

## PROOF OF EVIDENCE – APPENDICES PLANNING MR CHRISTOPHER LECOINTE

#### **On behalf of Britaniacrest Recycling Limited**

In relation to an appeal against the decision of West Sussex County Council to refuse planning permission for a proposed Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure at Wealden Brickworks, Horsham



#### Appendices

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### Appendix 1

Design

# **STATEMENT ON DESIGN APPROACH**

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# **1** INTRODUCTION

#### Witness for the Applicant

- 1.1 My name is Mark James Hilton BA (Hons) DipArch RIBA. I am a Chartered Architect and Associate at RPS Group plc. I have over 30 years' experience in architectural design and became a qualified architect in 1997. My ARB registration number is 061944B and my RIBA member number is 8768024.
- 1.2 Since September 1996 I have been employed by RPS (formally Burks Green until acquisition in 2006) at the same office, in Newark, Nottinghamshire. Over this 24 year period I have gained extensive experience in a variety of commercial projects across the UK and overseas. I have experience on many complex large scale industrial and commercial master-planning projects across a variety of different work sectors including waste and energy, distribution warehousing and aviation.
- 1.3 One of my main roles within RPS is to head up and manage the Newark visualisation design team. This team of six dedicated staff develop early conceptual designs and masterplans for new project schemes including, high-end CGI visuals, animations and VR simulations to support potential new developments.
- 1.4 I have experience of over 15 years working extensively within the waste and energy sector and have worked on many bids and successful completed projects within the UK. The primary role for most of the projects was acting as concept design architect working at the pre-planning stages of the projects. I have also acted as a local authority Design Champion on a key, land-mark residual waste project in Gloucestershire for Gloucestershire County Council.
- 1.5 A summary of previous key Waste and Energy projects which I have worked on are set out below:
  - Design Champion role for Gloucestershire County Council on their residual waste project at Javelin Park, Gloucester. For this role, I worked for GCC throughout the final four bidders' tender period for the project, advising on architectural design and aiding the choice of preferred bidder. The successful EFW scheme has recently (2019) been completed at Junction 12 on the M5. At c.50m high, the building is now a prominent local landmark for the area.
  - Architect and Visualisation Team Manager for the Buckinghamshire EfW at Calvert for

WRG (Waste Recycling Group). For this project I was involved heavily at the pre planning stage, producing site wide masterplanning and multiple conceptual design solutions to address the sensitive local views, including accompanying 3D visuals of the Facility. The preferred conceptual solution, now built, incorporated a curved roof (with projecting boiler hall) and an earthed mound at one end of the Facility. This concept has similarities with the solution proposed for the Sussex Facility.

- Architect and Visualisation Team Manager for the Renescience, Anaerobic Digestion energy from waste plant, for Dong Energy in Northwich. On this project (completed 2018), I was involved heavily at the early pre planning stages of this project producing concept and masterplanning designs to satisfy the demands of this new emerging technology within a heavily compact and constrained site.
- Architect and visualisation team manager for the expansion of the Eastcroft EFW in Nottingham city centre for WRG (Waste Recycling Group). For this project, which began in 2007, I was responsible for the conceptual design changes to the existing energy from waste facility which subsequently, successfully achieved planning permission.
- Architect and Visualisation Team Manager for the intended RES Biomass Power Station, North Blyth, Northumbria. For this project I was involved from day one with the client, developing alternative conceptual design solutions for the proposed facility. The planning process involved presentations to CABE to help achieve design approval. The preferred solution was successfully awarded planning approval through the National Infrastructure Planning process. The project was subsequently cancelled by RES in 2014 due to funding issues and uncertainty in government policy.
- Architect and Visualisation Team Manager for the Brig Y Cwm EFW for Covanta energy. Responsibilities included early scheme designs and concepts for this sensitive project within the Welsh Valleys. The final solution involved a singleroof across the whole structure. As part of my role, I attended several public consultation events to help promote the scheme through planning.
- Visualisation Team Manager for the Ecostore at Drax Power Station. This huge biomass project now complete and operational was design managed by RPS. The team produced high level photomontage views to help secure this project through planning.
- Visualisation Team Manager for the Cornwall Energy Recovery Centre (CERC) at St Dennis. The team produced a number of high level photomontage views to help secure this project through planning. RPS were lead designers on both the architecture and

engineering on this project.

# 2 PROJECT BRIEF

2.1 The initial brief given to RPS by the Appellant, Britaniacrest Recycling Ltd, was to design a site layout that would host a waste fuelled energy recovery facility ('the 'Facility') at the former Wealden Brickworks. The layout was to meet a functional specification prepared by the Appellant, that described the processes that were to be accommodated within the Facility. These comprised an area for receipt and storage of the waste, housing the function of the current transfer station on the site; a grate, furnace and boiler hall for the thermal processing; a steam cycle with a turbo-generator for producing power with an air-cooled condenser for returning the superheated steam produced back to boiler feedwater; a flue gas treatment area with stack; and the site infrastructure including roads, weighbridge with office, an administration block and parking for both HGVs and private cars. The Facility was to process a total of 230,000 tonnes per annum of non-hazardous waste from commercial, industrial and household sources, of which approximately 180,000 tonnes per annum (depending on net calorific value) would be subjected to thermal treatment. Initially, no specific technology supplier was nominated and RPS was requested to develop a layout based on a generic combustion technology using its previous experience. Following receipt of proposals from potential plant suppliers by the Appellant, the design of the facility was developed in line with their professional advice. I describe the design process further in section 3 below.

# 3 DESIGN APPROACH

### Site location and context

- 3.1 The appeal site is located at the former Wealden Brickworks site, situated adjacent to (south and west of) Brookhurst Wood Landfill Site, in the Parish of North Horsham, in Horsham District.
- 3.2 Horsham town is 900m south-east of the site whilst the village of Warnham lies approximately 1.3km to the south-west. The Horsham to Dorking railway abuts the western boundary of the site. The site's southern boundary is bordered by the internal access road, the eastern extent of which links with Langhurstwood Road and is shared with the wider Brookhurst Wood site including Warnham (Wienerberger) Brickworks, the mechanical biological treatment (MBT) waste facility, and Biffa's aggregate recycling site.
- 3.3 The site includes a large former brickworks building and a single storey brick building (30m x 10m and 3.5 to 6m in height), and an open expanse of concrete surfacing.
- 3.4 Outside of the wider Brookhurst Wood site to the west, south and east are small, isolated groups of dwellings and open countryside. To the north are large industrial and commercial developments including Fisher Scientific Services and Broadlands Business Park whilst to the north-east is the active Graylands Clay Pit. A cluster of commercial/industrial companies is located around Warnham station to the southwest of the site.
- 3.5 There are fifteen dwelling lying between the site entrance and the A264, the dual carriageway some 750m to the south. The closest residential properties to the main area of the development are at Graylands Lodge (on Langhurstwood Road) approximately 250m to the north-east, along Station Road approximately 290m to the south-west and on Langhurstwood Road approximately 290m to the south-east.

### Site Layout

3.6 The total site area subject to this appeal is 3.79ha, including the external site road up to the point at which it connects with the public highway, Langhustwood Road. The appeal development would be contained within the land under the applicant's ownership, comprising 3.29ha. It sits within an enclave of the greater Brookhurst

Wood site, isolated and well screened from the public highway.

- 3.7 From an architectural perspective, the existing site sits within an industrial enclave that contains a number of developments, which with the exception of adjacent MBT facility are of low architectural quality, and mainly consist of utilitarian buildings with associated outdoor vehicle parking and storage areas notably the Weinerberger brickworks and the Appellant's current site. Some developments within the enclave also contain outdoor equipment and plant. As is typical of industrial areas of this type and age there is no real visual consistency to the developments and as such it appears piecemeal. Hence, there is little built environment within the appellant site's immediate surroundings and context to which the architectural design can respond.
- 3.8 From the outset, it was recognised that due to the scale of the Facility, particularly the stack that would be required for such a facility, it would be impossible for it to be totally "hidden". However, it was felt that a design could be developed that would enhance the existing site context and fit well within the setting of the industrial area of the site, particularly considering its relatively remote location and restricted views from the public highway and most surrounding areas.
- 3.9 It was felt initially, that what was required was a building design that made a positive and confident architectural statement one which celebrated its presence whilst at the same time gave due consideration to its surroundings. Later this approach was modified to give greater emphasis on minimising the scale of the main building, improving design quality, and reducing its visibility by using the dark, autumnal colours of the High Weald colour palette, whilst at the same time creating a positive and confident architectural statement that celebrates its presence as a state of the art, modern facility. It is the latter consideration that is embodied within the extant design proposal and the subject of this appeal.
- 3.10 In summary then, the design objectives in developing the proposed design can be summarised as:
  - Minimising the building footprint but maximising design quality;
  - Minimising where possible the individual building sizes;
  - Ensuring the massing and scale of the development was such that it mitigates visual impact;

- Establishing a coherent family of buildings within the site;
- Creating a public southern face to the main building for people approaching along the access road from Langhurstwood Road and a more visually concealed eastern face;
- Establishing a logical and efficient process route through the Facility;
- Establishing intuitive, efficient and safe traffic management for all vehicles circulating within the site, including entry and egress to and from the various process areas;
- Segregating as far as possible operational heavy goods vehicles (HGVs) from staff and visitor private cars;
- Ensuring where possible that HGVs have right-hand down reverse turning when manoeuvring;
- Providing adequate queuing and manoeuvring space within the site for all vehicles;
- Locating the air-cooled condenser (ACC) to minimise its visual impact;
- Developing a successful landscaping strategy that visually enhances and where appropriate secures the perimeter of the site.
- 3.11 The building footprint is largely dictated by the internal linear processes that take place within it, which are specific and prescriptive, and which inform the scale and sizes of the buildings concerned and their accessibility within the site. The purpose of the Facility is to receive, store and sort waste, followed by thermal treatment of the faction that is not able to be recovered in the sorting process. Hence the core elements of the main building layout design include:
  - Waste reception hall
  - Waste processing hall
  - Waste storage bunker
  - Boiler hall
  - Bottom ash collection hall
  - Flue gas treatment (FGT) with a single stack
  - Turbine generator hall
  - Air-cooled condenser (ACC)
  - Control room

- Visitor reception area
- Offices and meeting rooms
- Staff welfare and changing facilities

and a number of ancillary buildings and site infrastructure including:

- Gatehouse
- Weighbridges
- Staff and visitor parking
- Hardstanding areas for HGVs
- Fire water storage tank and fire protection system
- Electrical control room and substation
- 3.12 The location of the built footprint has been designed to avoid two sensitive ponds to the north which contain great crested newts. In addition, areas for landscape and ecological enhancement planting have been provided to the East and North Eastern boundary to minimise the potential for ecological impacts as well as minimising external visual impact.
- 3.13 Health and safety issues have to be a key consideration in the design of a facility of this kind, resulting in the creation of one-way systems for industrial vehicles to navigate around the site safely whilst segregating the staff and visitors and making routes legible so that way-finding is simple and clear. The gatehouse is provided with generous space to allow for queuing in either direction clear of the public highway.
- 3.14 The basic flow of the Facility is that waste vehicles pass by the gatehouse, across the weighbridge and into the tipping hall. HGV's carrying mixed waste unload into the waste processing hall so that recyclable material can be separated and HGVs with entirely non-recyclable waste tip directly into the bunker. Recyclable materials are separated and stored temporarily in the external storage building to the north east corner of the site before being transferred off site for further processing.
- 3.15 The residual waste within the bunker is then combusted on a reciprocating grate within the boiler hall, producing steam in the boiler which is expanded in a turbogenerator to generate electricity. Approximately 21MW of electricity would be

generated, a proportion of which will be used to power the Facility itself. The remainder will be exported to the local distribution network through a grid connection with the regional distribution network operator (DNO), UK Power Networks.

3.16 Gases produced during the combustion process pass through neutralisation, conditioning and filtration processes within the flue gas treatment area before being ejected through the stack. Ash from the combustion process is stored in a bunker before being removed from the site for re-processing. Residue from the flue gas treatment collected from the filters is stored in a silo before being removed by a vacuum tanker for either further processing for recycling, or disposal.

### **Design Evolution – Pre April 2017**

- 3.17 Following the publication of initial layouts based on the brief issued by the Appellant, the Appellant enquired of experienced suppliers of energy from waste facilities, requesting their expressions of interest and proposals. Initially proposals were received from two suppliers Babcock Volund and Hitachi Zosen Inova (HZI), both of which have designed and built numerous similar plants within the UK and around the world. In the event, from the proposals received from the potential suppliers, an arrangement in plan view was developed that optimised the footprint of the Facility, whilst enabling the Appellant's brief to be met by integrating the received that could be recycled to be sorted prior to the residual waste being placed within the storage bunker for thermal treatment.
- 3.18 Following this optimisation of the plan arrangement and footprint, RPS developed the elevational views using the building as an envelope to wrap around the process technology. At this stage, however, no process equipment supplier had been selected as suppliers will not commit resources to a full tendered offer until the client has secured the required planning permission to enable the Facility to be constructed. In consequence, RPS designed a building envelope that could accommodate the outline proposals submitted by both potential suppliers. In the event, both required a building envelope that was broadly similar to each other but differed in some dimensions. Hence, the building design was based purely on the requirements of the thermal treatment processes proposed but was not optimised

to either at that stage. The ground slab of the Facility was set at the grade level of the site and the height of the boiler hall was dictated by the height of the boiler plus an allowance to accommodate a crane rail and lifting apparatus to access over the top of the boiler. It was this building design that was put forward in the planning application submitted in April 2017, and as I state in paragraph 3.9 above, we developed a building design that made a positive and confident architectural statement when viewed as one entered the industrial enclave.

- 3.19 Six initial design options were produced prior to reaching the previous final proposed scheme (April 2017). The options had varying site configurations and three dimensional forms. The options responded to a number of factors including the technology process solutions within, the site topography, the entrance route in, and separation of the offices, workshop and waste transfer facility. For example, one option sought to include sustainable characteristics such as maximising natural lighting in order to reduce the use of artificial lighting. This was to be achieved through the use of large areas of translucent cladding. When, however, the potential landscape and visual impacts of this option were appraised it was considered that, taking into account the 24 hour nature of the operations inside the building, the resulting night-time light spillage would lead to an increase in potential impacts and, as a result, the amount of translucent cladding was reduced to a simple band that breaks up the vertical form of the boiler hall.
- 3.20 The discovery of great crested newts within the ponds to the north of the site and the subsequent need to provided appropriate stand-offs between those ponds and the built development (in order to minimise the potential for impacts and provide for sufficient space for ecological enhancement) resulted in the original location of the building complex being moved south. This compromised the road system and parking capacity on the south side of the Facility and require the vehicle routing to be modified.
- 3.21 The final scheme was derived following a further refinement to the layout which provided for visitor and staff parking closer to the offices, especially for cyclists and disabled bay users. It also followed a more detailed analysis of the process equipment. Colour was used to break the massing of the building, and two colour schemes were produced one with a bold blue feature facade set against a light grey backdrop and a second with a green and blue colour palette, creating a more

subtle form.

