



The Regis School

Biomass Flue Submission

Planning Statement, including Design Statement

Stride Treglown job no.	13375
Prepared by	ACB
Checked by	LD
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1. Introduction

1.1. Development of the Regis School

- 1.1.1 In 2006/7 West Sussex County Council sought to improve the educational and community facilities available at the Westloats Lane 'education campus'. At the time Bognor Regis Community College operated on two split sites and there were separate infants and junior schools separated by the Arena sports complex. West Sussex County Council obtained funding from the government through the Building Schools for the Future (BSF) programme to redevelop Bognor Regis Community College. It also obtained funding to consolidate the infant and junior schools on the campus, in a separate but related project.
- 1.1.2 Redevelopment enabled the provision of buildings to meet today's educational requirements and to avoid the logistical difficulties and inefficiencies of the split site operation of the Community College.
- 1.1.3 Planning permission was granted for the new 1800 place school by West Sussex County Council in July 2008 (ref BR/99/08). The planning application drawings had been prepared at an early stage in the design of the services and based on advice at the time, the drawings showed an energy centre building within a service compound separated from the main school building, in the south east corner of the campus. The energy centre was to provide an electrical switch room, sprinkler plant room and biomass boiler, supplemented by a gas boiler to provide back up. The elevations showed nominal extract flues above the energy centre building for the two boilers.
- 1.1.4 Arun District Council was a consultee in respect of the 2008 planning application. Comments from Environmental Health were restricted to potential contamination and lighting impacts.

1.2. The Biomass Boiler

- 1.2.1 This application is for the provision of a new flue for the bio-mass boiler, to overcome issues that have emerged since the opening of the new school. The bio-mass boiler was an integral part of the drive to develop a highly sustainable school and secure a 60% carbon saving over the requirements of Part L2 of the Building Regulations. The boiler was designed to provide the required load to serve the Low Pressure Hot Water (LPWH) distributed heating system; the biomass operates using woodchip pellets, which are stored adjacent to the energy centre building. This is backed up by high efficiency condensing gas boilers that provide resilience in case of supply or other difficulties.

Existing Biomass Boiler Flue details

- 1.2.2 During the development of the details of the energy centre during construction, some minor amendments were needed to the external appearance of the energy centre and the mechanical and electrical engineers were asked to confirm the height of the flue. The engineers confirmed that the flue height should be 2.9 metres above the roof of the energy centre. Amended plans were submitted to West Sussex County Council in December 2009 showing an increase in flue height to 2.9 metres above the height of the energy centre, discharging at a height of over 7 metres above ground level, with the assistance of an electric fan.
- 1.2.3 Drawing ref SDY STR ELV L(00) 203 Rev M was approved as a non material amendment to the original planning permission on 21 January 2010, and the flue was subsequently completed in line with the approved drawing.

1.3. Use of the Biomass Boiler

- 1.3.1 When the school opened in 2010, there were teething problems with the biomass boiler operation, which resulted in excess smoke when starting the boiler up from cold. The quality of the fuel that had been supplied was found to be unsatisfactory and in cold conditions this led to issues with the dispersion of smoke and smell. Following a complaint that smoke could be smelt within parts of the school building, it was ascertained that the appropriate approval had not been sought under the Clean Air Act 1993, prior to operation.
- 1.3.2 A retrospective application was accordingly submitted for approval to Arun District Council, under the Clean Air Act. This included a Local Air Quality Assessment, prepared by Ramboll, which concluded that short term air quality objectives would not be exceeded at any of the receptors identified, although the grounding of emissions could cause a potential nuisance for staff and pupils using the eastern and south-eastern parts of the school. Mitigation was suggested by starting up and shutting down the boiler when the school building was unoccupied or keeping the the boiler running overnight on low load. A copy of this report accompanies the planning application.
- 1.3.3 The application for consent for the flue was refused by Arun District Council and an appeal was submitted to the Department for Environment and Rural Affairs in January 2013. The appeal was finally determined on 18 November 2013, when the Secretary of State rejected the application in support of the existing 7 metre high chimney. In doing so, the Secretary of State determined that the minimum height of the flue should be 20.2 metres above ground level. A copy of the decision letter is submitted with the application.
- 1.3.4 The proposal is to cap the existing flue on the energy centre roof (drawing SDY STR ELV L(00) 203 Rev M) and to replace it with a freestanding flue 21.2 metres high in order to meet the outcome of the appeal under the Clean Air Act 1993.

