



Reading College Campus – Activate Learning

Design Access Statement – Installation of Air Source Heat Pump Array and BESS

Kings Road
Reading
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1. Summary

Activate Learning provides further education for post 16 students. The Reading College campus offers professional and technical courses in a wide variety of industries, including hairdressing, construction, engineering, catering and art.

The colleges greenhouse gas emissions are driven by 4 key aspects.

1. Buildings Energy use.
2. Transport.
3. Water and Waste.
4. The consumption of 3rd party goods and services for curriculum activity.

Activate Learning recognises the need to pursue a decarbonisation strategy and commissioned an evaluation of its sources of greenhouse gases, alongside the development of a plan to achieve a low carbon emissions campus.

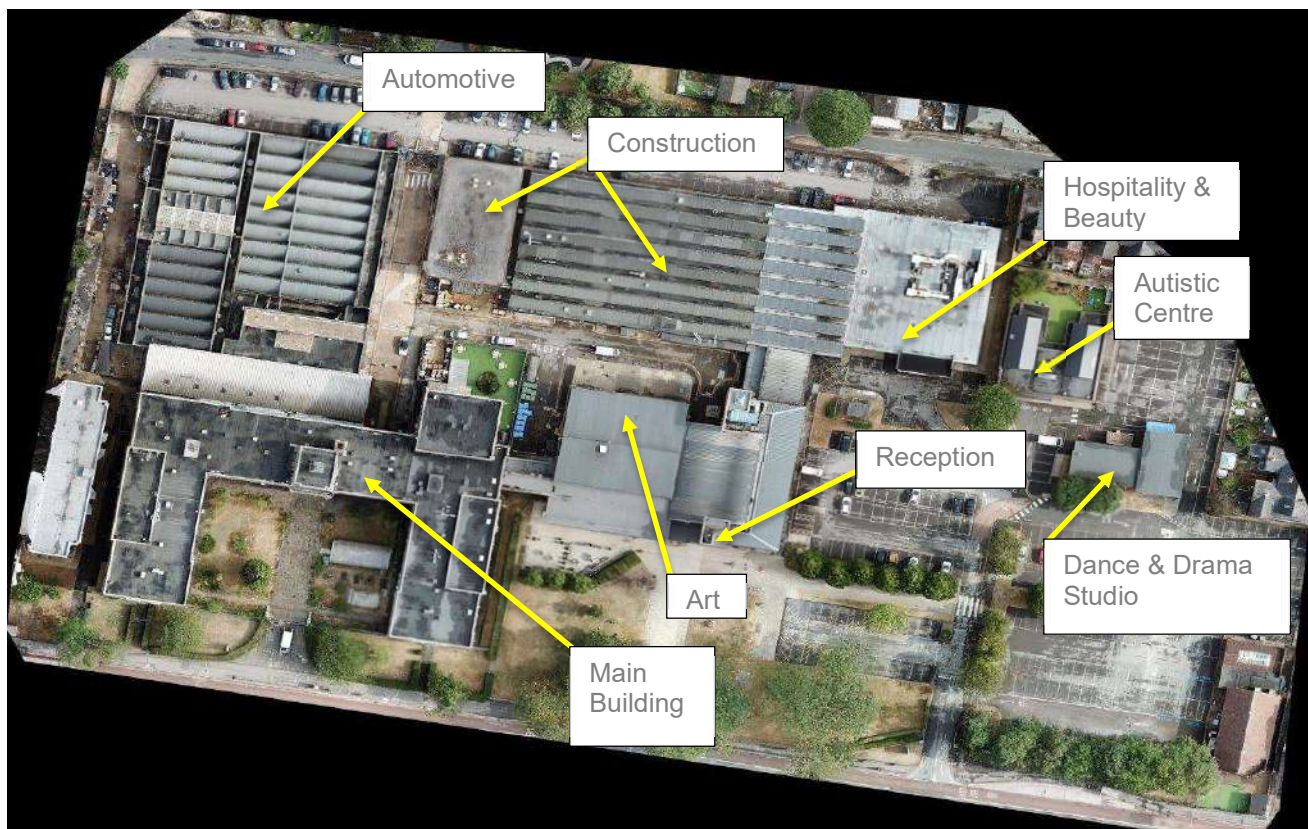
They also acknowledge the wider social and commercial opportunities that can follow the decarbonisation journey including:

- **Climate Anxiety** – Helping stakeholders visualise the path to environmental harmony.
- **Energy Security** – Decoupling from the grid & protecting against market shocks.
- **Reputation** - Leading community action against climate change.
- **Future proofing** – preparing for emerging low carbon regulatory and market opportunities.
- **Business Development** – building environmental stewardship into all curricula to:
 - Prepare students for the low carbon economy.
 - Support employers and business partners with environmental up-skilling of workforces.

This Design and Access Statement has been prepared by HI Group Ltd to accompany an application for planning permission, for the installation of an Air Source Heat Pump system, Thermal battery storage and BESS to support the Reading College campus heat and energy demand.

2. Site Overview

The Reading College campus includes the original college building, constructed circa 1950–1955, with several ancillary and specialist teaching buildings developed over subsequent decades. Many of the original architectural features, such as metal-framed windows and masonry detailing, remain intact.



2.1 Location

The main site car park and buildings are accessed from the Kings Road. Access to the rear car park is from the west section of Orts Road.