- 3.22 Both of these schemes were presented in a public exhibition on the proposals held at the Roffey Centre, where the consensus of opinion was that the scheme based on the green and blue colour palette was preferred, but there was significant comment that the bulk of the building was too imposing.
- 3.23 As a result of these comments, the green and blue colour palette was adopted, and this formed the design put forward in the application submitted in April 2017

### **Design evolution - Post April 2017**

- 3.24 Following submission of the planning application to West Sussex County Council in April 2017, the Appellant continued to receive adverse comments from the general public, the local authorities and the local parish councils regarding the height of the building and its massing. In consequence, further work was carried out in an attempt to address the perception of size by the introduction of a curved roof to act as a "coup d'oeil" to reduce the perceived size of the main building, whilst keeping the real dimensions the same. It was not possible to lower the main building at this time as there was no engineering solution for the process plant that could accommodate it. In the event, when a draft officers report was published by the West Sussex County Council Planning Officer recommending refusal primarily due to the size of the building, the Appellant decided to withdraw the application.
- 3.25 Unbeknown to RPS, the Appellant then set about having discussions with the technology suppliers to investigate whether a lower profile arrangement could be offered whilst not reducing the capacity and environmental performance of the process. My understanding is that the Appellant spent some four months investigating this, including meetings with potential suppliers in Europe. The Appellant also invited a third equipment supplier, CNIM to submit proposals. CNIM has designed and built more combustion energy from waste plants in Europe than any other company and is one of the foremost suppliers in the world.
- 3.26 As a result of being able to take advantage of development work that was underway on another waste combustion energy recovery plant being developed for a Public Finance Initiative (PFI) project with similar issues being faced by the Facility, it was possible to reconfigure and reduce the height of the furnace and boiler and a new arrangement was agreed with two of the potential suppliers (HZI and CNIM).

- 3.27 As a result of the new process equipment configuration, it was then possible for my team to develop the building design to give a lower profile. This resulted in two building configurations a rectangular solution known as the 'Rectilinear' option and a curved roof solution, known as the 'Curvilinear' option.
- 3.28 Both the Curvilinear and Rectilinear options had the benefit over previous proposed design schemes of significant reduced external height. The initial scheme presented at a public exhibition in October 2016 had an external parapet height above the boiler hall of 52.4m. This has now been reduced to 35.92m a reduction of some 16.48m. The main enablers for this reduction in height were the improvement in the internal height requirements of the technology within, and an excavation design that enabled the whole structure to be lowered into the ground below the local grade level.
- 3.29 The purpose of the rectilinear solution was to keep the building form as a simple reflection of that necessary to envelope the internal process elements within. As with the pre-April 2017 proposal, it used colour and materials to visually declutter and rationalise the design as one coherent entity and reduce the perceived massing of the buildings. The central boiler hall was picked up in an accent colour with all other elements in grey shades and the offices in a black finish to provide them with visual presence. It also represented the minimum volume of built structure that could be achieved.
- 3.30 The curvilinear solution incorporates a large sweeping curve across the Facility. The curve starts at the bunker hall, crosses the bunker and boiler halls and then covers the ACC's and flue gas treatment area. The purpose of the curve is to visually bring all of the separate elements of the Facility together as one harmonious structure and to visually reduce the perceived building height.
- 3.31 The reduction in building height is also helped by allowing the higher elements of the Facility to extend through the curve rather than taking the roof across all elements. This would have generated additional unnecessary volume within and accentuating external visual mass. The external colours also aid the visual reduction in height by having the higher elements in lighter greys with a darker grey plinth at a lower level. The offices are in a black finish to provide them with visual presence.

3.32 On both options the flue gas treatment elements and silos are housed within mesh screens to rationalise their visual appearance.

#### Landscape context

- 3.33 Simultaneous with the Appellant working with the potential suppliers to modify the design of the process equipment, discussions continued with both the local Liaison Committee (which included local residents and representatives from the parish councils, Horsham District Council and West Sussex County Council) and with Horsham District Council and West Sussex County Council directly. The prime subject of discussion (other than to agree with the local Environmental Health Officer the situation regarding noise emissions) was the setting of the Facility within its landscape setting, and in particular key distant views, the site configuration and topography. This represented a change in design philosophy for my team, led by myself, away from seeing the building as a confident architectural statement to one that had to harmonise and recede as much as possible into its surrounding landscape.
- 3.34 In consequence, the design evolved through an understanding and appraisal of the site's context and its setting within the wider West Sussex landscape, assisted by constructive discussion with the West Sussex County Council planning and landscape officers. The subsequent architectural design evolved through an iterative process guided by this change in philosophy, a greater consideration of the High Weald ANOB to the east of Horsham, together with consultations with key stakeholders and outputs from the Environmental Impact Assessment work related to the project.
- 3.35 In developing the colour scheme proposed for the Facility, particular attention was paid to the document "Guidance on the selection and use of colour in development", written by the High Weald Area of Outstanding Beauty Partnership. It is aimed at integrating new buildings into the landscape within the High Weald in a way that benefits both the landscape and the built form. This can range from effectively camouflaging or minimizing the visual appearance of a utilitarian building to emphasizing the specific qualities of a place through the architecture, expressed in colour, form and massing. The texture and quality of the external fabric of the building can also be enhanced by careful choice of materials and cladding types.

- 3.36 Good colour choices depend upon a good understanding of the proposed development in relation to its landscape setting. After careful consideration, it was decided that the colours chosen for the elevational treatment of the finally selected design should reflect the darker, autumnal nature of the High Weald colour palette. The thinking behind this is that although leaf green is the predominant colour of the High Weald for much of the year, the browns and darker shades are always there in the background, and in winter, when the leaf canopy is much reduced, these shades come forward. Hence, by adopting the autumnal colour palette, the colour of the built structure of the Facility will always be compatible with its greater landscape setting and will recede into it from distant views, achieving the desire to minimise the visual impact of the proposed Facility within the landscape. This is assisted by the fact that the height of the proposed building is at the level of the surrounding tree line and does not protrude as a feature looming above it.
- 3.37 The external envelope cladding type was enhanced from the 2017 application. This had previously been predominantly utilitarian, vertical laid profiled cladding and was changed to a higher specification microrib, 'flat' appearance cladding for the upper levels with profiled at the lower levels.
- 3.38 The two design options rectilinear and curvilinear were presented at an opendoor public exhibition. Of these, the curvilinear option was favoured by the public attending the exhibition and as a result, it was this that was adopted to go forward and on which the application under consideration by this appeal is based.

## 4 SUMMARY OF THE SCHEME PROPOSED

- 4.1 The design of the Facility submitted to West Sussex County Council for planning approval and the subject of this appeal following refusal has evolved over a period of three years. The nature of any waste energy recovery plant is such that its function is paramount. It must be able to receive and store waste in a manner that is efficient and safe; it must then process that waste using thermal treatment that must achieve certain process parameters that are defined by law; finally, it must discharge the products of the combustion process and remove solid residues in a way that does not endanger human health. Throughout this evolution, therefore, process considerations have dictated the form of the buildings and it is not possible arbitrarily to modify these. I believe, therefore, that the design of the Facility proposed represents the optimal balance between functionality and form that could be achieved and a high quality of design has been achieved.
- 4.2 Grouping the buildings together and lowering the development into the ground has assisted in reducing the visual impact of the development, making the most efficient use of the land and allowing greater scope for peripheral landscaping.
- 4.3 The colour palette proposed provides a scheme that will harmonise with and recede into the surrounding landscape and minimise the visual impact.
- 4.4 The stack remains the most visible feature, being set currently at 95m above grade. This will, however, be a single slim, vertical structure that can be provided with a finish that will reflect and recede into the background sky and will not dominate the skyline. It has been sized by specialist process engineers with its internal diameter and height dictated by the flue gas characteristics, and as I understand it, the height for which permission is currently sought may be capable of being reduced, subject to agreement by the Environment Agency.
- 4.5 It is my belief that in allocating the site for use in the West Sussex Waste Local Plan, West Sussex County Council contemplated a development of this nature would be acceptable to come forward on this site and therefore took due consideration of its features in allocating the site. I consider that the architectural design for the Facility is entirely appropriate and befitting of this type of development and that the appeal by the Appellant should be upheld.

## 5 RESPONSE TO POLICY, PLANNING AUTHORITY AND NI4H

#### West Sussex Waste Local Plan - Policy W12: High Quality Developments

5.1 This policy states:

Proposals for waste development will be permitted provided that they are of high quality and, where appropriate, the scale, form, and design (including landscaping) take into account the need to:

- a. integrate with and, where possible, enhance adjoining land-uses and minimise potential conflicts between land-uses and activities;
- b. have regard to the local context including:
  - *i.* the varied traditions and character of the different parts of West Sussex;
  - *ii.* the characteristics of the site in terms of topography, and natural and man- made features;
  - *iii.* the topography, landscape, townscape, streetscape and skyline of the surrounding area;
  - iv. views into and out of the site; and
  - v. the use of materials and building styles;
- c. includes measures to maximise water efficiency;
- d. include measures to minimise greenhouse gas emissions, to minimise the use of non-renewable energy, and to maximise the use of lower-carbon energy generation (including heat recovery and the recovery of energy from gas); and
- e. include measures to ensure resilience and enable adaptation to a changing climate.

#### **Response:**

5.2 With regard to integration with adjoining land-uses, the building is of an industrial type by virtue of its use, but this is similar to the existing buildings within the industrial enclave within which the site sits. In terms of scale, form and design, the

building is taller than the adjacent buildings. However, this is necessitated by the function the Facility performs and was anticipated in this location within the West Sussex Waste Local Plan. It will also be of a much higher design standard than other buildings within the enclave. The external wall and roof cladding materials with be of a superior profiled or similar microrib (flat) metal finish. The colours proposed have been informed by the local design guidance document rather than just a standard universal grey colour. The curved roof form will visually lower the perceived height of the Facility and help blend into the surrounding undulating landscape – which in any event is consistent with the surrounding tree line.

- 5.3 With regard to the local context (b) (i),(ii),(iii),(iv),(v), the scale, form and design of the proposed Facility addresses the various above points in a number of ways.
- 5.4 The Facility proposed is a modern building with a contemporary unique bespoke design and dark colour palette that is designed to minimise Its impact within its immediate landscape and setting. The building is influenced by the natural landscape and topography of West Sussex rather than other man-made features and structures.
- 5.5 In respect of (c), (d) and (e), the detailed working drawings may include a variety of measures that could be included or addressed before construction commences or when a contractor is appointed. These details have not been fully resolved at this point but some options are set out below:
  - (c) Measures to maximise water efficiency might include;
  - Rainwater Harvesting for use throughout the facility process and operation. In the offices for toilet flushing and other non-potable applications
  - Low flush volume WC's
  - Low water use spray taps
  - (d) Measures to minimise greenhouse gas emissions, to minimise the use of non-renewable energy, and to maximise the use of lower-carbon energy generation (including heat recovery and the recovery of energy from gas); might include:
    - Triple skinned factory assembled rooflights to the tipping hall
    - Optimised natural light to the facility
    - Rainwater Harvesting for use in toilet flushing and other non-potable applications
    - Excellent air tightness

- Regionally sourced planting
- Energy efficient office lighting
- DSG (Desolphogypsum) Partitions
- Sustainable material (eg. Rockfon) ceiling tiles
- Organic Paint
- Carpets with 80% recyclable yarns
- Low flush volume WC's
- Low water use spray taps
- Responsibly sourced timber
- (e) Measures to ensure resilience and enable adaptation to a changing climate might include.
  - Developing a Waste Management plan
  - Create a building which satisfies relevant energy efficiency statutory requirements, i.e. Part L of the building regulations.
  - Bike racks, promoting cycle to work schemes
  - Roof lights to main warehouse, good light transmittance value, reduction in lighting requirement.
  - Sustainable urban drainage scheme and utilisation of existing attenuation pond.
  - Landscaping to boundaries and within the site.
  - PV panels to the roof.

#### **'West Sussex High Quality Waste Facilities' Supplementary Planning Document'**

5.6 Extracted below are various guidance notes set out within the 'West Sussex High Quality Waste Facilities SPD' and how our design positively addresses these points:

Section (4.68): "EfW plants typically occupy an area of 2-5 ha. Throughputs can range from less than 50,000 tpa to more than 500,000 tpa. The EfW plant will comprise a building to house the main, thermal treatment components. The stack height will be determined by air dispersion modelling, but generally range from 30 – 70m. The design of the plant needs to be consistent with the local setting, as the stack height may impact on the local landscape character. New EfW plants offer the opportunity for innovative design and there are many such examples in the UK and the rest of Europe."

Section (4.70) "Proposals for EfW plants are highly sensitive. Key design

considerations will include:- siting and scale of operation including stack height; traffic management and highway impacts; air emissions and dispersion modelling; disposal of residues; and distribution of electricity and, where applicable, heat."

#### Response

- 5.7 The Facility is proposed on an existing brownfield site, with the footprint, height and mass generally dictated by the operation and technology within. The site is adequate for the proposed operation, and on a land area similar to a number of other facilities of this nature.
- 5.8 The site layout has been designed to suit the flow of the operation with a one way circulatory traffic route around the building. The bespoke external design is a response to its context and has the opportunity to incorporate many innovative features.
- 5.9 The external height of the building has been significantly reduced from original proposals and is now as low as the engineering design of the Facility will permit. The initial scheme presented at a public exhibition in October 2016 had an external parapet height above the boiler hall of 52.4m which has now been reduced to 35.92m, which is 16.48m lower.
- 5.10 The stack has been sized by specialist process engineers and has been determined by the ground level concentration of NOx using air dispersion modelling software. The height for which planning permission was sought was proposed with view to obtaining a NOx concentration at ground level that could be classified as "negligible" and be screened out from further assessment. Its internal diameter is dictated by the operational parameters of the flue gas at the exit from the stack. The external height has been set at 95m as a maximum but will be subject to a stack height assessment and Best Available Techniques (BAT) assessment by the Environment Agency during the permitting process and may be able to be reduced.
- 5.11 It should also be noted that the height range quoted in the West Sussex High Quality Waste Facilities' Supplementary Planning Document of 30 – 70m is not proven by practice. There are no waste energy recovery plants of this size to my knowledge with a stack height of 30m and there are several with stack heights exceeding 70m. Furthermore, as I understand it, the methodology for determining the stack height of these plants has changed since this document was published,

so it is not simple to compare one plant with another unless the time at which they were approved is known. Notwithstanding all of this, it is clear that in preparing this document and allocating the Brookhurst Wood site in the West Sussex Waste Local Plan, West Sussex County Council was anticipating a substantial stack structure at this location.

Section (5.2) "Waste management in the UK is rapidly moving from a primary activity based upon relatively simple waste transfer and landfill disposal or incineration to a far more sophisticated process focused on increasing recycling and treatment of wastes by new and more sustainable technologies. The legacy of historic practice is a public image of a crude cost-driven industry with significant environmental impacts. Waste facilities are therefore seldom welcomed in any location and are viewed with low regard."

