Portland Energy Recovery Facility

Appeal Against the Refusal of Planning Permission by Dorset Council

PINS Ref: APP/D1265/W/23/3327692
LPA Ref: WP/20/00692/DCC

Planning Policy & Need / Benefits

PPF2: APPENDICES to the Proof of Evidence of Nick Roberts

Prepared for

Powerfuel Portland Limited

7th November 2023
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Well House Barns, Chester Road, Bretton, Chester, CH4 0DH

Camelia House, 76 Water Lane, Wilmslow, Cheshire, SK9 5BB

T: 0344 8700 007
enquiries@axis.co.uk
www.axis.co.uk

APPENDICES

NR1 Key Considerations and Complexities Around Supplying Shore Power

APPENDIX NR1 – KEY CONSIDERATIONS AND COMPLEXITIES AROUND SUPPLYING SHORE POWER

Providing shore electricity, also known as cold ironing or shore power, to commercial shipping can be a complex endeavour with several key considerations:

1. Grid Capacity: Grid capacity (i.e. the ability to connect to the electricity network) is increasingly constrained in the UK, with the position heightened in the south of England because electricity demand from existing users is high but generation is relatively modest. Ports are often located at remote parts of the distribution network which results in a connection cost that often renders shore power as a commercial investment unviable. However, increasingly, the challenge is not the cost but the ability to secure grid capacity in a reasonable timeframe (i.e. less than 5-10 years) to deliver shore power. This issue is due to broader constraints on the transmission network. Within my proof I confirm that Portland Port, based on the offer received from the distribution network operator, would be unable to provide shore power from the electricity grid until 2037 and I am aware of other ports in the south of England that face similar delays. As such, the lack of available grid capacity is likely to be a major hurdle to the successful deployment of shore power and the decarbonisation of the maritime sector.

2. Infrastructure: Establishing the necessary infrastructure at ports to deliver high-voltage electricity safely to ships requires substantial investment. This includes specialised berths, high-capacity transformers, and electrical distribution systems.

3. Compatibility: Ships vary in terms of their electrical systems and voltage requirements. Ensuring compatibility between the port's power supply and the ship's electrical system is challenging and may necessitate the use of adapters or transformers.

4. Regulatory Compliance: Meeting regulatory standards for emissions reduction and environmental sustainability often drives the adoption of shore electricity. Compliance with local, national, and international regulations requires careful planning and adherence to emissions reduction targets.

5. Energy Sources: Sourcing electricity from renewable or low-carbon energy generation is a growing priority. Utilising cleaner energy sources to power ships while docked can be logistically complex and may depend on the availability of renewable energy in the vicinity of the port.

6. Cost Considerations: Installing and maintaining shore power infrastructure can be costly, and these expenses are often passed on to shipping companies or consumers. Balancing the environmental benefits with the economic feasibility is a complex decision for both ports and shipping companies.

6. Safety and Reliability: Ensuring the safety of personnel, ships, and the electrical grid is paramount. Robust safety protocols and backup systems must be in place to prevent accidents and power outages.

7. International Standards: Harmonising shore power standards internationally is essential for seamless global operations. Consistent standards for voltage, connectors, and protocols can simplify the adoption of shore electricity.

8. Technological Advancements: Rapid advancements in power distribution, energy storage, and smart grid technologies can influence the complexity of shore electricity provision. Ports need to stay updated with the latest innovations to improve efficiency and reduce costs.

In summary, the complexity of providing shore electricity to commercial shipping arises from the need for extensive infrastructure, regulatory compliance, compatibility challenges, cost considerations, and the evolving landscape of energy technologies. Despite these complexities, shore electricity is a critical step toward reducing the environmental footprint of the maritime industry and promoting sustainability in port operations.

Future Electrification of ships propulsion

The displacement of diesel engines in commercial shipping by electric motors is an ongoing trend in the maritime industry. Electric propulsion systems offer several advantages, including reduced greenhouse gas emissions, lower fuel costs, and improved efficiency. Many companies are investing in electric and hybrid propulsion technologies to meet environmental regulations and achieve sustainability goals. However, the transition to electric propulsion in commercial shipping is a complex process that involves significant challenges, such as the development of suitable infrastructure and addressing the energy density limitations of batteries for long-distance voyages. Nonetheless, electric propulsion is gaining momentum, especially for short-haul and hybrid applications, and is likely to continue growing in importance across the whole of the global fleet in the future. The Portland ERF will be able to provide battery charging capability for visiting ships within the current ERF application design.

PORTLAND PORT LIMITED

PORT OFFICE, PORTLAND PORT
CASTLETOWN, PORTLAND, DORSET DT5 1PP.
TELEPHONE: +44(0)1305 824044.
E-mail info@portland-port.co.uk www.portland-port.co.uk

PORTLAND PORT
A PERFECT LOCATION
A UNIQUE OPPORTUNITY

6th November 2023

Portland Energy Recovery Facility – Letter of Support

To whom it may concern

I am writing in my capacity as Chief Executive of Portland Port Limited to confirm our strong support for the proposal to construct and operate an Energy Recovery Facility (**ERF**) within the Port. This facility is vital if the Port is to maintain its current status as a successful contributor to the local economy, including tourism, local employment, business growth and as a key location for Ministry of Defence activities.

I set out below the reasons for this view and confirm that Portland Port is supportive of the developer's commitments regarding heritage assets and aspiration for the proposed ERF to become an exemplar project in the UK.

Shore Power – Timing and Availability

Prior to its decision to refuse the application I wrote to Dorset Council to confirm our support for the project and outline how key the ERF is for the future of the Port on two separate occasions, in November 2020 and July 2021.

In both cases I confirmed that as the maritime sector looks to decarbonise, including through the provision of Shore Power to berthed vessels, the Port will require significant levels of additional electrical power and that the ERF was the only commercially viable way to provide this power.

Following Dorset Council's decision to refuse the application in March 2023 Portland Port applied for a 20MVA grid connection directly to the distribution network operator (SSE), to understand if there was an alternative to the ERF in the event the appeal was refused.

SSE provided a grid offer in summer 2023. This confirms that whilst SSE expect to be able to complete local works to connect the Port within two years, because of national transmission challenges the actual connection could not be provided until June 2037. Furthermore, the cost of this connection would be unaffordable. As such the ERF provides the only opportunity to help decarbonise the Port operations by providing shore power, which is consistent with Government policy, before 2037.

Shore Power – Customer Demand

The Port is a key location for the Royal Fleet Auxiliary (**RFA**) vessels. The average number of RFA vessel days during the last three years (2020-2022) is 455 days, increasing from 390 days in 2019. The RFA fleet is already capable of accepting shore power and Government policy is to decarbonise its operations and infrastructure in order to meet its legally binding 2050 net zero obligations. The RFA has confirmed their interest in shore power to the Port.

Our cruise clients have confirmed their appetite for shore power, should we be able to provide this, and that it would increase our relative attractiveness as a destination port. Carnival Corporation, a Port customer, submitted a public letter of support in relation to the proposed ERF but we have held similar private discussions with other cruise clients who recognise the benefits the ERF and shore power delivery. We have been told that cruise companies are actively taking into account the ability for a port to provide shore power when planning future itineraries. By way of example all MSC's Princess, Holland America and Aida fleets are shore power ready and they are regular visitors to the Port.

In 2019 we had 41 cruise calls with approximately 40% of vessels being shore power ready. By 2023 the number of cruise calls had grown to 56 calls with approximately 60% of vessels being shore power ready. Subject to shore power being available such that the Port is not at a competitive disadvantage to other south-coast ports, we expect the trend to be an increase in both the number of calls and the proportion of vessels that are shore power ready over time.

None of our cruise clients has raised any concerns with us regarding the presence of the ERF and so there is no reason to expect any negative impact on the volume of calls as has been claimed by objectors to the proposal.