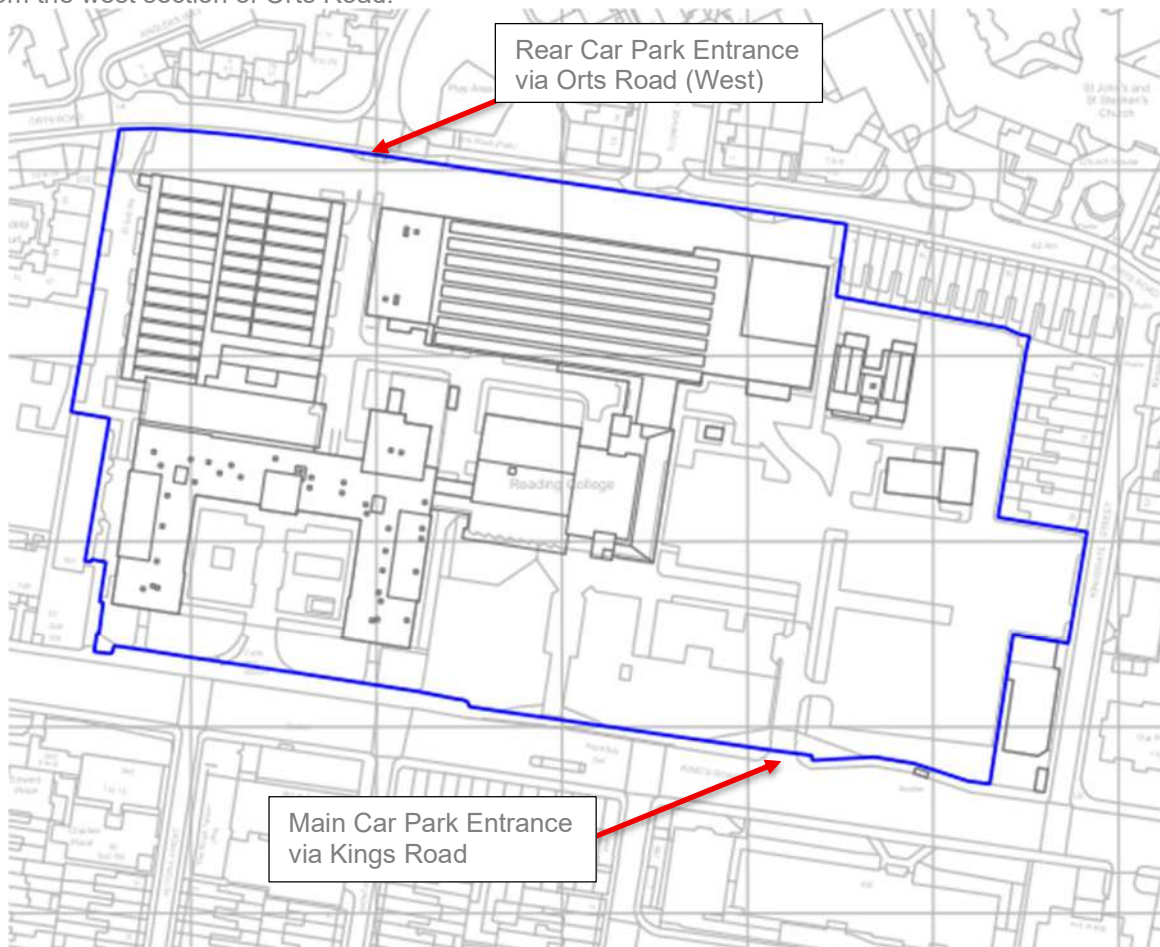


Figure 1 Site Location Map

The location of the proposed Energy Centre is hard standing on the site's private access road, between the Construction and Art buildings. This location was agreed on at an early stage of the project's life cycle due to its low impact on the college's neighbours and its vicinity to the campus plant rooms. The proposed location of the BESS is in the service yard to the west of the automotive building. Supporting switchgear enclosures and transformer pads are indicated on the general arrangement; these are to support the required DNO upgrades and reinforcement.

The locations enable low impact for installation and ongoing operational maintenance with minimal disruption on the functions of the college.

(Energy Centre grid reference 51.454368, -0.954831 - Google Maps).

2.2 Proposed Development

The proposed development consists of the installation of an Air Source Heat Pump system supported by a thermal storage battery and BESS to provide a non-polluting and sustainable energy source. This facility will enable the Reading College Campus to significantly reduce its gas and electrical baseload.

2.3 Reading College Campus Site Access

The site entrance is on the Kings Road.

Entrance Location with what3words: [///urban.bits.breath](https://www.what3words.com/urban.bits.breath)

This can be accessed from the A3290 onto London Road and then at the junction with Kings Road the first road on the right. The campus entrance is on the right-hand side approximately 0.36km from the junction.

During the installation phase the site will be visited by contractors and delivery vehicles which will be coordinated by the site manager to avoid congestion issues.

2.4 Construction

It is proposed to begin mobilisation of the development in Q3 2026 and complete by Q1 2027 with commissioning following on.

A temporary office compound will be installed on site to provide welfare facilities for the construction team for the duration of the project.

2.4.1 Hours of Construction

It is envisaged that the installation of the ASHP and associated works will be 28 weeks. The only hours in which construction would take place is from 08:00 to 18:00 Monday to Friday, Saturday mornings subject to local by-laws.

2.4.2 Vehicle Movements

It is not envisaged that more than 10 vehicles movements per day will occur including existing HGV movements.

2.4.3 Noise

With the installation of noise attenuating fencing around the new energy centre it will have a minimal impact on existing noise sensitive receptors. Noise from the ASHP installation is not expected to have an adverse impact on the college or the surrounding neighbourhood. The closest property outside of the college boundary is 67 metres from the Energy Centre with no clear line of site due to its location within the campus.

No pile driving or use of percussion equipment shall take place on the site on any Sunday or Bank Holiday.

2.4.4 Lighting

The Energy Centre shall not be artificially illuminated except during construction, routine maintenance, and emergencies.

2.4.5 Ground and Surface Water

The proposed development will not change the ground and surface water runoffs.

2.4.6 Security

The energy centre will be surrounded by 2.0m high wooden fencing attenuating the ASHP and keeping the installed assets secure.

3. The Site

3.1 Surrounding Area

- The site is located in the unitary authority of Reading Borough council.
- The campus land is owned by Activate Learning .