#### **Response:**

- 5.12 It is an unfortunate fact that waste management facilities remain in low regard by the public at large. They have, however, in reality moved far beyond the facilities that were built in the 1960s that created this perception in the first place. Waste management facilities are now closely regulated, and their performance monitored, with action being taken if regulations are breached. The external appearance of most modern waste infrastructure and energy from waste plants in particular is now of high quality design, exemplified by the number of them that have won awards for their architecture.
- 5.13 Waste management is a necessary activity, however, to protect human health and their design must be necessity support the processes that go on within them. The Facility is no different and the building design has followed the requirements of the process equipment housed within it. We have, however, produced a building that does its best to minimise its visual impact and harmonise within its surrounding landscape.

Section (5.8) "In urban areas, designs should contain and minimise environmental impacts. External colour and form should take into account the local context. In certain circumstances, there may be the opportunity for landmark buildings."

#### **Response:**

5.14 Although not in an urban area the building external colour and form does take account of the local context and will be of high quality design. I have described how this has been achieved in some detail in my evidence.

Section (5.11) "Facilities where waste deliveries are likely to occur over concentrated periods will need to plan for sufficient queuing space to avoid local traffic congestion. Peak periods will vary depending on the facility."

(5.14) "Traffic circulation on site should be designed to promote the free-flow of vehicles with minimum conflicts and congestion. The requirement for reversing should be minimised and sufficient parking should be provided for staff and any plant or vehicles working from the site."

**Response:** 

5.15 The Facility has been designed to allow sufficient queuing of vehicles off the public highway network and operates a one way system with a separate car park entrance from delivery vehicles.

Section (5.50) "Proposals should be informed by, and positively respond to, the surroundings and specific influences of the site, including technical and environmental considerations. Proposals should respond innovatively to their setting by creating a clear relationship between the built and natural elements."

Section (5.51) "The visual impact of colours and types of materials is extremely important. The appearance and finish of wall and roof cladding materials should be considered in relation to the surrounding environment and immediate context of the building. The impact upon the townscape or landscape of any proposal should also
be assessed in long views and views from higher ground, particularly in the case of taller or bulky buildings."

Section (5.52) "Generally, less saturated and non-reflective materials reduce the impact of a building especially where large roof forms are proposed. This does not mean that choice is compromised, merely that colour choice should be justified. If for example, a landmark building is proposed, or by the nature of the proposal the building will be highly dominant in the town or landscape, the use of a bold design with contrasting materials and colours may be appropriate, with colour and reflective materials used to highlight features within the design."

#### **Response:**

5.16 The Facility has been designed with external metal cladding to suit the immediate local context of the industrial site but adopts a colour scheme and form that reflects the colours of the greater landscape and longer distant views by using a darker palette of external materials based on High Weald autumnal colouring .

Section (5.72) "Within rural areas the landscape should be the dominant factor and the design of buildings should reflect this rather than vice versa. As such, buildings and areas of hard landscaping should be set within the existing topography and landscape, appropriately enhanced where necessary. New buildings, where possible, should not break the skyline or detrimentally impact upon the surrounding ground levels."

Section (5.73) "Rural facilities do not necessarily have to take on the form of agricultural buildings. Where the buildings required are large scale, traditional agricultural forms could be inappropriate. To duplicate large modern barns is unlikely to be acceptable and a more innovative design solution should be sought."

Section (5.75) "The design of waste facilities in rural areas should take into account the following considerations:.... Buildings should be of a colour to blend in with the surroundings. Highly reflective chimneys or brightly coloured roof treatments are unlikely to be acceptable without valid justification."

Section (5.76) "Large buildings in rural settings can draw upon landscape influences such as in the case of the Downland Gridshell. In many cases a timber framed building would be incompatible with a built waste facility, but it is an example of how form and structure can blend and complement the surrounding landscape with the roof form echoing the rolling hills."

Section (5.77) "Built form in a rural setting should generally be designed to achieve the minimum impact on the local landscape. Where possible, low profiles should be used, potentially requiring local lowering of the surface. Colours will be muted with the general aim of blending in with the surroundings. The impact of security fencing and gates and any other ancillary infrastructure should be reduced by suitable landscaping treatment."

Section (5.78) "Where facilities are proposed within rural areas, the use of structural landscaping is likely to be the most suitable method of screening areas of open storage. This should be designed in conjunction with the buildings themselves and be integrated within the overall proposal. Loading bays, bin stores, outdoor storage (where allowed), mechanical plant, and other operational requirements should also be incorporated into the overall design."

- 5.17 The building form is a contemporary design solution to reflect the modern process technology within, and the surrounding rural landscape without. The curve of the roof and the colour scheme deployed facilitates the merging of the main building into the countryside at distance views, with the height corresponding with the tree line to avoid dominance of the building.
- 5.18 The exterior cladding colour choice has been informed by the local design guidance document "Guidance on the selection and use of colour in development" Written by the High Weald Area of Outstanding Beauty Partnership. A dark matt palette of 'autumnal' colours have been chosen to help blend the structure into its surroundings.
- 5.19 Although generally dictated by the size of the process technology within, the size and scale of the building has been minimised by a number of design features, including: lowering the building into the ground, creating a horizontal emphasis by use of the sweeping horizontal curve, the darker colours at lower level and retention

of the existing mature trees to the building perimeter due to the compact efficient site layout.

# Government policy on design - Section 12 of the National Planning Policy Framework

**NPPF Section 12 - Achieving well-designed places** 

5.20 Below are extracts from the NPPF.

(Paragraph 127) "Planning policies and decisions should ensure that developments: (a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development; (b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping; (c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities); (d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit; (e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and (f) create places that are safe, inclusive and accessible and which promote health and wellbeing, with a high standard of amenity for existing and future users1; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience."

(Paragraph 128) "Design quality should be considered throughout the evolution and assessment of individual proposals. Early discussion between applicants, the local planning authority and local community about the design and style of emerging schemes is important for clarifying expectations and reconciling local and commercial interests. Applicants should work closely with those affected by their proposals to evolve designs that take account of the views of the community. Applications that can demonstrate early, proactive and effective engagement with the community should be looked on more favourably than those that cannot." Response

5.21 Discussions were held with the local planning authority and the local community, including regular Liaison Committee meetings and two public exhibitions over a period of two years prior to the planning application, the subject of this appeal, being submitted. The ultimate design solution submitted came out of these discussions, with a strong preference for the 'Curvilinear' scheme, rather than the 'Rectilinear' scheme. At the second exhibition, records show that more attendees were in favour of the scheme than against it.

(Paragraph 130) "Permission should be refused for development of poor design that fails to take the opportunities available for improving the character and quality of an area and the way it functions, taking into account any local design standards or style guides in plans or supplementary planning documents. Conversely, where the design of a development accords with clear expectations in plan policies, design should not be used by the decision-maker as a valid reason to object to development. Local planning authorities should also seek to ensure that the quality of approved development is not materially diminished between permission and completion, as a result of changes being made to the permitted scheme (for example through changes to approved details such as the materials used)."

- 5.22 The proposed Facility is of high-quality, modern design and if granted permission to be constructed will replace existing buildings that are also used for waste management activities but are tired and of a low architectural standard. There are also currently activities taking place in the open air (albeit in compliance with the environmental permit) that will be moved into an enclosed environment where dust, noise and odours will be guaranteed to be controlled. In the absence of the Facility, the current activities will continue, but it is unlikely that the site will receive substantial further investment.
- 5.23 The buildings within the enclave of the greater Brookhurst Wood site are of an industrial nature with no consistency that can inform the architectural design of the Facility. Consequently, the design proposed has been developed to respond to the

surrounding landscape using local design guidance, including the 'West Sussex High Quality Waste Facilities SPD' and 'Guidance on the selection and use of colour in development' written by the High Weald Area of Outstanding Beauty Partnership. The proposed design has incorporated substantial innovation, including a re-design of the process equipment to enable a reduction in the building height, which will make the Facility one of the lowest energy from waste plants of its capacity in the country. It will also produce electricity and potentially heat with a significant renewable content as well as providing base load generation at a time when the country is suffering from the intermittency of wind and solar generation.

(Paragraph 131) "In determining applications, great weight should be given to outstanding or innovative designs which promote high levels of sustainability, or help raise the standard of design more generally in an area, so long as they fit in with the overall form and layout of their surroundings."

- 5.24 If built, the Facility will support sustainable development in three significant ways:
  - a. It will raise waste management in West Sussex up the Waste Management Hierarchy by enhancing the recovery of waste materials through its front-end sorting facility prior to thermal treatment and by displacing landfill for the disposal of residual waste;
  - It will enable waste to be delivered and treated within West Sussex instead of being hauled by HGV up to 400 miles for disposal at energy recovery facilities in Germany and Holland, thus reducing net vehicle emissions, particularly NOx and particulates;
  - *c.* It will enable the generation of electricity and potentially heat with a significant renewable content.
- 5.25 These can be achieved within a building form that fits within its surroundings.

# **Comments from WSCC and Ni4H**

- 5.26 The planning authority are claiming in section 6 of their Statement of Case that the built structure proposed development is "...unacceptable due to the substantial scale and bulk of the building... ", and would "...introduce a substantial utilitarian building with a tall stack..", and that they will demonstrate that "...the visibility of the building, stack and associated lighting/plume would introduce an alien feature within the landscape.."
- 5.27 I understand that a third party, Ni4H are also making similar claims about the impact of the building. In particular in their Statement of Case at paragraph 25 they state that:
  - a. The development would result in an unacceptable impact upon the landscape character, distinctiveness, and sense of place of the locality, including the High Weald and Surrey Hills AONBs; and
  - b. The development would not be of high quality, particularly in terms of scale, and would not integrate with adjoining land uses or the local context.

- 5.28 In my evidence I have already described above the evolution of the design of the building, how the form of the building must by necessity follow its function, how the design philosophy changed to give consideration of the local landscape and far views, how the colour palette used for the building has been derived from that developed for the High Weald, and how the profile of the building has been made as low as possible, and is deliberately designed to recede into its background. The structure has been designed to be connected and continuous and is of high quality of design. I do not agree with the planning authority's nor Ni4H's position as now set out in their Statements of Case.
- 5.29 It is also my belief that in allocating the site for use in the West Sussex Waste Local Plan, West Sussex County Council contemplated a development of this nature would be acceptable to come forward on this site and therefore took due consideration of its features in allocating the site. I consider that the architectural design for the Facility is entirely appropriate and befitting of this type of development.

# 6 CONCLUSION

- 6.1 I have addressed what I believe are relevant policy considerations and those design comments from the planning authority and Ni4H. Based on my experience and that of my other design colleagues within RPS who have undertaken many designs for such plant throughout the country, with success, and bearing in mind the very thorough process we went through with the planning authority and through public consultation, I am satisfied that the design solution for the Facility now the subject of this appeal represents one that is wholly appropriate for a facility of this type, wholly appropriate for the site, is of high quality, and one which in my opinion will enhance the local environment within which it is situated.
- 6.2 In light of the above considerations, I believe design should not form part of any reason to reject the appellants case and that the appeal should be allowed.

# Appendix 2

**Carbon Note** 



# **CARBON CALCULATION UPDATE**

#### **On behalf of Britaniacrest Recycling Limited**

In relation to an appeal against the decision of West Sussex County Council to refuse planning permission for a proposed Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure at Wealden Brickworks, Horsham

#### Planning Appeal Ref: APP/P3800/W/18/3218965

#### Application No: WSCC/015/18/NH



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# 1 INTRODUCTION

### **Revised Carbon Calculation**

The Environmental Statement (ES) that accompanied the 2018 planning application attached the Carbon Assessment prepared to accompany the 2016 application at Appendix 2.3, which was also summarised in Section 2.20 of Chapter 2 of the ES. The results were presented in Table 3 of the Carbon Assessment. There was an error in the units adopted for emissions from transport in Table 3, which were in kgCO<sub>2</sub> not tCO<sub>2</sub> equivalent per annum and were therefore overstated. In addition since that time there has been a progressive reduction in the carbon intensity of electricity generation and it is now also less relevant to compare carbon emissions from waste treatment with landfill than it was in the past. It is also difficult to calculate landfill emissions associated with methane leakage accurately, as these are dependent on waste composition and landfill gas capture rates, which can only be estimated.

An update to Table 3 of the Carbon Assessment is provided below, which firstly corrects the transport emission factor and then updates the displaced electricity generation factor. The displaced electricity generation factor is changing as electricity generation is being progressively decarbonised so this comparison is of more limited relevance for future years.

It should be noted that there are no established and reliable alternative methods of treating residual waste to recover energy, other than that proposed, and the amount of carbon in waste is a function of waste composition. Based on the currently best available technology, the CO<sub>2</sub> emissions from waste to energy facilities are unavoidable as carbon capture technology is not considered economic at this (small) scale. The best comparator for the treatment of residual waste of the type proposed is therefore treatment of the same waste in another energy from waste facility, which is able to operate at the same theoretical efficiency.

No other changes have been made to the calculations.

The conclusion reached at section 2.20.6 of the ES: 'In summary, the proposed facility is anticipated to have a significant positive effect in terms of greenhouse gas emissions within West Sussex compared to the existing commercial and industrial waste management arrangements' is not altered by the update to this calculation.

Table 3a: Summary of estimated emiss	ions (tCO2e per annum) - u	pdate to transport emission factor
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Emissions Source	Proposed Facility Electricity only	Proposed Facility with CHP		
Process	+50,955	+50,955		
Transport	-110	-110		
Avoided CO <sub>2</sub>				
Displaced Electricity Generation <sup>1</sup>	-69,224	-42,521		
Displaced Heat Generation	0	-94,791		
Materials Recovery	-37,684	-37,684		
Landfill Diversion	-76,505	-76,505		
Total	-132,568	-200,656		

# Table 3b: Summary of estimated emissions (tCO2e per annum) - update to transport emission factor and electricity generation factor

Emissions Source	Proposed Facility Electricity only	Proposed Facility with CHP		
Process	+50,955	+50,955		
Transport	-110	-110		
Avoided CO <sub>2</sub>				
Displaced Electricity Generation <sup>2</sup>	-42,940	-26,376		
Displaced Heat Generation	0	-94,791		
Materials Recovery	-37,684	-37,684		
Landfill Diversion	-76,505	-76,505		
Total	-106,284	-184,511		

<sup>&</sup>lt;sup>1</sup> Using GHG factor of 0.41205 kgCO<sub>2e</sub>/kWh from Greenhouse Gas Reporting – Conversion Factors 2016

 $<sup>^2</sup>$  Using GHG factor of 0.2556 kgCO\_{2e}\!/kWh from Greenhouse Gas Reporting – Conversion Factors 2019

## Annex A

#### **Transport emissions calculation**

- 1. The calculation carried out in Tables 3a and 3b assumed disposal of waste at the Redhill landfill. In practice, much of WSCC's residual waste is currently being exported for energy recovery at a facility in Germany. On this basis, the effect of building the 3Rs Facility will be to eliminate 4.7 million vehicle miles per year, equivalent to 6,500 tonnes of CO<sub>2</sub>, 11 tonnes of NOx, or 669,750 gallons of diesel, at a cost of approximately £3.5m per year. This is calculated as follows:
  - i. Assuming 120,000 tpy from MBT plant, round trip distance Horsham to Buddenstedt, Germany of 2 x 510 miles = 1020 miles and average payload of 26 t = 4615 vehicle trips (there and back)
  - ii. Total vehicle miles driven = 1020 x 4615 = 4,707,300 vehicle miles per year or 7,531,680 km
  - iii. Using >33t artic HGV 100% laden for 50% of journeys and 0% laden for 50%:<sup>3</sup> (1.08114 + 0.64869) kg/km \* 3,765,840 = 6,514 tonnes CO<sub>2</sub> over the year.
  - iv. The emission limits for NOx for a Euro 5 engine = 2 g/Km and Euro 6 = 0.46 g/Km. Assuming 50% Euro 5 and 50% Euro 6, building the plant will reduce the NOx burden from transport by more than 9 tonnes per year.
  - v. Based on an average consumption of 8 mpg this is equivalent to 588,412 gallons or 2.67 MI of diesel per year, and with the typical price of diesel of 132.4 p/l, £3.5 million per year.