2. Design Statement

Scale and Appearance

- 2.1.1 In accordance with the Secretary of State's decision, in order to obtain consent under the Clean Air Act 1993 to operate the biomass boiler, a flue will need to be constructed discharging at a minimum 20.2 metres above ground level. The flue needs to be 650 mm in diameter. The horizontal connecting flue can be a smaller diameter at 450mm.
- 2.1.2 The diameter at 650mm would give the appearance of a slender flue. It would be anchored to the ground and to the side of the building.
- 2.1.3 The flue would be finished in stainless steel in accordance with British and European Regulations for biomass appliances.

Layout

- 2.1.4 The flue has to be installed so that the boiler can be easily connected to it. The flue would be fixed to the flank wall of the energy centre and connected to the existing flue by a horizontal section across the roof of the energy centre building. The internal layout and shortage of space in the energy centre prevents the new flue from being taken through the flank wall of the building.

Access

- 2.1.5 There are no implications for accessibility with this proposal.

3. Planning Policy & Pre-Application Response

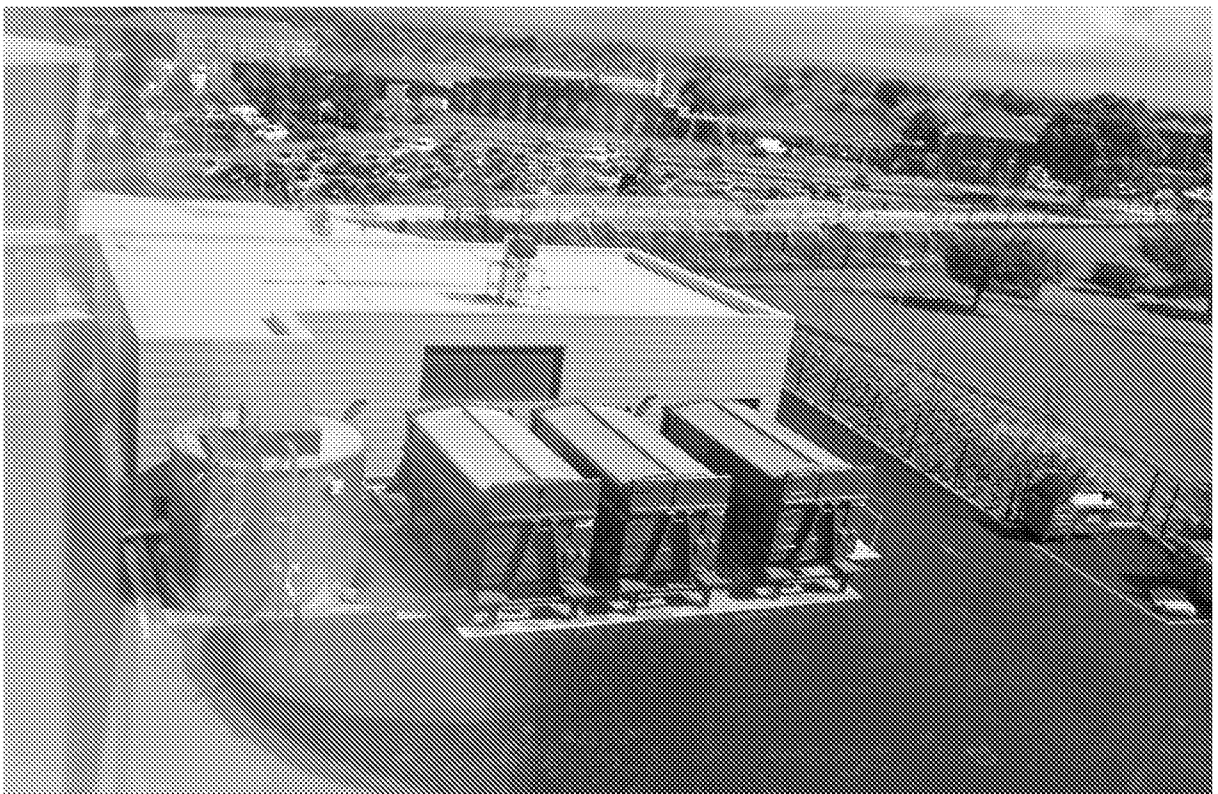
- 3.1.1 Relevant planning policy is contained in the Arun District Local Plan 2003. Policy GEN21 Renewable Energy supports renewable energy generation, subject to there being, inter alia, no unacceptable impact on the amenity of neighbours or public safety.
- 3.1.2 The national Planning Policy Framework (NPPF) is relevant in that section 10 supports efforts to achieve a low carbon future. At para 99, in respect of energy development, the NPPF supports 'even small-scale projects' that will cut greenhouse gas emissions and planning authorities are asked to approve an application if its impacts can be made acceptable, subject to any other material considerations.
- 3.1.3 The biomass boiler is the only renewable technology installed and was to provide the energy credits available to the project under the 'BREEAM' process and achieve Part L Compliance, enabling the development to achieve a 'very good' rating under the BREEAM assessment process. The development received a substantial grant from the Renewable Heat Initiative, which would have to be repaid if the biomass boiler could not be used. The school had a contract for a year's supply of wood pellets, which it has not been able to deploy due to the ongoing problems. Accordingly, it is vital that the biomass boiler should be capable of operation. Until now, the fall back gas boilers have had to be used to provide heating for the school. These boilers are sized at 65% of the heat load and should act as standby boilers. Currently they are being used as lead boilers which could potentially leave the school building with an issue in the long term should the ability to operate the bio-mass boiler be lost.