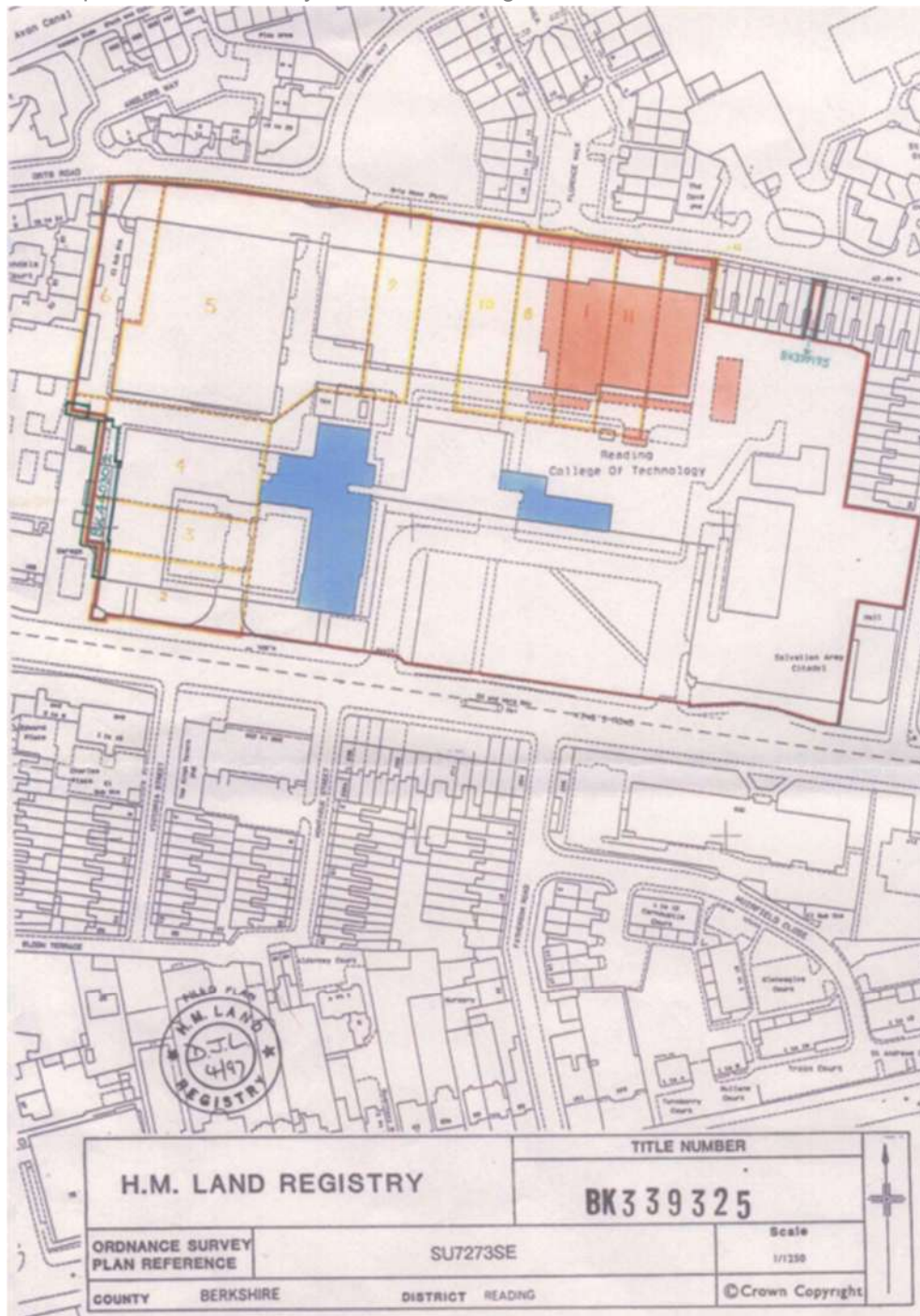


Figure 2 Reading College Campus Title Plan

- The campus covers 3.5 hectares with the site comprising of green spaces, training facilities, car parking and educational buildings.

3.2 The Development Site

The location of the proposed Energy Centre is hard standing on the sites private access road, between the Construction and Art buildings. The proposed location of the BESS is in the service yard to the west of the automotive building. Supporting switchgear enclosures and transformer pads are indicated on the general arrangement; these are to support the required DNO upgrades and reinforcement.

3.3 Electrical Grid Connection

DNO reinforcement works need to be undertaken to accommodate the additional load required. Engagement with the DNO is underway.

3.4 Location Constraints

3.4.1 Heat Pump and Energy Centre Location Options

Locations were evaluated from an access, operational, and environmental point of view. Based on the analysis, the location of the hard standing on the sites private access road is the preferred location with least amount of impact on the campus during installation and the operational phase.

3.4.2 Visual Impact

The proposed site is hard standing on the sites private access road surrounded by campus buildings away from the main road to the south. The installation is a low-level installation (thermal store approximately 7m) surrounded by 2.0m timber acoustic fencing.

3.4.3 Ecological Factors

The existing site comprises of educational buildings, tarmac & hard standing car parks, and grassed areas. The areas of installation activity are restricted to the buildings and surrounding hard standing.

3.4.4 Archaeological and Historic Environment Factors

There are no SSSI located on the campus.

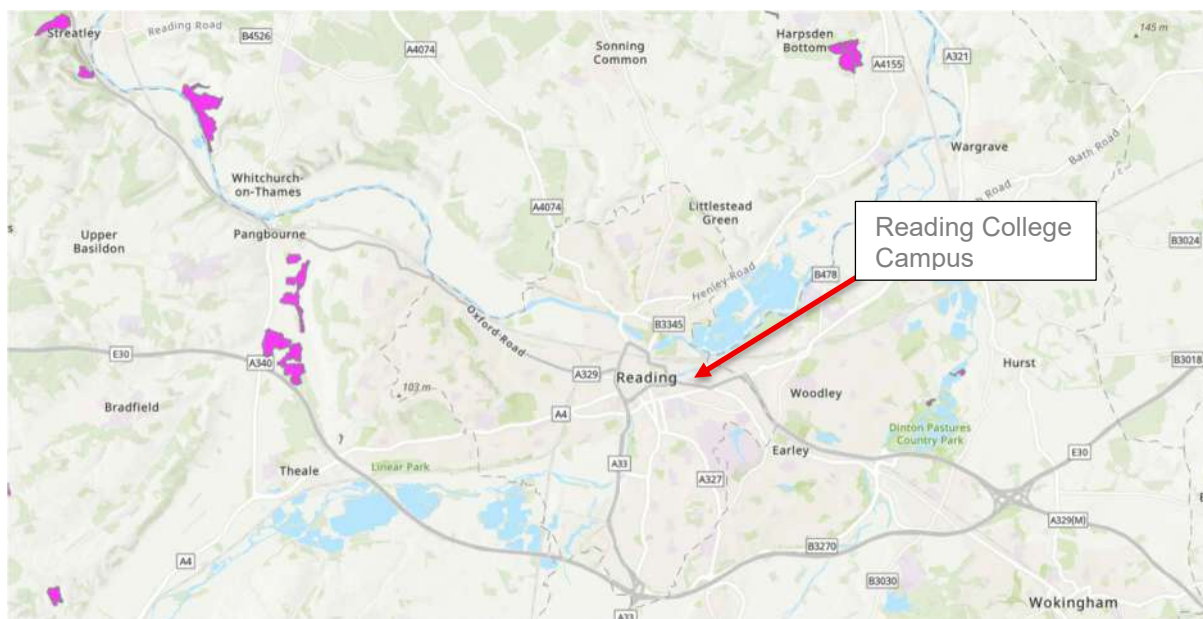


Figure 3 SSSI Locations

There are no scheduled monuments on the campus.