<sup>&</sup>lt;sup>3</sup> UK Government GHG Conversion Factors for Company Reporting

# Appendix 3

**Noise Note** 



# RESPONSE TO NO INCINERATOR 4 HORSHAM INTERESTED PARTY SUBMISSION AND STATEMENT OF CASE - NOISE

**On behalf of Britaniacrest Recycling Limited** 

In relation to an appeal against the decision of West Sussex County Council to refuse planning permission for a proposed Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure at Wealden Brickworks, Horsham

PINS Reference: APP/P3800/W/18/3218965

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RESPONSE TO NI4H INTERESTED PARTY SUBMISSION AND STATEMENT OF CASE - NOISE

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# 1 Introduction

- 2.1 This document provides a response to the Interested Party Submission (IPS) and subsequent Statement of Case (SoC) that have been provided by the No Incinerator 4 Horsham Community Group (Ni4H). This is in relation to the appeal against refusal of the planning application for a Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure at the Former Wealden Brickworks, Langhurstwood Road, Horsham, West Sussex, RH12 4QD (ref APP/P3800/W/18/3218965) with respect to noise.
- 2.2 This document has been produced by the Acoustics Team at RPS Planning and Environment.
- 2.3 This document is structured as follows: Section 2 provides statements of competence for the key personnel at RPS who were responsible for the noise and vibration assessment; Section 3 provides a review of the information provided within the IPS and SoC, and a response to the issues raised; Section 4 notes draft planning conditions; and Section 5 provides a summary of this response.
- 2.4 Within the IPS, Ni4H considered that noise should be a reason for refusal. However, this reason has subsequently been withdrawn within their SoC. Similarly noise was cited under reason for Refusal 4 'Residential Amenity' of West Sussex County Council's (WSCC's) reason for refusal, which WSCC has confirmed that it will not defend.



# 2 Statement of Competence

## **RPS Acoustics Team**

2.1 The RPS Acoustics Team specialises in noise and vibration assessment, providing expert advice on all aspects of noise and vibration to developers, industry, local and county authorities and government. The RPS Acoustics Team is prominent on committees and working groups within the British Standards Institution (BSi), the Institute of Acoustics (IOA) and the Association of Noise Consultants (ANC). The qualifications and experience of the key personnel involved in this project are described below.

### Philip Evans, Senior Director – Acoustics

BSc (Hons) Geology; MSc Acoustics, Vibration and Noise Control; Fellow of the Geological Society (FGS); Member of the Institute of Acoustics (MIOA); Associate Member Acoustical Society of America.

- 2.2 Phil is a Senior Director and head of the RPS Acoustics Team. He is a specialist in environmental acoustics and is active on a number of committees including the Association of Noise Consultants' Vibration Working Group; BSi Committee GME/21/6/4 BS 6472: Guide to Evaluation of Human Exposure to Vibration in Buildings; BSi Committee B/564/01 on BS 5228: Noise and Vibration Control on Construction and Open Sites which has now also revised and issued BS 8233:2014 Guidance on sound insulation and noise reduction in buildings. He has been a corporate member of the IOA for over 20 years.
- 2.3 Phil has over 25 years' experience in the project management of, and technical input to, environmental noise and vibration impact assessments for major developments. He is an expert in the industrial/commercial, transportation and construction sectors including the measurement, calculation, evaluation and mitigation of environmental noise and vibration. Phil has significant experience in the preparation and presentation of technical evidence and reports for public inquiries and planning applications. He is experienced in consultation and liaison with government departments, local authorities and other statutory bodies. He is an experienced expert witness with a Continuous Professional Development Record to support this competency and experience.
- 2.4 For this project, Phil is the Project Director for Acoustics, responsible for reviewing and authorising all technical documents related to acoustics.

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### **Susan Hirst, Principal Consultant – Acoustics**

BSc (Hons) Acoustics; Member of the Institute of Acoustics

- 2.5 Susan is a Principal Consultant Acoustics and environmental acoustics specialist with over 12 years' experience in the field of noise and vibration impact assessment. She has been a member of the Institute of Acoustics since 2007 and a corporate Member of the Institute of Acoustics (MIOA) since 2012.
- 2.6 Susan has managed projects and undertaken assessments for a variety of developments, including large scale mixed-use developments, incorporating commercial, retail, leisure and residential elements; on-shore and off-shore windfarms and their associated infrastructure; energy from waste facilities; manufacturing facilities; power stations; warehouses; minerals extraction and processing and road schemes. She has also managed and provided technical input to a nationally significant infrastructure project for National Grid.
- 2.7 Susan has provided input into Environmental Impact Assessments (EIAs) and undertaken noise assessments to support planning applications, discharged planning conditions and been involved in planning appeals. She has also provided technical advice on mitigation options and attended planning hearings. She has a Continuous Professional Development Record to support this competency and experience.
- 2.8 Susan has carried out many noise assessments of industrial sites following the methodology in BS 4142. On the basis of Susan's overall experience in acoustics combined with particular focus on BS 4142, she is competent to undertake BS 4142 assessments, as required by the Standard.
- 2.9 For this project, Susan's role is Technical Lead for Acoustics, responsible for overseeing the project, reviewing the noise model and assessment and was principal author of the noise and vibration Environmental Statement (ES) chapter and other acoustics related documentation.

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# 3 Review of Ni4H Submissions

# Comments Regarding Noise Made by Ni4H within their Interested Party Submission

3.1 In paragraph 11 within the introduction to the IPS, Ni4H stated the following as a reason why the appeal should be dismissed:

"Failure to demonstrate that the noise would not have a significant adverse impact on residents and therefore contrary to Policies W10 and W19 of the West Sussex Waste Local Plan; policy 24 of the Horsham District Planning Framework (2015) and paragraph 123 of the National Planning Framework (2012)."

3.2 The IPS then cites Reason 4 of WSCC's grounds for refusal under paragraph 17 and provides their position on this reason:

"Reason 4: Residential Amenity

WSCC's ground for refusal: The development would have an unacceptable impact on residential amenity, contrary to Policies W10 and W19 of the West Sussex Waste Local Plan 2014.

Ni4H's position: Ni4H maintains this is a key consideration for the community, and notes the West Sussex County Councillors' comments on existing noise/odour and flies on site during their site visit prior to determination of the planning application, despite planning constraints and technology in place to mitigate. Ni4H is not convinced that the Appeal proposals will be operated in a more compliant way than current operations which are subject to planning conditions."

- 3.3 WSCC is no longer concerned that adverse effects on residential amenity would occur from the development and has now dropped 'Reason 4: Residential Amenity' within their grounds for refusal.
- 3.4 In its IPS, Ni4H did not appear to have recognised the differences between the noise assessment undertaken for the previously withdrawn application and that undertaken for the application subject to this appeal. While noise is not cited as a 'main consideration' within the IPS, noise is then cited within paragraph 30 the 'supplementary considerations' under 'Residential Amenity' which is reproduced below:

"30. Residential amenity

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Ni4H maintains that impact on residential amenity is a key consideration for the community, and notes the West Sussex County Councillors' comments on existing noise/odour and flies on site during their planning application visit, despite planning conditions and technology in place to mitigate such impacts. The loss of amenity including noise, odour, traffic and light pollution, has been raised by the existing residents through the liaison group and other correspondence over a prolonged period of time but with no permanent resolution. The residents are concerned about the Appellant's track record on compliance and has little confidence that any amenity conditions will be complied with. Track record should be a material consideration in the determination of the Appeal. Further loss of amenity is inevitable and also likely to be unacceptable to the new residents of North Horsham as a consequence of intensification of waste activities at the site at Brookhurst Wood."

# 3.5 The above is re-iterated in paragraphs 106 and 107 of the IPS and expanded upon within paragraphs 108 and 109, which are reproduced below:

"108. Whilst Ni4H accepts that there would be no increase in throughput over that already permitted ie the fallback, there would be an increase over the existing baseline for the site because the site is not currently operating to its full permitted capacity, with resultant increase in noise, odour and traffic.

109. Ni4H in its objection to planning application WSCC/015/18/NH states in paragraphs 1.6.21.6.9 that the loss of amenity to residents (existing and future) would be unacceptable, both during the construction phase and the subsequent operation of the proposed incinerator."

# Comments Regarding Noise made by Ni4H in their Statement of Case

3.6 Within their SoC, Ni4H has withdrawn their assertion that noise should be a reason for dismissal. Paragraph 28 of the SoC, under, '*Residential Amenity (Reason for Refusal 4)*' states the following:

> "A number of concerns have been expressed to NI4H about potential malodours, litter and noise arising from the Appeal proposals, and it is noted that this is a concern in other EfW appeals too. NI4H is of the view these concerns can be resolved by the imposition of appropriate planning conditions, and so does not resist the application on residential amenity grounds."

3.7 Notwithstanding this, RPS has provided a review of the statements made by Ni4H with respect to noise within the IPS and provided a response in Section 3.3 below, by way of a summary for the Inspector's information.

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# Review of Noise Assessment in Relation to Ni4H's Comments

#### Local and National Policy

- 3.8 Policies W10 and W19 of the West Sussex Waste Local Plan (WSWLP), Policy 24 of the Horsham District Planning Framework (HDPF) and paragraph 123 of the National Planning Policy Framework (NPPF) have been cited by Ni4H within their IPS with respect to noise.
- 3.9 Policy W10 of the WSWLP relates to strategic waste allocations, the justification of which is provided within the Proof of Evidence of Christopher LeCointe.
- 3.10 Policy W19 'Public Health and Amenity' of the WSWLP states that:

"Proposals for waste development will be permitted provided that: (a) lighting, noise, dust, odours and other emissions, including those arising from traffic, are controlled to the extent that there will not be an unacceptable impact on public health and amenity;"

3.11 Policy 24 of the Horsham District Planning Framework (HDPF) states the following with respect to noise:

"9.11 Noise pollution can have a significant impact on the quality of life and health of individuals and communities. To help avoid adverse noise impacts from development, authorities in both East and West Sussex have produced a Planning Guidance Document on this issue. Applicants should therefore address the issues raised in this document prior to making an application."

- 3.12 We understand that the planning guidance document referred to above is the 'Planning Noise Advice Document: Sussex' dated July 2015. This document refers to relevant national planning policy and guidance for noise. For assessment of waste management sites, it refers to the methodology in BS 4142:2014, which is the methodology used for the noise assessment within the ES. Furthermore, there are no issues raised in this document that have not been considered within the noise assessment within the ES. A new version of BS 4142 was published in June 2019. Although it is still subject to review, the revision clarifies the application of the Standard but does not include any substantial changes to the methodology that would require any changes or provide different outcomes to the assessment previously provided.
- 3.13 Paragraph 123 of the National Planning Policy Framework (NPPF) 2012 requires that developments mitigate and reduce to a minimum, potential adverse impacts resulting from noise from the development, and avoid noise giving rise to significant adverse impacts on health and the quality of life. The NPPF was amended in 2018 and the relevant paragraph to noise is now

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paragraph 180. However, there are no material changes within the NPPF with respect to noise that need to be considered within this review.

#### **Operational Noise**

- 3.14 RPS was involved in the planning application for the development which was submitted and later withdrawn in 2017 (Ref: WSCC/062/16/NH). Within the subsequent noise and vibration ES chapter that supported the planning application subject to the appeal, it was identified that the Air Cooled Condensers (ACCs) would be the main source of operational noise as they are located externally and require continuous 24 hour, 7 days a week operation. It was specified within the embedded mitigation for the facility that low noise ACCs would be selected to prevent any adverse noise effects.
- 3.15 Paragraph 8.5.3 of the ES provides details of mitigation measures for noise that have been incorporated into the design of the appeal facility. In addition to the selection of low noise ACCs, this includes acoustic screening around the ACCs; enhanced façade performance for the turbine hall; and design of the plant so that it would not be tonal in character at the nearest noise sensitive receptors (NSRs). Furthermore, as stated in the ES, there is a requirement under the Environmental Permitting Regulations (EPR) that the plant would be designed to meet Best Available Techniques (BAT), which would include limiting noise generation where practicable. Therefore, the proposals comply with the noise requirements within the NPPF in that noise emissions have been minimised to prevent adverse effects.
- 3.16 The introduction of further mitigation measures resulted in a 3 dB sound reduction at Langhurst Moat Cottage during the night-time, which is the nearest residential property to the facility. An assessment of noise from the facility was carried out in accordance with BS 4142:2014 with the results summarised in Table 8.8, which is replicated below.

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1) Location	2) Background Sound level, dB L <sub>A90</sub>	3) Residual Sound Level dB L <sub>Aeq,T</sub>	4) Specific Sound Level, dB L <sub>Aeq,T</sub>	5) Rating Level, dB L <sub>Ar,Tr</sub>	6) Rating Level minus Background Sound Level, dB	7) Total Ambient Sound Level (Specific plus Residual) dB L <sub>Aeq,T</sub>	8) Change in Ambient Sound Level dB
Day (07:00 to 19:00)							
11 Station Road	43	49	37	37	-6	49	+0
Cox Farm	40	50	32	32	-8	50	+0
Graylands Lodge	43	55	38	38	-5	55	+0
Haybarn Cottage	43	55	39	39	-5	55	+0
Langhurst Moat Cottage	43	55	45	45	+2	56 <sup>1</sup>	+0
North Horsham Scheme	43	55	36	36	-7	55	+0
Evening (19:00 to 23:0	00)	-					
11 Station Road	42	47	35	35	-8	47	+0
Cox Farm	39	45	31	31	-7	46 <sup>1</sup>	+0
Graylands Lodge	42	49	38	38	-4	49	+0
Haybarn Cottage	42	49	34	34	-8	49	+0
Langhurst Moat Cottage	42	49	37	37	-5	49	+0
North Horsham Scheme	42	49	31	31	-11	49	+0
Night (23:00 to 07:00)	•						
11 Station Road	36	44	37	37	0	45	+1
Cox Farm	34	43	32	32	-2	43	+0
Graylands Lodge	35	48	39	39	+4	49 <sup>1</sup>	+0
Haybarn Cottage	35	48	35	35	0	48	+0
Langhurst Moat Cottage	35	48	38	38	+3	49 <sup>1</sup>	+0
North Horsham Scheme	35	48	32	32	-3	48	+0
1) Noise change	is less than 0.5 dE	3 although rou	nded noise lev	vels varv.			

