

320110608P

**Land at Salesbury Hall
Near Ribchester**

**Proposed offices in
Barn no 5**

Flood risk assessment

NGR SD 674 357

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1.0 Introduction

New offices are proposed as part of barn 5 at the Salesbury Hall Farm complex to the north east of Ribchester. This is a second phase of office provision at the existing farm and this report covers flood risk from the Ribble and other sources.

2.0 Executive summary

The Ribble floods the area close to its banks as it flows around the two acute bends near to the hall. The current Environment Agency flood map shows the hall and the farm to be in flood zone 1 above the 1 in 1000 year risk level. The proposal is therefore safe from river flooding. Other flood risks e.g. hillside runoff can be managed and the proposal is at little risk from all forms of flooding.

3.0 Existing site

Salesbury Hall land is approx 2 km east of Ribchester. Its access is via Ribchester Road off Blackburn Road or from Chapel Lane, Old Langho. The Ribble is a large well established river with incised meanders in a flattish valley and Salesbury Hall and Salesbury Hall Farm land border the river with a land height range of 26 to 33 AOD. The farm complex is the existing buildings next to the hall.

4.0 River system and risk level data

The Ribble at Ribchester bridge has a catchment area of 1083 km². There is a gauging station 71009 at Jumbles Rocks and station data is available

The river itself between Salesbury Hall and Ribchester bridge has a pool and riffle regime with areas where the river can be crossed in thigh waders and a few much deeper areas. The deeper areas are

- a. The pool on the bend next to the hall which is reputed to be 20m or so depth and used to be used for training purposes by Lancashire CC police divers
- b. The bend next to the gravel building which has been used for gravel extraction for many years.

The EA has risk level data for the Ribble and this has been applied for to NWcentral external relations at the EA. In the past we have surveyed and modelled the Ribble ourselves and in 2007 the Agency advised us that their section 105 study model produced risk levels 1m or so higher than our model at 29.72 for a 1 in 100 year (1%) risk level at the bend nearest the farm. This correlated with their website floodplain map of 23/9/05. We attach the Agency website revised floodplain map of 13/7/11 from which it can be seen that the floodplain area is now much reduced. Risk levels from the EA 2010 study have now been received and at the hall bend are :-

1 in 100 year 29.11

1 in 100 year plus climate change 29.61

These levels have been interpolated from the EA data and the local knowledge that the river bed rises up steeply from the bend pool approx 170m below the node 39670

5.0 Proposals

Existing barn 5 is to be part converted to office accommodation. This will increase the numbers of people at the farm and there will be more parking provision however overall hard area will not increase. There will be minor revisions to hardstanding areas and the new parking bays will be gravel finish with single sized stone underlayers drained by slotted uPVC underdrains to provide surface water storage and prevent runoff peaks.

6.0 River flood risk and proposed levels.

A 1 in 100 year risk level is 29.11 and climate change is likely to increase this to 29.61. Barn 5 existing slab level is approx 31.5 and the access road outside is 30 to 32mAOD and rising as the road goes uphill to the northeast. The new office accommodation and its access road are therefore above 1 in 100 year plus climate change level and the indicative floodplain map shows the proposals and the access road as being above the 1 in 1000 year risk level. There is little risk from the Ribble.

7.0 PPS 25 matters

The proposed use as offices is classed as 'less vulnerable' in table D2 of PPS 25 and this use is 'appropriate' as per table D3.

Annex C forms of flooding for this site are:-

C4- rivers- see above

C5- sea- no tidal influence

C6- land- there is a spring shown on the hillside above the farm at the top of the slope towards the farm. Land runoff will be quite high in wet weather periods and the landowner monitors the ditch system shown on the OS plan extract and ensures that flow is able to go eastwards towards Connerie bridge. This is a riparian situation and there are no historic reports of flooded buildings which indicates that the local ditches are all adequate. The hillside to the rear slopes towards the existing barn 5 building and surface water runoff will drain downhill and flow either side of the existing barn as has occurred for many years without causing nuisance.

C7- groundwater- there is a spring uphill of barn 5, see above.

C8- sewers- there are no onsite reports of private sewer surcharge.

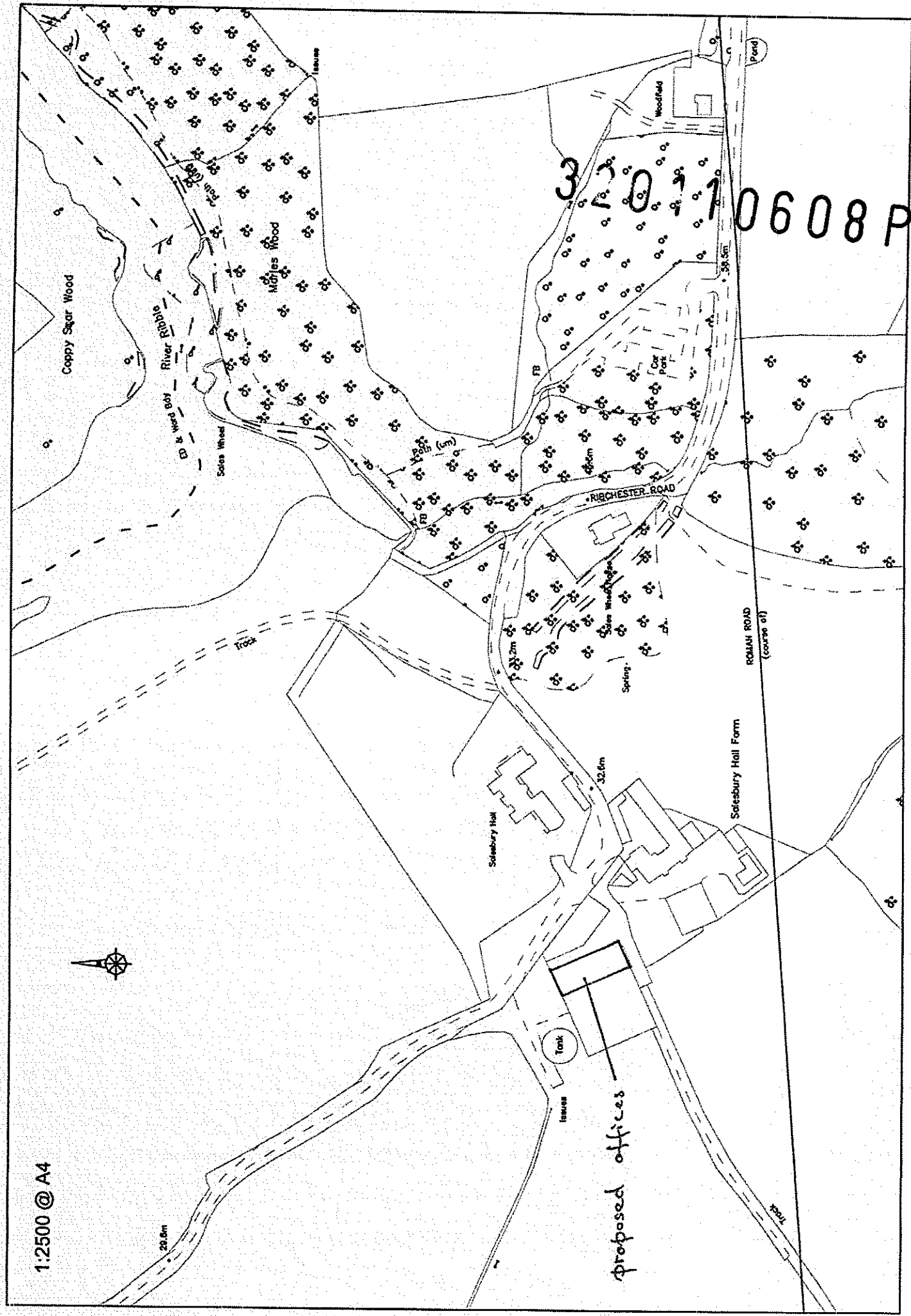
C9- reservoirs canals- none nearby.

