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INTRODUCTION

- 16.1 The requirement to consider alternatives stems primarily from the requirements of the EIA Regulations. Schedule 4 of the Regulations identifies the information for inclusion in Environmental Statements. Parts 1 (2) and 2 (4) include;

“An outline of the main alternatives studied and an indication of the main reasons for his choice, taking into account the environmental effects”.

- 16.2 However, Welsh Office Circular 11/99 explains that the EIA Directive and the EIA Regulations “do not expressly require the developer to study alternatives” (paragraph 83). However, it adds “the nature of certain developments and their location may make the consideration of alternative sites a material consideration”.

- 16.3 Moreover, case law indicates that the EIA regulations do not require an assessment of alternatives. From the Arsenal Football Case¹ it was noted:

“What needs to be covered in the Environmental Statement are the alternatives which the developer has considered ... The Regulations do not require alternatives which have not been considered by the developer to be covered, even though the local planning authority might consider that they ought to have been considered”

- 16.4 Allied to this, the inspector presiding over the “Ince Marshes” appeal² comments at paragraph 11.9 of his report:

“I also do not accept that there is a requirement under the Environmental Impact Assessment regulations that the proponents of these schemes should have presented a fuller assessment of alternative sites within the Environmental Statement. The question of whether that is required by planning policy is a matter that will be looked at later within this report but there is no express requirement in the Directive and the Regulations that a developer study alternative sites. Paragraph 2 of Part I of Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 requires the developer to include in the Environmental Statement an outline of the main alternatives studied and an indication of the main reasons for his choice.”

CHOICE OF SITE

- 16.5 The choice of site for the proposed ERF has been influenced by the procurement process for the North Wales Residual Waste Treatment Project. Initially the applicant considered a site located on the Isle of Anglesey; this site was controlled by a third party and subsequently became unavailable for

¹ R (on the application of Bedford and Clare) -v- London Borough of Islington and Arsenal Football Club (2002)

² Appeal under Section 78 TCPA 1990 by Peel Holdings Limited relating to a Refuse Derived Fuel plant and a Resource Recovery Park on land at Ince Marshes. DCLG ref. APP/Z0645/A/07/2059609

development for an ERF. As such the applicant had to consider an alternative site.

16.6 Considering the overall requirements, and particularly:

- brownfield land;
- size and shape of the land;
- allocated for waste management use or employment use;
- proximity to the strategic road network in the region;
- the ability to provide a connection to the rail network;
- remoteness from residential areas.

the application site was chosen.

16.7 At the same time, a detailed site selection process was undertaken by the North Wales Residual Waste Treatment Project which culminated in the application site being put forward as a reference site.

CHOICE OF TECHNOLOGY

16.8 The choice of technology to use was also influenced by the procurement process for the North Wales Residual Waste Treatment Project. In particular it is necessary to have a proven technology. Allied to this, the nature of the residual waste stream also influenced the choice of technology: the organic fraction in the waste stream is segregated at source and sent to AD facilities for treatment. Accordingly, technologies based on Mechanical Biological Treatment are not suitable. Given that the choice of technology was made at an early stage, other technologies have not been considered in the EIA.

16.9 Consideration has been given to the height of the flue stack (refer to Appendix 6/1). In this context to ensure the optimum dispersion of emission from the stack, a stack height determination was undertaken. This indicates that a stack height of 85m achieves effective dispersion and minimisation of building wake effects.

16.10 Consideration has also been given to the sensitivity of the dispersion model, with a total of nine different models run.

ARCHITECTURAL DESIGN EVOLUTION

16.11 The architectural design of Parc Adfer has undergone several iterations, which are reported in full in the Design and Access Statement accompanying the planning application. Most of the iterations were undertaken prior to the EIA, but were a result of collaboration between architects and landscape architects. Referring to the Design and Access Statement:

“The evolution of the design proposals for the Parc Adfer ERF has been heavily influenced by the constraints and opportunities offered by the existing site, and alternative designs which incorporated the technical requirements of the brief were tried and tested against these to determine an architectural approach which best offered an appropriate response to the Site’s setting”.