#### Table 8.8: BS 4142 Assessment of Operation of the Proposed Facility

# 3.17 In summary, the background sound level (column 2) is the baseline level exceeded for 90% of the time (i.e. the lower end of the baseline); the residual sound level (column 3) is the baseline

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L<sub>Aeq</sub>: the specific sound level (column 4) is the predicted sound level from the appeal facility; the rating level (column 5) is the specific sound level with any corrections for acoustic character including tonality, impulsivity, intermittency and other acoustic features. In the case of this assessment, no character correction has been applied to the specific sound level as the sound emitted from the appeal facility would be broadband in character and contain no impulsive sound or other characteristics that would require a correction to be applied. On this basis, the rating level is the same as the specific sound level.

- 3.18 The BS 4142:2014 assessment method primarily considers the difference between the rating level and the background sound level (column 6), but also other pertinent factors such as the character and level of the specific sound in relation to the residual sound and nationally recognised guidance and the change in ambient sound levels from baseline without the facility to the future with the facility (column 8). From column 4, the highest difference between the rating level and background sound level is +4 dB and would occur at Graylands Lodge during the night-time. This is within the parameters which were considered to be acceptable to the EHO at HDC.
- 3.19 The assessment of operational noise from the facility assumes that all plant is running continuously at its full permitted capacity, i.e. worst case. From Table 8.8, there would be a change in ambient sound of +1 dB at one assessment location, 11 Station Road, during the night-time period only (23:00 07:00 hrs). At the remaining assessment locations, and at 11 Station Road during the daytime and evening periods, there would be a noise increase of less than 0.5 dB (this is reported as 0 dB but could be up to 0.49 dB due to rounding) during the operation of the facility. A change of 1 dB or lower is not significant in noise terms.
- 3.20 RPS consulted with WSCC through the scoping process for the EIA and was referred to the relevant Environmental Health Officer (EHO) at Horsham District Council (HDC) who is the principal consultee with respect to noise. Within our discussions with HDC's EHO, we determined what noise level would constitute an unacceptable noise impact for this site. The predicted noise levels provided in Table 8.8 of the ES are below the levels that were considered to be unacceptable as discussed and agreed with the EHO.
- 3.21 Following the submission of the ES, the EHO raised a few points of clarification regarding the assessment, primarily with respect to the sound power level used for the ACCs and RPS' professional opinion that noise emissions from the plant would not be tonal. RPS provided responses to these points and HDC confirmed in its consultation response to WSCC that these had been satisfactorily dealt with. At page 3 under the heading Noise, HDC's consultation response states:

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"HDC Environmental Health now accepts the submitted assessment methodology and baseline conditions. The assessment indicates noise from the facility will have very low impact on existing noise levels at the site. In fact the only change in the ambient levels as a result of the facility's operation will be at one of the assessed receptors (11 Station Road) during the night-time and this will be by only 1 dB which will be imperceptible."

### **Operational Traffic Noise**

3.22 Although the traffic numbers associated with the facility are within those agreed within the existing planning permission, an assessment of noise from traffic against the 2018 baseline has been included within Chapter 8 of the ES and is reported in Table 8.9. As for construction traffic, the assessment of changes in operational road traffic noise levels on local roads is based on the methods contained within Calculation CRTN and the DMRB. This assessment indicates that on Langhurstwood Road there would be an increase in the road traffic noise level of up to 1.6 dB. For an increase in noise level that is similar in character to the baseline (i.e. traffic noise), this is not significant in noise terms and would be unlikely to be perceptible. The assessment assumed that operational traffic would be in addition to existing traffic, whereas it would in fact be no increase on what is already consented. On that basis the assessment was artificial and there would be no actual increase compared with the consented levels.

#### **Construction Noise**

- 3.23 The closest houses to the site are located approximately 210 m to the south-east on Langhurstwood Road. As identified in paragraph 8.6.4 of the ES, over this distance, noise from the temporary construction works for the facility may exceed existing ambient sound levels but would be unlikely to result in a level of noise that would cause a perceived change in the quality of life. This would accord with a noise level that is below the Significant Observed Adverse Effect Level (SOAEL) with respect to national planning policy in the PPGN, and therefore would not result in an unacceptable noise effect.
- 3.24 An assessment of the change in noise levels from construction traffic has also been considered and is reported in Table 8.7 of the ES. The assessment of changes in road traffic noise levels on local roads as a result of the construction of the proposed development is based on the methods contained within Calculation of Road Traffic Noise (CRTN) and the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3, Part 7: Noise and Vibration. This assessment reports a maximum increase above baseline of 0.3 dB, which is negligible. This increase is also artificial, as it assesses the effect of construction traffic noise as though it would be additional, whereas, in practice, construction traffic flows would be less than existing operational flows, and it would

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not be possible to operate the facility during construction. There would, therefore, be a reduction in noise from traffic during construction and not a (negligible) increase. Furthermore, neither WSCC nor HDC have raised any concerns regarding noise from the construction of the facility during RPS' consultations with them.


## 4 **Proposed Planning Conditions**

Ni4H has stated within their SoC that noise concerns can be resolved with planning conditions. However, no planning conditions have been proposed by Ni4H with respect to noise.

- 4.1 The following noise condition has been proposed by RPS and has been considered acceptable to HDC, as indicated within their consultation response to WSCC:
- 4.2 "The plant will be designed such that the rating level LAr, Tr of the noise emitted from it shall not exceed the existing representative background sound levels LA90, T (as provided in the Environmental Statement), by more than 3 dB during the appropriate time period at the nearest noise sensitive receptors. The assessment shall be carried out in accordance with BS4142:2014 'Methods for rating and assessing industrial and commercial sound'. Noise monitoring will be carried out post completion to ensure that the operational plant complies with the design requirement presented in this condition. The monitoring procedure will be discussed and agreed with the case officer at WSCC (and/or their consultee on noise) in advance."
- 4.3 Condition 12 'Operation Noise Survey' was proposed in WSCC's Committee Report:

"12. Within two months of the facility becoming operational, an Operational Noise Survey, undertaken in accordance with BS4142:2014 (or successor), in accordance with an approach previously agreed with the County Planning Authority (including agreeing sensitive receptors and monitoring periods), shall be submitted the County Planning Authority. If the Survey indicates that noise emissions from the facility exceed existing representative background sound

levels LA90,T by more than 3dB, mitigation measures shall be introduced, and the Survey repeated and submitted to the County Planning Authority on a monthly basis until the required levels are reached. Reason: To ensure noise emissions from the facility are at a level which will not be detrimental to the living conditions of nearby residents."

- 4.4 The Applicant notes that, at one property 'Graylands Lodge', the predicted noise level currently would exceed this level by 1 dB during the night. However, the Applicant is confident that further noise reductions can be achieved and that the above condition can be complied with in practice.
- 4.5 Several other conditions proposed within WSCC's committee report also relate to noise among other matters; these are listed as follows:
  - Condition 7 'Construction and Environmental Management Plan'.
  - Condition 14 'Hours of Construction and Deliveries'.

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- Condition 15 'HGV Numbers'.
- Condition 16 'Hours of Use'.
- Condition 17 'Odour Control'.
- Condition 18 'Enclosed Loads'.
- Condition 19 'Quantities of Waste and Record Keeping'.
- Condition 20 'Reversing Alarms'.
- 4.6 Subject to matters that may arise and discussion of conditions at the Inquiry all of the above are considered to be acceptable in principle and substance to the Applicant.



## 5 summary

- 5.1 RPS has reviewed the information submitted by Ni4H within their Interested Party Submission (IPS) and provided evidence in Section 3 of how each of these matters was addressed within Chapter 8 of the ES that was submitted with the planning application. The evidence cited in Section 3 indicates that although there could be an increase above baseline during the construction phase, any increase above baseline during the operational phase would be negligible and that there would be no unacceptable loss of amenity to residents as a result of the development. This conclusion was confirmed by professional officers in the response to WSCC from HDC and in the Committee Report.
- 5.2 With respect to national planning policy, the Planning Practice Guidance for Noise (PPGN) provides a qualitative description for a Significant Observed Adverse Effect Level (SOAEL) which is normally adopted as a level above which unacceptable noise effects would occur. The ES indicates that all aspects of the assessment of noise effects would be below what would be considered as a SOAEL. Chapter 8 of the ES concludes (Table 8.11) that noise effects would be at most minor adverse during both the construction and operational phases, which is not significant.
- 5.3 On this basis, the assertion made by Ni4H in the IPS that the appeal should be dismissed on the basis of a failure to demonstrate that the noise would not have a significant adverse impact on residents and is therefore contrary to Policies W10 and W19 of the WSWLP; Policy 24 of the HDPF paragraph 123 of the NPPF (2012) is unfounded. The response from the HDC EHO, which WSCC relied upon as being the professionally competent consultee in this regard confirms that the change in noise levels would be imperceptible at the most affected property. It is therefore unlikely that there would be perceptible noise from the facility in the wider community.
- 5.4 RPS has also reviewed the Statement of Case (SoC) that was subsequently submitted by Ni4H. This indicates that although Ni4H initially had some concerns regarding noise, it is now satisfied that these can be resolved through the application of appropriate planning conditions. The information within the planning committee report indicates that HDC has raised no objection to the appeal facility on the grounds of noise. In addition, WSCC does not intend to defend Reason 4, 'Residential Amenity', which included noise, from their grounds for refusal.
- 5.5 Planning conditions for noise have been proposed by WSCC that are acceptable to the Applicant and HDC. Ni4H has not proposed any alternative planning conditions for noise. The absence of a proposed planning condition to control noise can be taken as a further indication that noise is

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not a principal concern to Ni4H or that the noise related planning conditions proposed by WSCC are also acceptable to Ni4H, and hence there is no longer a concern regarding the noise effects of the facility, as confirmed by Ni4H's Statement of Case.



### Contact

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## Appendix 4

**Transport Note** 



## **STATEMENT ON VEHICLE MOVEMENTS**

Appeal against the decision of West Sussex County Council to refuse planning permission for a proposed Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure at Wealden Brickworks, Horsham



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## Appendices

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## **1** INTRODUCTION

## **Qualifications and Experience**

- 1.1 My name is David John Archibald. I am a Director of RPS Transport and Engineering, part of the RPS Group plc, based in the Oxford office. I hold a Master of Science Degree in Transportation Engineering from Edinburgh Napier University and a Bachelor of Science Honours Degree in Civil Engineering from Edinburgh Napier University. I am a Member of the Chartered Institute of Highways and Transportation and I am also a Member of the Transport Planning Society.
- 1.2 I have worked in the field of transport planning and traffic engineering for 19 years and I have acted on behalf of private and public sector clients for a large range of schemes and land uses, including approximately 50 waste related sites. I am currently actively involved in waste related schemes at Kemsley, Kent, Great Blakenham, Sussex, Darwen, Lancashire, and Newport.
- 1.3 I have previously given evidence at various public inquiries and hearings as well as to the HS2 Select Committee on transport and highway matters.
- 1.4 I am familiar with the Appeal site and with the adjacent transport network and I have visited the site and the adjacent transport network on a number of occasions.
- 1.5 The evidence which I have prepared and provide for this Inquiry reference APP/P3800/W/18/3218965 in this Statement is true and has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.

## **Scope of Statement**

- 1.6 RPS Transport and Engineering has been providing transport advice to Britaniacrest Recycling Ltd and providing support to their planning applications on the site since 2015. I have been responsible for RPS' transport related input and support throughout this period.
- 1.7 My Statement considers the number of HGVs generated by the proposed development, hereafter referred to as the proposed 3Rs, and demonstrates that these are no more than the current operations are permitted to generate.
- 1.8 I firstly set out in Section 2 the transport related reasons for refusal and explain how West Sussex County Council (WSCC), as the Local Highway Authority, are not defending these.
- 1.9 In Section 3, I set out the permitted number of HGV movements associated with recent planning consents on the appeal site along with the number of HGV movements that are currently permitted. I then go on to demonstrate how the appeal proposals will not increase the number of HGV movements that are currently permitted.

## 2 TRANSPORT RELATED REASONS FOR REFUSAL

- 2.1 There were six main reasons for refusal cited in West Sussex County Councils (WSCC) decision, one of which (reason for refusal 3) was related to transport.
- 2.2 Reason for Refusal 3 stated:

"The development would have an unacceptable impact on highway capacity, contrary to Policies W10 and W18 of the West Sussex Waste Local Plan 2014."

- 2.3 At a WSCC planning committee meeting on 5 February 2019, WSCC took legal advice where they agreed that they would not defend five of the six reasons for refusal including this one.
- 2.4 The Rule 6 Party, No Incinerator 4 Horsham Community Group (Ni4H), are also not pursuing impact upon highway capacity as a ground for objection.
- 2.5 This statement is therefore provided purely for the Inspectors information, to summarise the position on behalf of Britaniacrest Recycling Ltd.

# 3 TRANSPORT RELATED PLANNING HISTORY

## **Appeal Site**

#### B2 / B8 Units

- 3.1 In March 2011, planning consent was granted (application reference DC/09/2355) for B2 General Industrial (6,695m<sup>2</sup>) / B8 Storage and Distribution (8,185m<sup>2</sup>) uses. A reserved matters application for this permission was subsequently approved by Horsham District Council in June 2014 (application reference DC/14/0476).
- 3.2 The Transport Assessment that accompanied the planning application set out the estimated number of vehicle movements the B2 / B8 uses would generate. The Transport Assessment did not set out estimates of daily vehicle movements and it only set out estimates of vehicle movements during the weekday AM peak hour (08:00 to 09:00) and the weekday PM peak hour (17:00 to 18:00).
- 3.3 It estimated the B2 / B8 proposals would generate 96 two-way vehicle movements (all vehicle arrivals plus all vehicle departures) during the weekday AM peak hour and 76 two-way vehicle movements during the weekday PM peak hour.
- 3.4 As part of the planning application for the Waste Transfer Facility (WTF) in 2014 (application reference WSCC/018/14/NH), details of which are below, Tables 6.7 and 6.8 of its ES built upon these estimates to set out the number of daily vehicle movements that the, then consented, B2 / B8 scheme would generate as well as the number of HGV movements.
- 3.5 These are set out in **Table 3.1**, below. In summary, the B2 / B8 scheme would have generated 898 two-way vehicle movements per day, 325 of which would have been HGVs.

Period	Total Vehicle Movements	HGV Movements			
Weekday AM Peak Hour (08:00 to 09:00)	96	15			
Weekday PM Peak Hour (17:00 to 18:00)	76	9			
Weekday Daily Period (00:00 to 24:00)	898	325			

#### Table 3.1: Daily Traffic Generation of the B2 / B8 Scheme

### Waste Transfer Facility

- 3.6 In 2014, planning consent was granted (application reference WSCC/018/14/NH) with conditions for a WTF with a throughput of up to 200,000 tonnes per annum (tpa).
- 3.7 The planning application was supported by an ES, chapter 6 of which was titled Traffic and Transport. The content and the scope of assessment within this chapter was agreed with Highway Officers of WSCC in advance of submission.
- 3.8 This chapter estimated that the proposals would generate 123 HGV arrivals per day, equating to 246 two-way HGV movements per day.
- 3.9 With the addition of 28 two-way car movements per day associated with staff, visitors and maintenance, the ES estimated the proposals would generate a total of 274 two-way vehicle movements per day, 246 of which would be HGVs.

