

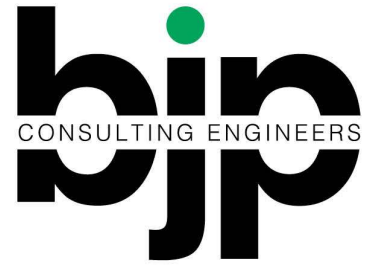
t: 01761 239193

f: 01761 239192

BJP Consulting Group Limited
Registered Office:
The Well House
Manor Courtyard
Stratton-On-The-Fosse
Bath BA3 4QF

e: mail@bjp-uk.com

w: www.bjp-uk.com



mechanical & electrical services

AMPNEY PARK – AMPNEY CRUCIS

ENERGY SUSTAINABILITY & VENTILATION STATEMENT

SEPTEMBER 2023

REV B

contents.

1.00	ENERGY SUSTAINABILITY STATEMENT	Page 1
2.00	NEW VENUE BUILDING.....	Page 2
3.00	NEW GROUNDS BUILDING.....	Page 3
4.00	NEW STABLES ACCOMMODATION	Page 4
5.00	CHANGE OF USE OF THE MAIN HOUSE	Page 5
6.00	CHANGE OF USE OF STONE BARN.....	Page 7

1.00 energy sustainability statement.

This is an Energy Strategy Statement related to the following proposed construction and changes of use at the above site:

New Venue Building

New Grounds Building

New Stables Accommodation

Change of Use of the Main House

Change of Use of the Stone Barn

Change of Use Stables Cottage

The energy related issues associated with each of the above will be tested against the following criterion:

1. **Building Regulations Part F - Ventilation**
2. **Building Regulations Part L - Conservation of Fuel and Power**
3. **Building Regulations Part O - Overheating**
4. **Building Regulations Part S - Infrastructure for EVC's**
5. **Cotswold Design Code. Paragraphs D.59 – D.62**

Cotswold Design Code. Paragraphs D.59 – D.62 provide guidance regarding sustainable design and states that 'the potential impacts of climate change can be addressed through a variety of means, from the incorporation of better insulation and renewable energy technologies, to adaptations for severe weather events, and the use of local and recycled building materials. Re-use of existing buildings is also often more environmentally sustainable than demolition and new build.' The Design Code also stresses that sustainable design needs to be responsive to the character of the area and the sensitivities of the site.

Policy EN1 also refers to the need to address climate change.

2.00 new venue building.

New building comprising banqueting hall, bar, assembly area, food preparation together with ancillary spaces and office accommodation.

2.01 building regulations Part F

The building will be ventilated in accordance with the current Building Regulations Part F (2021), and will incorporate mechanical ventilation heat recovery (MVHR) technology, reclaiming as much as 90% of the energy from the exhausted air.

Main occupied spaces to include variable fresh air supply volume control using CO₂ monitoring. Please refer to attached drawing for strategy.

2.02 building regulations Part L

The building will meet the stringent demands of the current Building Regulations Part L (2021). The building will utilise Ground Source Heat Pump technology, in conjunction with trench heating/cooling convectors. This solution optimizes the performance of the heat pumps and delivers a high “coefficient of performance”

A provisional SBEM calculation confirms compliance.

2.03 building regulations Part O

Not applicable.

2.04 building regulations Part S

Electrical Vehicle Charging is to be managed on a site wide basis.

2.05 **cotswold design code. paragraphs D.59 – D.62**

The potential impacts of climate change can be addressed through the integration of reverse heat pump cooling, as well as by the selection of high performance thermal elements.

The building has also been designed with natural shading to mitigate heat gains from high summertime sun angles.

As well as the renewable energy harvested via the heat pump ground arrays, the ventilation systems integrate high performance heat recovery technology.

3.00 **new grounds building.**

New building comprising staff messing facilities, a small office, workshop and garage.

3.01 **building regulations Part F**

The building will be ventilated in accordance with the current Building Regulations Part F (2021), and will incorporate mechanical ventilation heat recovery (MVHR) technology, reclaiming as much as 90% of the energy from the exhausted air.

3.02 **building regulations Part L**

The workshop and garage will be classified as “Buildings with low energy demand”

The remaining heated staff messing facilities, as small office amount to a useful floor area of less than 50m².

This building is therefore exempt from the energy efficiency requirements of this Regulation.

3.03 **building regulations Part O**

Not applicable as this is already a dwelling.

3.04 **building regulations Part S**

Electrical Vehicle Charging is to be managed on a site wide basis.

3.05 **cotswold design code. paragraphs D.59 – D.62**

The potential impacts of climate change can be addressed through the integration of an Air Source Heat Pump and the heat source for the building.

4.00 **new stables accommodation.**

New building comprising staff messing facilities, a small office, workshop and garage.

4.01 **building regulations Part F**

Under the Regulations, dwellings are self-contained units. Rooms for residential purposes and buildings that contain only rooms for residential purposes are not dwellings and are covered by Approved Document F Volume 2: Buildings other than dwellings.

The building will be ventilated in accordance with Approved Document F Volume 2: Buildings other than dwellings and will include centralised mechanical ventilation heat recovery (MVHR) technology, reclaiming as much as 90% of the energy from the exhausted air.

4.02 **building regulations Part L**

As above, this building contains only rooms for residential purposes are not dwellings, therefore are covered by Approved Document L Volume 2: Buildings other than dwellings. The building will be assessed with an SBEM calculation.

