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| Case Number | 18/00613/FUL (Formerly PP-06517549) |
| Application Type | Full Planning Application |
| Proposal | Erection of a new Energy Centre for Sheffield University (amended location) |
| Location | Land Within Curtilage Of University Of Sheffield Bolsover Street Sheffield S3 7HF |
| Date Received | 12/02/2018 |
| Team | City Centre and East |
| Applicant/Agent | HLM Architects |
| Recommendation | Grant Conditionally |

Time limit for Commencement of Development

1. The development shall be begun not later than the expiration of three years from the date of this decision.

Reason: In order to comply with the requirements of the Town and Country Planning Act.

Approved/Refused Plan(s)

2. The development must be carried out in complete accordance with the following approved documents:

NEC-HLM-XX-00-DR-A-0001 Rev P8 Proposed Ground Floor Plan;
NEC-HLM-XX-ZZ-DR-A-0010 Rev P6 Proposed First and Second Floor Plans;
NEC-HLM-XX-RF-DR-A-0001 Rev P6 Proposed Roof Plan;
NEC-HLM-XX-XX-DR-A-00201 Rev P3 Proposed Sections; and
NEC-HLM-XX-XX-DR-A-0032 Rev P5 Proposed Elevations Sheet 2 received on 12/2/2018.

NEC-HLM-XX-XX-DR-A-0031 Rev P6 Proposed Elevations Sheet 1; and
NEC-HLM-XX-XX-DR-A-0033 Rev P7 Proposed Elevations Sheet 3 received on 25/4/2018

Reason: In order to define the permission.

Pre Commencement Condition(s) – ('true conditions precedent' – see notes for definition)

3. No development shall commence until details of the means of ingress and egress for vehicles engaged in the construction of the development have been submitted to and approved in writing by the Local Planning Authority. Such details shall include the arrangements for restricting the vehicles to the approved ingress and egress points. Ingress and egress for such vehicles shall be obtained only at the approved points.

Reason: In the interests of protecting the free and safe flow of traffic on the public highway it is essential that this condition is complied with before any works on site commence.

4. No development shall commence until full details of the proposed surface water drainage design, including calculations and appropriate model results, have been submitted to and approved by the Local Planning Authority. This shall include the arrangements and details for surface water infrastructure management for the life time of the development. The scheme shall detail phasing of the development and phasing of drainage provision, where appropriate. The scheme should be achieved by sustainable drainage methods whereby the management of water quantity and quality are provided. Should the design not include sustainable methods evidence must be provided to show why these methods are not feasible for this site. The surface water drainage scheme and its management shall be implemented in accordance with the approved details. No part of a phase shall be brought into use until the drainage works approved for that part have been completed.

Reason: In the interests of sustainable development and given that drainage works are one of the first elements of site infrastructure that must be installed it is essential that this condition is complied with before the development commences in order to ensure that the proposed drainage system will be fit for purpose.

Other Pre-Commencement, Pre-Occupancy and other Stage of Development Condition(s)

5. Details of all proposed external materials and finishes, including samples when requested by the Local Planning Authority, shall be submitted to and approved in writing by the Local Planning Authority before that part of the development is commenced. Thereafter, the development shall be carried out in accordance with the approved details.

Reason: In order to ensure an appropriate quality of development.

6. Large scale details, including materials and finishes, at a minimum of 1:20 of the items listed below shall be approved in writing by the Local Planning Authority before that part of the development commences:

- Windows, including reveals
- Doors
- External wall construction
- Railings
- Flues

Thereafter, the works shall be carried out in accordance with the approved details.

Reason: In order to ensure an appropriate quality of development.

7. A comprehensive and detailed landscape scheme for the site shall be submitted to and approved in writing by the Local Planning Authority before the development is commenced, or an alternative timeframe to be agreed in writing by the Local Planning Authority.

Reason: In the interests of the visual amenities of the locality.