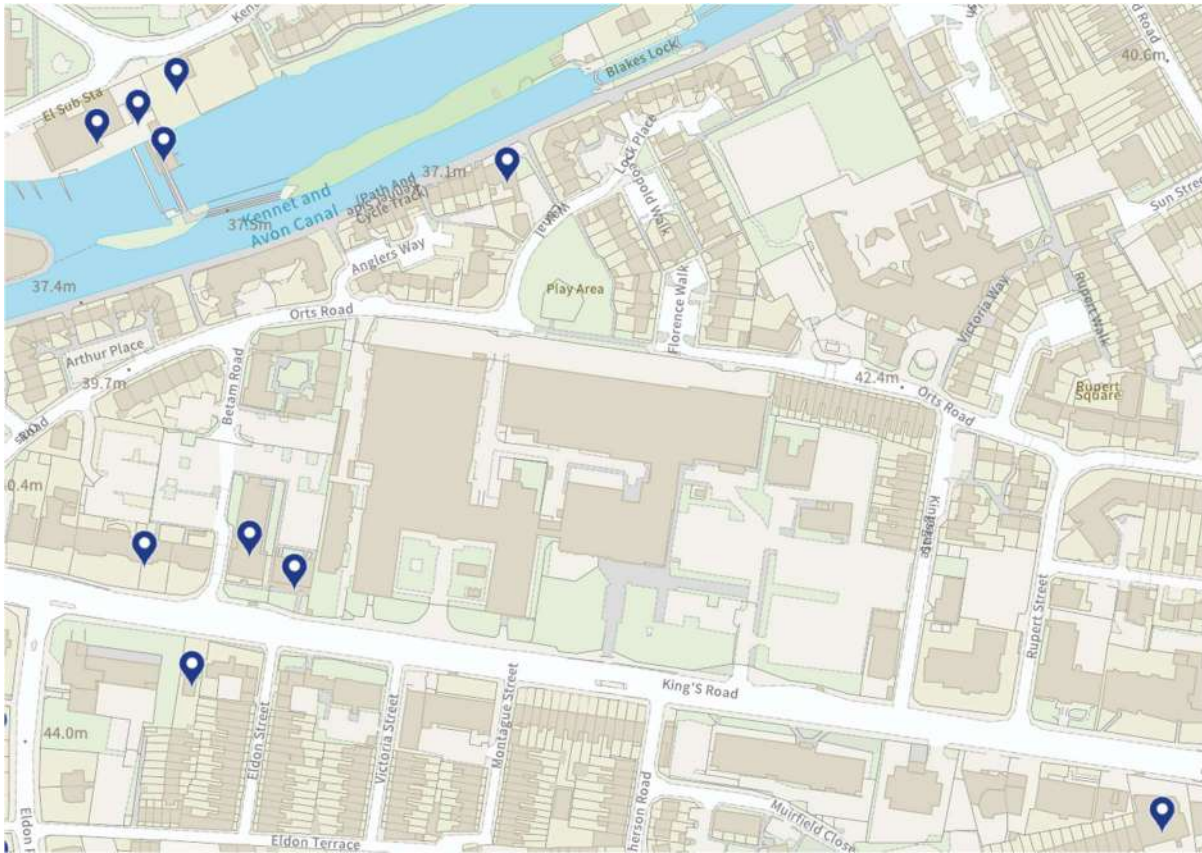


Figure 4 Scheduled Monuments

3.4.5 Public Access

There are no public rights of way that pass through the campus.

3.4.6 Proposed Landscaping Features

It is not proposed to add any new landscaping features.

3.4.7 Trees

No trees are to be removed as part of this development.

3.4.8 Flooding

Below is a flood risk summary for Reading College Campus

Surface Water

Yearly Chance of Flooding – VERY LOW

Yearly Chance of Flooding between 2040 and 2060– VERY LOW

Rivers and the sea

Yearly Chance of Flooding – VERY LOW

Yearly Chance of Flooding between 2040 and 2060– VERY LOW

Groundwater

Yearly Chance of Flooding – VERY LOW

Yearly Chance of Flooding between 2040 and 2060– VERY LOW

Reservoirs

Flooding from reservoirs is unlikely in this area.

