Amendments

- [x] Amended layout of buildings/outside areas
- [ ] Additional background information
- [x] Amended design
- [ ] Revised access arrangements
- [x] Change of description of proposed development
- [ ] Change in site boundaries
- [x] Other (as specified below) Updated Renewable energy info.

Mrs. A. Teasdale, Senior Planning Officer
North York Moors National Park
The Old Vicarage
Bondgate
Helmsley
YORK
YO62 5BP

TRH/LSD/L10152-14
30th July 2012

Dear Ailsa,

Conversion of Barns to form 1 Local Occupancy Dwelling and 3 Holiday Letting Cottages at The Granary, Bannial Flat Farm, Guisborough Road, Whitby
Application ref: NYM/2012/0285/FL

Following receipt of your letter, dated 3rd July, on 5th July 2012 and various correspondence and discussions we enclose copies of the revised drawings along with the following information:-

1. Legal Issues, Section 106 Agreement
The applicants agree to enter into a Section 106 Agreement to restrict the three cottages to holiday use and the single dwelling to Local Occupancy use.
Plus The Granary, owned by the applicants, to be restricted to holiday use after completion of the build of the permanent dwelling and all subject to checking by their solicitor.

The applicants agree to the Section 106 Agreement being prepared by the NYCC Solicitor and forwarded to the applicants Solicitor for checking.

The applicants solicitor is Mr. F. V. Richardson, Thorpe & Co. Solicitors,
3 Bagdale, Whitby YO21 1QL

2. Public Rights of Way
The applicants have arranged a meeting with Emma Ashton-Wickett, Public Rights of Way Officer in order to agree the most appropriate way of resolving the matter.

3. Parking
The applicants have a legal agreement with the owner of the farm to allow cars and vehicles turning in the driveway to the farm.

The applicants propose to retain parking for The Granary and the single dwelling at the rear in the courtyard, whilst parking for the cottages will be to the South West adjacent to the storage shed.

Revised site layout plans are enclosed.

4. Storage Shed
The proposed storage shed is proposed as being 12meters long x 7meters wide to house the refuse bins, logs and fuel, lawnmowers and gardening equipment plus bikes etc.

The shed will replace an Old Dutch barn damaged by gales and bad weather.

It is to be constructed of timber boarding with a grey steel sheeted roof in the form of an agricultural shed.

The scaffolding in the steel containers will be moved back into the existing buildings until alternate accommodation can be found. The steel containers will then be removed.

5. Oil Tanks/Storage
These have been removed as the applicants propose to install electric central heating and water heating plus small log burning stoves.
This will assist in terms of "renewables".

6. Scheme Layout
The revised drawings show the following:

a) A significant reduction in new window openings, which refer mainly to the holiday cottages.

b) The rooflights to the rear of the cottages have been removed as requested.

c) The finish of the windows and doors will be dark oak or black and set in deep reveals of 100mm.

d) An elevational drawing is enclosed to show the windows and doors behind shutters.

7. 10% Renewables Requirement
The clients have submitted new calculations as requested.
The ridge blade products were contacted as advised but no technical advice was forthcoming. However this remains the preferred choice and it offers the best visual solution in our opinion.

Solar panels are shown as two options:

a) A full row along the front South West elevation of the barns.
OR
b) A full roof along the front South East elevation of the shed.

8. Environmental Health Officer Comments
The comments regarding the open kitchens and means of escape in the holiday cottages would normally be dealt with under building Regulations.

We would propose to install a sprinkler system to resolve the concerns. However at this stage we have altered the design to enclose the kitchen which will also resolve the matter.

9. Bat Report
The Emergence Survey report prepared by MAB (second report) has been forwarded.

We trust that this will be of assistance and allow the application to progress.

