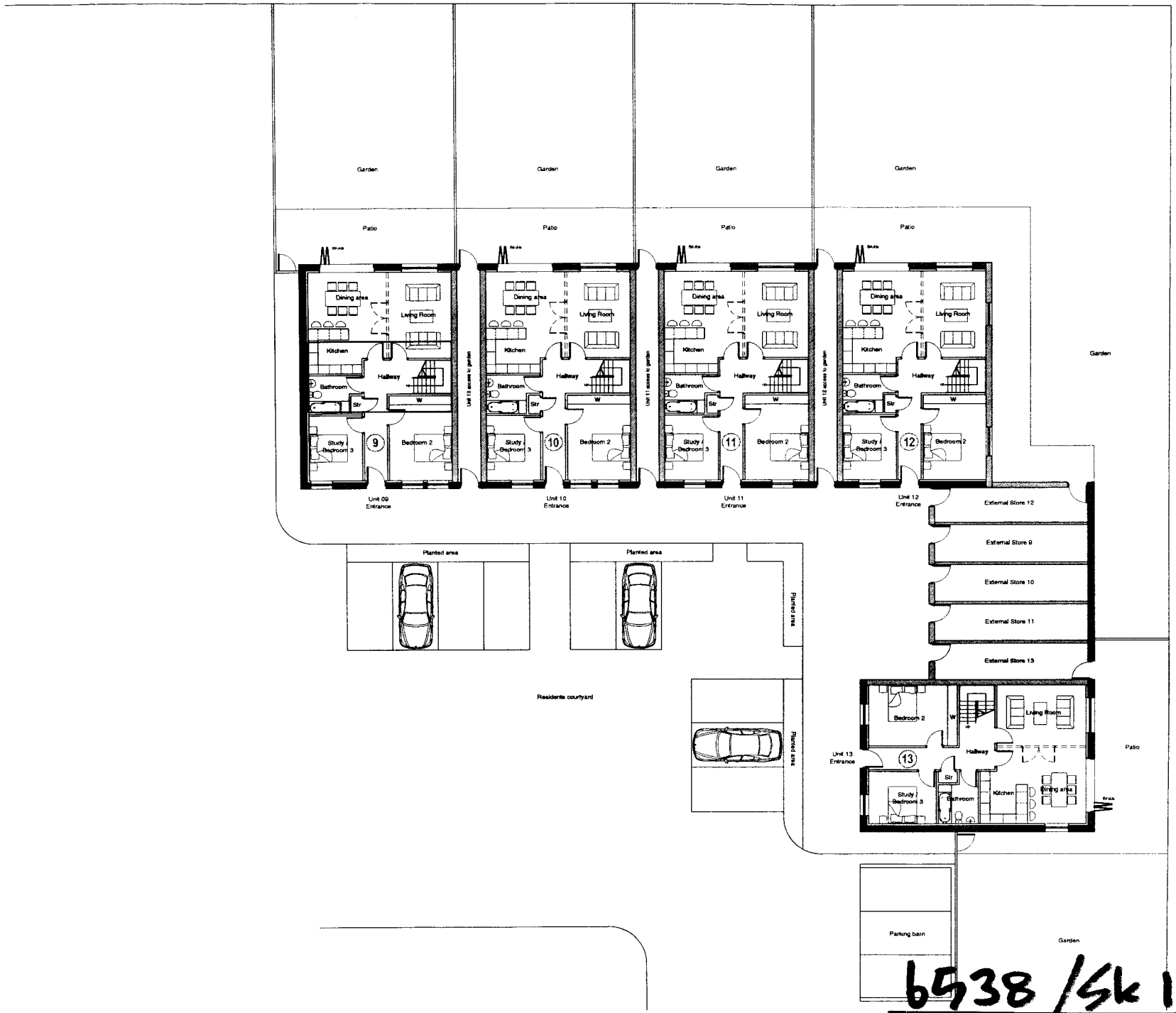
Mr S Trowbridge

Broad Oak Farm
Rossett

Residential Unit 1 - 8
Proposed Second Floor GA

AO	XX	30.05.2017
PLANNING		1:100
c3707	L14	P2

Cassidy+Ashton



6538 /Sk 11

0 10 20 30 50mm

Mr S Trowbridge

Broad Oak Farm
Rossett

Residential Unit 9-13
Proposed Ground Floor GA

AO	XX	30.05.2017
PLANNING		1:100
c3707	L17	P1

Cassidy+Ashton

6538/Sk12

0 10 20 30 50mm

Mr S Trowbridge		
Broad Oak Farm Rossett		
Residential Unit 9-13 Proposed First Floor GA		
AO	XX	30.05.2017
PLANNING		1:100
c3707	L18	P2

Cassidy+Ashton