3.10 In comparison to the consented B2 / B8 scheme, Table 6.11 of the 2014 WTF ES estimated that the 200,000 tpa WTF proposals would result in a net reduction in vehicle movements, as replicated in **Table 3.2**.

# Table 3.2: Net Change in Vehicle Movements of 200,000 tpa WTF in Comparison to B2 / B8 Scheme

Period	Net Change in Total Vehicle Movements	Net Change in HGV Movements
Weekday AM Peak Hour (08:00 to 09:00)	-58	+11
Weekday PM Peak Hour (17:00 to 18:00)	+62	-5
Weekday Daily Period (00:00 to 24:00)	-624	-79

- 3.11 In summary, in comparison to the B2 / B8 scheme, the 200,000 tpa WTF would have generated 624 fewer two-way total vehicle movements per day with 79 fewer two-way HGV movements per day.
- 3.12 Following this, there has been a number of amendments to the consent, including an increase in the throughput of 30,000 tpa to a total throughput of 230,000 tpa and associated HGV movements (application reference WSCC/021/15/NH).
- 3.13 I rely upon Mr LeCointe's evidence for the operative permission, which is that implemented under application reference WSCC/006/18/NH. Condition 6 of that consent restricts HGV movements as follows:
  - No more than 142 HGVs shall enter the site between the hours of 07.00-16.30 and no more than 142 HGVs shall exit the site between the hours of 07.00-18.00 on Mondays to Fridays inclusive;
  - No more than 70 HGVs shall enter the site between the hours 07.00-12.00 and no more than 70 HGVs shall exit the site between the hours of 07.00-18.00 (of which no more than 9 HGVs shall exit the site between 16:30-18:00) on Saturdays;
  - No HGVs shall enter or exit the site on Sundays, Bank Holidays or Public Holidays; and
  - Reason: To accord with paragraphs 109, 120 and 123 of the NPPF (2012) in the interests of the amenity of the locality and of local residents.
- 3.14 142 HGV arrivals per day, equates to 284 two-way HGV movements per day. Staff numbers were not predicted to change as a result of the increase in throughput, therefore, with the addition of 28 two-way car movements per day associated with staff, visitors and maintenance, this equates to 312 two-way vehicle movements per day, 284 of which would be HGVs.
- 3.15 The planning application for the increase in the throughput to 230,000 tpa was supported by an ES Addendum, chapter 6 of which was titled Traffic and Transport. The content and the scope of assessment within this chapter was agreed with Highway Officers of WSCC in advance of submission.
- 3.16 In comparison to the consented B2 / B8 scheme, Table 6.8 of the ES Addendum estimated that the 230,000 tpa WTF proposals would result in a net reduction in vehicle movements, as replicated in **Table 3.3** below.

# Table 3.3: Net Change in Vehicle Movements of 230,000 tpa WTF in Comparison to B2 / B8 Scheme

Period	Net Change in Total Vehicle Movements	Net Change in HGV Movements
Weekday Daily Period (00:00 to 24:00)	-586	-41

- 3.17 In summary, in comparison to the B2 / B8 scheme, the 230,000 tpa WTF would generate 586 fewer two-way total vehicle movements per day with 41 fewer two-way HGV movements per day.
- 3.18 It should be noted that the calculations in Table 6.8 of the ES Addendum contained a typographical error whereby the total number of HGVs were stated as 283 two-way HGV movements rather than 284 and thus 311 total two-way vehicle movements rather than 312. This in turn calculated net reductions of 587 fewer two-way total vehicle movements per day with 42 fewer two-way HGV movements per day. The above **Table 3.3** rectifies this and calculates the correct net change in vehicle movements.
- 3.19 The WTF is constructed and is operational. Advice received from Britaniacrest Recycling Ltd is that the WTF does not currently operate at its permitted capacity of 230,000 tpa. Britaniacrest Recycling Ltd advise that there is sufficient demand for the WTF to operate at its permitted capacity, however, a commercial decision was made not to at this moment in time so as to avoid any potential requirements to terminate new contracts should the Recycling, Recovery and Renewable Energy Facility be granted consent. This is evidenced in a letter from Britaniacrest Recycling Ltd, a copy of which is attached at **Appendix A**.
- 3.20 To determine the number of HGV movements that are currently generated by the WTF, weighbridge log data has been received from Britaniacrest Recycling Ltd for the half year period to the end of June 2019. The weighbridge log data has been analysed accordingly and is summarised in **Table 3.4**.

Month	Total Two-way Waste HGV Movements	Number of Working Days	Number of Two-way Waste HGV Movements per day
Jan-2019	3,158	22	144
Feb-2019	2,614	20	131
Mar-2019	2,638	21	126
Apr-2019	2,432	20	122
May-2019	2,382	21	113
Jun-2019	2,512	20	126
2019 First Half Average	-	-	127

#### Table 3.4: Summary of Current Daily Two-Way Waste HGV Movements at WTF

- 3.21 The above shows that for the half year period to the end of June 2019, there has been an average of 127 two-way HGV movements per day (63/64 arrivals plus 63/64 departures per day) generated at the WTF.
- 3.22 Based upon this, the WTF currently generates approximately 45% of the number of HGV movements that the consent permits (127 two-way HGV movements generated out of 284 two-way HGV movements permitted).

# Recycling, Recovery and Renewable Energy Facility (2016 Application)

- 3.23 Prior to the application to which this appeal relates, an application for a Recycling, Recovery and Renewable Energy Facility was submitted in 2016 (application reference WSCC/062/16/NH) but was withdrawn prior to determination. That application was supported by an ES, chapter 6 of which was titled Traffic and Transport.
- 3.24 The content and the scope of assessment within this chapter of the ES was agreed with Highway Officers of WSCC in advance of submission.
- 3.25 In traffic terms, this agreement covered the following:
  - The assessment of the construction effects of the facility; and
  - That there was no requirement to undertake any assessments for the operational phase of the facility because it would not generate any additional traffic over and above its permitted level.
- 3.26 Section 6.7 of the ES explained that the proposals would involve the demolition of the existing WTF and the proposed 3Rs would incorporate an enhanced version of the existing WTF within it as well as a thermal treatment facility.
- 3.27 It went on to explain that all waste inputs to the proposed thermal treatment facility would be sourced from the updated WTF, which means that all waste inputs to the proposed 3Rs would already have permission to be imported to the site under its existing planning permission.
- 3.28 The total volume of waste imported to the site would be the same as is currently permitted for the existing WTF i.e. 230,000 tpa. As such, the proposals would not result in any increase in waste vehicles coming to the site above those already permitted.
- 3.29 There would therefore be no requirement for any additional waste related HGV movements to transport waste to the site over and above the sites extant consent.
- 3.30 There will be a requirement to transport consumables via HGV. Section 6.7 of the ES set out that total HGV movements at the site would be managed so as to not exceed the numbers permitted by the extant permission. It went on to state that the applicant would accept a Condition to this effect to ensure that the proposals will not result in any increased HGV movement on site.
- 3.31 The ES concluded that there would be no change in HGV movements at the site during the operation of the facility and therefore no effects on traffic and transport by the operation of the facility.
- 3.32 WSCC, as the Local Highway Authority, agreed with this conclusion and did not raise any transport related objections to the 2016 planning application, as evidenced in their consultation response, a copy of which is attached at **Appendix B**.

# Recycling, Recovery and Renewable Energy Facility (2018 Application)

- 3.33 The application to which this appeal relates was submitted in 2018. The application was supported by an ES, chapter 6 of which was titled Traffic and Transport.
- 3.34 From a traffic and transport perspective, it was essentially the same as the 2016 submission, all of which had been previously agreed with WSCC, as the Local Highway Authority, and who had not raised an objection to that application, as evidenced at **Appendix B**.
- 3.35 For the same reasons as the 2016 application, the ES concluded that there would be no change to traffic flows to the site during the operation of the facility and therefore no effects on traffic and transport by the operation of the facility.

3.36 WSCC, as the Local Highway Authority, did not raise any transport related objections to the planning application.

## **Discussion, Summary and Conclusions**

- 3.37 The above shows how the permitted number of HGV movements at the appeal site have changed in recent years in association with recent planning consents.
- 3.38 **Table 3.5** summarises the recent planning consents granted on the appeal site and their associated vehicle movements along with the proposal subject to this appeal.

Table 3.5. Summary of Recent Flamming Consents and Venicle Movements					
Scheme	Two-way Total Movements per Day	Two-way HGV Movements per Day	Comment		
B2 / B8 (DC/09/2355)	898	325	-		
200,000 tpa WTF (WSCC/018/14/NH)	274	246	Net change of -79 two-way HGV movements per day in comparison to B2 / B8 scheme		
230,000 tpa WTF (WSCC/021/15/NH) (Extant Consent at full throughput)	312	284	Net change of -41 two-way HGV movements per day in comparison to B2 / B8 scheme		
230,000 tpa WTF (WSCC/021/15/NH) (Extant Consent at current throughput)	155 *	127	Current operations generate 157 fewer two-way HGV movements per day than permitted		
This Appeal Application	312	284	No net change from extant consent		

#### Table 3.5: Summary of Recent Planning Consents and Vehicle Movements

\* calculated based upon 28 car movements by staff, visitors and maintenance per day.

- 3.39 The existing WTF as implemented is permitted to generate 284 two-way HGV movements per day. This compares favourably when considering the consent granted prior to that for a B2 / B8 scheme, which would have generated 325 two-way HGV movements per day.
- 3.40 The proposals subject to this appeal would involve the demolition of the existing WTF and the proposed 3Rs would incorporate an enhanced version of the existing WTF within it as well as a thermal treatment facility.
- 3.41 All waste inputs to the proposed thermal treatment facility would be sourced from the updated WTF. Therefore, there would be no requirement for any additional waste vehicle inputs over and above those to the WTF.
- 3.42 There is already an extant consent to operate a WTF (which is currently operational) with associated permissions for waste vehicle inputs (284 two-way HGV movements per day). There would be no need to change this to operate the proposed 3Rs.
- 3.43 There will be a requirement to transport consumables via HGV in association with the thermal treatment facility. Total HGV movements would therefore be managed at the proposed 3Rs so as to not exceed the numbers permitted by the extant permission (284 two-way HGV movements per day).
- All vehicles accessing the site must report to the weighbridge. All HGVs are weighed and checked in and a manual record is made. HGVs originating from the MBT plant are separately identified. This information is required to satisfy the planning condition and environmental permitting reports. They are submitted to WSCC on a monthly basis and are available for inspection on site.
- 3.45 The appeal application will be equipped with inbound and outbound modern weighbridges with automatic recording of vehicle weight and waste transfer consignment notes. It is envisaged that this will continue to be controlled by planning condition as well as the environmental permit.

- 3.46 The proposed 3Rs would therefore not alter the number of daily HGV movements at the site in comparison to what is already permitted under the extant consent for the WTF.
- 3.47 This was agreed with Highway Officers at West Sussex County Council, who have not raised an objection for this reason, as evidenced at **Appendix B**.
- 3.48 The applicant will accept a Condition to this effect to ensure that the proposed 3Rs will not result in any increased HGV movement on site over and above that which is already consented (i.e. 284 two-way HGV movements per day).
- 3.49 A condition which controls HGV movements at waste sites is not uncommon, as evidenced by Condition 6 of the extant consent for the WTF (WSCC/006/18/NH) which restricts HGV movements to 284 two-way HGV movements per day.
- 3.50 I am therefore of the opinion that the proposed 3Rs would not increase HGV movements over and above those that are already permitted.



## Appendix A

**Britaniacrest Letter** 





26 Reigate Road, Hookwood, Surrey RH6 0HJ Tel: 01293 820021 Fax: 01293 776988 E-mail: info@britaniacrest.net

Christopher Lecointe Director of Environmental Planning RPS Consulting UK & Ireland 20 Western Avenue Milton Park Abingdon Oxfordshire OX14 45H

24<sup>th</sup> September 2019

Dear Chris,

#### **Residual Waste in West Sussex and Southern England**

Further to your enquiry regarding the market for residual waste in West Sussex and southern England in general, we describe below the situation as seen by Britaniacrest Recycling Ltd and on which we have based our future investment plans. Investing in the development of the 3Rs Facility was a big decision for the company – even so far as just obtaining this planning permission is concerned. Raising the finance for the actual construction will be a major task and one that will carry significant risk. We have not entered into it lightly, and indeed would not have entered into it at all were it not for the fact that we can see no other alternative if the company is to survive in the long term.

There is a paucity of disposal capacity the South of England generally, and in West Sussex there is now none. Whilst the business of the company is predicated on recycling, there is inevitably residual waste remaining after the recycling activity, and we are having to incur increasingly greater costs as our vehicles have to travel further and further to facilities at which we can dispose of that residual waste. We are now very dependent on disposal in Holland and Germany and at the mercy of political decisions taken in those countries - or indeed in the UK - over which we have no control. We have no concern that there is more than enough residual waste available within the catchment of the 3Rs Facility to fill it for many years to come and underpin the investment made now and in the future.

As you know, Britaniacrest Recycling has seen a healthy growth since it started in 1993. Based on the weighbridge records since October last year, our site at Wealden Works, Horsham is currently handling around 146,000 tonnes per year, starting from nothing just four years ago. It is of note that whilst we have expanded the number of vehicles delivering to the site over this time, we have deliberately held back from expanding to the full capacity and the number of vehicle movements permitted. The reason for this is that we were hopeful that by now that the 3Rs Facility would already be under construction and did not wish to turn customers away when the site has to be temporarily closed for construction of the 3Rs Facility. We should be able to make alternative arrangements for our current client base, but this would not be possible if we were receiving the full 230,000 tonnes. We have received a number of requests from commercial waste collectors to tip at

Wealden Works, but to date have only accepted a small number of them being Horsham District CC. Biffa Waste services and Saxon Weald Horsham Ltd. In the event the appeal fails, however, we will ramp up the current operation to its full permitted capacity.

It is also of note that since 5<sup>th</sup> April 2018, Britaniacrest Recycling Ltd, has worked in collaboration with our partners, WSCC and Seneca Ltd forming a joint venture company West Sussex Britaniacrest Seneca Partnership (WSBSP), which already holds a contract with West Sussex County Council for disposal of up to 155,000 tonnes per annum of the residual waste (RDF) exported from the MBT plant at Horsham. This is a five-year contract with the ability to extend. At the moment this waste is exported to Germany. In the event the 3Rs Facility is constructed, we would be hopeful of concluding a longer-term contract with WSCC and diverting this waste to being treated within West Sussex at the 3Rs Facility.

In determining the quantity of residual waste that requires disposal, we use a combination of official sources, market reports prepared by specialist consultants and our own in-house knowledge. In providing our estimate here, we are afraid that we cannot reveal proprietary knowledge, nor details of agreements or contracts that Britaniacrest Recycling holds with third parties, as these are commercially confidential. So we will only describe here information that is available anyway in the public domain. It should also be noted that when we use the word "dispose" related to energy from waste, the waste will actually "recovered" in accordance with the definition in the Waste Framework Directive.