On the contrary, should Portland Port be unable to provide shore power until 2037 we have credible concerns that operators will favour other ports ahead of Portland. There is already shore power established at Southampton and we are aware of announced proposals to provide shore power at competing south-coast ports including Dover and Portsmouth.

The number of cruise guests has increased from approximately 50,000 in 2019 to approximately 130,000 in 2023 as larger vessels have been able to visit. This business delivers several million in additional revenue per year to the local economy. Should it be lost or reduced it is highly likely to lead to a loss of employment, both directly at the Port and indirectly in Portland and Weymouth.

Onshore Demand

Electricity supply to the Port (and Portland more generally) is provided by SSE from the National Grid substation at Chickerell. As referenced above, our grid application earlier this year identified that due to transmission network challenges it would not be possible to provide any meaningful additional power to the Port (or Portland) until June 2037.

This means that any Port tenant (or any other Portland business) seeking a meaningful increase in electricity to expand its operations will be unable to do so until 2037, significantly impacting the prospect of future economic growth on the island.

The ERF would help to resolve this capacity issue, allowing private wire electricity supply from the ERF directly to Port tenants and, potentially, other local businesses etc. Excluding any growth opportunities, the ERF would allow the Port to free-up around 2MW of existing grid capacity and remove the current necessity to use diesel generation to provide 0.5MW electrical power for crane operations, as well as providing capacity to support the electrification of port and tenant vehicles over the coming years.

Heritage Related Works

I understand that the ERF includes agreed works to improve the condition and provide public access to local heritage assets. I can confirm:

- The Port is supportive of the proposed works to improve the condition of the Scheduled Monument at E Battery and remove it from the Historic England "at risk" register.
- The Port also supports the delivery of the proposed new permissive footpath and associated information / interpretation boards which would improve visibility and understanding of the heritage assets in the area, subject to the fencing scheme now proposed.

The Port as an ERF Location

The Port was engaged in detailed discussions with Dorset Waste Partnership in 2017 and 2018 regarding the establishment of a waste processing facility at the Port. Dorset Waste Partnership confirmed that "*the port and its facilities represent considerable potential for development of waste management and other industrial applications. Our work has concluded that the site could feasibly be developed to deliver a processing and export facility*".

My view aligns with that of the Dorset Waste Partnership in that I believe the Port provides a suitable location to deliver waste management facilities and that the ERF should be supported. To support this view, I note that the proposed site is brownfield land, recognised in the West Dorset and Weymouth and Portland Local Plan area as a "Key Employment Site". With regards to the identified reasons for refusal stated in the Dorset Council decision, being impact on landscape and cultural heritage settings as a result of the building size I would note that the Port already holds permitted development rights that would allow it to develop buildings and structures of the size and height of the ERF without further permission being required.

Finally, the Port as a location provides a number of potential opportunities related to the ERF that could not feasibly be delivered elsewhere.

- The Port location allows the import and export of waste materials produced by the ERF by sea, reducing local transport movements that would be associated with an inland facility.
- In addition to the provision of shore power and local electricity resilience noted above there is also a clear opportunity to use the heat produced by the ERF to supply the two prisons located nearby which would significantly reduce carbon emissions at these locations. The Port confirms that it will look to support the routing of underground pipework within its estate to enable the ERF to connect to the prisons on the basis that this is consistent with its broader decarbonisation objectives.
- I am also aware of the likely requirement for facilities like the ERF to include carbon capture and storage technology (**CCS**) in the future. My understanding is that this is a relatively nascent technology but is improving quickly and is likely to be required during the facility life. The benefit of this location is that we have sufficient land areas that could host such technology, when required, and the Port confirms it would look to work with the ERF team to identify suitable land at the appropriate time. I also note that CCS technology includes the requirement to store the carbon post capture, typically in offshore undersea caverns. Again, the Port location provides an advantage for an ERF located here, relative to an inland location.

In summary I can see no credible reason why this proposal was refused by Dorset Council. The impacts identified are highly localised for a proposal that is located in an already industrialised area that has evolved over centuries and will continue to evolve going forward.

The Port is fully supportive of the ERF proposal. Ignoring the wider public benefits that the proposal would deliver, the ERF is key to the Port's, and by extension the local area's, prosperity and is entirely compatible with our operations as an industrial entity.

Yours sincerely,

W T REEVES
Chief Executive

North of Scotland
0800 048 3515
Central Southern England
0800 048 3516

Our reference: [redacted]
Your reference:

[redacted]

[redacted]
Southern Electric Power Distribution plc
Major Commercial Contracts
Walton Park
Walton Road
Cosham
PO6 1UJ

commercial.contracts@sse.com
www.ssen.co.uk

9/11/2023

Good afternoon,

For new supply at PORTLAND PORT, PORT OFFICE PO, PORTLAND DT5 1PA

Thank you for your recent enquiry. We are pleased to provide you with an Offer on behalf of Southern Electric Power Distribution plc (SEPD), for a new electricity connection at the above site. This letter (including the pages attached to it which contain the Breakdown of Charges, Additional Charges and Assumptions, the Customer Acceptance Form, and the Information Pack), together with the enclosed Standard Terms and Conditions constitutes our Offer.

Our Offer is subject to our obtaining all necessary legal consents to carry out the work as planned, including any consent required from third parties. Please refer to our website for more detailed information.

This letter details the Charges for the Distribution Works and your choice of Customer's Alternative Options.

Scope of Works

Non-Contestable Work

Non-Contestable POC work

PoC:
Install 1 x 33kV indoor circuit breaker at Chickerell BSP 33kV busbar – PoC (GRN: SY 65581 80616) is for 33kV indoor circuit breaker connection into the existing Chickerell substation

- Protection modification on the existing Chickerell BSP 33kV Busbar protection to accommodate the PoC; (if PoC = 33kV CB at BSP);
- Telecontrol and metering;
- Design approval and witnessing of contestable works;
- Protection changes;
- Modification Application to National Grid;

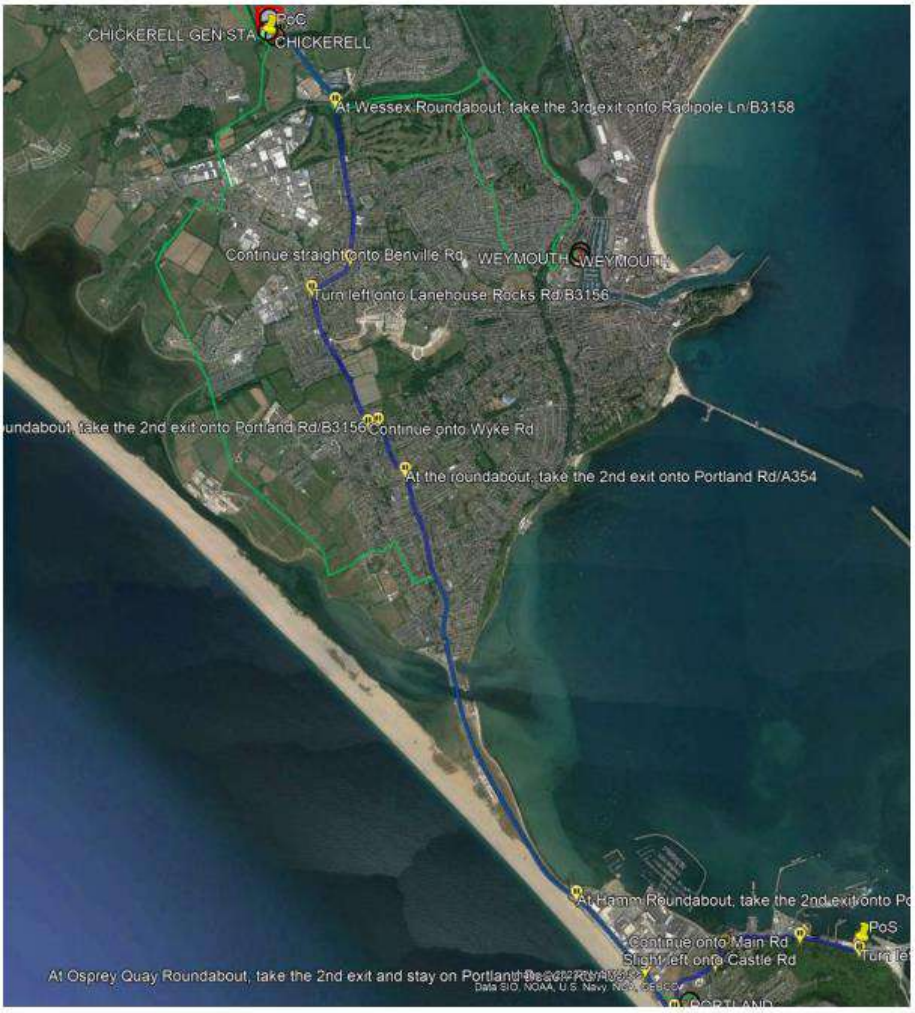
Contestable Work

• 9.5km of 33kV single circuit cable from PoC to PoS at the customer's site:

- The minimum summer continuous rating is 25MVA;
- The proposed route estimated length is 9.5km (TBC at design stage);
- For network modelling purposes, estimated R= 0.085300pu and X=0.092470pu;
- Standard protection for this cable circuit is to be included, including fibre;
- Metering circuit breaker (CB) with Glass-Reinforced Plastic (GRP) housing and base; If PoC voltage is 33kV, 3ph 5limb VT and NVD protection to be included in metering circuit breaker.
- NVD NVD - Neutral voltage displacement

Cable route

6.2 PoC Map / PoC to PoS Cable Route



Dependent Works

The provision of the Connection is dependent on the following:

1. The switchgear reinforcements at Chickerell BSP triggered by capital scheme PS004870
2. 132/33kV Transformer reinforcements at Chickerell BSP (Installing the 3rd Tx),
3. To enhance SCO capability based on the 33kV reinforcement - new 33kV circuit interconnecting WINTERBOURNE ABBAS and YEOVIL BSP are proposed by laying approximately 30km of cable and 1x 33kV CB at YEOVIL BSP.
4. To uprate 33kV WINA SS & 11kV CHIC SS circuit breakers.

National Electricity Transmission System Works

In addition to any works required for your Connection and any reinforcement required to the Distribution System, to progress with this Offer we must apply to National Grid to identify any works that are required on the National Electricity Transmission System, known as a Modification Application. If you accept this Offer you will be required to fund the Modification Application submission to National Grid. The fee for this Modification Application is determined by National Grid and is set out below. This fee is in addition to any other charges payable in connection with this Offer for Connection. This Offer for Connection is conditional upon and subject to (i) you paying this Modification Application fee to SEPD to pass on to National Grid and (ii) the outcome of the Modification Application:

Current Fee for National Grid – for information	Charges (Excl. VAT)	Charges (Incl. VAT at 20%)
National Grid's current fee for a Modification Application*	[redacted]	[redacted]

* These costs are changed by National Grid on a periodic basis, and we will update the costs to you to reflect these changes.

Requirement to Underwrite Transmission Works and Cancellation Charge and/or Second Comer Charges

Transmission Works may be required by National Grid to enable the provision of the Connection. SEPD will advise you, subsequent to your acceptance of this Offer and the completion of the Modification Application process, of any requirement for Transmission Works and (where applicable) the scope and estimated completion date of such Transmission Works as advised by National Grid. You will be required to underwrite the cost of such Transmission Works to enable the provision of your Connection. National Grid will not progress the Transmission Works without this security.

Once advised by SEPD of the requirement to underwrite Transmission Works your Offer shall be subject to you providing and maintaining financial security to cover SEPD's exposure for the cost of Transmission Works or other underwriting arrangements on terms satisfactory to SEPD at its absolute discretion (the "Security"). The Security shall underwrite both these Transmission Works and any Cancellation Charge where the Transmission Works are prematurely terminated.

Once advised by SEPD of the requirement to pay for Transmission Works You may provide Security in one of the following forms:

(a) Performance Bond or Letter of Credit from a Qualified Bank for the period and amount stated as the Secured Liabilities; or,

(b) a cash deposit in a bank account for at least the period and amount stated as the Secured Liabilities.

SEPD shall notify you in writing of the value of the Secured Liabilities and you shall provide Security (which may be in more than one form in the event that Security is required for the underwriting of Transmission Works, to the value of or the revised value of the Secured Liabilities within 10 working days of receiving such notification.

In the event that you do not provide or maintain the required value of the Secured Liabilities in accordance with the terms of this Offer, then SEPD shall at any time thereafter be entitled to:

(a) refuse to commence or continue work on the provision of the Connection; or

(b) terminate this Offer in which event the terms of this Offer relating to termination shall apply.

Customer Choice

SEPD is the Distribution Network Operator (DNO) for the area in which this Connection is located. There are Independent Connection Providers (ICPs) and Independent Distribution Network Operators (IDNOs) who may be able to provide an alternative Offer to carry out some of the work required to provide your connection. Please refer to our website for further details and download our '**You Have a Choice**' fact sheet.

You may choose to:

(a) appoint SEPD to undertake all of the Distribution Works; or
(b) appoint:
  (i) SEPD to undertake only the Non-Contestable Works; and
  (ii) an Independent Connections Provider (an "**ICP**") or an Independent Distribution Network Operator (an "**IDNO**") to undertake the Contestable Works.

The scope of the Contestable and Non-Contestable Works (where applicable) are detailed in this Offer.

SEPD will levy additional charges on the Customer's appointed ICP to cover costs in respect to adoption of the works to be adopted by SEPD.

Charges

You can see a Breakdown of Charges in Appendix 2 of this Offer.

Please note that we will not be able to schedule works until you have accepted this Offer and we have received all sums due and payable on acceptance for the works detailed in this Offer. Where your Offer includes reinforcement or you are a Second Comer and the initial connector has not yet been energised, then your Connection may only be energised as set out in this Offer and associated Connection Agreement. Upon completion of the electrical works, you may also be required to pay any applicable 'Second Comer' charge as set out in this Offer, in accordance with the Electricity (Connection Charges) Regulations (ECCR).

The quotation has been calculated based on the information provided to date but please be aware that we will charge for any additional work required that has not been included in this Offer. It is important that you check the Offer thoroughly to avoid incurring any further charges.

We reserve the right to terminate our contract with you in certain circumstances where the works have not commenced or did commence but were then delayed. Our right to terminate is set out in the Standard Terms and Conditions enclosed with this Offer Letter. For the purposes of termination of contract, the period specified is 12 months from the date of your acceptance of this Offer.

As set out in more detail below pursuant to the Electricity (Connection Offer Expenses) Regulations, SEPD is entitled to recover from the Customer the charges reasonably incurred in the preparation of this Offer – known as Connection Offer Expenses.

Please be aware your Connection Offer Expense amount is payable whether or not you wish to accept this Offer. Your Connection Offer Expense is split into a contestable and a non-contestable element. Payment of the Connection Offer Expense amount does not mean you have accepted your Offer. If you wish to accept your Offer at a later date after paying for your Connection Offer Expense, please pay the remaining balance of your Offer before the end of your validity period.

How long will it take?

It typically takes us 48 months from acceptance to complete a Connection of this type, from the date acceptance is received. This date relates only to the Distribution Works required to provide the Connection, where applicable, and does not account for any Transmission Works that may be required.

The estimated date stated above relates only to the Distribution Works required to provide the Connection. This date may be subject to variation, in particular but not limited to where any connection dependencies such as Transmission Works apply.

The estimated date that Transmission access will be available is 03 June 2037. **This date may be subject to variation.**

For the avoidance of doubt, the Connection will not be able to export and/or import until the latter of the Distribution and the Transmission dates (and export and/or import may be delayed by any variation of the dates).