C100- extreme urban storms- runoff from extreme events will flow downhill towards the Ribble.

8.0 Attachments

- a. Location plan
- b. EA website indicative floodplain maps dated 23/9/2005 and 13/7/2011
- c. Existing site survey- 2 no A3 sheets
- d. Sunderland Peacock proposals- 2 no A3 sheets
- e. Sunderland Peacock design and access statement
- f. EA letter of 3 Dec 2007 to Ribble Valley BC showing risk levels
- g. 20/7/11 Ribble risk level data from the EA

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Risk of Flooding from Rivers and Sea

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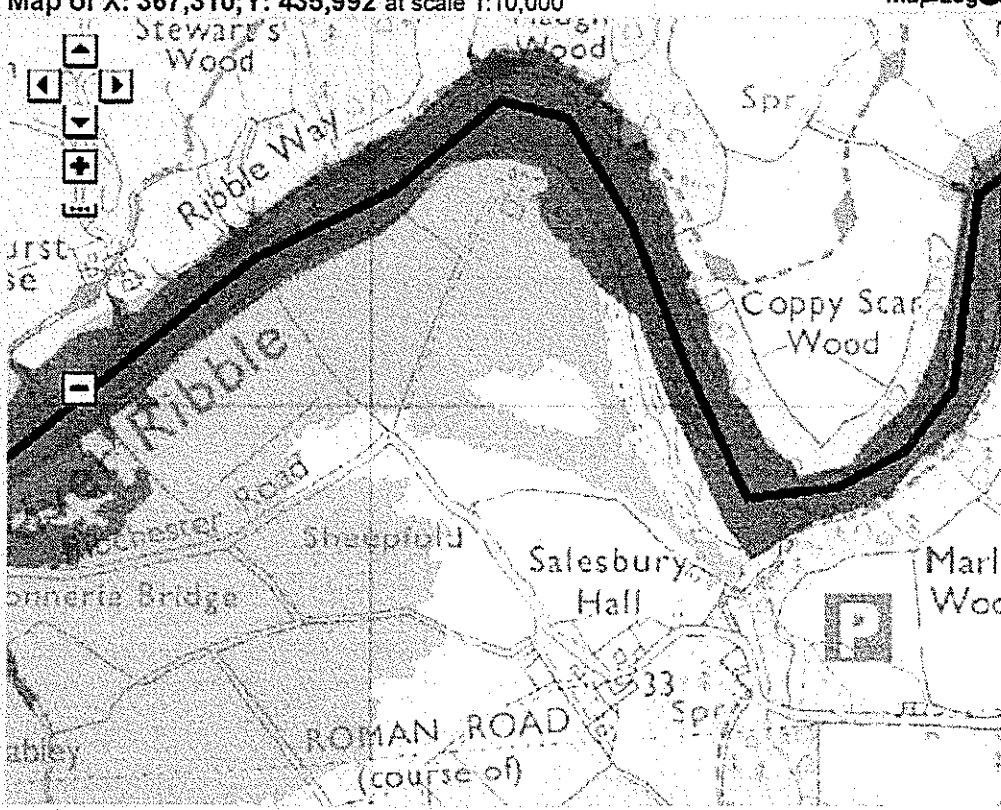
Bathing Water Quality

Groundwater

River Basin Management Plans - Rivers

River Basin Management Plans - Lakes

Map of X: 367,310;Y: 435,992 at scale 1:10,000



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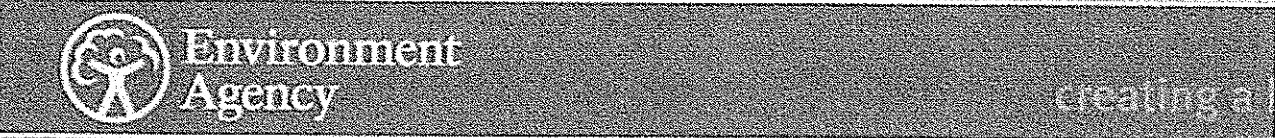
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Flood Map – Information Warnings

Manchester Ship Canal

Flood Mapping of the Manchester Ship Canal in Trafford, Salford and Warrington may be subject to a result of representations. For further information please contact the Environment Agency on 0161 275 4000. Users of the Flood Zone Map should be aware that we have received a Judicial review challenge mapping of the Manchester Ship Canal at Trafford, Salford and Warrington on the ground that the map is flawed in respect of our consideration of the role of the sluice gates in preventing flooding. We are defending the challenge and believe and are advised that it is ill-founded. Nevertheless, in the event of a determination of the challenge, users of the map need to consider whether the existence of the sluice gates on the basis of it, affects the weight they judge may be given to the zoning of the Manchester Ship Canal on the Flood Map.