Yours sincerely,

Tim Harrison

2012/0285

Wendy Strangeway

From: Ailsa Teasdale
Sent: 18 July 2012 15:40
To: Planning
Subject: FW: Bannial Flats Farm Barn Conversion (E10152-08)
Attachments: Renewable Energy v2.pdf

Mrs Ailsa Teasdale
Senior Planning Officer

North York Moors National Park Authority
The Old Vicarage, Bondgate, Helmsley, York YO62 5BP

Tel: 01439 772700
www.northyorkmoors.org.uk

For planning application post or general enquiries please respond to : **planning@northyorkmoors.org.uk** to allow your email to be logged and acknowledged without any delay.

From: Tim Harrisor
Sent: 17 July 2012 15:24
To: Ailsa Teasdale
Subject: FW: Bannial Flats Farm Barn Conversion (E10152-08)

Hi Ailsa ,

Please find attached the reworked figures for 10% renewable energy now including The Granary and the proposed shed as prepared by the applicants.

Option 1: Single row of solar panels on pan tile roof
Option 2: Proposed shed covered in solar panels
Option 3: Ridge Blade on Pantile roof
Option 4: Ridge Blade on proposed shed, doesn't make enough energy.

The detailed plans and response are being prepared and will be sent on in the next few days.

Many thanks,
Regards,
Tim

BHD Partnership, Airy Hill Manor, Whitby , North Yorkshire , YO21 1QB

Renewable Source of Energy

Figures used for Calculations of 10% Requirements using Appendix's of Renewable Energy Supplementary Planning Document

Renewable Energy Technology	Renewable Energy Contribution (kWh/yr)	CO2 saving (kgCO2/yr)
Ridge Blade Turbine (testing 10 modules)	3200	1350
Solar Water Heaters (4msq)	1200	230
Photovoltaic (2kWp/15m sq)	1600	680

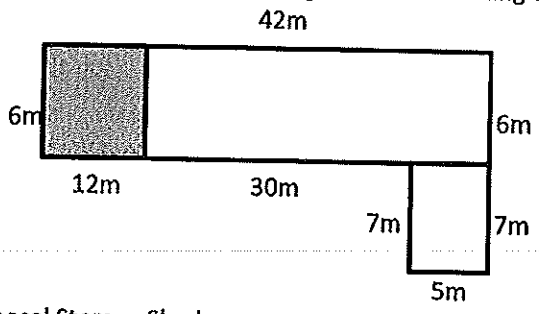
Energy Benchmarks used in calculations from Appendix 3 –

1 end terrace residential =	41.9 (kgCO2/m2/yr)
1 end terrace holiday use only (41.9 -15%) =	35.6 (kgCO2/m2/yr)
3 mid terrace holiday use only (39.7 x 3 -15%) =	101.2 (kgCO2/m2/yr)

(Holiday use only I have reduced usage by 15% for time empty in the year)

Existing Barn Size

Ridge Length = 37m Whole Roof Length = 42m excluding the offshoot.

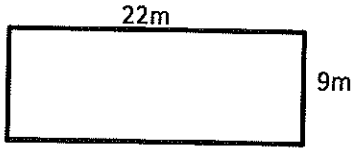


Ground Floor = 215m sq
1st Floor = 180m sq
Addition of The Granary = 72m sq
The Granary 1st Floor = 72m sq

Area Calculation approx. = 540m sq

New Proposal Storage Shed

Ridge Length = 22m.
(75ftx30ft rounded)



Area excluding roof pitch which will Increase overall size. = 198m sq

Summary

Option 1: A single row of solar panels on the pan tile roof.	12.7%	Pass
Option 2: Proposed shed roof covered in solar panels.	67.9%	Pass
Option 3: Ridgeblade turbine on top of pan tile roof.	14.1%	Pass
Option 4: Ridgeblade turbine on top of proposed shed roof.	8.2%	Fail

10% Energy required: 3624 (kgCO2/Yr)

APPENDIX 3 ENERGY BENCHMARKS

The table below sets out the benchmark CO_2 emissions for different types of building.

The energy requirements for housing are based upon data on energy requirements for different house types contained in Meeting the Ten Percent Target for Renewable Energy in Housing – A Guide for Developers and Planners[15] (page 17). This provides information on the energy use and the corresponding CO_2 emissions.