8. Before the regular, normal use of the New Energy Centre is commenced, Validation Testing of the sound attenuation works shall have been carried out and the results submitted to and approved by the Local Planning Authority. Such Validation Testing shall:

- a) Be carried out in accordance with an approved method statement, clearly identifying relevant noise sensitive receptor positions, in terms of location, separation distance and elevation.
- b) Demonstrate, by calculation and/or measurement, that the specified noise emission level criterion has been achieved at designated noise sensitive receptor locations. In the event that the specified noise level has not been achieved at any agreed receptor location then, notwithstanding any sound attenuation works thus far approved, a further scheme of sound attenuation works capable of achieving the specified noise level and recommended by an acoustic consultant shall be submitted to and approved by the Local Planning Authority before the regular, normal use of the New Energy Centre commencing. Such further scheme of works shall be installed as approved in writing by the Local Planning Authority before the use commencing and shall thereafter be retained.

Reason: In the interests of the amenities of the future occupiers of the building.

9. Other than the proposals hereby approved, no externally mounted plant or equipment for heating, cooling or ventilation purposes, nor grilles, ducts, vents for similar internal equipment, shall be fitted to the building unless full details thereof, including acoustic emissions data, have first been submitted to and

approved in writing by the Local Planning Authority. Once installed such plant or equipment shall not be altered.

Reason: In the interests of the amenities of the locality and occupiers of adjoining property.

Other Compliance Conditions

10. The total noise emission level from on-site sources directly associated with the operation of the New Energy Centre hereby permitted shall comply with the noise criteria specified in the NVM Ltd Noise Report ref. RJ234702a; 17/03/2017. The validation criterion of a total plant noise rating level of LAeq 40dB, free field, ground-only reflecting plane, at the position of nearby dwelling's bedroom window vicinities during night-time hours of 2300 to 0700 hours shall be applied. A zero rating principle shall be adopted as the basis for the specification and design of all plant and equipment, with an objective of no clearly audible tones, intermittency or other perceivable characteristics.

Reason: In the interests of the amenities of the locality and occupiers of adjoining property.

11. The development hereby approved shall be constructed in accordance with the scheme of works/recommendations set out in the Sustainability Statement (by Nifes Consulting Group). Thereafter the scheme of works shall be retained in use and maintained for the lifetime of the development.

Reason: In order to ensure that new development makes energy savings in the interests of mitigating the effects of climate change, in accordance with Sheffield Development Framework Core Strategy Policy CS65.

12. Surface water discharge from the completed development site shall be restricted to a maximum flow rate of 5 litres per second.

Reason: In order to mitigate against the risk of flooding.

13. The proposed 3 no. extract flues will terminate a minimum of 2 metres above the roof of the adjacent Chemistry Building.

Reason: In the interests of the amenities of the locality and occupiers of adjoining property.

Attention is Drawn to the Following Directives:

1. As the proposed development abuts the public highway you are advised to contact the Highways Co-ordination Group prior to commencing works:

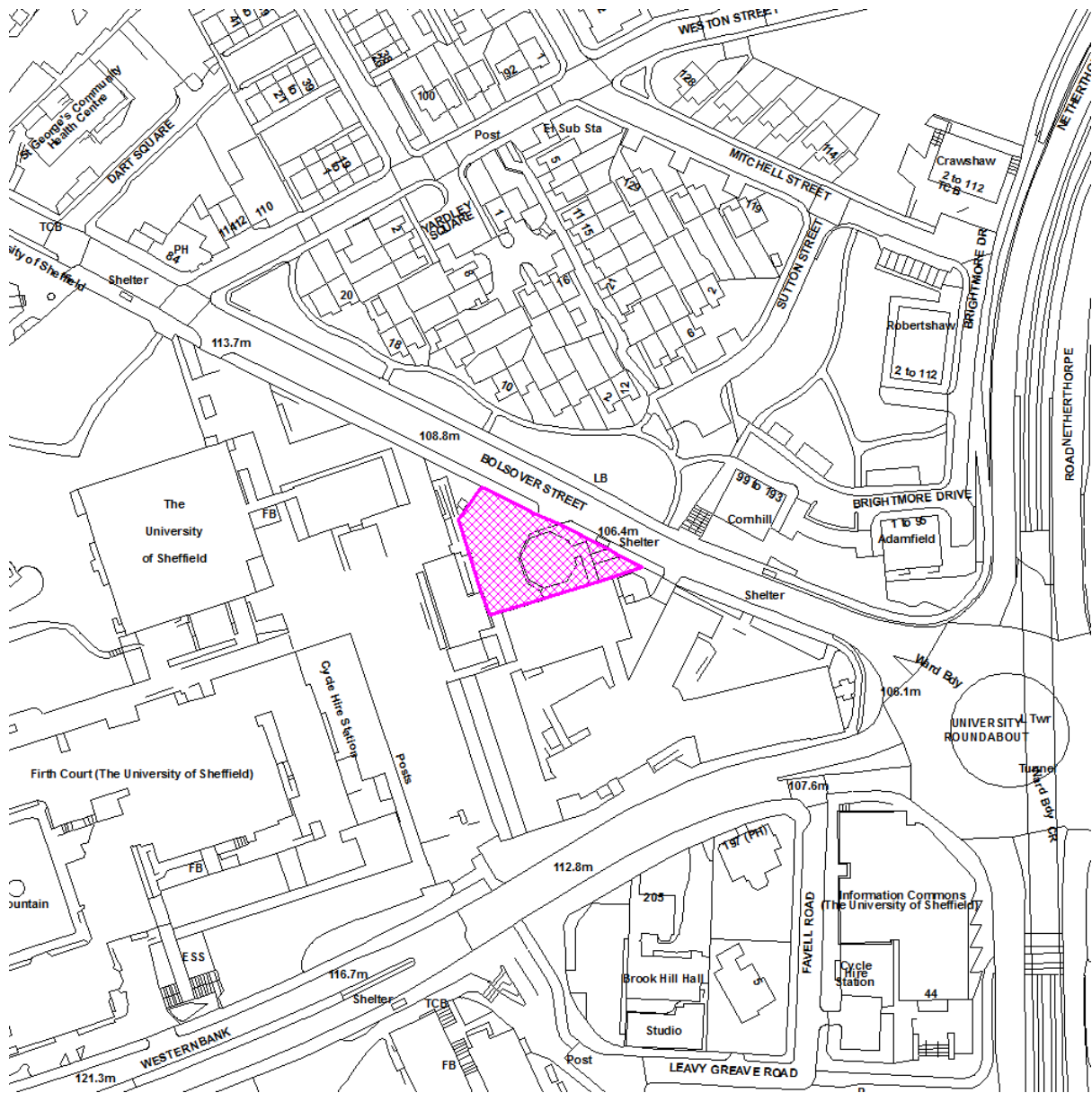
Telephone: 0114 273 6677

Email: highways@sheffield.gov.uk

They will be able to advise you of any pre-commencement condition surveys, permits, permissions or licences you may require in order to carry out your works.

2. The applicant is advised that noise and vibration from demolition and construction sites can be controlled by Sheffield City Council under Section 60 of the Control of Pollution Act 1974. As a general rule, where residential occupiers are likely to be affected, it is expected that noisy works of demolition and construction will be carried out during normal working hours, i.e. 0730 to 1800 hours Monday to Friday, and 0800 to 1300 hours on Saturdays with no working on Sundays or Public Holidays. Further advice, including a copy of the Council's Code of Practice for Minimising Nuisance from Construction and Demolition Sites is available from Environmental Protection Service, 5th Floor (North), Howden House, 1 Union Street, Sheffield, S1 2SH: Tel. (0114) 2734651, or by email at epsadmin@sheffield.gov.uk.
3. The developer is advised that in the event that any un-natural ground or unexpected contamination is encountered at any stage of the development process, the Local Planning Authority should be notified immediately. This will enable consultation with the Environmental Protection Service to ensure that the site is developed appropriately for its intended use. Any necessary remedial measures will need to be identified and subsequently agreed in writing by the Local Planning Authority.
4. The applicant should install any external lighting to the site to meet the guidance provided by the Institution of Lighting Professionals in their document GN01: 2011 "Guidance Notes for the Reduction of Obtrusive Light". This is to prevent lighting causing disamenity to neighbours. The Guidance Notes are available for free download from the 'resource' pages of the Institute of Lighting Professionals' website.
5. The Local Planning Authority has dealt with the planning application in a positive and proactive manner and sought solutions to problems where necessary in accordance with the requirements of the National Planning Policy Framework.