b2



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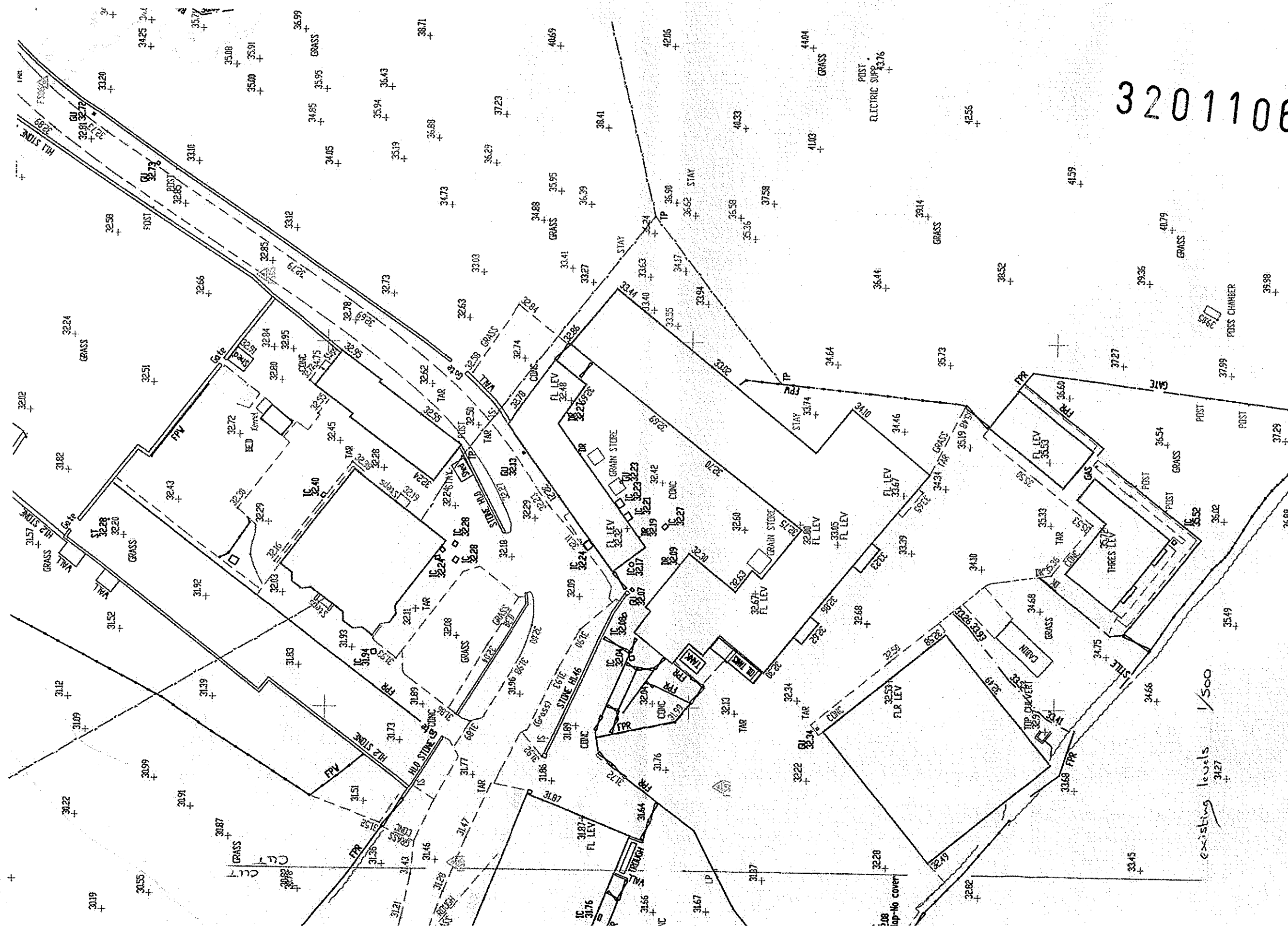
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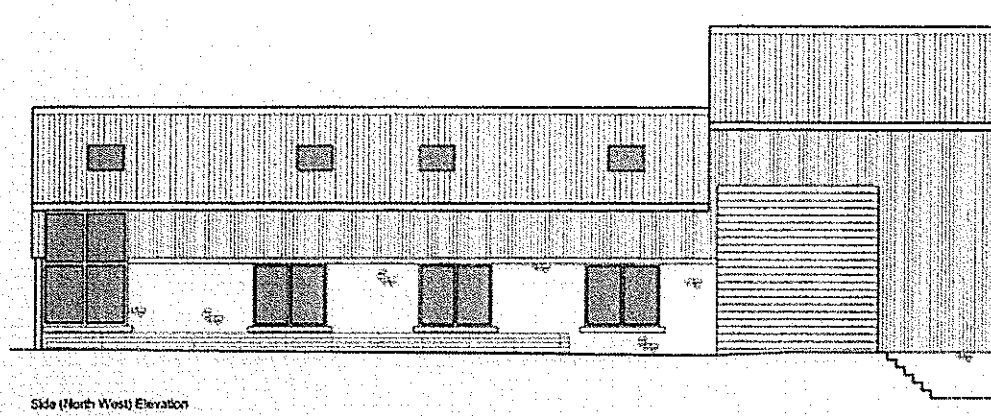
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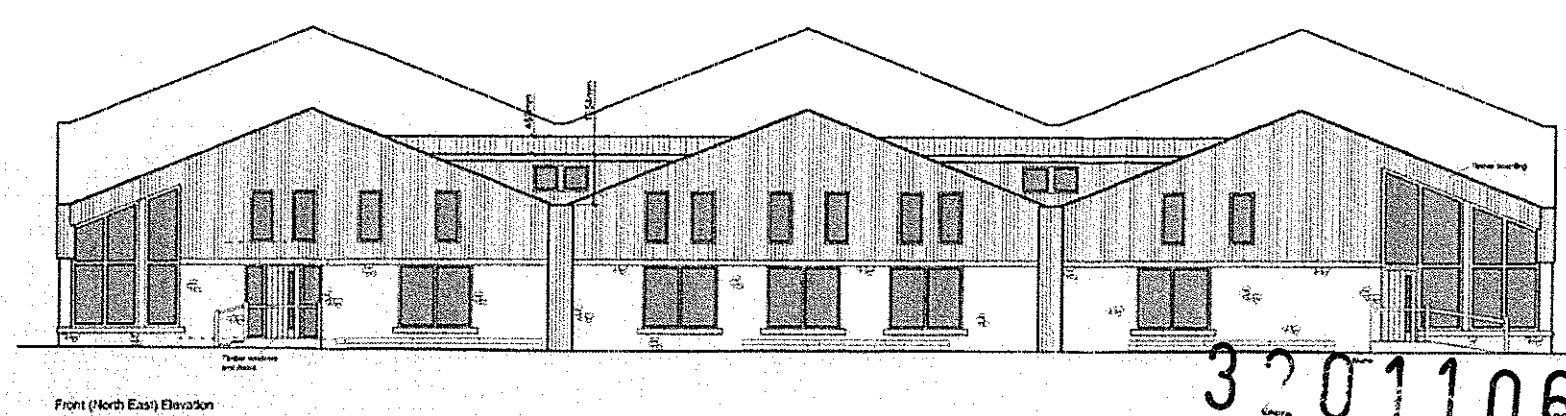
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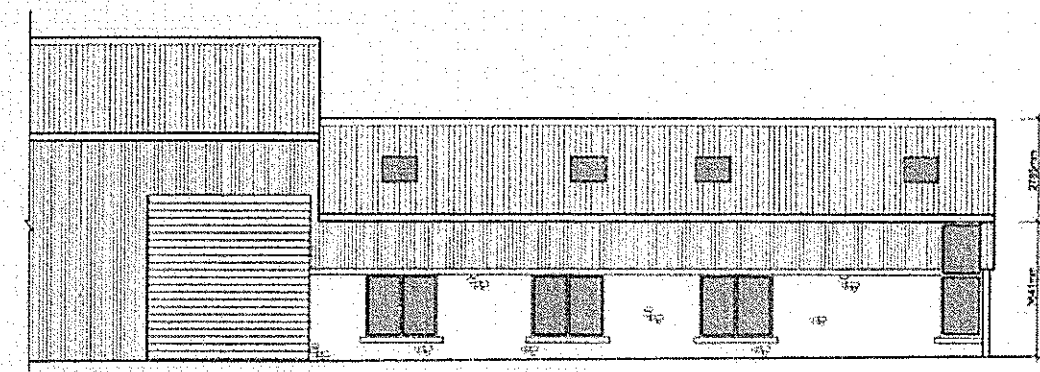