#### The UK general situation

The main sources of data on waste flows in the UK are from Wastedataflow, managed by the Environment Agency and the interpretations and summaries published by DEFRA. The most recent DEFRA publication is "UK Statistics on Waste", published 7<sup>th</sup> March 2019, which provides the latest data at time of writing on waste quantities being collected, recycled, recovered and disposed in England and the devolved administrations. This shows:

- a) Approximately 189.5 million tonnes of all types of waste were generated in 2016;
- b) Household waste generated was 22.4 million tonnes;
- c) Of b) above, 9.9 million tonnes were recycled or recovered (i.e. 44.4%), excluding IBA from incineration;
- d) 11.78 million tonnes of MSW was sent to Landfill, of which 7.5 million tonnes had been subject to mechanical processing such as shredding and MBT;
- e) The estimated generation of Commercial & industrial (C&I) wastes was 37.9 million tonnes.

To obtain further market intelligence, reference is made to market reports produced by specialist consultants. These reports are used by the banks and other financial institutions to establish confidence in investment in waste management infrastructure. So there is reliance that can be placed on these reports.

One of these consultancies is Tolvik Consulting. Tolvik report "UK Residual Waste: 2030 Market Review", published November 2017. This report does not simply rely on Wastedataflow and DEFRA reporting, but considers assessments from a number of organisations, including some independents such as Green Alliance and Eunomia (cited by NI4H). This Tolvik report concludes that there was approximately 27.1 million tonnes of residual waste available for disposal in the UK in 2016, of which 12.2 million tonnes was disposed at landfills. Although this data is three years old, waste generation is not expected to have changed significantly over the period. If anything, it will have increased with a growing population (expected to be 69.2 million by mid-2026).

Another Tolvik report, "UK Energy from Waste Statistics – 2017". Published June 2018, estimates that when looking at the EfW plants in operation and in development, and bringing the evidence together, there is a capacity gap in the country as a whole of 8 million tonnes per annum by 2030.

#### West Sussex and the South of England

For the purposes of clarification, we define the "South of England" as the geographical areas bounded by the shire counties of Kent, East Sussex, West Sussex, Surrey, Hampshire and part of South London.

Britaniacrest Recycling has stated consistently that waste delivered to the plant would come from within the catchment of the South of England. We believe the bulk of deliveries will come from West Sussex itself, but we cannot fetter the potential for investment in the 3Rs Facility by restricting the catchment to just West Sussex.

A further Tolvik report, "Residual Waste in London and the South East – Where is it going?" published October 2018, provides an estimate of the residual waste in this area for 2017 of 4.5 million tonnes. As there has been no additional disposal capacity added within the South of England since the publication of this report, if zero waste to landfill is to be achieved, extracting that waste already going to EfW, it can be considered that 2.36 million tonnes are available for disposal at new EfW facilities.

In reality, however, the catchment area which will facilitate waste being delivered to a new EfW at Wealden Works will be limited by vehicle utilisation and drive-time limitations and will not extend over the whole geographical area of the South of England. To provide a more realistic estimate of the catchment of the plant, a drive-time map for HGV vehicles has been generated for a 1.5-hour journey time to the 3Rs Facility location. The drive time of 1.5 hours is selected as this allows for maximum vehicle utilisation and allows for driver rest periods.

The map, shown below, has been produced by Mercator Geosystems and considers highways restrictions for HGVs, where applicable and typical HGV speed of travel.



#### 1.5-hour drive-time map

It can be seen from the drive-time map that the more accurate assessment of the likely catchment of the Wealden Works facility is essentially West Sussex and East Surrey. It reaches slightly into the London boroughs of Croydon and Bromley, but these are on the extremes of the catchment area. It is also noticeable that the catchment does not extend to Chichester and the south coast to the west and therefore does not conflict in any significant way with the proposed EfW facility at Ford, West Sussex, nor the existing one at Worthing.

#### Local Authority Waste

The LA and Regional Spreadsheet 2017/18 extracted from Wastedataflow presents the local authority waste flows for each of the local authorities, including West Sussex, Surrey, LB Bromley and LB Croydon. This shows that the total Local Authority Collected Waste in the four local authorities within the catchment for year ending March 31, 2018 was 1.27 million tonnes, of which 636,000 tonnes was not recycled. This includes over 200,000 tonnes in West Sussex.

Public procurements of disposal facilities have been completed in Surrey, and the London boroughs within the catchment, and the only local authority waste that could potentially come to the 3Rs Facility is that of LB Bromley, Surrey and West Sussex. We have not, however, considered Bromley in our future plans, and in planning the 3Rs Facility we have assumed no local authority waste will be available from London boroughs.

In the case of Surrey, EfW is in the process of being developed with a capacity of 55,000 tpa. An anaerobic digester has also been developed with a capacity of 40,000 tpa. Hence, if both are assumed to work to their capacity, the residual waste requiring disposal in Surrey will reduce to 147,680 tpa. If it is assumed that geographically, only 50% of the county of Surrey is within the drive-time catchment, the waste quantity potentially available to the 3Rs Facility within catchment will be 73,840 tpa.

Hence, from the above assessment, it can be concluded that there is 285,000 tonnes of local authority collected residual generated waste within the catchment of the proposed plant. This includes the waste we already receive from WSCC from the disposal contract referred to above.

#### Commercial & Industrial Waste

In assessing the amount of commercial waste available within the catchment of Horsham, we use a recommendation made by NERA Economic Consulting that C&I waste generation is a function of Gross Value Added (GVA), rather than employment. On this basis, a good approximation to the commercial waste generated in an area can be obtained by determining the GVA of that area as a proportion of the national GVA. We will not go through the full calculation here but using this approach it is estimated that there are approximately 1.72 million tonnes per year of C&I waste arising within the 1.5-hour drive-time catchment area and its immediate vicinity. We are of the opinion that taking into account that a large portion of this will be recycled, there is still some 688,000 tpa of residual waste within the area needing to be disposed.

In summary, therefore, based on evidence available and our own knowledge of the local market and allowing for the fact that some of the commercial waste arising will be at the extreme of the drive-time catchment, we believe there is currently a around 760,000 tonnes of municipal and commercial residual waste being generated within the catchment of the proposed 3Rs Facility.

We trust this gives you an insight into the view of the residual waste market that we have adopted in planning for the 3Rs Facility and quantifies the tonnage that will be available to contract should the development be permitted.

If you have any questions on this evaluation, please do not hesitate to ask.

Yours sincere

Richard |

Director Britaniacrest Recycling Ltd.

## Appendix B

West Sussex County Highways Consultation Response to 2016 3Rs Application

#### WEST SUSSEX COUNTY COUNCIL STRATEGIC PLANNING CONSULTATION

FROM: Ian Gledhill TO: West Sussex County Council FAO: Lucy Harding

SUBJECT: WSCC/062/16/NH - Recycling, Recovery and Renewable Energy Facility and Ancillary Infrastructure.

Former Wealden Brickworks, Langhurstwood Road, Horsham, West Sussex, RH12 4QD

#### **RECOMMENDATION:**

Advice		Modification		More Information	
Objection		No Objection	X	Refusal	

West Sussex County Council, in its role as Local Highway Authority, has commented at the pre application stage on the scope of the Transport Assessment submitted in support of this application. At that time, the scope implied that the proposed recycling, recovery, and renewable energy (the 3Rs) facility would be separate to the waste uses already permitted on the site, albeit that the proposed facility would draw its feedstock from the waste streams being brought onto the site. From the plans and information now presented, it is apparent that the 3Rs facility would effectively consolidate the permitted and proposed waste processing uses into a single facility. As such, there is no possibility of the uses operating separately.

As stated within the submitted information, the permitted waste use already has permission for and the potential to generate up to 284 two way HGV movements per day, with 140 two way movements on a Saturday. The proposed use does not seek to vary from these already permitted numbers. In highway terms, the current proposal would therefore not have any additional highway impacts beyond those already approved as part of WSCC/021/15/NH. A condition or s106 clause would be required to control the number of daily HGV vehicle movements, and to ensure that these do not exceed the previously agreed numbers.

Details of HGV routing are also provided. Given that the A264 forms part of the advisory lorry network, providing all HGVs arrive and depart via Langhurstwood Road to the south then no further controls beyond this would be necessary.

In light of the approved development, no physical alterations would be needed to the local highway network to accommodate this proposal.

The site lies near to land allocated within the Horsham District Planning Framework for a strategic scale residential development, known as land north of Horsham. This land is also the subject of a planning application (DC/16/1677/OUT). This application has not yet been determined. Nevertheless, given that the waste processing uses on the Wealden Brickworks site are permitted, the Transport Assessment for the North Horsham development would take into account the cumulative impacts of the traffic arising from the permitted and proposed developments. Given the work already undertaken and the fact that no increase in HGV activity is anticipated as a consequence of the current waste proposal compared with that already permitted, there would be no further requirement as part of the current application for any additional highway capacity modelling. The National Planning Policy Framework states that development should only be prevented or refused on transport grounds where the residual cumulative impacts of the development are severe. In light of the permitted uses on the site, the LHA are satisfied that this proposal would not result in any severe highway safety or capacity impacts. No highway objection would be raised.

In the event that this application is approved the number of daily HGV movements should be suitably controlled. A construction management plan (condition suggested below) would also be required. This should specifically include as appropriate details relating to the co-ordination of construction activities relating to the North Horsham development. It's appreciated that North Horsham and the waste uses are separate but there should still be some reasonable co-ordination where possible.

#### **Construction Management Plan**

No development shall take place, including any works of demolition, until a Construction Management Plan has been submitted to and approved in writing by the Local Planning Authority. Thereafter the approved Plan shall be implemented and adhered to throughout the entire construction period. The Plan shall provide details as appropriate but not necessarily be restricted to the following matters,

- the anticipated number, frequency and types of vehicles used during construction,
- the method of access and routing of vehicles during construction,
- the parking of vehicles by site operatives and visitors,
- the loading and unloading of plant, materials and waste,
- the storage of plant and materials used in construction of the development,
- the erection and maintenance of security hoarding,
- the provision of wheel washing facilities and other works required to mitigate the impact of construction upon the public highway (including the provision of temporary Traffic Regulation Orders),
- details of public engagement both prior to and during construction works.

Reason: In the interests of highway safety and the amenities of the area.

Ian Gledhill Strategic Planning
Air Quality Note

# Former Wealden Brickworks, Langhurst Wood Road, Horsham, RH12 4QD

## Technical Response to the Inspector's Queries (Ref: APP/P3800/W/18/3218965)

#### Quality Management

Prepared by	Fiona Prismall MSc, BSc (Hons), CEnv, FIAQM, MIEnvSc	Technical Director	AP .	31/07/2019
Reviewed & checked by	Jon Pullen PhD, CSci, CChem, MRSC, FIAQM, MIEnvSc	Operational Director	Ŵ	31/07/2019
Authorised by	Jon Pullen PhD, CSci, CChem, MRSC, FIAQM, MIEnvSc	Operational Director	Ŕ	31/07/2019
Date of Issue	31/07/2019		Revision Number	Rev 0
Job Number	JAP 10635			

Please find below the response to each of the three queries raised by the Inspector via PINS in its letter dated 11 July 2019.

#### First Query

- 1) Para 7.11.1 (page7-32) indicates that 'Dispersion models typically have an accepted uncertainty of up to +/-25% and this is taken into account when devising the criteria for establishing significance.'
- What is the basis of the statement 'Dispersion models typically have an accepted uncertainty of up to +/- 25%'?, (provide documentary support)?;
- In this context, what (with reasons) error bars are associated with the dispersion models used in this case?; and,
- How has this uncertainty been 'taken into account when devising the criteria for establishing significance'?

#### Response

#### **Uncertainty**

While the ADMS model has been formally validated and is widely used in the UK and internationally for regulatory purposes, the predictive ability of even the best model is limited by how well the turbulent nature of the atmosphere can be represented. On its website, CERC lists 20 papers on model validation<sup>1</sup>, but none of these 20 papers attempts to numerically quantify the magnitude of uncertainty in the annual mean concentration. Where annual-mean concentrations are mentioned, the papers all state that *"Comparisons between modelled and observed annual average concentrations are not presented in this report due to the issues with monitor detection limits and background data."* This demonstrates the practical difficulty with validation studies for any point source model.

The  $\pm 25\%$  model uncertainty quoted in the report is based on custom and professional judgement. There is no specific document that can be referenced; however, it is worthy of note that *Directive 2008/50/EC of the European* 

*Parliament and of the Council of 21 May 2008 on Ambient Air Quality and Cleaner Air for Europe* sets an objective for modelling of ±30% for annual mean predictions.

Any attempted quantification of the uncertainty based on the variability of model outputs to different model inputs and/or set-up is unlikely to provide a complete and accurate picture. There is a difference here between road traffic emissions models, which can be relatively easily verified against roadside air quality monitoring data, with bias correction and accuracy set out, and point source models. For point source models, this is much more difficult because there is wide spatial and temporal variation in where and when the plume intersects the ground, so monitors cannot easily be sited at a suitable location. Instead, this type of validation is done by the model developers, using large scale monitoring data-sets and model inter-comparisons as the principle tools. Practitioners then build in conservative assumptions/methods to ensure the modelling approach is robust. This is the accepted approach for point source modelling not only in the UK but internationally.

Defra's Local Air Quality Management Technical Guidance 2016 (LAQM.TG16) states that: "The modelled results from industrial sources alone are not expected to be adjusted. It is recognised that appropriate monitoring around stacks may not be available to allow verification of the modelled results. Furthermore, the comparison of a stack model at one monitoring location does not necessarily provide a good indication of the model performance, particularly as the location at which peak concentrations are predicted, will vary from year to year, due to changes in meteorological conditions, and may not be represented by the monitoring data."

#### Error Bars

Error bars can only be determined where predicted values are compared with observed values. LAQM.TG16 continues by stating that "The results of dispersion modelling of point sources may not agree with the results of monitoring for a number of reasons including:

- Uncertainties in emissions estimates;
- Difficulties in determining emissions profiles;
- Model parameters related to complex effects such as buildings and terrain; and
- Meteorological data."

In 2010, Defra published its *Evaluating the Performance of Air Quality Models* report which states that: "Of all the major elements that are assembled into an air quality model, emissions modules and inventories have been the source of most debate and controversy. Rarely has assessment of model performance focussed attention on issues other than problems and inadequacies with emissions data."

The assessment has considered the matters listed in LAQM.TG16, as set out below.

#### Emissions estimates and profiles

Dispersion modelling has been undertaken assuming that the stack emissions are released at 100% of the current Industrial Emissions Directive emissions concentrations limits for the main pollutants, assuming that facility operates 100% of the time at 100% of its throughput. In reality, emissions concentrations are likely to be lower, as the facility is designed with an operating margin within the limits, not to operate at its limit. It will operate with a range of fuel throughput, which will affect emissions and lead to a range which will be below the limit. It will also not be available to operate 100% of the time (typical availability is approximately 94% for modern facilities), with no emissions when it is not operating.