Source: GOV.UK <https://check-long-term-flood-risk.service.gov.uk/risk#>

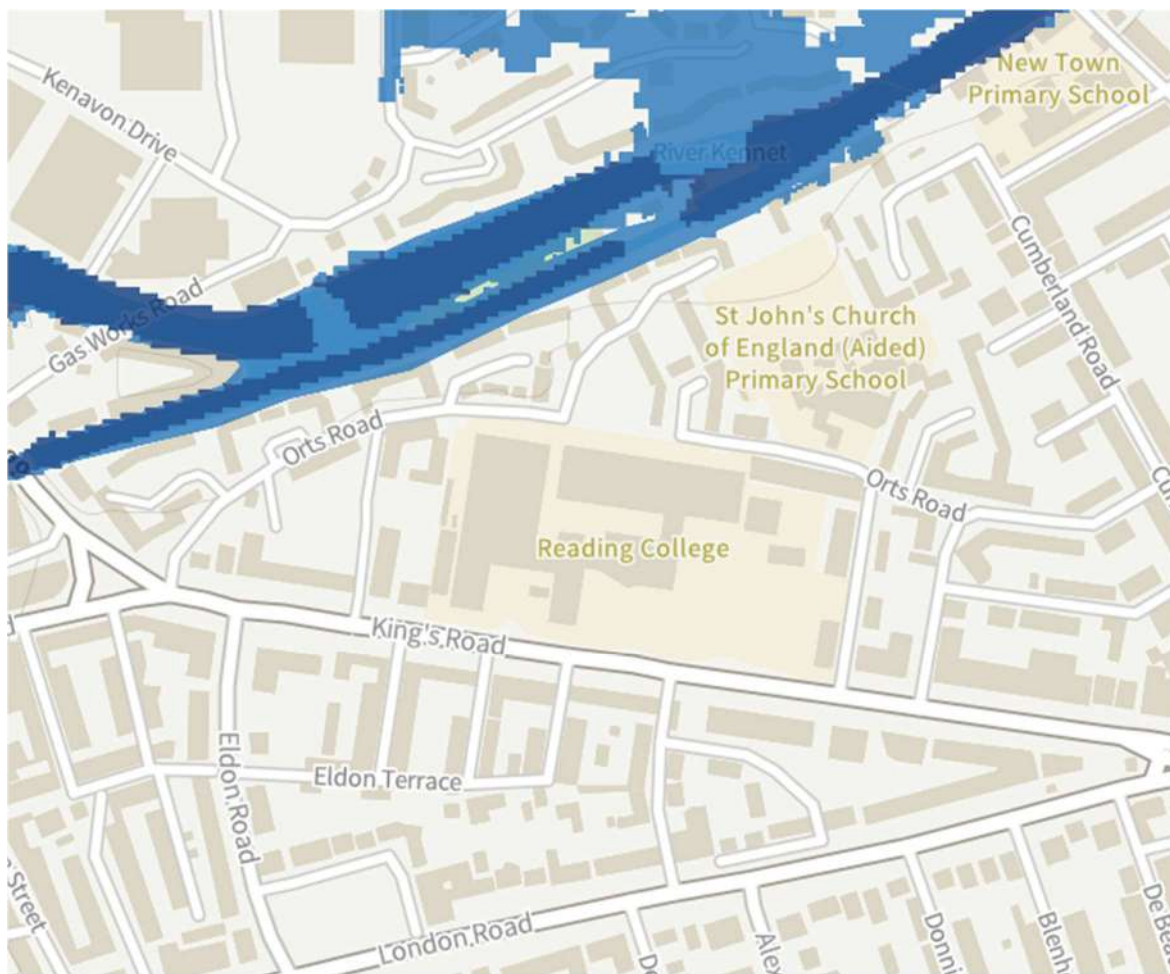


Figure 5 Flooding Map

3.5 Design of the Scheme

3.5.1 Energy Centre, BESS and Supporting Assets Location plan

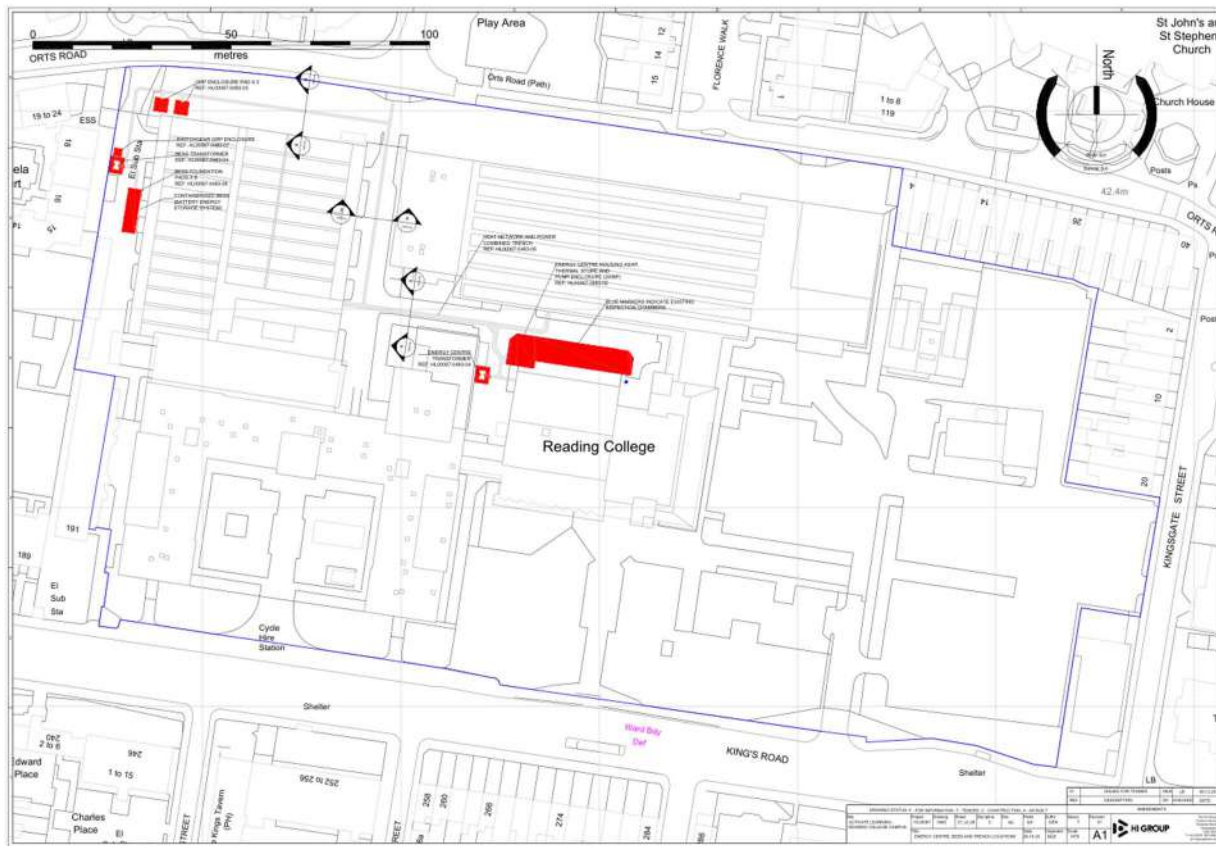


Figure 6 Reading College Campus Layout with ASHP Energy Centre, BESS and Asset Locations