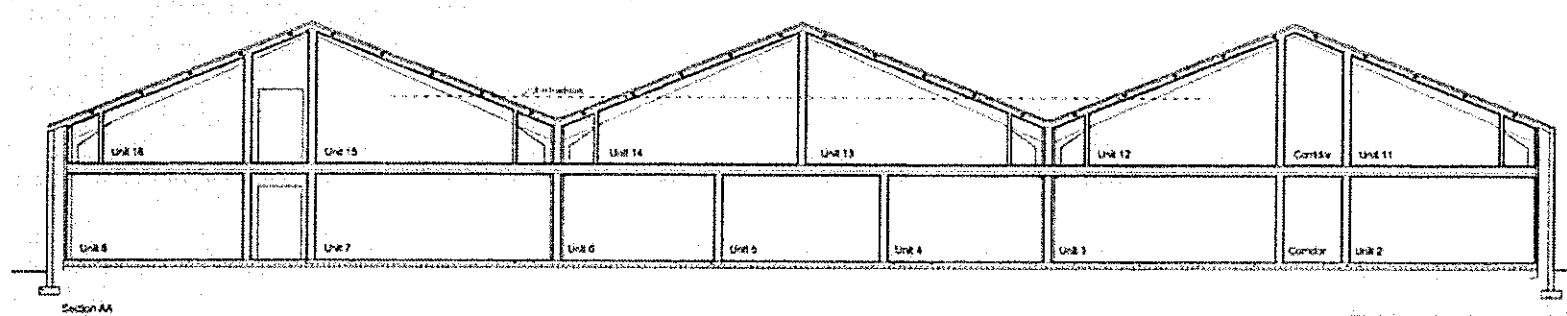
Side (North West) Elevation



Front (North East) Elevation



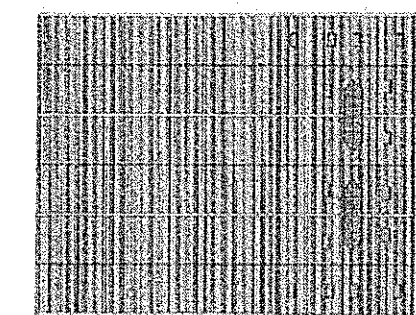
Side (South East) Elevation



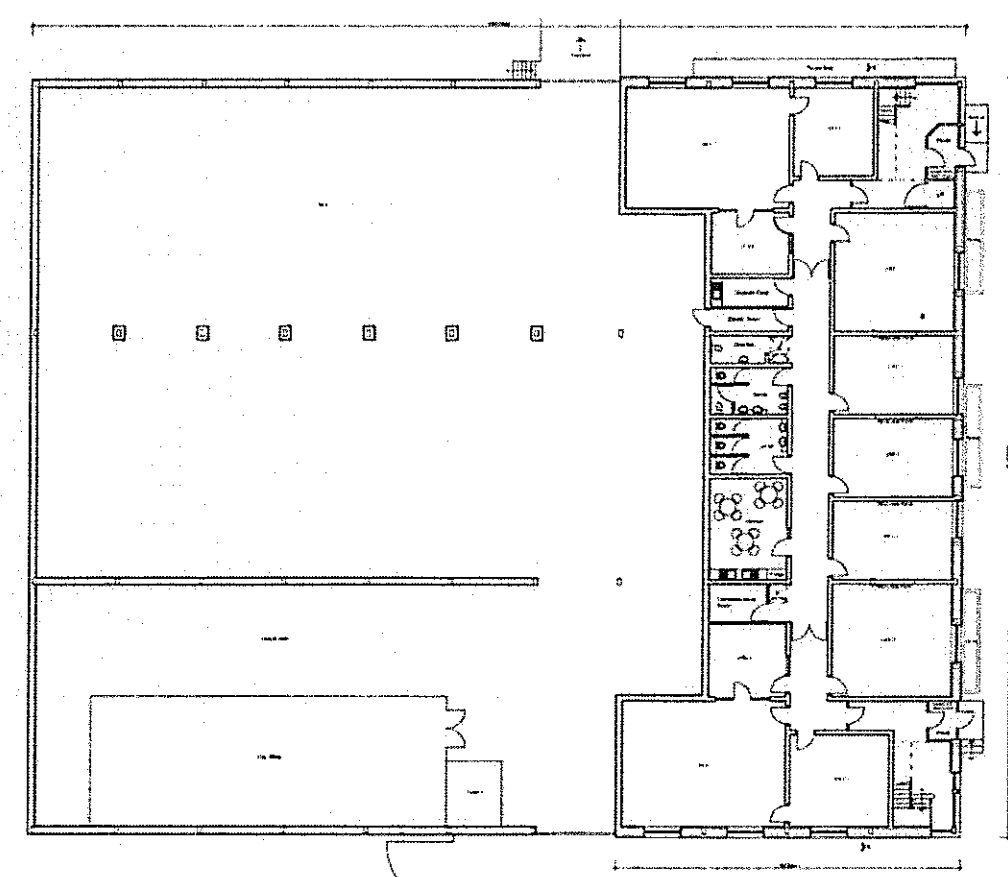
Section AA

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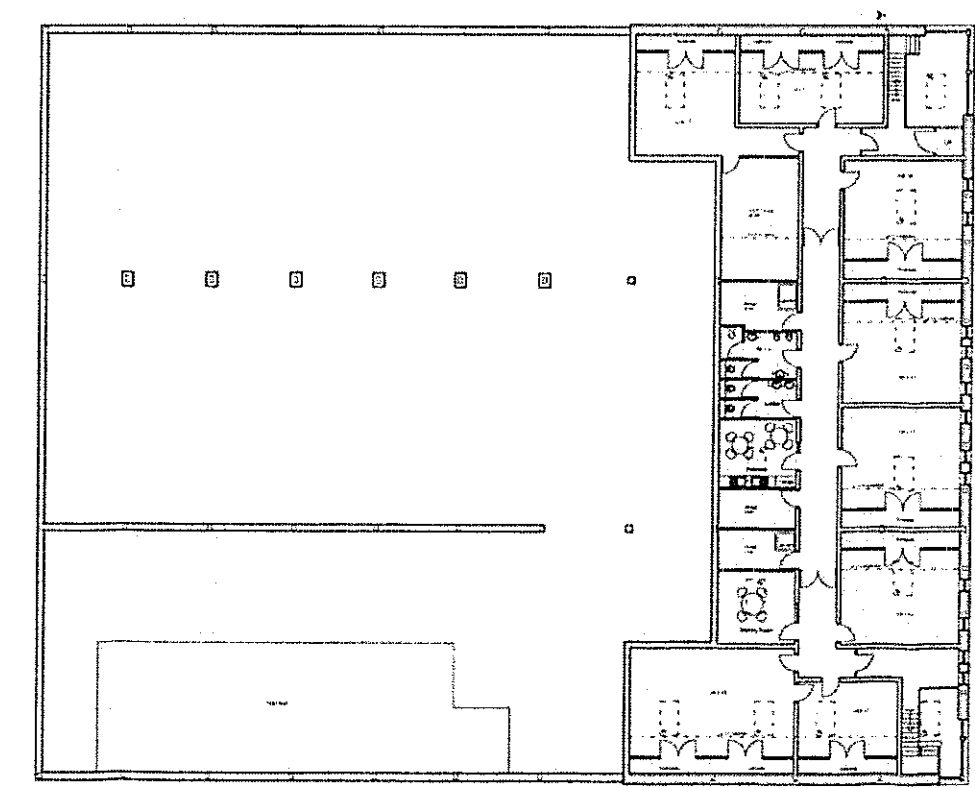
Accommodation Schedule		
Unit 1	78.1m ²	840ft ²
Unit 2	26.7m ²	287ft ²
Unit 3	39.5m ²	425ft ²
Unit 4	27.6m ²	297ft ²
Unit 5	27.6m ²	297ft ²
Unit 6	27.6m ²	297ft ²
Unit 7	41.9m ²	451ft ²
Unit 8	20.6m ²	221ft ²
Unit 9	73.1m ²	786ft ²
Unit 10	52.4m ²	564ft ²
Unit 11	21.8m ²	234ft ²
Unit 12	33m ²	355ft ²
Unit 13	35.6m ²	383ft ²
Unit 14	35.6m ²	383ft ²
Unit 15	34.8m ²	374ft ²
Unit 16	30.2m ²	325ft ²
Unit 17	64.2m ²	691ft ²
Total	670.3m ²	7215ft ²