Site Location



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LOCATION AND PROPOSAL

The application site is located on the south side of Bolsover Street adjacent to the University of Sheffield's Chemistry Building. To the west, and raised above the application site, is the grade II* listed Arts Tower. To the north east, on the opposite side of Bolsover Street, are two thirteen storey apartment blocks, while land to the north is occupied by a row of two storey semi-detached dwellinghouses set back from the highway by a minimum of 10 metres (a minimum of 35 metres from the application site). The site is level but Bolsover Street rises from east to west such that, at its western end, the site sits approximately 2 metres below the level of Bolsover Street.

The site is used as a service yard to the Department of Chemistry and Printing Services and was previously part occupied by a single storey lecture theatre which was connected to the neighbouring seven storey Chemistry Building by a single storey link block. Both the lecture theatre and the link block were demolished earlier this year to make way for the current proposals (17/04611/DPN).

Planning permission is sought for the erection of a new energy centre for the University of Sheffield. The application states that the energy centre is required due to the number of failures in the district heating supply to this site, which has resulted in the loss of heating to the Western Bank campus and, critically, to the research areas of the site. Extended periods of heating or power loss could result in the University's research license agreement being revoked and many years of research being lost.

Some of the recent failures have lasted many weeks and, as a contingency measure, the University has had to provide emergency provision in the form of containerised oil-fired boiler units hired from a local supplier. However, in order to deliver a more resilient service, the University has determined that a new energy supply must be provided in the form of a locally generated and distributed facility.

RELEVANT PLANNING HISTORY

17/04611/DPN:

In December 2017 it was determined that prior approval was not required for the demolition of a lecture theatre, glass connecting link and steps or for the subsequent restoration of the site.

15/02336/PREAPP:

Pre-application advice for a new Energy Centre to provide electricity and heating to the University of Sheffield Western Bank main campus

SUMMARY OF REPRESENTATIONS

8 representations were made in relation to the proposed development, though three of those were from the same person. All representations either object to or raise the following concerns:

- The proposed noise levels will exceed 40dB both day and night and neighbours should not be expected to cope with this level of noise.
- The initial neighbour notification letter was misleading and suggested that the site was located on Brook Hill, but the main frontage is on Bolsover Street.
- Noise and dust from the building will adversely affect existing health conditions and the enjoyment of our home. We will be unable to leave our bedroom window open at night.
- Existing parking problems will be made worse by contractors parking on-street.
- If granted, the building should be sound-proofed so as to not disturb us at night or when we are in our garden.

PLANNING ASSESSMENT

The site lies within a designated Institution: Education Area as defined in the Unitary Development Plan (UDP). Policy CF7 (Development in Institution: Education Areas) describes education uses as the preferred use of land. The accompanying text explains that the range of acceptable uses is also intended to provide a flexible framework for ancillary uses. The proposed energy centre will allow the University to continue their research, and other functions, and will remove the potential of a damaging energy failure. For this reason the proposals are considered to be acceptable in land use terms.

Design and Heritage Issues

Policy CF8 of the UDP (Conditions on Development in Institution Areas) states that new development should be well designed and of a scale and nature appropriate to the site.

The requirement for good quality design is also embodied in policy CS74 of the Core Strategy (Design Principles), which expects high quality development that respects, takes advantage of and enhances the distinctive features of the city, and in policy BE5 of the UDP (Building Design and Siting), which encourages original architecture, but states that new buildings should complement the scale, form and architectural style of surrounding buildings.

The NPPF also advises that good design is a key aspect of sustainable development and should contribute positively to making places better for people (para. 56).

Bolsover Street is an important route into the city centre and to the University, particularly for pedestrians. However the application site, historically on the edge of the campus, caters for a range of back-of-house functions – servicing, storage and parking. The development of the energy centre provides the opportunity to transform the quality of this area.

At pre-application stage it was suggested that the building's unique role demands a suitable response; a striking piece of high quality architecture whose form celebrates its function. The design team considered various responses, inspired by the mechanical and electrical equipment the building will house. In the end they based

the design concept on the power transformer – which often incorporates a series of vertical fins for heat dissipation.

The resulting four storey building comprises of a series of simple, clean shapes, each defined by a concrete rib and clad to the front, either in corten panels or tightly aligned corten fins on a perforated aluminium mesh which will allow glimpses of the plant within.