- 16.12 Also from the Design and Access Statement, it is noted that from the outset the architects 'form follows function' design approach has been to develop an architecture which would minimise the volume, height and scale of Parc Adfer. Amongst other things this approach has influenced the design of the form of its various buildings and structures and has steered the architects away from designs which might overly sculpt these and create unnecessary additional height and volume as a result. Applying this approach to the building's roofscape has led the architects to avoid the use of curved roofs to avoid generating additional and unnecessary roof height, and to avoid light reflection making the ERF roofs appearing 'white' and dominant within the landscape. It has also steered the architects away from adopting designs where the roof plates would oversail the facades and cast linear shadow lines on the building's facades which in their darkness prevent the blending with the skyline.
- 16.13 The proposed volumetrically refined design of the ERF has embraced the architects design approach and best mitigates the visual impact of the facility and is appropriate to the industrial nature of the sites context and the building's function. The boiler hall, being the tallest building structure would be the most significant profile against the skyline and its architecturally refined appearance successfully minimises the scale and mass of the building at high level. In keeping with the other roof plates, the low pitched roof plate of the boiler hall is concealed behind parapet walls and whilst this ensures that there are no shadows generated along its top edge, it also helps to maintains a clean skyline by helping to conceal roof top equipment from view.
- 16.14 In order to avoid visual fragmentation of the overall silhouette of the ERF, support accommodation is co-located to either side of the main boiler hall building to form discrete, homogeneous extensions. The workshop, changing areas, offices, control room and visitor areas are co-located in a single extension on the west elevation. The mass of this element is combined with that of the bunker volume and visually forms a horizontal wrap around the boiler hall's core. This aids in reducing the overall scale of the building, providing a visual anchor point, and on the west a civic frontage to the elevation. Glazed window bands at each floor level offer further visual interest and give the façade a human scale. Interlocked at the southern end of with this volume is its service stair and lift tower which rises higher than the rooftop of the administration wing to access higher floor plate levels within the boiler hall. When viewed from the west its cladding and colour blends with the boiler hall but in contrast its southern face mimics the glazed patterns and colour of the administration wing expressing it as an occupied rather than process space. The same refined architectural treatment is applied to other adjoining process buildings and establishes a coherent family of buildings on the site with two contrasting cladding colours employed to further reduce the massing of the facility.

OTHER DESIGN ITERATIONS

- 16.15 Consideration has been given to the elevation of the platform upon which the ERF would be constructed. The driver for this has been to ensure that there is an overall cut and fill balance for material that needs to be excavated to create the development platform. Based on 3D modelling, the initial level of around 10.1m AOD meant that material would need to be exported from the site to a suitably licensed facility. An elevation of 11.1m AOD was then tested, which showed a potential deficit of material, which would potentially require the importation of fill material. The potential impacts of increasing the height (particularly in relation to landscape and visual impacts) were examined and found to have minimal change from building the ERF at an elevation of 10.1m AOD. The development platform was finally fixed at 10.3m AOD, which provides a cut/fill balance.
- 16.16 There have been minor changes to the layout in relation to ancillary infrastructure, such as location of storage tanks, fencing, landscape treatment and drainage. Changes to the fencing and storage tanks were driven by operational needs. The changes (evolution) to the landscaping scheme have been informed by the landscape and visual impact assessment, together with the ecology assessment. The drainage scheme has evolved to satisfy operational needs, together with the need to ensure that any water discharged from the site meets the required standards. This involved having separate drainage for the IBA area and remainder of the site and then having a single drainage system.

INCLUSION OF RAIL CONNECTION

- 16.17 The need for a rail connection stems from the original 'brief' for the procurement. Through the procurement process, the decision was made by the North Wales Residual Waste Treatment Project to pursue a road only option.
- 16.18 Despite this, it was decided to retain the option to for a rail connection, be it that the infrastructure would only be installed should the need arise in the future. As such, consideration has been given to both options in the EIA.

DO NOTHING SCENARIO

- 16.19 In the absence of the development, up to 200,000t of residual waste would still need to be managed at an appropriate facility, in common with the balance of residual waste arising within the region (refer to Chapter 6 in Volume 1). At the present time, there are no comparable energy recovery facilities within Flintshire, or the wider region and thus the 200,000t of residual waste would either be deposited in landfill sites within the region (or indeed further afield), or exported to suitable energy recovery facilities (the nearest being located in England), treatment facilities (the nearest being in Wrexham).