Roof Plan 1:500



Ground Floor Plan

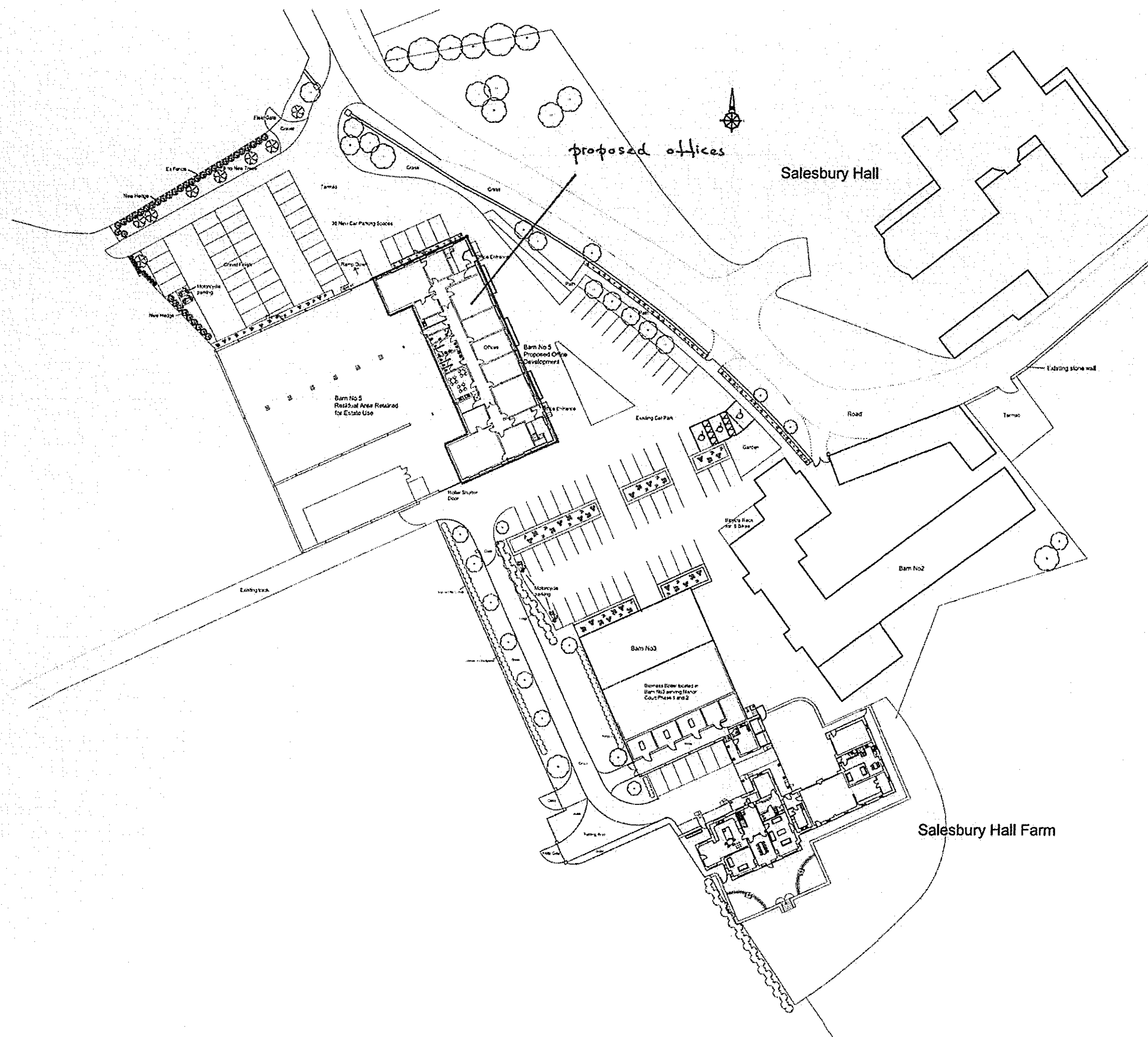


First Floor Plan

REV H - Unit 17 altered as requested by client. 09/05/11 LFG
REV G - Units 1, 2, 9, 11, 13 and 14, section, elevation and accommodation schedule altered as requested by client. 27/05/11 LFG
REV F - Unit numbers altered, 26/05/11 LFG

REV E - Plans and accommodation schedule amended as requested by client, 26/05/11 LFG
REV D - Window openings altered to accommodate retaining the wind braces. North East elevation altered to match. Roof plan added. 18/05/11 LFG
REV C - Plan, section and elevations altered as requested by client, 09/05/11 LFG
REV B - Plan altered, 17/03/11 LFG
REV A - Altered as requested by client. 15/03/11 LFG

Client		
Mr C Mustoe		
Job Title		
Proposed Development of Barn at Salisbury Hall Farm Salisbury Hall Road Ribchester PR3 3XU		
Drawing Title		
Proposed Plans and Elevations		
Scale	Date	Drawn
1:200/1:100	11 Feb 2011	LFG
SUNDERLAND PEACOCK ARCHITECTS		
3955 - 12 H		



- REV G** - Motorcycle and Bicycle parking added.
17/06/11 LFG
- REV F** - Office layout amended as requested by client.
13/06/11 LFG
- REV E** - Boundary between field and new car parking
area to North of the site amended. 11/05/11 LFG
- REV D** - Office plan and car parking layout altered.
09/05/11 LFG
- REV C** - Plan altered, 17/03/11 LFG
- REV B** - Office layout added to Barn No 5, 16/03/11 LFG
- REV A** - Barn 3 and Salesbury Hall Farm added.
10/03/11 LFG

Client	Mr C Mustoe
Job Title	Proposed Development of Barn at Salesbury Hall Farm Salesbury Hall Road Ribechester PR3 3XU