3.5.2 Energy Centre with ASHP & Thermal Storage, BESS and associated assets

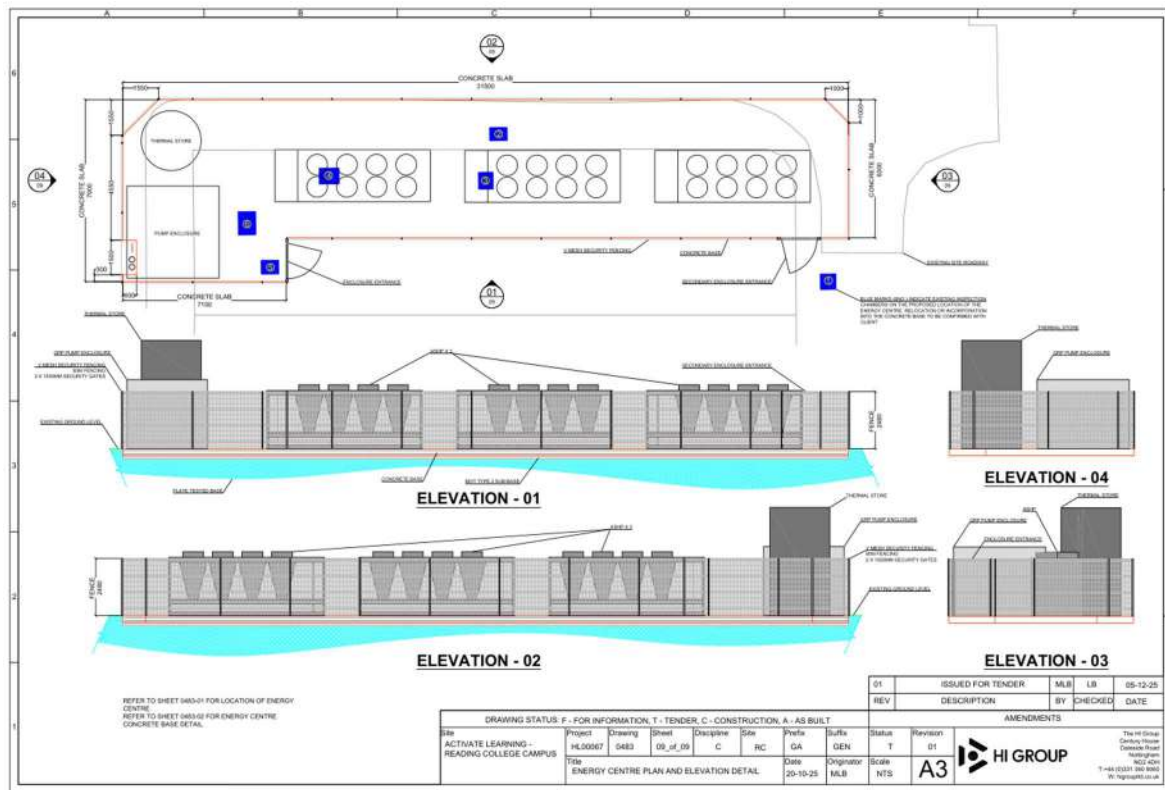


Figure 7 Plan and Elevations of the Energy Centre Installation

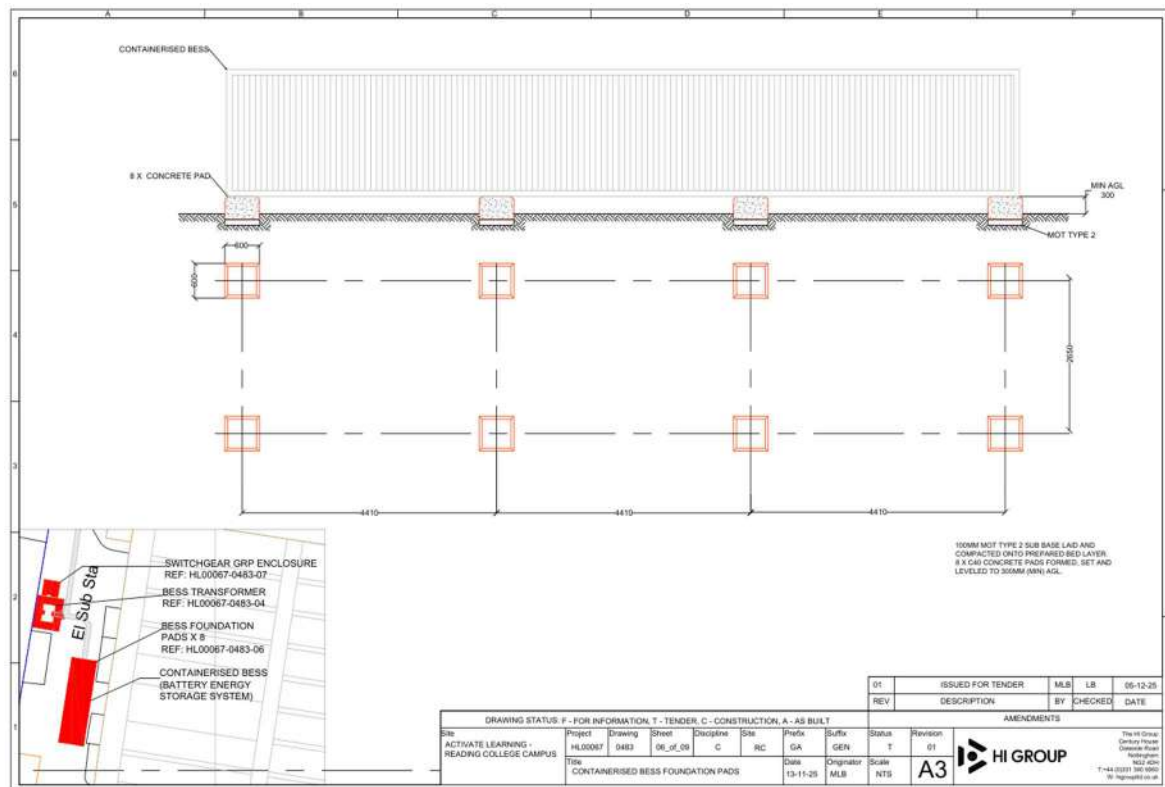


Figure 8 Plan and Elevation of the BESS Installation

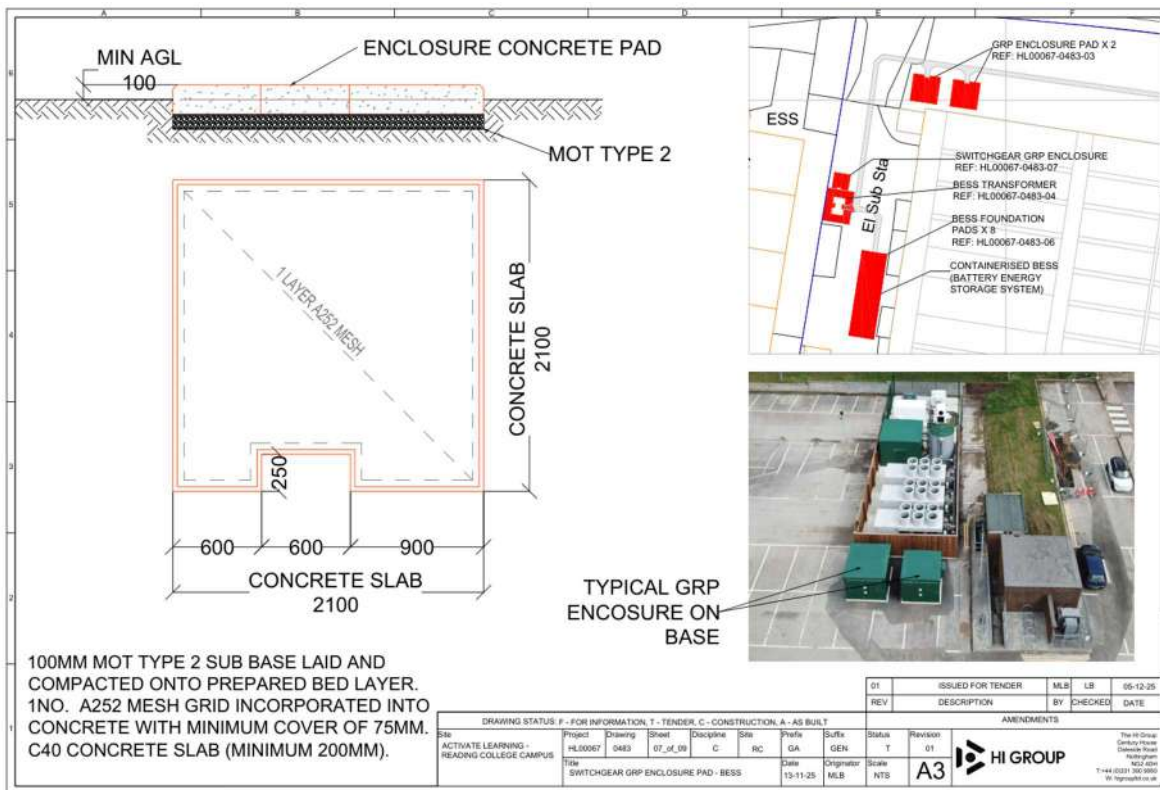


Figure 9 Plan and Section of the BESS Switchgear Pad