The energy requirements for all other uses are taken from the gas and electricity benchmarks for different uses contained in Integrating Renewable Energy into New Developments: Toolkit for Planners, Developers and Consultants[16] (pages 107 - 109). Standard conversion factors[17] (0.422 for electricity, 0.194 for gas and 0.265 for oil) have been used to convert energy requirements to CO2 emissions.

Building Type	Using Gas and Electricity - CO_2 Emissions per m^2 ($kgCO_2/m^2/yr$)	Using Oil and Electricity - CO_2 Emissions per m^2 ($kgCO_2/m^2/yr$)[18]
Top floor flat	35.0	45.3
Mid- terraced house	30.9	39.7
End-terraced house	32.5	41.9
Semi-detached house	32.1	41.2
Detached house	32.5	41.6
Care homes / sheltered housing	90.1	117.1
Post Offices	46.2	56.1
Post Offices (all electric)	34.4	33.8
Banks and Building Societies	43.5	48.1
Banks and Building Societies (all electric)	43.0	42.2
Small hotel	80.5	97.4
Business / holiday hotel	84.3	102.7
Luxury hotel	96.3	117.5
General manufacturing	71.2	87.1
Light manufacturing	52.1	64.5
Primary school	34.9	44.7
Restaurant with bar	490.7	565.8
Book stores (all electric)	90.3	88.6
Butchers (all electric)	204.3	200.5
Clothes shops	113.1	116.0

[15] 'Meeting the Ten Percent Target for Renewable Energy in Housing – A Guide for Developers and Planners' (Energy Saving Trust, 2006)
[16] 'Integrating Renewable Energy into New Developments: Toolkit for Planners, Developers and Consultants' (London Energy Partnership, 2004)
[17] The Government's Standard Assessment Procedure for Energy Rating of Dwellings – 2005 Edition, Revision 1 (BRE on behalf of DEFRA, 2008) (see page 142, Table 12)
[18] There are no benchmark figures available referring directly to use of oil and therefore the CO_2 conversion factor for oil has been applied to the kWh of gas use figures in the London Renewables Toolkit, as the kWh used would be the same for either gas or oil. The benchmarks for housing have been taken from the Energy Saving Trust guidance which calculates cooking within gas use and therefore for oil this has had to be calculated as electricity.

Solar = orginal location - Barn Roof single row

APPENDIX 4 CALCULATING THE 10% REQUIREMENT

See Section 7 for detailed guidance on how to undertake the calculations.

Stage 1. Work out the annual CO_2 emissions of the buildings

Complete either calculations 1, 2, 3 or 4

1. Calculations where there is no Standard Assessment Procedure or Simplified Building Energy Model data

Where there is more than one type of building you will need to undertake this calculation separately for each building type.

Building type 1: House

Annual benchmark CO_2 emissions per m^2 (a)	41.9	$kgCO_2/yr$
x floor area (b)	150	m^2
= annual CO_2 emissions (c)	6285	$kgCO_2/yr$

end terrace

Building type 2: The Granary

Annual benchmark CO_2 emissions per m^2 (a)	35.6	$kgCO_2/yr$
x floor area (b)	145	m^2
= annual CO_2 emissions (c)	5162	$kgCO_2/yr$

end terrace - 15%.

Building type 3: 3 Holcott

Annual benchmark CO_2 emissions per m^2 (a)	101.2	$kgCO_2/yr$
x floor area (b)	245	m^2
= annual CO_2 emissions (c)	24794	$kgCO_2/yr$

mid terrace x3 - 15%.

Total CO_2 emissions (c) + (c) + (c) = (d) 36241 $kgCO_2/yr$

Solar 1.