This timescale is dependent on:

1. any further discussions we may have with you regarding the programming of the works;
2. all necessary land rights, planning and other consents being obtained in sufficient time;
3. the completion of any works by other people or companies (which may include you) that must be done before we can complete our works;
4. any access arrangements as may be specified in this Offer;
5. any delays to the works due to unplanned outages on the Distribution network.

The above timescale is indicative and should be used for general planning purposes only as the completion date for the work has not yet been formally agreed.

Customer Contacts

We need to identify three key roles on every project to ensure that the right matters are handled by the right people. This includes the **Connecting Customer** (the person or company who will ultimately use the connection), **Commercial Contact** (the person or company appointed by the Connecting Customer to manage the job on their behalf) and **Payer** (the person or company appointed by the Connecting Customer to manage the finances on the job).

From the information you've provided to date, we've assumed the following:

Connecting Customer: [redacted]

Commercial Contact: [redacted]

Payer: [redacted]

If the above isn't correct, or if you would like to change any of the above-named parties, please let us know. Further information about these roles can be found here: Contracted parties.

Interactivity

INTERACTIVITY PROCESS: If we receive a number of applications for connection to the same part of our distribution system and there is insufficient capacity or other constraints that will prevent those connections and your proposed connection from being made, we will apply our interactive connection application process. If your Connection Offer becomes interactive, we will notify you of this. To avoid delays in our interactive connections process, **the period within which each customer will have to accept an interactive Connection Offer is reduced to 30 days, or less if the period remaining for a customer to accept the Offer is already shorter than 30 days**. For the avoidance of doubt, it will not be possible to extend the acceptance period where the interactive connections process applies. More detail of the interactivity process can be found in the interactivity section of our website.

We have enclosed with this Offer an Information Pack, which contains information relevant to the work for which you have been quoted. Our **Statement of Methodology and Charges for Connection** provides detailed information regarding our charges. You can download our **Statement of Methodology and Charges for Connection** from our website. We trust the information we have provided is of assistance and if we can help further, please do not hesitate to contact us. Alternatively, you may wish to visit our website for further information.

Yours sincerely,

[redacted]
Connections Contract Manager
commercial.contracts@sse.com

NR4 Letter of Support from Day Group Regarding IBA Management

DAY
GROUP LTD

Transport Avenue
Brentford
Middlesex
TW8 9HF

T 020 8380 9600
e email@daygroup.co.uk
www.daygroup.co.uk

2nd November, 2023

Powerfuel Portland Limited
2nd Floor Regis House
45 King William Street
London
EC4R 9AN

For the attention of Steven McNab

Dear Steven

Portland Energy Recovery Facility, Portland Port, Dorset
Planning Appeal Reference: APP/D1265/W/23/3327692

Letter of Support

I write further to my letter to Mr Garrity at Dorset Council of 10 March 2023 in support of the refused planning application for an Energy Recovery Facility ("ERF") at Portland Port and our specific interest in the residual incinerator bottom ash ("IBA"). I set out our position so that it is clear to the decision maker determining the appeal.

We have had extensive discussions with Powerfuel and are supportive of the project and its ambition to operate with zero waste to landfill. We confirm that Day Aggregates is able and willing, subject to finalising contractual terms, to receive the IBA produced at the Portland ERF and to transport it by ship to our existing licenced facilities for recycling. We have considered the residual waste (including RDF) specification that the ERF would process and expect that the resulting IBA would be suitable for processing at our IBA recycling facilities. IBA is classified as a non-hazardous waste and has to be handled accordingly. Our facilities recover further metal from the residual waste IBA and produce recycled IBA aggregate or "IBAA" for use in construction. It is common practice within our industry to safely transport bulk IBA and final product by ship, rail and road.

Facilities

More specifically we consider that two amongst our national network of facilities to be most suitable:

(a) Day Aggregates, Murphy's Wharf, Lombard Wall, Greenwich, London, SE7 7SH on the River Thames; and

(b) Day Aggregates, Avonmouth IBA Recycling Facility, Royal Edward Dock, Avonmouth, Bristol, BS11 9HF at the Avonmouth Docks.

Both facilities will have capacity and have been selected because their standard operating procedures already includes the receipt of bulk loads by ship, safely unloaded at dedicated quays. This activity is covered by our environmental permits issued by the Environment Agency. Outgoing product IBAA is regularly moved by ship at these locations.

We intend to transport IBA from the Powerfuel ERF by ship to either of these facilities. For this contract, ship transportation is our preferred mode from a transport sustainability and carbon perspective, as well as resulting in zero "road miles" on the public highway network. We note that a road route to Avonmouth would be possible as a fall-back, but we would not anticipate calling on this. It is only realistically adverse weather that might prevent shipments and given the protective nature of the harbour and Port facilities at both ends of the journey, this risk is highly unlikely to arise.

To assure you and provide further resilience, we also operate other permitted IBA facilities at three other locations including (a) Brentford, Middlesex (b) Wellingborough, Northamptonshire as well as starting construction at (c) Redhill, Surrey in 2024. We also operate a handling facility for IBA at (d) Newhaven, East Sussex which would be available as a fall-back in the highly unlikely event that neither Greenwich and Avonmouth could accept the material.

Experience

We have successfully provided this service to several energy from waste ("EfW") facilities, and have been doing so since the 2000s. Examples of our customers include (a) the Lakeside EfW in Slough, (b) South East London Combined Heat & Power (SELCHP) in Lewisham, (c) the Rookery South ERF in Bedfordshire, (d) the Newhurst ERF in Leicestershire (e) the SSE Slough Multifuel EfW, and (f) the Newhaven EfW in the South Downs.

At these EfW's we serve waste customers including Viridor, Grundon, Veolia, Encyclis (formerly Covanta) and Scottish and Southern Energy (SSE).

These plants in turn process waste sourced from numerous waste authorities including Lewisham, Southwark, Medway, Westminster, Leicestershire.

This list includes (in 2023) both Dorset Council and Bournemouth, Christchurch and Poole waste authorities.

End Users for the IBAA

We confirm we have an extensive network of customers and there is a market for the IBAA that would be produced from the Powerfuel ERF IBA, and for the additional volume of metal that is recovered from it.

We believe this to be part of a sustainable solution for the waste, since all of the waste is destined for a valuable end-use as a substitute for primary materials and avoids landfill.

This is our Core Business

Day Group is a leading UK producer and supplier of primary, recycled, and manufactured aggregates to Builders' Merchants and the Construction sector. We offer a wide range of products and have an extensive network of rail-served depots, recycling, and bagging facilities, together with a large fleet of vehicles, all of which enable us to meet the challenges of construction projects in a sustainable manner.

Today we sell more than five million tonnes of aggregates from many sources into the construction sector, much of which is moved by rail, and plays a vital part in meeting society's demands for raw materials to build and maintain the built environment. Moving so much by rail means we are meeting this demand in the most efficient way and with the lowest carbon footprint possible.

Each year we put over a million tonnes of aggregates into bags, sold by builder's merchants across the south of England, which makes us one of the largest bagging suppliers in the UK. As well as selling some four million tonnes of quarry products, each year we recycle almost a million tonnes of construction and demolition arisings and IBA, producing recycled aggregates close to where they are required. This makes us one of the largest recycling companies in the UK.

To move all this requires an extensive network of quays, railheads, recycling and bagging plants, over 200 lorries and some 50 train loads a week, not to mention a wide range of back-office functions.

Carefully Regulated Process

All our operations are managed so as to minimise the environmental impact of our activities and are tightly regulated by the Environment Agency and or our host local authorities. Our EA Permits are available to download from our website.