Drawing Title
Proposed Site Plan

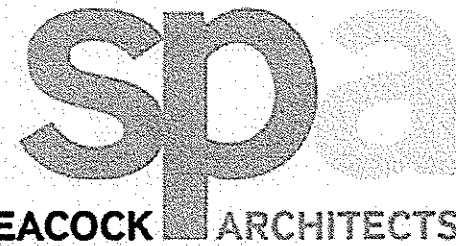
Scale	Date	Drawn
1:500 @ A2	Feb 2011	LFG

spa
SUNDERLAND PEACOCK ARCHITECTS

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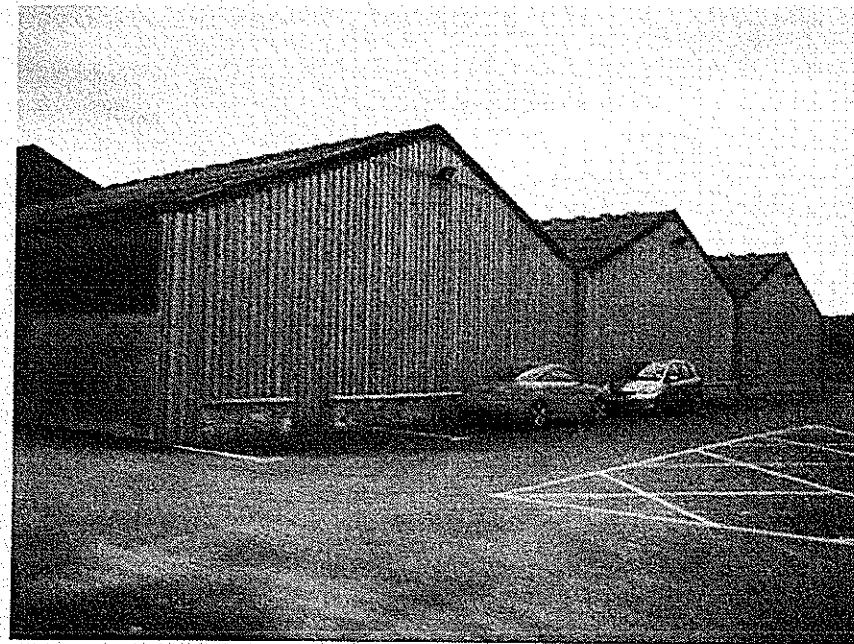


SUNDERLAND PEACOCK ARCHITECTS

PROPOSED OFFICE DEVELOPMENT
AT MANOR COURT
RIBCHESTER

Design and Access Statement

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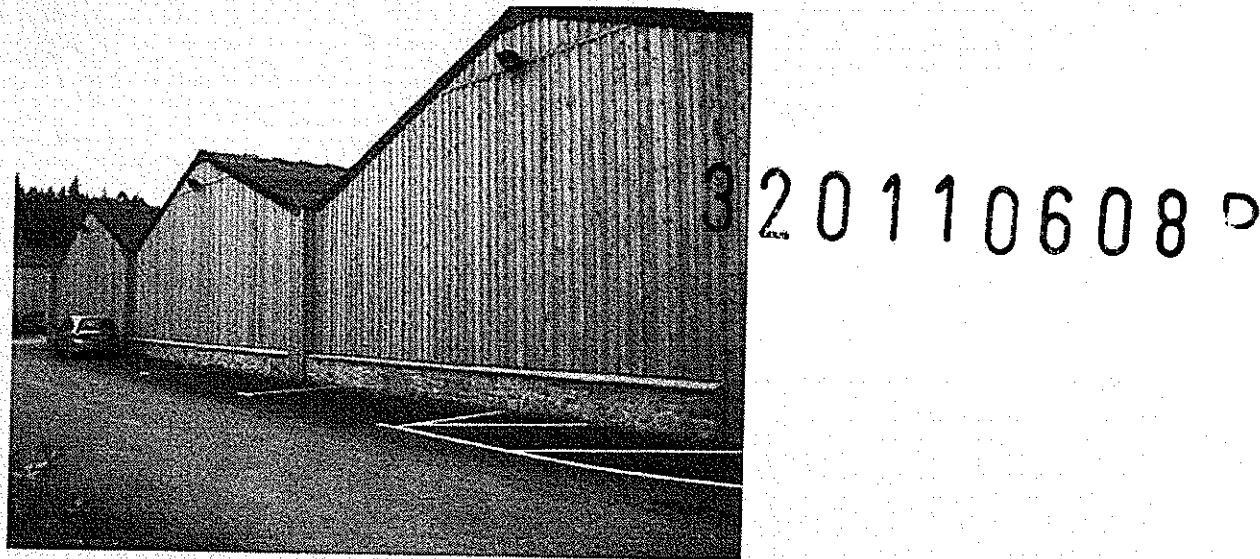
June 2011

DEVELOPMENT

The proposed development is to convert part of an existing agricultural building, Barn No 5, into 17 office units. The barn is currently used for storage by the client. The offices will be located in the north eastern end of the barn and the remainder of the barn will continue to be used for storage by the client.

USE

The development of part of the barn will create 17 office units. These office units, although varying in size have been designed as small, starter units for businesses. The decision to convert the barn into office units was influenced by the development of Manor Court Phase 1, demand for these units has been strong and all of the units have been let. The proven success of Manor Court Phase 1, helps justify the proposed conversion to provide a further 17 units, as there is obviously demand for this type of office unit within the area.



Barn No 5 – North East elevation where the office entrances will be located.

AMOUNT

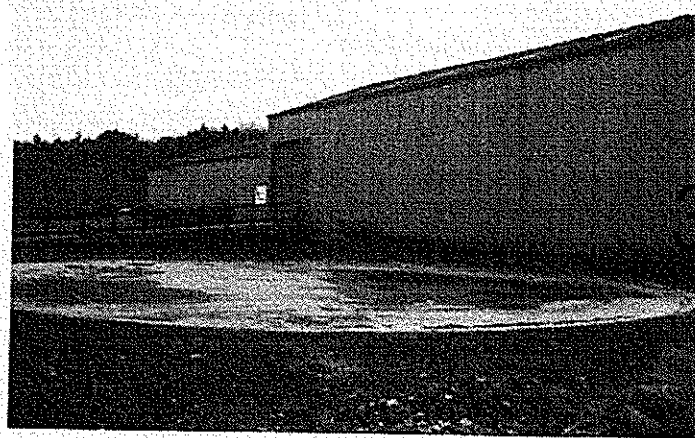
The conversion will provide 670m² of lettable office space, in 17 units. This amount of development ensures that there will be adequate parking for all of the employees, along with sufficient provision for visitors and the ambulant disabled within the existing site boundaries. The proposed amount of conversion will ensure the site is not overdeveloped, it will still retain its rural feel, but the size of the development is still economically viable for the client.

LAYOUT

The proposed layout of the office conversion has been determined primarily by the location of the existing building. The north eastern end of the barn is

closest to the existing office development, therefore locating the office units and entrances at that end of the barn seemed logical. It also meant the remainder of the barn, which is closer to the house at Salesbury Hall Farm, could continue to be used as storage by the client.

The proposed new car parking area, on the base of the former slurry tower, is close to the office entrance and converting this area into 36 car parking spaces will ensure there is adequate parking provision for the site. Provision has also been made for two motorcycle spaces for Phase 2 and 2 motorcycle spaces for Phase 1, together with a cycle rack for 6 bicycles.



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Photograph showing the base of the former slurry tower to the North of Barn 5, the extra car parking will be located here.

SCALE OF EXTENSION

The scale of the proposed conversion has been determined largely by the size of the existing building. Only part of the barn is to be converted, this will ensure the site is not overdeveloped.