The Waste Incineration Best Available Techniques Reference (BATREF) update and BAT Conclusions (BATC) were voted through in June. After the Member States' approval, the BATC, adopted by the Commission, are published in the Official Journal of the European Union as a Commission Implementing Decision, which is directly applicable without transposition. The BREF update and associated implementing BATC decision are expected to be issued in September/October 2019.

The draft BATC include tighter emissions. The current IED limit of 200mg/Nm<sup>3</sup> for NOx is reduced for new EfWs to 50-120 mg/Nm<sup>3</sup>, so that the limit to be expected via the Environmental Permit for this facility will be no more than 60% of what has been assessed.

#### Complex effects

Buildings and an appropriate terrain file have been included within the model. Five years of hourly sequential meteorological data have been used in the assessment ensuring that a wide range of potential meteorological conditions have been accounted for in the assessment. The result presented for each pollutant in the assessment is the maximum concentration forecast by the model in any of those five separate years of meteorological data. Despite not being able to determine error bars, the conservative assumptions adopted mean that the results of the assessment are likely to be towards the top of the uncertainty range (i.e. tending towards worst-case), rather than being a central estimate. This is the standard approach for this type of assessment.

#### Significance Criteria

As set out above, the predictive ability of even the best model is limited by how well the turbulent nature of the atmosphere can be represented and any criteria for determining significance based on model output, by necessity, take this into account. The criteria used in the assessment are the Environment Agency criteria for screening out impacts that will have an insignificant effect. Exceeding the criteria does not mean that the effects are significant, merely that no further analysis is required. The Environment Agency guidance states that:

"At the detailed modelling stage there are no criteria to determine whether:

- PCs are significant
- PECs are insignificant or significant

You must explain how you judged significance and base this on the site specific circumstances."

In this case, the assessment has adopted a precautionary approach by continuing to apply the screening criteria to the results of detailed modelling.

#### Second Query

2) Table 7.3 (page 7-5) identifies non-Statutory Air Quality Objectives and Guidelines. For polycyclic aromatic hydrocarbons (PAHs) the guideline set out is an annual average of 0.00025 μg.m<sup>-3</sup>. The same level is given as an Environment Agency Environment Assessment Level (EAL) in Table 7.4. However, Table 7.19 (page 7-26), which deals with predicted maximum process contributions, identifies the EAL as 0.0003 μg.m<sup>-3</sup> and a predicted environmental concentration (PEC) of 0.00027 μg.m<sup>-3</sup>.

There appears to be some inconsistency with respect to the relevant EAL. Please clarify which figure should be used and comment on any implications, insofar as there are any, for conclusions regarding the likelihood of exceedance and significance.

#### **Response**

#### <u>EALs</u>

The Environmental Assessment Level (EAL) for PAHs used within the assessment is 0.00025  $\mu$ g.m<sup>-3</sup>. The EAL was rounded to 0.0003  $\mu$ g.m<sup>-3</sup> in Table 7.19 for ease of presentation; however, the unrounded value has been used in the analysis with the 0.00027  $\mu$ g.m<sup>-3</sup> being considered potentially significant as it exceeds 0.00025  $\mu$ g.m<sup>-3</sup>.

#### Third Query

3) Para 7.7.7 (page 7-27) indicates that 'Appendix 7.5 shows that, at the nearest sensitive receptors, the PEC is below the EAL and the long-term PAH effect is not considered to be significant.' The highest PAH related PEC shown in Table 7.5.2 appears to be 0.00024 μg.m<sup>-3</sup> (Station Road 2).

What (with reasons) error bars are associated with this result?

#### Response

For the reasons provided above, it is not appropriate to attempt to determine error bars but the result is expected to be towards the upper end of the uncertainty range.

At Station Road 2, the maximum predicted Process Contribution (PC) is  $9.9 \times 10^{-6} \mu \text{g.m}^{-3}$ . When this is added to Ambient Concentration (AC) of  $2.3 \times 10^{-4} \mu \text{g.m}^{-3}$ , the PEC =  $2.399 \times 10^{-4} \mu \text{g.m}^{-3}$ , i.e. it is below the EAL.

If the maximum predicted PC was 100% incorrect, the PC would be  $1.98 \times 10^{-5} \mu g.m^{-3}$  and the PEC would be  $2.498 \times 10^{-4} \mu g.m^{-3}$ , i.e. it would still be below the EAL. This indicates that even with a considerable margin of error the PEC would be below the EAL.

11.6.2008 EN Official Journal of the European Union

L 152/1

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(Acts adopted under the EC Treaty/Euratom Treaty whose publication is obligatory)

#### DIRECTIVES

#### DIRECTIVE 2008/50/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 May 2008

#### on ambient air quality and cleaner air for Europe

(2)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EURO-PEAN UNION

Having regard to the Treaty establishing the European Community, and in particular Article 175 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee (1),

Having regard to the opinion of the Committee of the Regions (2),

Acting in accordance with the procedure laid down in Article 251 of the Treaty (3),

#### Whereas:

The Sixth Community Environment Action Programme (1)adopted by Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 (4) estab-lishes the need to reduce pollution to levels which mini-mise harmful effects on human health, paying particular attention to sensitive populations, and the environment as a whole, to improve the monitoring and assessment of air quality including the deposition of pollutants and to provide information to the public.

Opinion of the European Parliament of 26 September 2006 (OJ C 306 E, 15.12.2006, p. 102), Council Common Position of 25 June 2007 (OJ C 236 E, 6.11.2007, p. 1) and Position of the Euro-pean Parliament of 11 December 2007. Council Decision of 14 April 2008. (3)

(4) OJ L 242, 10.9.2002, p. 1.

In order to protect human health and the environment as a whole, it is particularly important to combat emissions of pollutants at source and to identify and implement the most effective emission reduction measures at local, national and Community level. Therefore, emissions of harmful air pollutants should be avoided, prevented or reduced and appropriate objectives set for ambient air quality taking into account relevant World Health Organisation standards, guidelines and programmes.

Council Directive 96/62/EC of 27 September 1996 on (3)ambient air quality assessment and management (5), Council Directive 1999/30/EC of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air (%), Directive 2000/69/EC of the European Parliament and of the Council of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air (<sup>7</sup>), Directive 2002/3/EC of the European Parliament and of the Council of 12 February 2002 relating to ozone in ambient air (8) and Council Decision 97/101/EC of 27 January 1997 establishing a reciprocal exchange of information and data from networks and individual stations measuring ambient air pollution within the Member States (<sup>9</sup>) need to be substantially revised in order to incorporate the latest health and scientific developments and the experience of the Member States. In the interests of clarity, simplification and administrative efficiency it is therefore appropriate that those five acts be replaced by a single Directive and, where appropriate, by implementing measures.

- (\*) OJ L 67, 9.3.2002, p. 14.
   (\*) OJ L 35, 5.2.1997, p. 14. Decision as amended by Commission Decision 2001/752/EC (OJ L 282, 26.10.2001, p. 69).

<sup>(1)</sup> OJ C 195, 18.8.2006, p. 84.

<sup>(&</sup>lt;sup>2</sup>) OJ C 206, 29.8.2006, p. 1.

<sup>(5)</sup> OJ L 296, 21.11.1996, p. 55. Directive as amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OL Parliament Science) (Contemportation (Contemportation)) (OJ L 284, 31.10.2003, p. 1).

OJ L 163, 29.6.1999, p. 41. Directive as amended by Commission Decision 2001/744/EC (OJ L 278, 23.10.2001, p. 35).

<sup>(7)</sup> OJ L 313, 13.12.2000, p. 12.

#### EN L 152/14

11.6.2008

#### ANNEX I

#### DATA QUALITY OBJECTIVES

#### A. Data quality objectives for ambient air quality assessment

	Sulphur dioxide, nitrogen dioxide and oxides of nitro- gen and carbon monoxide	Benzene	Particulate matter (PM <sub>10</sub> /PM <sub>2,5</sub> ) and lead	Ozone and related NO and NO <sub>2</sub>	
Fixed measurements (1)					
Uncertainty	15 %	25 %	25 %	15%	
Minimum data capture	90 %	90 %	90 %	90 % during summer 75 % during win- ter	
Minimum time coverage:					
— urban background and traffic	_	35 % (2)	_	_	
— industrial sites	_	90 %	_	—	
Indicative measurements					
Uncertainty	25 %	30 %	50 %	30 %	
Minimum data capture	90 %	90 %	90 %	90 %	
Minimum time coverage	14 % (4)	14% (3)	14 % (4)	> 10 % during summer	
Modelling uncertainty:					
Hourly	50 %	_	_	50 %	
Eight-hour averages	50 %	—	—	50 %	
Daily averages	50 %	—	not yet defined	—	
Annual averages	30 %	50 %	50 %	—	
Objective estimation Uncertainty	75 %	100 %	100 %	75%	

(1) Member States may apply random measurements instead of continuous measurements for benzene, lead and particulate matter if Member states may apply random measurements instead of commous measurements for beinzere, lead and particulate matter in they can demonstrate to the Commission that the uncertainty, including the uncertainty due to random sampling, meets the quality objective of 25 % and the time coverage is still larger than the minimum time coverage for indicative measurements. Random sampling must be evenly distributed over the year in order to avoid skewing of results. The uncertainty due to random sampling may be determined by the procedure laid down in ISO 11222 (2002) 'kit Quality — Determination of the Uncertainty of the Time Average of Air Quality Measurements. If random measurements are used to assess the requirements of the PM<sub>10</sub> limit value, the 90,4 percentile (to be lower than or equal to 50 µg/m<sup>3</sup>) should be evaluated instead of the number of exceedances, which is highly influenced by data coverage.

(2) Distributed over the year to be representative of various conditions for climate and traffic.
(3) One day's measurement a week at random, evenly distributed over the year, or eight weeks evenly distributed over the year.
(4) One measurement a week at random, evenly distributed over the year, or eight weeks evenly distributed over the year.

The uncertainty (expressed at a 95 % confidence level) of the assessment methods will be evaluated in accordance with the principles of the CEN Guide to the Expression of Uncertainty in Measurement (ENV 13005-1999), the methodolthe philiciples of the CER Glude to the Expression of oncertainty in Measurement (ERV 1900)17999, the methodo-ogy of ISO 5725:1994 and the guidance provided in the CER report 'Air Quality — Approach to Uncertainty Estima-tion for Ambient Air Reference Measurement Methods' (CR 14377:2002E). The percentages for uncertainty in the above table are given for individual measurements averaged over the period considered by the limit value (or target value in the case of ozone), for a 95% confidence interval. The uncertainty for the fixed measurements shall be interpreted as being applicable in the region of the appropriate limit value (or target value in the case of ozone).

The uncertainty for modelling is defined as the maximum deviation of the measured and calculated concentration levels for 90 % of individual monitoring points, over the period considered, by the limit value (or target value in the case of ozone), without taking into account the timing of the events. The uncertainty for modelling shall be interpreted as being applicable in the region of the appropriate limit value (or target value in the case of ozone). The fixed measurements that have to be selected for comparison with modelling results shall be representative of the scale covered by the model.



### Contact

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**Site Location Plan** 



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Notes

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Key



Development Boundary

Ownership Boundary Shared Right of Way

	P03	Redline boundary shown clearly	DEC	MJH	16/03/18
	P02	Updates to suit new design	DEC	MJH	14.03.18
	P01 Rev	Issued for planning Description	JH	RJF Ckd	03.11.16
		RPS Sherwood House, Sherwood Avenue, Newark, Nottinghamshire, NG24 1QQ T:01636 605 700 E: rpsnewark@rpsgroup.com Client			
		Project Sussex EFW Title Site Location Plan	N G		
		StatusScaleDaPreliminary1:1000 @A126Project LeaderDrawn ByClRJFJHRaDocument NumberNK018074-RPS-ST-XX-A-DR-0103	ate Cre 5/08/16 hecked JF Revisio P03	eatec 5 d by	Suitability S0
SCALE 1:1000		Project Number Originator - Zone - Level - Type - Role - Drawing Number	sgrou	p.cor	n/uk

**Grid Connection Letter** 





26 Reigate Road, Hookwood, Surrey RH6 0HJ Tel: 01293 820021 Fax: 01293 776988 E-mail: info@britaniacrest.net

Christopher Lecointe Director of Environmental Planning RPS Consulting UK & Ireland 20 Western Avenue Milton Park Abingdon Oxfordshire OX14 4SH

26<sup>th</sup> September 2019

Dear Chris,

#### Wealden Works Electrical Grid Connection

In response to your enquiry about the status of the electrical connection at Wealden Works for the 3Rs Facility, I can report as follows.

The layout of the 3Rs Facility includes an on-site switchyard (substation) located to the east of the main building. Electricity from the generator – projected to be 18 MW net - will be cabled to the switchyard from where there would be a connection to the local electricity distribution network. The distribution network operator (DNO) is UK Power Networks (UKPN). The switchyard compound will include a step-up transformer, high- and low-level disconnectors, circuit breakers, voltage transformers, surge arrestors and a kiosk. An electricity distribution building housing a control room, storeroom and metering room will be located immediately next to the switchyard. Underground cabling (located in a covered trench) will provide the connection between the switchyard and the UKPN point of connection.

There are three possibilities regarding the location of the point of connection:

- a) The Brookhurstwood substation. This already exists within the Brookhurstwood site and has an export capacity of 20.1 MW. It currently takes the generation from the Biffa MBT/Anaerobic Digester and landfill gas. We have held discussions with Biffa and it appears that there is sufficient capacity available;
- b) Leigh Grid, adjacent to Ironsbottom, Reigate, RH2 8PT; or

### c) Bolney Grid at the 132kv/33kv Bulk Supply Point sub-station,

We received a letter from UKPN on 11 October 2017 along with a budget offer for b) and c) above and confirmed the situation by email on 31 January 2018. We have now requested a full quotation from UKPN for the connection to the remote point of connection. It will be for UKPN to say where this will be as it will fall within their DNO responsibility in managing the network and they will need to define what strengthening of the network will be required – paid for by the 3Rs Facility.

The works required to link the on-site sub-station to any one of the three potential connection points does not form part of the planning application and will be undertaken using the Permitted Development Rights of UKPN as a statutory undertaker. In the event the grid connection is to either Reigate or Bolney, the likely grid connection route from the 3Rs Facility would exit the site onto Langhurstwood Road and follow the highway to the point of connection sub-station. The electricity cable will be buried within a trench located either within the verge of the highways concerned above or within the metalled roadway. The precise location would be subject to discussion between the UKPN and the West Sussex Highways Department to resolve any local limitations e.g. avoidance of damage to trees, adjacent structures or services etc.

UKPN will ensure the contractor implements best practice construction methods throughout the period of the works to reduce potential environmental impacts. The precise requirements and limitations of the works within the highway would be stipulated within a licence granted by the local Highways Authority under Section 50 of the New Roads and Street Works Act 1991. The application for the licence will include a Traffic Management Plan that would provide details of traffic control measures and pedestrian diversions required.

Given the aforementioned method of working; and the fact that the cable will be laid underground in the highway or highway verge, no significant adverse environmental effects are likely to arise from the grid connection works. Accordingly, this matter is not considered further within the ES.

We trust this provides  $\sqrt{\phi}u$  with the information you require.

Yours sincerely **Richard Foss** Director Britaniacrest Recycling Ltd.