It is considered that the scale and simple, contemporary form of the proposed energy centre, which is inspired by the transformer but also reflects the function of the structure, sits comfortably against the boxy and understated mid-twentieth century University building's which neighbour the site to the south and east. The strong verticality of the proposed front elevation is considered to reflect the vertical emphasis on the façade of the concrete and glass clad Chemistry Building to the immediate rear while the choice of materials – largely concrete and corten - is felt to be both appropriate and bold enough to add a sense of the processes involved inside the energy centre.

In addition to having a prominent position on Bolsover Street, the site effects the setting of the grade II* listed Arts Tower to the west. Paragraph 132 of the National Planning Policy Framework (NPPF) notes that 'when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting.'

A similar duty is required by Section 66 of the Planning (Listed Building & Conservation Areas) Act 1990, which states that that the local planning authority shall have 'special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.'

Policy BE19 of the UDP (Development Affecting Listed Buildings) expects proposals for development within the curtilage of a building or affecting its setting, to preserve the character and appearance of the building and its setting.

The Arts Tower sits at the end of a long forecourt (currently a car park) and adjacent to the Western Bank Library – the two buildings were the result of an architectural competition to design a masterplan for the University campus at Western Bank, won by London firm Gollins Melvin Ward & Partners in 1953. To the east, the setting of the Tower is enhanced by a dramatic level change and the design of the cyclopaedian concrete retaining wall. The dominance of the Tower over the surrounding area is most impressive from Bolsover Street.

The service area at the lower level between the Chemistry Building and the Arts Tower is utilitarian in character and low in scale and quality. The proposed energy centre is located at the south-eastern end of the service area, on the site of the former lecture theatre. In this position it is considered that the proposed development will remain subservient to both the Arts Tower and cyclopaedian wall and, while initially forming part of the foreground as you approach the Arts Tower from Brook Hill, views of the energy centre will be fleeting and so have little impact

on the Tower's setting, while general landscape improvements around the proposed energy centre will go some way to improving the quality of the remaining service area. The energy centre will not be seen in principle views of the Arts Tower from Western Bank or Weston Park.

Historic England were consulted but, on the basis of the information submitted, they did not wish to offer any comments.

It is considered that the proposed development will make a positive visual contribution to Bolsover Street but that it will not cause harm to the setting of the grade II* listed Arts Tower. Consequently, it is considered that the proposed development complies with the requirements of Policy BE19 of the UDP as well as guidance within the NPPF and the Planning (Listed Building and Conservation Areas) Act.

Amenity Issues

Policy CF8 of the UDP (Conditions on Development in Institution Areas) states that new development should not cause residents to suffer from unacceptable living conditions. In this case the proposed energy generation and distribution facility, which will use Combined Heat and Power (CHP) technology alongside a back-up diesel generator, has the potential to generate noise which could impact on the amenities of the occupants of nearby houses if not appropriately attenuated.

A noise report was submitted with the application which sought, having undertaken an environmental noise survey, to define the prevailing noise climate at the nearest noise sensitive receptors and to confirm that the target noise criterion of LAeq 40dB total plant rating noise level (the noise level previously agreed with the Environmental Protection Service and as outlined in BS 8233 Guidance on Sound insulation and Noise Reduction for Buildings), with no tonality, can be achieved.

There was some concern that the original submission lacked sufficient data, in relation to the sound emissions from plant, in order to assess the actual impact of the proposed energy centre, but it is also understood that there is some uncertainty at this stage of the project regarding the detailed specification of plant as the scheme has yet to go out to tender and appropriate suppliers have yet to be identified.

Following further discussions, the Environmental Protection Service (EPS) are satisfied that the target noise criterion of LAeq 40dB total plant rating noise level can be achieved (current worst case background noise at night time was recorded as LA90 46dB) and the applicant is willing for this stringent noise criterion to be imposed by way of a condition. It was also agreed that, in the event that verification testing on commissioning of the energy centre proved noise levels to exceed the criterion, the applicant would undertake to upgrade mitigation in order to achieve the required acoustic performance.

In addition to noise, the proposals raise potential air quality concerns. The energy centre will house one gas fired CHP engine, two gas fired hot water boilers and one standby diesel generator. One of the boilers will have dual-fuel firing capability, but

the option to fire on oil is for emergency purposes only (in the event of catastrophic failure).