The building will meet the stringent demands of the Regulations by utilising Air Source Heat Pump technology, in conjunction with underfloor heating. This solution optimizes the performance of the heat pumps and delivers a high “coefficient of performance”

4.03 **building regulations Part O**

Not applicable as classified under Buildings other than dwellings.

4.04 **building regulations Part S**

Electrical Vehicle Charging is to be managed on a site wide basis.

4.05 cotswold design code. paragraphs D.59 – D.62

The potential impacts of climate change can be addressed through the integration of an Air Source Heat Pump and the heat source for the building.

5.00 change of use of the main house.

The Main House is a Grade 2 listed, large domestic dwelling; however its planning category is to be changed to “Sui Generis” as it will from time to accommodate guests, using the other facilities on the Estate.

5.01 building regulations Part F

Buildings listed in accordance with Section 1 of the Planning (Listed Buildings and Conservation need not to comply fully with the ventilation standards in the approved document.

Work to such a building should however comply with the standards where reasonably practicable.

Recent works completed in 2022 and leading up to this change of use included improvements to the building ventilation, as far as reasonably practical under the Regulations.

5.02 building regulations Part L

Under this Regulation, the energy efficiency should be improved only if doing so will not cause long-term deterioration of the building’s fabric or fittings.

Recent works completed in 2022 and leading up to this change of use included energy efficiency improvements as follows:

(a) Thermal Elements Upgrades

Where new windows and rooflights could be fitted, these were high performance thermally broken Double Glazing.

All historic windows were repaired, reducing air losses.

Where roofs were vaulted to the pool and second floor new compliant insulation depths were installed.

Existing roof voids have 300mm insulation.

(b) New High Efficiency Boiler Plant

2no Firebird 100kW Envirogreen Ultra Low NOX high efficiency condensing boilers installed.

Boilers have ErP A Rating.

(c) Heating Controls Upgrades

New radiators fitted each with Thermostatic Radiator Valve.

New underfloor heating with local zone controls.

Pipework and controls to be configured to provide independent time and temperature control of all heating zones.

Heating zone and independent time control of towel rail circuits, hot water generation and hot water circulation.

Zone control via intelligent Heatmiser NeoStats and a NeoHub is included to provide app based control via smart phones and devices.

(d) Thermal Insulation of Pipes

All hot and cold water services pipework within plant rooms, roof voids and services risers insulated with 25mm foil faced mineral wool sections.

All water services within floor voids insulated with nitrile rubber closed cell class o sections.

All heating pipework services insulated with 25mm foil faced mineral wool sections in plant rooms, roof voids and service risers.

(e) Domestic Hot Water

New Part L compliant cylinders with modern standards of thermal insulation.

(f) Swimming Pool

The swimming pool ventilation has been replaced with a modern automatic heat recovery system, together with new insulated ductwork.

5.03 building regulations Part O

Not applicable to existing buildings.

5.04 building regulations Part S

Electrical Vehicle Charging is to be managed on a site wide basis.

5.05 cotswold design code. paragraphs D.59 – D.62

The recent and comprehensive upgrades to the property address the aims of the code through incorporating better insulation, heat recovery together with more efficient plant and intelligent controls.

6.00 change of use of stone barn.

Stone Barn is a Grade 2 listed, large domestic dwelling; however its planning category is to be changed to “Sui Generis” as it will from time to time accommodate guests, using the other facilities on the Estate.

6.01 building regulations Part F

Buildings listed in accordance with Section 1 of the Planning (Listed Buildings and Conservation) Regulations need not need to comply fully with the ventilation standards in the approved document.

Work to such a building should however comply with the standards where reasonably practicable.

Proposed works will include improvements to the building ventilation, as far as reasonably practical under the Regulations.

6.02 building regulations Part L

Under this Regulation, the energy efficiency should be improved only if doing so will not cause long-term deterioration of the building’s fabric or fittings.

Proposed works will include energy efficiency improvements as follows:

(a) Thermal Elements Upgrades

Where new windows and rooflights could be fitted, these will be high performance thermally broken Double Glazing.

All historic windows will be repaired, reducing air losses.

Existing roof voids have 300mm insulation.

Thermal upgrades to the floor will be included as a part of the underfloor heating.

It would not be feasible to add insulation to the walls as this would detrimentally impact the historic fabric.

(b) New Low Carbon Air Source Heat Pump Heating

A remote Air Source Heat Pump will be the primary heat source to the building.

The heat pump will be fitted with Optimum Start and weather compensation Control.

Heating Controls Upgrades

New radiators will be fitted with Thermostatic Radiator Valves.

New underfloor heating will have with local zone controls.

(c) Thermal Insulation of Pipes

All hot and cold water services pipework within plant spaces, roof voids and services risers to be insulated with 25mm foil faced mineral wool sections.

All water services within floor voids insulated with nitrile rubber closed cell class o sections.

All heating pipework services insulated with 25mm foil faced mineral wool sections in plant spaces, roof voids and service risers.

(d) Domestic Hot Water

New Part L compliant cylinder with modern standards of thermal insulation to be installed.

6.03 building regulations Part O

Not applicable to existing buildings.

6.04 building regulations Part S

Electrical Vehicle Charging is to be managed on a site wide basis.

6.05 cotswold design code. paragraphs D.59 – D.62

The proposed and comprehensive upgrades to the property address the aims of the code through incorporating Heat Pump technology, better insulation, together with more efficient plant and intelligent controls.