We ensure that our recycled aggregates are tested against and comply with the relevant European Standard, as well as national specifications (National Highways SHW). All of our testing is carried out at independent UKAS accredited laboratories and the results are available to customers on request. Our IBA process, in brief, involves the following steps:

- Unprocessed IBA is brought into our purpose-built plants. This can include transportation by ship, rail or HGV tipper vehicles.
- The material is assessed on arrival against our site-specific acceptance criteria and then stockpiled until it has suitably aged. Once this has occurred it will be ready for processing.
- The process involves screening the material, separating the ferrous and non-ferrous metals for external recycling, re-screening, then further metal removal and then final product stockpiling.
- In this process we typically recover about 9% of metals from the IBA we process which is all taken off site and recycled and reused. To note if IBA was taken to landfill this beneficial resource would be lost.
- Dependent on the processing plant this results in two or three sizes of material being sent for stockpiling. These varying sized products are then blended together to produce an 0/32mm IBAA compliant to specifications.
- IBAA is then sold to a network of customers for use in construction and roadbuilding, whilst recovered metals is sold for recycling and reuse.

We include in the schedule below some plans of our operations showing the nature of the activities and processes.

Summary

In conclusion, should the Powerfuel ERF secure planning permission we expect to finalise a contract to manage your IBA and to help achieve your ambition to operate with zero waste to landfill. Day Aggregates would collect IBA from Portland Port quayside and transport it by ship to our existing licenced facilities for processing (at either Greenwich or Avonmouth). Shipping is the most environmentally efficient method of transporting such bulky material and reduces HGV movements on the public road network. At our facility, two main things happen: (1) metals will be recovered and sent for recycling and reuse, and (2) IBAA is produced which will be productised and used in the construction industry. Both routes reduce the demand for virgin material. All these activities are carefully regulated and can be carried out safely and without harm to the environment.

Yours sincerely

Adam Day
Contracts Director

APPENDIX NR5: PORTLAND PORT FACTUAL PLANNING / CONSENTING CONTEXT

1. This Appendix to my proof explains the planning and consenting context at the Port of Portland. This encompasses:
    a. Harbour Revision Orders and Change of Use Consents.
    b. Permitted development rights.
    c. Development plan allocation and associated policy.
    d. Selected planning history and relevant extant planning permissions.

2. It does not consider the vast quantum of development which has come and gone over the past 150 years within and around the Port. This is better understood by virtue of the evidence of William Filmer-Sankey.

Harbour Revision Orders and Change of Use Consents

3. The Portland Harbour Revision Order 1997 came into force on 1st January 1998. Article 4(1) established that on that day the Queen's Harbour Master shall cease to be the harbour authority for the harbour and its duties, powers, rights, privileges or authorities transferred to Portland Port Limited (the Port) as the new harbour authority. The Order provides wide powers to operate, maintain (including dredging) and regulate across the port.

4. Contemporaneous with the above Harbour Revision Order, a change of use application was prepared and approved (ref: 4/96/0432C), which effectively changed the use from a naval port to a commercial port. This included the following land uses:
    a. Employment development in use classes B1, B2 and B8.
    b. Commercial port activities including RoRo freight and passenger ferries, bulk and break bulk freight, marine services; fuel oil handling, cruise ships; storage and distribution services; and ship replenishment.
    c. An international sailing centre with 250 berth marina growing to 600 berths.

    Several further change of use permissions have been subsequently granted.

5. The Portland Harbour Revision Order 2010 came into force on 19th March 2010. Part 2 of the Order provides powers to construct works in 11 works packages. These include:
    a. Constructing new berths and mooring dolphins, with associated structures.
    b. Reclamation of areas of foreshore and sea bed.
    c. Construction of 3 no. floating linkspans.
    d. Installing concrete or steel pontoons.

6. This second Order was subject to a Deed of Covenant requiring the monitoring of peak hour traffic using the port and threshold based financial contributions towards the Portland to Weymouth Transport Corridor Improvements (payable to Dorset County Council), which were also linked to phased development across the Port. There is no vehicle cap.

7. The former Order, together with the change of use consent, allows the Port to operate including permitting the berthing of ships, including cruise liners such as the MSC Virtuosa which exceeds 180,000 tonnes, is over 330m long, with a visible 'air draft' height of 65m (above the surface of water). The 2010 Order allows the Port to undertake large scale construction works without further recourse to the planning system.

Figure NR1-1: MSC Virtuosa

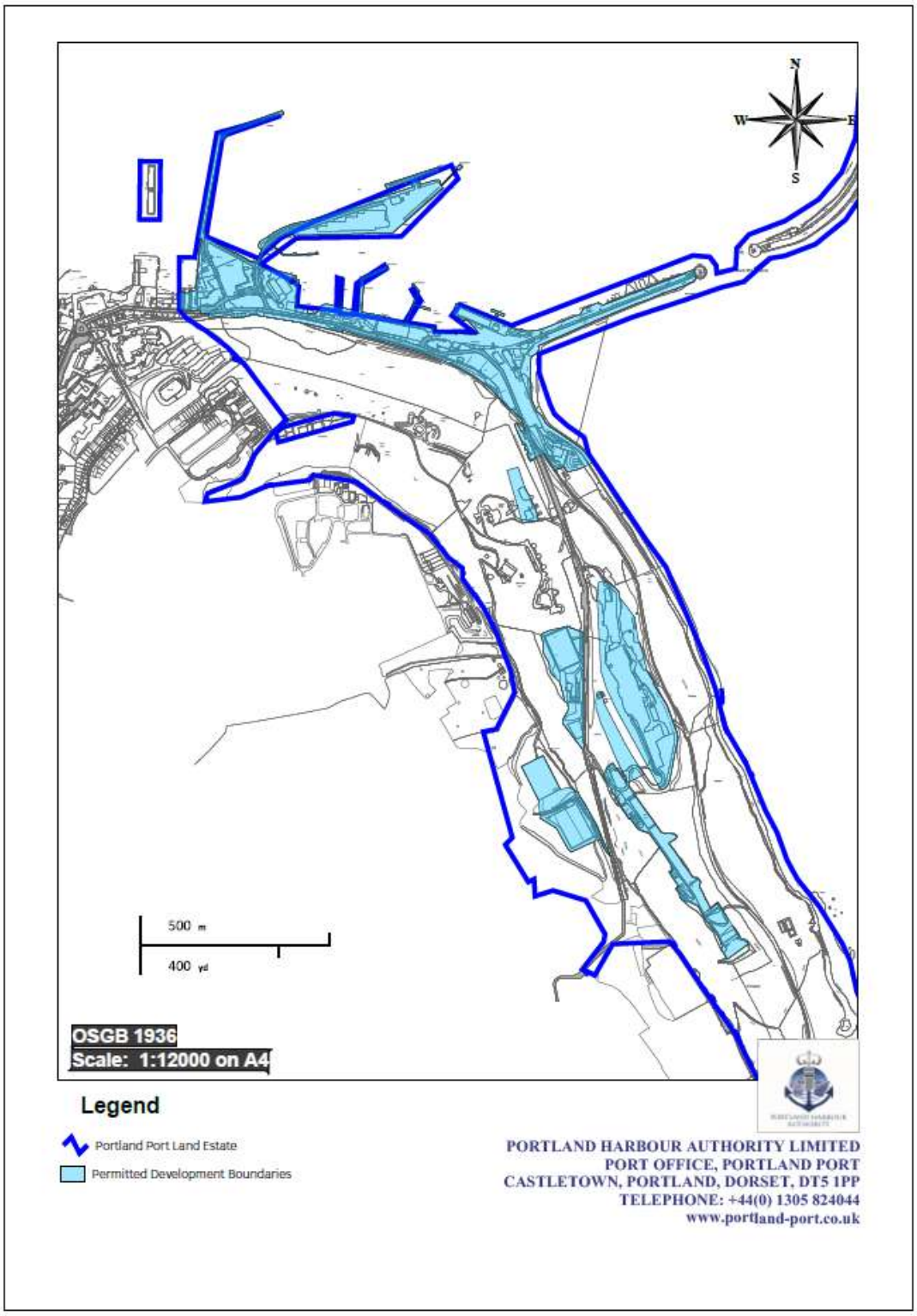
MSC Virtuosa

Permitted Development Rights

8. In becoming the harbour authority, the Port became the statutory undertaker for the purposes of Schedule 2, Part 8, Class B of The Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended) (the GPDO). This confers a grant of planning permission (i.e. permitted development rights) for certain types of

development, subject to conditions, across ‘operational land’. The extent of the Port’s estate and the areas where the permitted development rights apply, are illustrated on the drawing below.