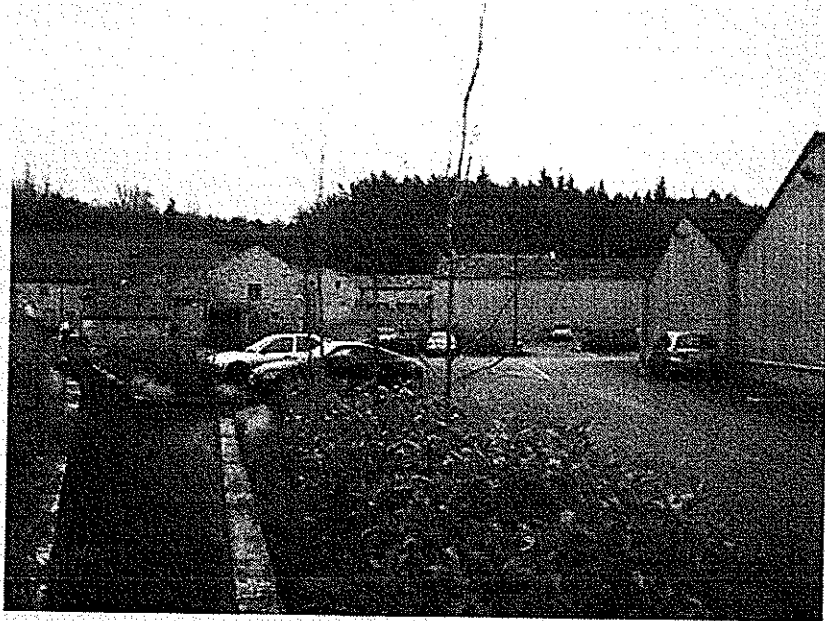
LANDSCAPING

The landscaping materials for the second phase of development at Manor Court will match the plants and materials used in the first phase, such as Lancashire hedgerows and English hardwood trees. The access roads will be tarmac and the car parking spaces gravelled.

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These two photographs show the existing landscaping and materials used in the conversion during Manor Court phase one, the proposed conversion will use matching materials.



APPEARANCE

The barn will be clad up to first floor level in random rubble stone to match the existing office units, above this will be sawn vertical timber boarding, to match the existing timber boarding on site. The existing concrete roof will be removed and replaced with profiled metal sheeting. The materials proposed will ensure the conversion will match the existing buildings, blending in seamlessly with its surroundings.

ACCESS

Access to the site will be through the existing entrance serving the site, off Salesbury Hall Road. The location of the proposed entrances into the building, in the north eastern end of the barn, will ensure that access to the converted barn will be fully inclusive for the ambulant disabled. There is car parking provision for the ambulant disabled within the existing car parking areas, if extra disabled car parking spaces are required these will be accommodated within the existing car parking to ensure a level approach for the disabled. Internally a lift is being fitted enabling access to all areas.

SUSTAINABLE DEVELOPMENT

The development has been designed, and will be built to achieve high codes of thermal efficiency. Furthermore, it is intended that a Biomass boiler will be installed within retained Barn No3 to serve the adjacent new house, plus Phase 1 and Phase 2, making the scheme extremely energy efficient.

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Ribble Valley Borough Council
Development Control
Council Offices Church Walk
Clitheroe
Lancashire
BB7 2RA

Our ref: CE/2007/101044/01-L01
Your ref: 3/2007/1048
Date: 03 December 2007

320110608P

Dear Sir/Madam

**CONVERSION OF EXISTING FARM BUILDINGS FOR EMPLOYMENT
PURPOSES (INCLUDING VARIOUS SITE WORKS AND IMPROVED ACCESS);
REBUILD EXISTING FARMHOUSE
SALESBURY HALL FARM, SALESBURY, RIBCHESTER**

Thank you for referring the above application which was received on 16 November 2007.

We **OBJECT** to the proposed development as submitted on the following grounds:-

The flood risk assessment (FRA) submitted with this application does not adequately consider the flood risk. The applicant has therefore failed to demonstrate that the flood risks resulting from this development can be safely managed.

The modelled flood levels identified within the FRA undertaken by Michael Lambert Associates (MLA) are incorrect. Based on our Section 105 model (S105) of the Ribble catchment, the predicted flood level at Salesbury Hall is more than 1 metre higher than the level identified within the FRA, while at the gravel building they are around 0.4 metres higher. The predicted levels based on our S105 survey are as follows:-

Location	S105 Q100 (m)	FRA Q100 (m)	S105 climate change (m)	FRA climate change (m)
Salesbury Hall	29.72	28.61	30.34	29.3
Gravel building	28.77	28.37	29.38	29

While our S105 model was done almost 10 years ago and was based on older hydrology methods and techniques, the differences between our predicted flood levels and the predicted flood levels within the FRA would not be expected to be so great. The differences may be exacerbated by the fact that the flows proposed in the

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Cont/d.

FRA are unacceptable, it contains very little information on the hydrology and what is there appears to be incorrect.

A data transfer from flow gauges on the River Ribble does not seem to have been considered, and where the FRA has looked at a gauging station (Jumbles Rock), it has been used as a direct comparison for flows, even though it is 4km upstream of the site. Also, the data used for Jumbles Rock is incorrect (POT rather than AMAX) - if the correct data was used, the proposed flows within the FRA would certainly increase. So, although our S105 flows and levels may be slightly over-predicting, they are more realistic than MLA's proposed values.

To overcome our objection, the FRA must be amended such that either:

- a) the S105 modelled levels identified above are accepted and used within a revised FRA; or
- b) the hydrology is revised and re-run in the model used to produce the FRA, or the Section 105 model is purchased from us and the new hydrology run through it.

If the applicant decided to choose option b), we will need a full detailed record of the hydrological method and a copy of his model before we can comment on the revised FRA

If your Council is minded to approve this application, despite our objection, we would draw your attention to paragraph 26 of PPS25 and allow us to make further representations.

Please send me a copy of the decision notice.

A copy of this letter has been sent to the applicant/agent.

Yours faithfully

320110608P

Philip Carter
Planning Liaison Officer

Direct dial 01772 714219
Direct fax 01772 697032
Direct e-mail philip.carter@environment-agency.gov.uk

cc JWPC Ltd

End

National Grid
Reference:
SD 67500 36000



North West Region - North Area

Lutra House, Dodd Way, Off Seedlee Road,
Walton Summit, Bamber Bridge, Preston, PR5 8BX.

Tel: 03708 506 506 www.environment-agency.gov.uk

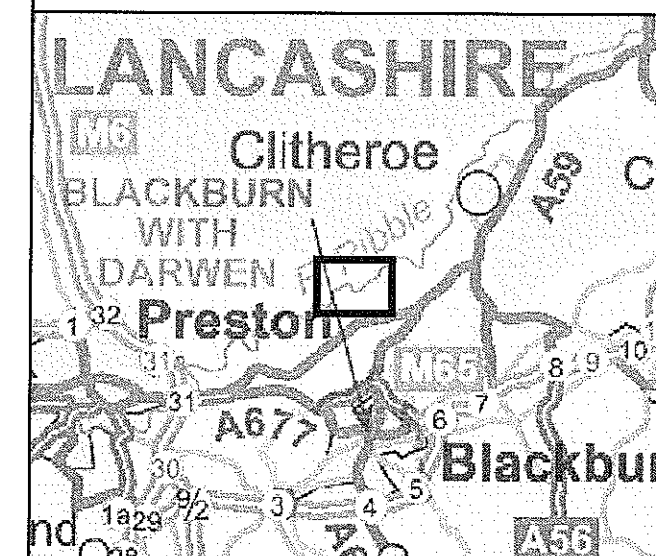
Produced by
Flood Risk Management

Map produced on:
19th July 2011

Node Point Locations

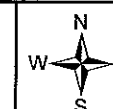
 Main River Flood Map Defences
Historic Flooding Flood Zone 3 Flood Zone 2