OR

2. Annual CO_2 emissions from SAP assessment

CO_2 emissions (d) kgCO_2/yr

OR

3. Annual CO_2 emissions from SBEM assessment

CO_2 emissions (d) kgCO_2/yr

OR

4. Annual CO_2 emissions from Act on CO_2 website

CO_2 emissions (d) kgCO_2/yr

Stage 2. Work out 10% of the annual CO_2 emissions

10% of CO_2 emissions ((d)/100) x 10 = (e) 3624 kgCO_2/yr

Stage 3. Select the renewable technology (or technologies) you wish to incorporate and work out the annual CO_2 savings

Electricity generating technologies

Solar PV

Electricity generating renewable energy (f) 3947 kWh/yr

x 0.422[21] (g) 1665.6 kgCO_2/yr

PV = 1m = 106 Kwh/yr x 37m ridge

Heat generating technologies

Solar heater

Heat generating renewable energy (h) 11100 kWh/yr

x ~~0.194~~ or x 0.265[22] (i) 2941.5 kgCO_2/yr

Heater = 1m = 300 Kwh/yr x 37m ridge

[21] Standard conversion factor for kWh electricity to kgCO_2

[22] Standard conversion factors - use x 0.194 if displacing gas or x 0.265 if displacing oil

Solar 1

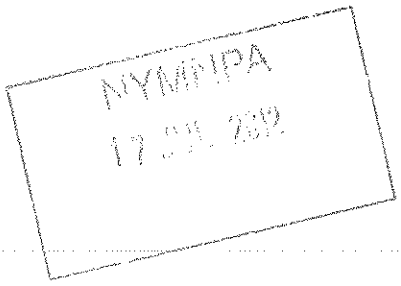
Total CO_2 savings **(g) + (i) = (j)** 4607.1 $kgCO_2/yr$

Stage 4. Check that your chosen technology will provide enough CO_2 savings

(j) should be equal to or greater than **(e)** to ensure that at least 10% of predicted CO_2 emissions are offset through renewable energy.

% of CO_2 emissions which will be offset by renewable energy **(j) / (d)** 12.7 %

If this figure is less than 10%, look at increasing the size / capacity of the installation, try other technologies or look at using a mix of technologies.



Solar + PV = New location - Proposed shed.

APPENDIX 4 CALCULATING THE 10% REQUIREMENT

See Section 7 for detailed guidance on how to undertake the calculations.

Stage 1: Work out the annual CO_2 emissions of the buildings

Complete either calculations 1, 2, 3 or 4

1. Calculations where there is no Standard Assessment Procedure or Simplified Building Energy Model data

Where there is more than one type of building you will need to undertake this calculation separately for each building type.

Building type 1: House End Terrace

Annual benchmark CO_2 emissions per m^2 (a)	41.9	$kgCO_2/yr$
x floor area (b)	150	m^2
= annual CO_2 emissions (c)	6285	$kgCO_2/yr$

Building type 2: The Granary End terrace

−15% H/C use only (41.9 − 15%)

Annual benchmark CO_2 emissions per m^2 (a)	35.6	$kgCO_2/yr$
x floor area (b)	145	m^2
= annual CO_2 emissions (c)	5162	$kgCO_2/yr$

Building type 3: 3x H/COTT mid Terrace

−15% H/C use only (39.7 x 3 − 15%)

Annual benchmark CO_2 emissions per m^2 (a)	101.2	$kgCO_2/yr$
x floor area (b)	245	m^2
= annual CO_2 emissions (c)	24794	$kgCO_2/yr$

Total CO_2 emissions (c) + (c) + (c) = (d) 36241 $kgCO_2/yr$

Solar 2

OR

2. Annual CO_2 emissions from SAP assessment

CO_2 emissions (d)		$kgCO_2/yr$

OR

3. Annual CO_2 emissions from SBEM assessment

CO_2 emissions (d)		$kgCO_2/yr$

OR

4. Annual CO_2 emissions from Act on CO_2 website

CO_2 emissions (d)		$kgCO_2/yr$

Stage 2. Work out 10% of the annual CO_2 emissions

10% of CO_2 emissions ((d)/100) x 10 = (e)	3624	$kgCO_2/yr$

Stage 3. Select the renewable technology (or technologies) you wish to incorporate and work out the annual CO_2 savings