Figure NR1-2: Portland Port Extent of Permitted Development Rights



9. GPDO Part 8 Class B relates to dock, pier, harbour, water transport, canal or inland navigation undertakings. Permitted development is as follows:

B. Development on operational land by statutory undertakers or their lessees or agents of development (including the erection or alteration of an operational building) in respect of dock, pier, harbour, water transport, or canal or inland navigation undertakings, required—

(a) for the purposes of shipping,
(b) in connection with the embarking, disembarking, loading, discharging or transport of passengers, livestock or goods at a dock, pier or harbour, or with the movement of traffic by canal or inland navigation or by any railway forming part of the undertaking, or
(c) in connection with the provision of services and facilities

Development not permitted
B.1 Development is not permitted by Class B if it consists of or includes—
(a) the construction or erection of a hotel, or of a bridge or other building not required in connection with the handling of traffic; or
(b) the construction or erection otherwise than wholly within the limits of a dock, pier or harbour of—
(i) an educational building, .
(ii) a car park, shop, restaurant, garage, petrol filling station or other building provided under transport legislation
(c) where the development falls within paragraph B(c)—
(i) the erection of a building other than an operational building; or
(ii) the alteration or reconstruction of a building other than an operational building, where its design or external appearance would be materially affected

It is subject to a single condition:

B.1A.—(1) Development is permitted by Class B subject to the condition that the relevant statutory undertaker consults the local planning authority before carrying out any development, unless that development falls within the description in paragraph B.3 [B3 relates to urgent works or works, buildings and structures not exceeding 4m in height or 200m^3].

10. Thus, buildings and structures for the purposes of shipping or loading or transport of goods etc. can be erected across all of the identified 'permitted development land' without any limitation on scale, so long as it is not EIA development for which Article 3(10) of the GPDO withdraws permitted development rights. Further, up until April 2021, there were no other conditional requirements to be complied with. On 21st April 2021, an amendment Order to the GPDO introduced the requirement under this Class that the local planning authority (LPA) be consulted.

11. In exercising the requirement to consult, the duty on the Port is limited to sending the LPA details of the proposed development and offering them a period in which to respond; ostensibly a chance for the LPA to indicated they do not believe it to be permitted development or to offer observations which the Port (and / or their lessees or agents) may or may not take on board. Alternatively the LPA could determine EIA Screening is required. From the examples I have reviewed, the Port has typically given the LPA 21 days to respond.

12. The power conferred on the LPA, beyond determining that it is not permitted development or whether the EIA Regulations bite, is limited to providing comments and relying on goodwill as to the extent any such comments may be taken onboard.

13. The rights conveyed by the GPDO to the Port have given rise to very significant developments / proposals, as described below.

Glencore Agriculture UK Ltd (Dorset 'planning' ref: WP/19/00514/SCRE)

14. The Glencore scheme relates to the development of two identical large animal feed storage and handling warehouses. This proposal pre-dated the requirement for LPA consultation and the only formal LPA involvement related to EIA Screening, which yielded a negative result. Extracts of a drawing of one warehouse and an aerial image of the constructed development are shown below.

Figure NR1-3: Glencore Warehouses Images

Northern (end) elevation) drawing	Aerial photo of the constructed sheds

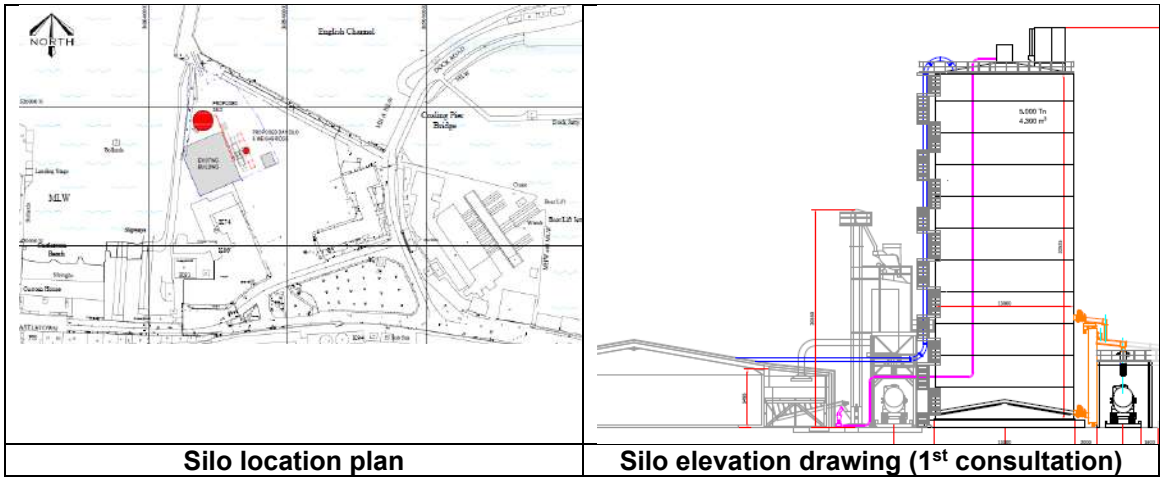
15. The warehouses are each 145m long by 50m wide. They have a ridge height of 20m and eaves height of 12.53m. This gives them a combined building volume of circa 235,043m^3. The development was built out during 2020/21.

Dragon Portland Ltd – Cement Silo (refs: P/TRANS/2022/00211 and P/TRANS/2023/04223)

16. This proposal has not yet been build out, but has been the subject of two consultations between the Port and the LPA. It relates to the construction of a large cement silo in a waterfront location approximately 700m to the west of the centre of the Appeal Site, and only circa 400m east of Portland Caste.

17. The first consultation related to a silo described as 43m high. This was one of two development options, being formed from concrete. The second option was a steel silo which was illustrated as part of the consultation (the concrete option was not). The proposed steel silo is 13m in diameter and is 37.675m high. The subsequent consultation for the same proposal describes the silo as being reduced in height to 38m, with the submitted drawing annotating a silo 14.5m in diameter and 32.3m high (the Port has advised me the additional height relates to the potential maximum height of paraphernalia mounted on top of the silo).

Figure NR1-4: Dragon Portland Drawing Extracts



Silo location plan	Silo elevation drawing (1st consultation)

18. With regard to the initial consultation, Dorset Council Planning responded on 5th December 2022 and confirmed the proposal was not EIA development and then concluded:

"The Council continues to raise concern about the height of the proposed silo which would form a notable new element within the Port view, breaking the skyline in vantage points from the west. The height of the proposed silo should in the Council's view be minimised and reduced to match the existing silo. Consideration should also be given to the choice of material and its properties/finish. The proposed colour treatment of matt grey is not clear. Any finish should have a non-reflective coating, and should be a mid-grey tone, such

as Battleship Grey RAL 7031. Otherwise, a concrete option should be considered as opposed to steel.

Having consulted key consultees [which included the relevant landscape officer] *in respect of the proposed development, and notwithstanding the above advice, no objection has been raised to the principle of a silo in the location proposed. A silo in this location, although adding to the infrastructure at the site, would not be an alien feature. The silo would be seen in the context of a variety of built structures/enclosures, including vertical structures, all connected with the demands of the commercial Port activities, which dominate the character of the waterfront in this location. In this context, an additional silo would not be out of character, although as expressed above, consideration should be given to reducing the height of the silo in order to minimise its visual impact.*

Consideration has been given to the impact of the development on the significance of affected heritage assets, including the following:
The Verne Citadel;
Portland Castle;
Battery E of the Naval Cemetery;
The Citadel North Entrance;
Mulbury Harbour Phoenix Caissons;
1 Castletown;
Inner & Outer Breakwater, Bincleaves Groyne, and the NE Breakwater;
Underhill Conservation Area

The Conservation Officer identified no harm to the significance of these heritage assets resulting from the proposed development".