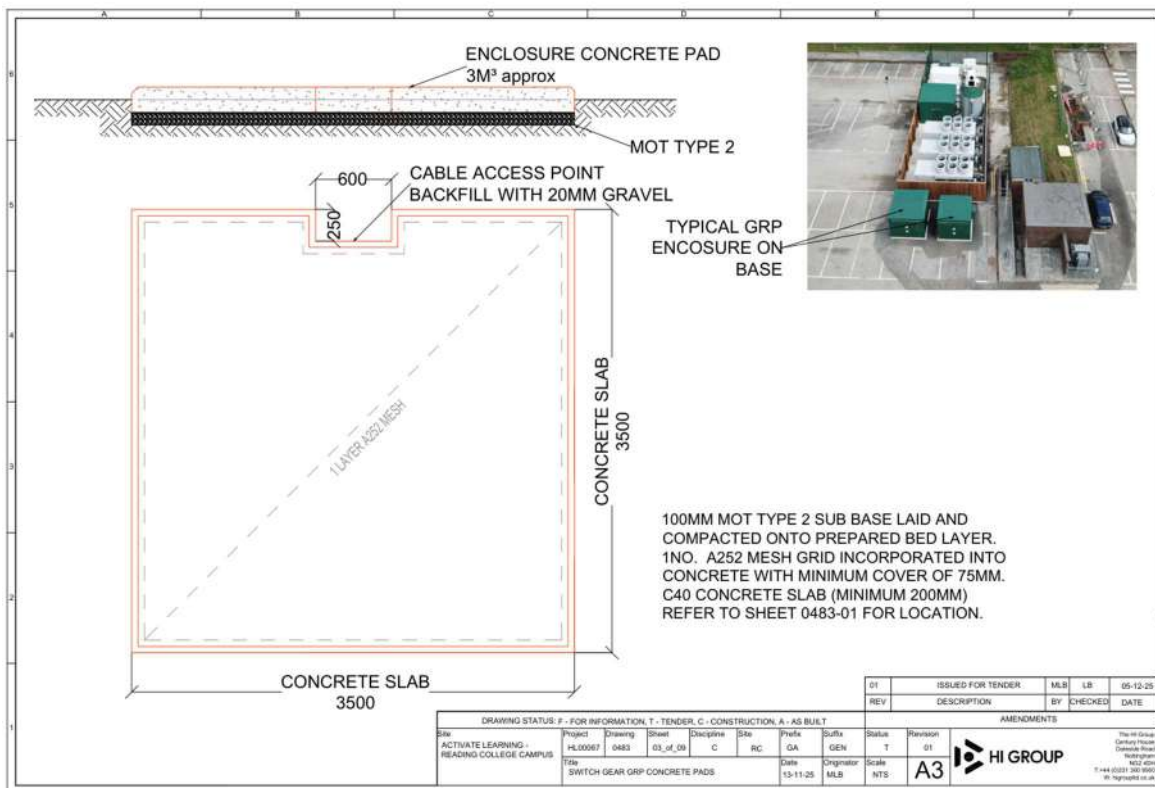


Figure 10 Plan and Elevation of the Transformer Enclosure for BESS and EC

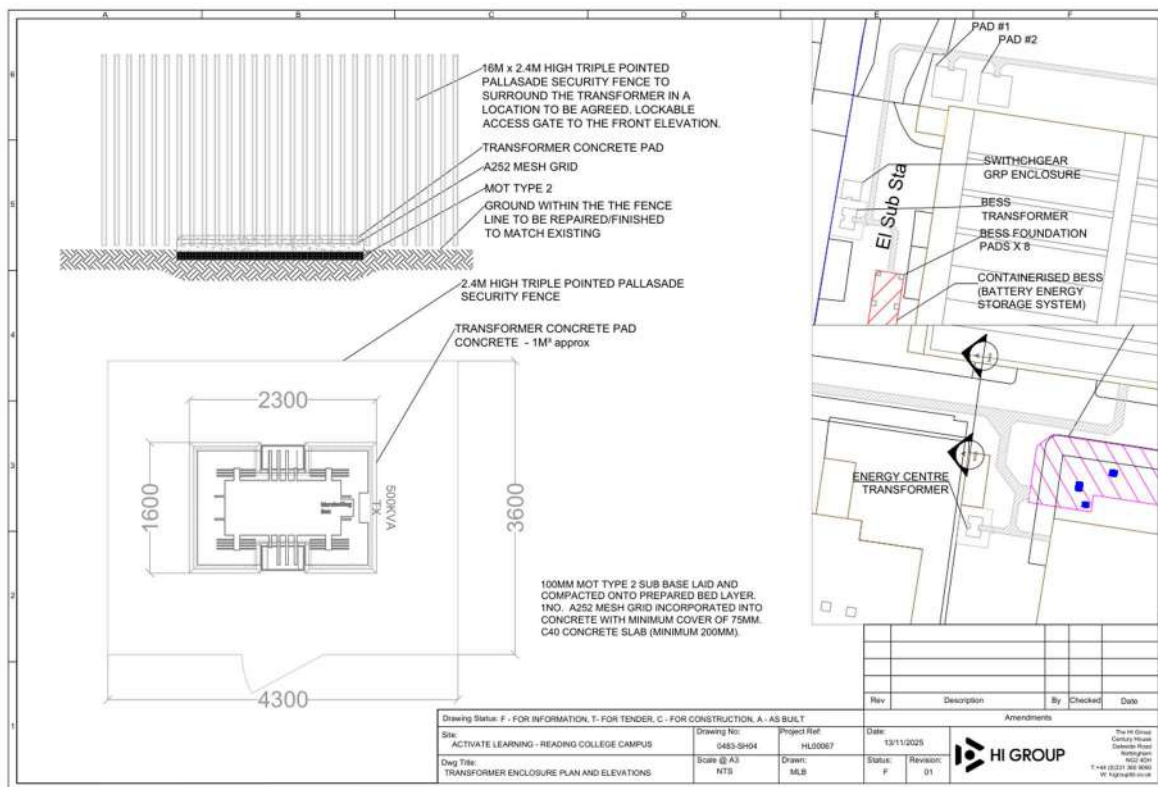


Figure 11 Plan and Section of the DNO Pads

3.5.3 Air Source Heat Pumps:

The installation of energy-efficient air source heat pumps for space heating will support the buildings comfort needs while reducing the college's reliance on fossil fuels.