- 3.1.4 Without a flue of this height it will continue to be unlawful to operate the biomass boiler and the investment in the boiler will have been wasted.
- 3.1.5 Policy GEN 7 Arun District Local Plan is a general design policy requiring high quality design and layout. Para 65 of the NPPF says that planning authorities should not refuse planning permission for buildings or infrastructure which promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design.
- 3.1.6 The flue is to be sited on the north east wall of the energy centre in an area of existing landscaping. From the nearest house on Frith Road, the flue will be a minimum of 52 metres from the boundary and 66 metres from the dwelling itself. The flue will be seen externally against a backdrop of the existing 4 storey school building, which is 17.2 metre high to the top of the roof plant screen. The flue would also be seen in the context of maturing trees, both new planting from the redevelopment of the school and pre-existing planting.
- 3.1.7 Whilst it may have been preferable to have avoided a flue of this height, it is located where its impact from external views and from the rear of the neighbouring houses is limited.

4. Conclusion

- 4.1.1 The Regis school has been unable to operate the biomass boiler, which was the subject of a substantial grant to demonstrate good practice in the use of sustainable energy, as a result of the issues with smoke from start up and the failure to obtain approval under the Clean Air Act 1993, which was not the responsibility of the school.
- 4.1.2 It has been found necessary to increase the height of the flue from the original 7 metres above ground level to a minimum of 20.2 metres above ground level. The proposed flue has been sited so that it will be seen against a background of the school buildings and is sufficiently distant from the surrounding housing to provide a significant adverse visual impact. Provision of the flue will enable the school to significantly reduce its carbon footprint by enabling the use of the bio-mass boiler instead of the gas back-up boiler.



Entrance to the school with the energy centre behind the cycle store to the left



View of the roof of the energy centre from the school building looking north



Close up from within the energy centre compound