19. As part of that consultation process, views were provided by the Council's Senior Conservation Officer (Spatial Planning & Majors) on 3rd November 2022, as reported in the above letter, after running through each asset individually, the Senior Conservation Officer concluded
"The proposals will result in no harm to the significance of designated heritage assets and so neither paragraph 201 nor 202 is considered to be engaged".

The Development Plan Position

20. The West Dorset, Weymouth & Portland Local Plan 2015 states (paragraph 8.2.4) that: "*Portland Port – is a major employment site with planning consent for port-related and B1, B2 & B8 uses"* and (paragraph 8.3.2) that: *"Approximately 35 hectares of port land is consented for B1, B2 and B8 uses and statutory harbour undertaking and an additional 17 hectares of seabed has consent for marine works including reclamation to create dockside operational land"*.

21. In terms of the future 'vision' for the Port, the Plan goes on to say (paragraph 8.2.1): *"Portland Port will have maintained and expanded its role as a port of national and international importance and a location for job creation"* and that (8.2.2): *"The future economic opportunities for the island will be based on maximising the potential of existing major employment sites and Portland Port"*.

22. At paragraph 8.3.3, the Plan states: *" …. The SEP* [Strategic Economic Plan] *proposes that the port could achieve far reaching development of unique natural port assets supporting industrial development, freight, exports and bringing a radically larger sector of the cruise market to the Dorset tourist economy. The port is identified as a key employment site and associated policies in the plan allow for its protection and the provision of employment (ECON 1 and ECON 2). These employment policies support the expansion of existing employment sites subject to other policies within the plan. Additional land may be required within the port for sustainable development and these policies cater for the port's need for long-term growth"*.

23. As referenced above, the Port of Portland also benefits from a B1, B2 and B8 allocation, including other similar uses, within the Local Plan under Policy ECON2. The extent of allocation is shown below on an extract from the interactive Proposals Map. The extent of allocation is near identical to the areas covered by the Port's permitted development rights, albeit for two very small additional areas in the latter area and the southern end of the Port.

Figure NR1-5: West Dorset, Weymouth & Portland Local Plan Proposals Map Extract

24. Policy ECON2. is strongly permissive of development subject to a single caveat, stating (extract): *" Within key employment sites (as identified on the policies map) applications for B1 (light industrial), B2 (general industrial), B8 (storage and distribution) and other similar uses will be permitted subject to proposals not having a significant adverse impact on surrounding land uses".*

25. It is understood that the allocation effectively reflected the extent of B1, B2 and B8 uses established under various change of use consents, primarily ref: 4/96/0432C, and I understand was also carried forward from the West Dorset policies maps (Adopted 2006) and the Weymouth and Portland Local Plan Appendices (Adopted 2005), but have not evidenced this.

Extant Permission on the Appeal Site

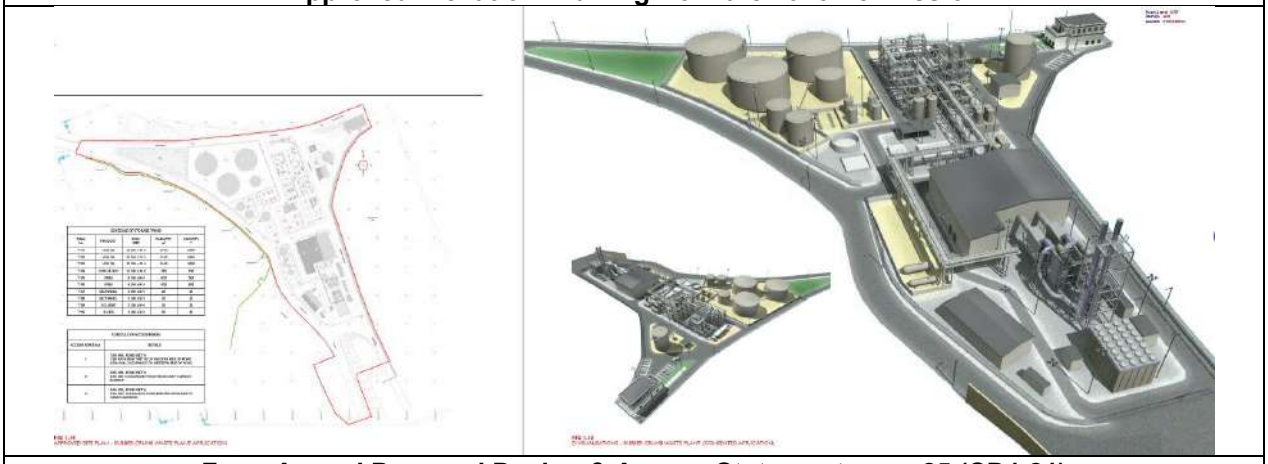
26. The presence of the change of use consent and / or allocation has given rise to the grant of planning permission for a number of development proposals. Of direct relevance to the Appeal Proposal is the decision of the former Weymouth and Portland Borough Council's to grant full planning permissions in early 2010 (the 2010 Permissions) to develop the main area of the Appeal Site as an energy plant (refs: 09/00646/FULES and 09/00648/LBC), fuelled by vegetable oils including waste oils. A subsequent s.73 consent was approved in 2013 (ref: 13/00262/VOC) (the 2013 Permission), which added waste rubber crumb from end-of-life tyres to be used as an alternative fuel source. This proposal and its planning permissions are described in greater detail in in the Appellant's Statement of Case (paragraphs 2.2-2.9). In addition, the Supplemental Officer Report for the Appeal Proposal

(CD5.2), at section 2, acknowledges that both the 2010 and 2013 Permissions are extant and legally constitute a fall-back position. I refer to the scheme as the W4BRE proposal (after the prospective developer).