Figure 12 Typical Layout of an ASHP Installation

4. National Planning Policy Framework

Support the transition to a low carbon future in changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by development of renewable energy).

Planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social, and environmental dimensions of sustainable development.

As part of this focus on sustainable development the NPPF states the environmental role of sustainable development as contributing to protecting and enhancing our natural, built, and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

The NPPF states that a planning authority should support the transition to a low carbon future in a changing climate, encouraging the reuse of existing resources, promoting the use of renewable resources through development of renewable energy that makes a positive contribution to conserving and enhancing the natural environment whilst reducing pollution.

The NPPF requires that in order to help increase the use and supply of renewable and low carbon energy, LPAs should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. Indeed, the NPPF enhances this presumption in favour by stating that LPAs should design their policies to 'maximise renewable energy development,' while ensuring adverse impacts are addressed satisfactorily.

'To help increase the use and supply of renewable and low carbon energy, local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources. They should:

- Have a positive strategy to promote energy from renewable and low carbon sources.
- Design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, including cumulative landscape and visual impacts.
- Consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources.
- Support community-led initiatives for renewable and low carbon energy, including developments outside such areas being taken forward through neighbourhood planning.
- Identify opportunities where development can draw its energy supply from decentralised, renewable, or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

The proposed development will have a valuable contribution to the Government's renewable energy targets. The solar panels will allow the applicant to reduce the sites energy consumption from the local electrical network. The ASHP will reduce the heat networks gas consumption by 95%.

When determining planning applications, local planning authorities should; Not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions.

5. Conclusion

This Design and Access Statement describes the proposed Air Source Heat Pump and BESS installation at Reading College Campus.

The scale of the proposed decarbonisation development and the design within the site followed several design iterations. The final design solution and current application has been adapted to maximise generation potential whilst minimising or eliminating potential adverse environmental effects.

6. Site Images

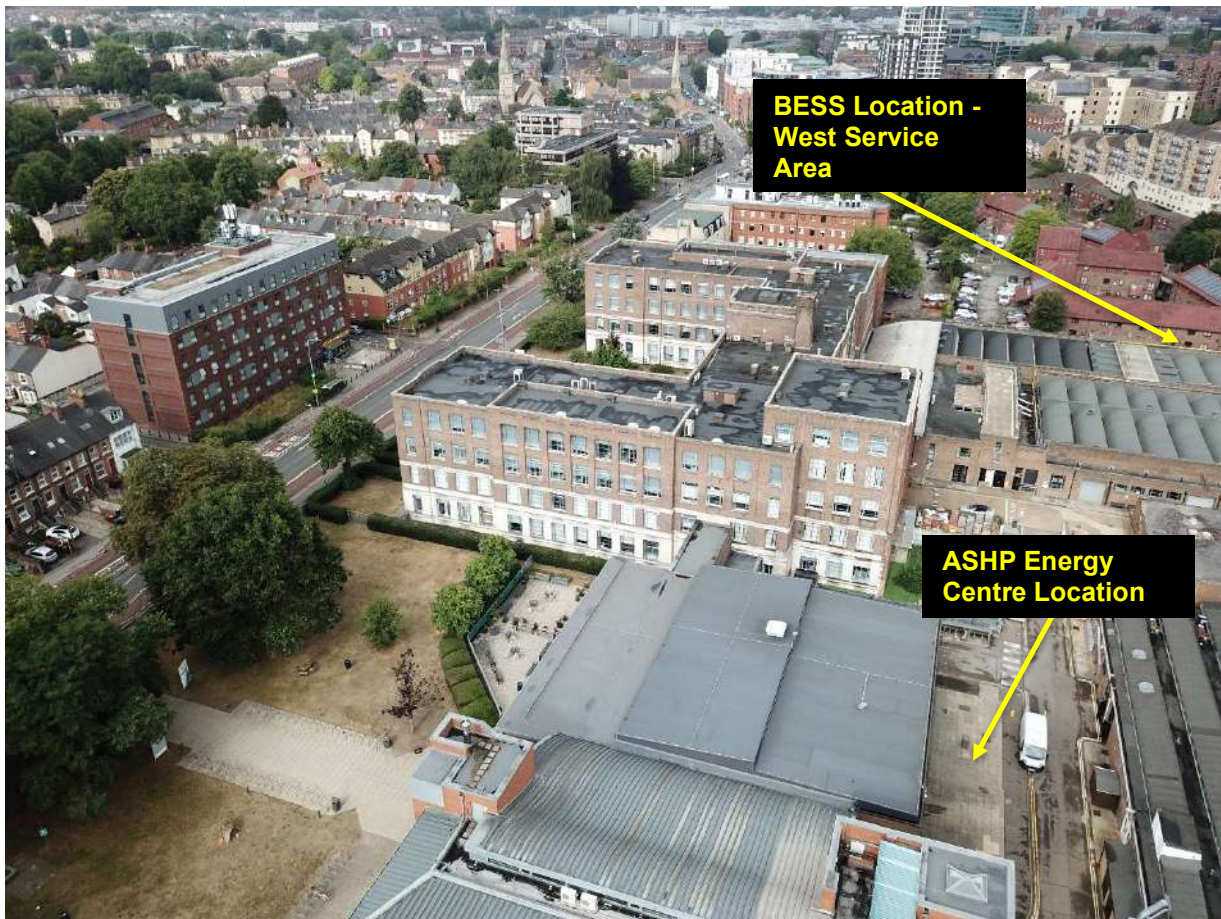


Figure 13 Aerial view of location for the ASHP Energy Centre and BESS



Figure 14 West Service Area proposed BESS Location

7. Drawings

HL00067-0442-01-A-RC-GA-GEN-LOCPLN-A
HL00067-0483-01-C-RC-GA-GEN-A1SITEGA-F01
HL00067-0483-03-C-RC-GA-GEN-SWGEARCONPAD-F02
HL00067-0483-04-C-RC-GA-GEN-TRFMRCNPAD-F01
HL00067-0483-06-C-RC-GA-GEN-BESSFOUNDPADS-F02
HL00067-0483-07-C-RC-GA-GEN-BESSSWGEARGRPPAD-F01
HL00067-0483-09-C-RC-GA-GEN-ECDetail-T-01