Electricity generating technologies

Solar PV (Shed size 22m x 9m = 198m²) PV 1m = 106 kwh/yr	Electricity generating renewable energy (f) 20988	kWh/yr
	x 0.422[21] (g) 8856.9	$kgCO_2/yr$

Heat generating technologies

Solar Heater Heater 1m = 300 kwh/yr	Heat generating renewable energy (h) 59400	kWh/yr
	x ~~0.194~~ or x 0.265[22] (i) 15741	$kgCO_2/yr$

[21] Standard conversion factor for kWh electricity to $kgCO_2$
[22] Standard conversion factors - use x 0.194 if displacing gas or x 0.265 if displacing oil

Solar 2

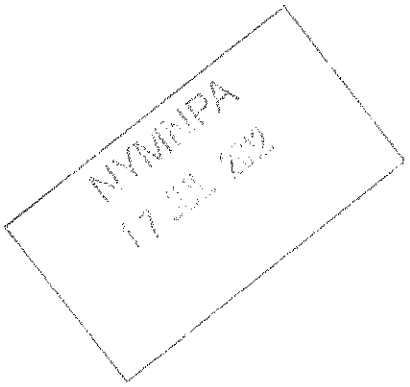
Total CO_2 savings (g) + (l) = (j) 24598 $kgCO_2/yr$

Stage 4. Check that your chosen technology will provide enough CO_2 savings

(j) should be equal to or greater than (e) to ensure that at least 10% of predicted CO_2 emissions are offset through renewable energy.

% of CO_2 emissions which will be offset by renewable energy (j) / (d) 67.9 %

If this figure is less than 10%, look at increasing the size / capacity of the installation, try other technologies or look at using a mix of technologies.



Ridge Blade - orginal Locahon

APPENDIX 4 CALCULATING THE 10% REQUIREMENT

See Section 7 for detailed guidance on how to undertake the calculations.

Stage 1 Work out the annual CO_2 emissions of the buildings

Complete either calculations 1, 2, 3 or 4

1. Calculations where there is no Standard Assessment Procedure or Simplified Building Energy Model data

Where there is more than one type of building you will need to undertake this calculation separately for each building type.

Building type 1: HOUSE .

Annual benchmark CO_2 emissions per m^2 (a) 41.9 $kgCO_2/yr$

x floor area (b) 150 m^2

= annual CO_2 emissions (c) 6285 $kgCO_2/yr$

Building type 2: THE GRANARY

Annual benchmark CO_2 emissions per m^2 (a) 35.6 $kgCO_2/yr$

x floor area (b) 145 m^2

= annual CO_2 emissions (c) 5162 $kgCO_2/yr$

Building type 3: 3 x HOLCOTT

Annual benchmark CO_2 emissions per m^2 (a) 101.2 $kgCO_2/yr$

x floor area (b) 245 m^2

= annual CO_2 emissions (c) 24794 $kgCO_2/yr$

Total CO_2 emissions (c) + (c) + (c) = (d) 36241 $kgCO_2/yr$

RB 1

OR

2. Annual CO_2 emissions from SAP assessment

CO_2 emissions (d)		$kgCO_2/yr$

OR

3. Annual CO_2 emissions from SBEM assessment

CO_2 emissions (d)		$kgCO_2/yr$

OR

4. Annual CO_2 emissions from Act on CO_2 website

CO_2 emissions (d)		$kgCO_2/yr$

Stage 2. Work out 10% of the annual CO_2 emissions

10% of CO_2 emissions ((d)/100) x 10 = (e)	3624	$kgCO_2/yr$

Stage 3. Select the renewable technology (or technologies) you wish to incorporate and work out the annual CO_2 savings

Electricity generating technologies

Ridge Blade 37m Ridge 1m = 320 kWh/yr x 37m =	Electricity generating renewable energy (f)	11840	kWh/yr
	x 0.422[21] (g)	4996	$kgCO_2/yr$