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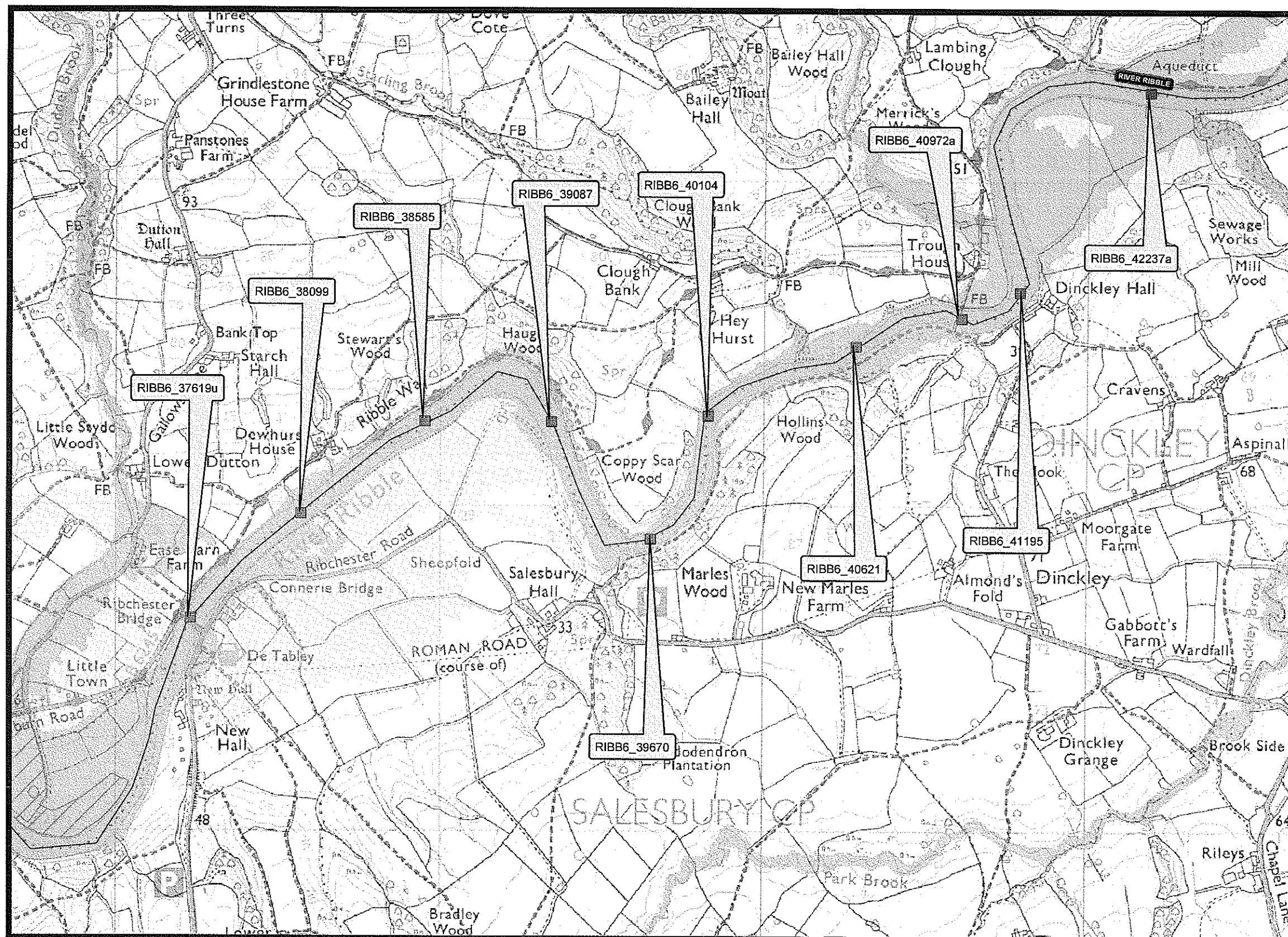


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A scale bar labeled "Meters" with markings at 0, 100, 200, and 400. The bar is divided into segments of 100 meters each, with smaller tick marks every 20 meters.



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- from the sea by a flood that has a 0.5% (1 in 200) chance or greater of happening each year

- or from a river by a flood that has a 1% (1 in 100) chance or greater of happening each year.

Flood Zone 2: Shows the additional extent of an extreme flood from rivers or the sea, if there were no defences. These outlying areas are likely to be affected by a major flood, that has up to a 0.1% (1 in 1000) chance of occurring each year.

Historic Flooding:

Historic Flooding:
No relevant historic flooding could be found

Other Information:

Levels (mAOD) and Flows (m³/s) at node points from Ribble/Douglas SFRM (2010)
See Table 01 for levels and flows at node points.

See Table 01 for levels and flows at node points.

Node	River Ribble dominant event (2 year event on Douglas and MHWS Tidal Event); Undefended Flows (m³/s) and Levels (mAOD)																	
	Q5		Q10		Q25		Q50		Q75		Q100		Q100+CC		Q200		Q1000	
	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level
RIBB6_42237a	728.89	33.27	827.36	33.63	966.46	34.10	1083.89	34.43	1162.87	34.65	1213.64	34.80	1456.22	35.32	1360.49	35.11	1774.54	35.88
RIBB6_41195	728.76	31.63	827.10	31.94	965.93	32.38	1082.93	32.70	1167.25	33.25	1212.03	33.42	1454.28	34.06	1358.78	33.81	1773.08	34.75
RIBB6_40972a	728.74	31.55	827.07	31.86	965.88	32.27	1082.83	32.59	1154.92	33.17	1211.91	33.35	1454.14	34.00	1358.68	33.75	1773.00	34.70
RIBB6_40621	728.69	30.91	827.01	31.28	965.78	31.77	1082.68	32.15	1154.69	32.37	1211.74	32.54	1453.93	33.19	1358.53	32.94	1772.85	33.88
RIBB6_40104	728.68	30.14	827.01	30.47	965.71	30.91	1082.58	31.23	1167.93	31.43	1211.63	31.57	1453.80	32.12	1358.41	31.91	1772.64	32.81
RIBB6_39670	728.66	28.23	826.99	28.55	965.69	28.96	1082.56	29.26	1154.53	29.45	1211.61	29.58	1453.76	30.13	1358.38	29.92	1772.61	30.78
RIBB6_39087	728.59	27.28	826.87	27.65	965.62	28.13	1082.49	28.44	1171.23	28.62	1211.31	28.76	1447.71	29.26	1355.52	29.07	1742.58	29.80
RIBB6_38585	728.49	26.94	826.71	27.29	965.50	27.71	1082.35	28.02	1154.19	28.20	1211.38	28.33	1453.46	28.80	1357.90	28.63	1751.76	29.30
RIBB6_38099	728.38	26.47	826.52	26.80	965.36	27.22	1082.10	27.53	1153.21	27.72	1209.29	27.86	1420.37	28.37	1342.99	28.17	1636.09	28.98
RIBB6_37619u	728.30	26.15	826.37	26.45	965.21	26.81	1082.03	27.07	1153.68	27.21	1208.89	27.32	1398.31	27.80	1328.57	27.61	1593.54	28.39

Data from Ribble/Douglas SFRM Study (2010)

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