The CHP engine will be operated on a continuous basis to supply part of the University's electrical demand and to provide space heating and domestic hot water in some areas. The boilers are to be used intermittently to supplement the site heating and hot water load, with only one boiler in use at any one time. New flues will be required for each piece of plant (3 in total), which will run up the north facing elevation of the adjoining Chemistry Building.

The whole of Sheffield's urban area is designated as an Air Quality Management Area (AQMA), with concern focusing on NO₂ levels. Modelling has been carried out to determine both the maximum annual and hourly ground level pollutant concentrations of NO₂, as well as identifying the areas around the site where the environmental impact is most significant.

The modelling results indicate that the background air quality resulting from any of the pollutants emitted from the engine and boilers is fairly low and well below the national air quality standards (NAQS). The problem in this particular instance is that the existing air quality around the site of the proposed energy centre is poor and already exceeds the NAQS long term NO₂ concentration limit of 40 Jg/m³ in several locations.

It should be noted, however, that taken in isolation, the maximum concentration figures can be a little misleading as a guide to the impact of the proposed plant and that the extent of the impact needs also to be considered. Pollutant contour maps clearly indicate that only a few localised areas to the east of the energy centre suffer any appreciable detrimental impact. Further analysis demonstrates that emissions hotspots are caused by the presence of the Chemistry Building (exhaust gas downwash from the air flow passing over the building) and that were this building not present, the plant's impact on air quality would be negligible.

The Council's Air Quality Officer is satisfied, based on the evidence submitted, that provided the proposed flues terminate at least 2 metres above the height of the adjacent Chemistry Building, the impact of the development on local air quality will be near neutral.

Sustainability

Policy CS63 of the Core Strategy (Responses to Climate Change) gives priority to developments that increase energy efficiency, reduce energy consumption and carbon emissions, and that generate renewable energy.

Similarly policy CS64 (Climate Change, Resources and Sustainable Design of Developments) requires all new buildings to be energy efficient and to use resources sustainably, while policy CS65 (Renewable Energy and Carbon Reduction) seeks to secure the generation of energy from renewable sources, with 10% of predicted energy needs provided from decentralised and renewable or low carbon energy.

The need for the proposed energy centre is driven by the failures of the district heating supply and the particularly sensitive requirements of the site's research facilities. As previously described, extended periods of heating or power loss could result in the University's research license agreement being revoked and many years of research being lost.

The submitted Sustainability Statement describes the key factors in determining the nature of the proposed energy centre – reliability of operation, resilience in the event of failure, legislative compliance (based on Home Office requirements) and economic viability. Initially a combination of diesel generators and gas-fired boiler plant was considered, but further investigation determined that Combined Heat and Power (CHP) technology could be used, in combination with a back-up diesel generator. CHP is a decentralised, efficient process which generates both heat and electricity, unlike conventional power generation where heat is often wasted, and can reduce carbon emissions by up to 30%. CHP can also reduce costs and increase fuel supply security. The use of CHP is consistent with the aims of the Core Strategy and is therefore supported.

Highway Issues

Policy CF8 of the UDP (Conditions on Development in Institution Areas) states that new development should be adequately served by transport facilities and provide safe access to the highway network.

The site lies in close proximity to Brook Hill roundabout, on Sheffield's inner ring road and so is easily accessible. As the existing vehicular access will remain in use, and vehicles will continue to be able to enter and leave the site in a forward gear, the proposed development does not raise any highway safety concerns.

RESPONSE TO REPRESENTATIONS

It was acknowledged that the original neighbour notification letter was misleading as it described the site as 'within the curtilage of the University of Sheffield Dainton Building, Brook Hill' and while technically correct, new letters were sent out with the site address defined as land 'within the curtilage of The University of Sheffield, Bolsover Street.'

SUMMARY AND RECOMMENDATION

The proposed energy centre will provide the University's Western Bank campus with more sustainable and, critically, more reliable heat and power with near negligible impact on air quality and, subject to conditions limiting noise output, no harmful impact on residential amenities.

The proposed energy centre is considered to be appropriately sited, within a service area on the edge of the campus, where access is good and where the striking, contemporary design of the building, whose form celebrates its function, will have a positive impact on the street scene. It is considered that the development will not harm the setting of the neighbouring grade II* listed Arts Tower.

It is therefore recommended that Members grant planning permission subject to the listed conditions.

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