Heat generating technologies

	Heat generating renewable energy (h)		kWh/yr
	x 0.194 or x 0.265[22] (i)		$kgCO_2/yr$

[21] Standard conversion factor for kWh electricity to $kgCO_2$
[22] Standard conversion factors - use x 0.194 if displacing gas or x 0.265 if displacing oil

RBI

Total CO_2 savings (g) + (i) = (j) 4496 $kgCO_2/yr$

Stage 4. Check that your chosen technology will provide enough CO_2 savings

(j) should be equal to or greater than (e) to ensure that at least 10% of predicted CO_2 emissions are offset through renewable energy.

% of CO_2 emissions which will be offset by renewable energy (j) / (d) 14.1 %

If this figure is less than 10%, look at increasing the size / capacity of the installation, try other technologies or look at using a mix of technologies.

Ridge Blade - location ⇒ New Shed.

APPENDIX 4 CALCULATING THE 10% REQUIREMENT

See Section 7 for detailed guidance on how to undertake the calculations.

Stage 1. Work out the annual CO_2 emissions of the buildings

Complete either calculations 1, 2, 3 or 4

1. Calculations where there is no Standard Assessment Procedure or Simplified Building Energy Model data

Where there is more than one type of building you will need to undertake this calculation separately for each building type.

Building type 1:
House
End Terrace

Annual benchmark CO_2 emissions per m^2 (a)	41·9	kgCO_2/yr
x floor area (b)	150	m^2
= annual CO_2 emissions (c)	6285	kgCO_2/yr

Building type 2:
THE GRANARY
HOLCOTT END TERRACE
(41·9 − 15%)

Annual benchmark CO_2 emissions per m^2 (a)	35·6	kgCO_2/yr
x floor area (b)	145	m^2
= annual CO_2 emissions (c)	5162	kgCO_2/yr

Building type 3:
3 x HOLCOTT MID TERRACE
(39·7 x 3 − 15%)

Annual benchmark CO_2 emissions per m^2 (a)	101·2	kgCO_2/yr
x floor area (b)	245	m^2
= annual CO_2 emissions (c)	24794	kgCO_2/yr

Total CO_2 emissions (c) + (c) + (c) = (d) 36241 kgCO_2/yr

RB2

OR

2. Annual CO_2 emissions from SAP assessment

CO_2 emissions (d)		$kgCO_2/yr$

OR

3. Annual CO_2 emissions from SBEM assessment

CO_2 emissions (d)		$kgCO_2/yr$

OR

4. Annual CO_2 emissions from Act on CO_2 website

CO_2 emissions (d)		$kgCO_2/yr$

Stage 2. Work out 10% of the annual CO_2 emissions

10% of CO_2 emissions ((d)/100) x 10 = (e)	3624	$kgCO_2/yr$

Stage 3. Select the renewable technology (or technologies) you wish to incorporate and work out the annual CO_2 savings

Electricity generating technologies

Ridge Blade 22m ridge 10m = 3200 kwh/yr x 10/22 = 7040	Electricity generating renewable energy (f)	7040	kWh/yr
	x 0.422[21] (g)	2971	$kgCO_2/yr$

Heat generating technologies

	Heat generating renewable energy (h)		kWh/yr
	x 0.194 or x 0.265[22] (i)		$kgCO_2/yr$

[21] Standard conversion factor for kWh electricity to $kgCO_2$
[22] Standard conversion factors - use x 0.194 if displacing gas or x 0.265 if displacing oil

RB 2

Total CO_2 savings (g) + (l) = (j) 2971 $kgCO_2/yr$

Stage 4. Check that your chosen technology will provide enough CO_2 savings

(j) should be equal to or greater than (e) to ensure that at least 10% of predicted CO_2 emissions are offset through renewable energy.

% of CO_2 emissions which will be offset by renewable energy (l) / (d) 8.2 %

If this figure is less than 10%, look at increasing the size / capacity of the installation, try other technologies or look at using a mix of technologies.