27. The images below, each described, illustrate the W4BRE proposal.

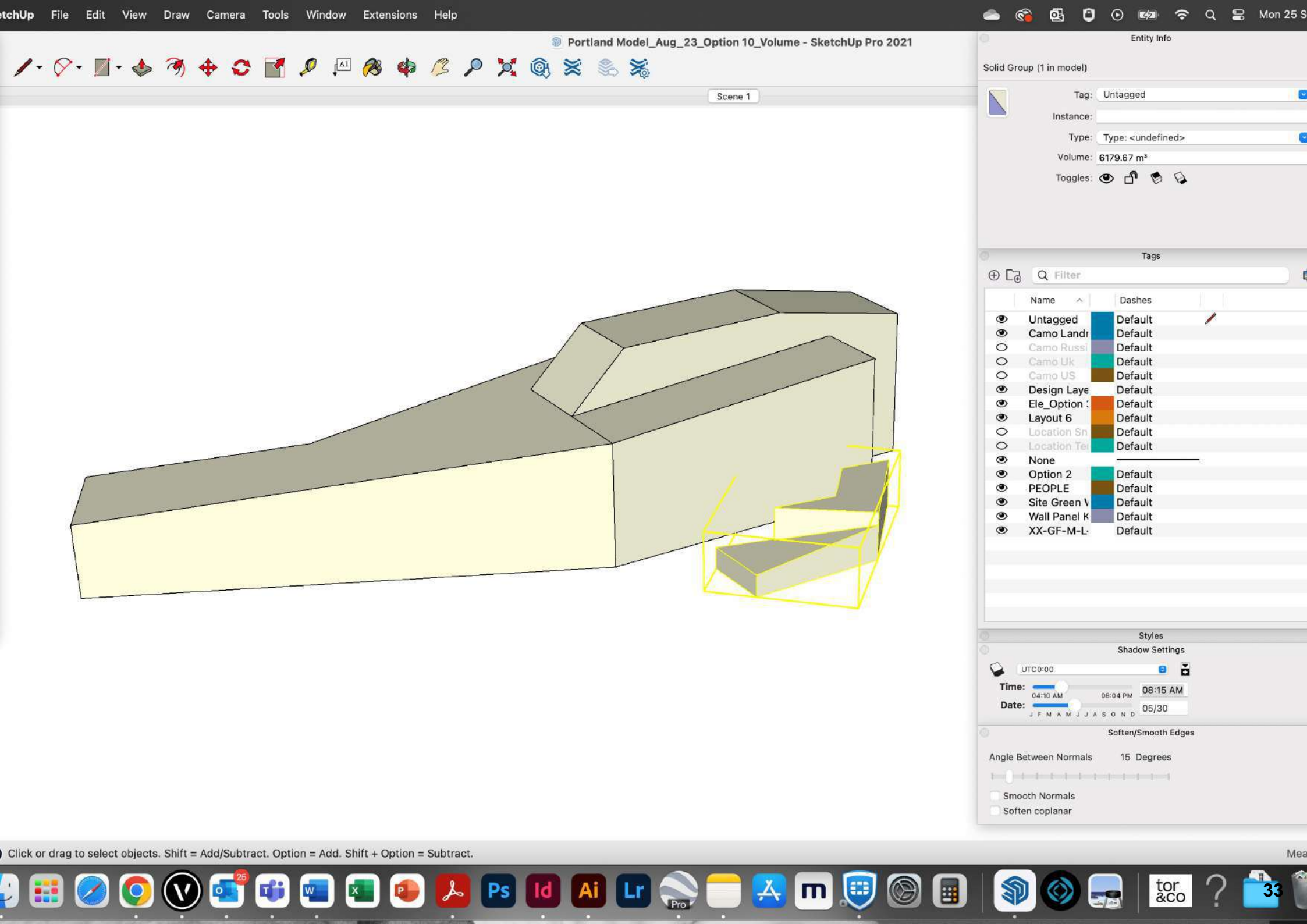
Figure NR1-5: W4BRE Proposal Images

Approved Elevation Drawing from the 2013 Permission



From Appeal Proposal Design & Access Statement page 25 (CD1.21)

2013 Permission approved plan	Appellant's 3D model of the W4BRE proposal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Portland Model_Aug_23_Option 10_Volume - SketchUp Pro 2021
Scene 1
Entity Info
Solid Group (1 in model)
Tag: Untagged
Instance:
Type: Type: <undefined>
Volume: 6179.67 m³
Toggles:
Tags
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Name
Dashes
Untagged Default
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Layout 6 Default
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Wall Panel K Default
XX-GF-M-L- Default
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Time: 04:10 AM 08:04 PM 08:15 AM
Date: J F M A M J J A S O N D 05/30
Soften/Smooth Edges
Angle Between Normals 15 Degrees
Smooth Normals
Soften coplanar
Click or drag to select objects. Shift = Add/Subtract. Option = Add. Shift + Option = Subtract.
Mea
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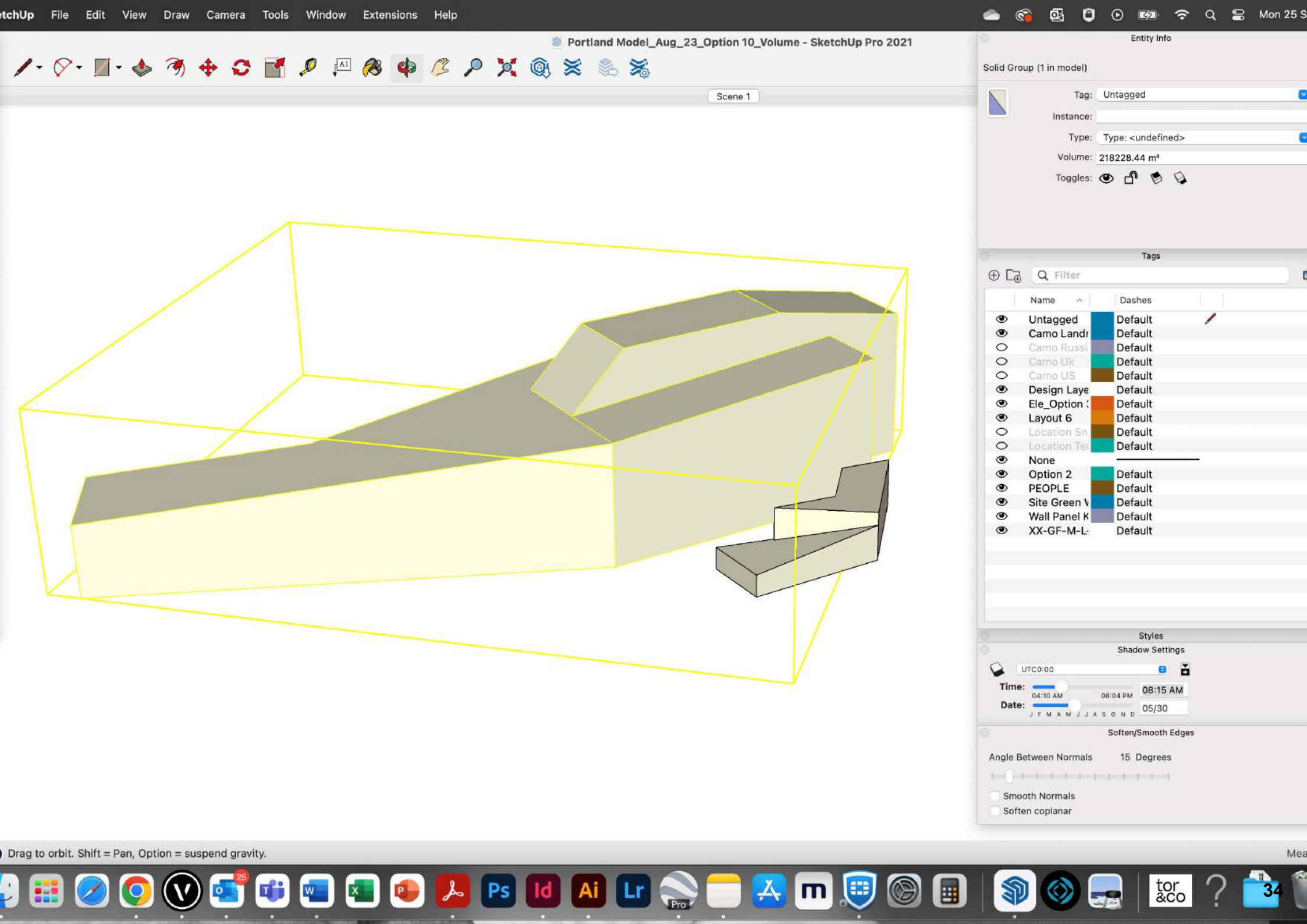
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Portland Model_Aug_23_Option 10_Volume - SketchUp Pro 2021
Scene 1
Entity Info
Solid Group (1 in model)
Tag: Untagged
Instance:
Type: Type: <undefined>
Volume: 218228.44 m³
Toggles:
Tags
Filter
Name
Dashes
Untagged Default
Camo Landr Default
Camo Russi Default
Camo Uk Default
Camo US Default
Design Laye Default
Ele_Option Default
Layout 6 Default
Location Sn Default
Location Te Default
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Option 2 Default
PEOPLE Default
Site Green V Default
Wall Panel K Default
XX-GF-M-L- Default
Styles
Shadow Settings
UTC0:00
Time: 04:10 AM 08:04 PM 08:15 AM
Date: J F M A M J J A S O N D 05/30
Soften/Smooth Edges
Angle Between Normals 15 Degrees
Smooth Normals
Soften coplanar
Drag to orbit. Shift = Pan, Option = suspend gravity.
Mea
34

Government Review of Waste Policy in England 2011

defra
Department for Environment
Food and Rural Affairs

207 The government supports energy from waste as a waste recovery method through a range of technologies, and believes there is potential for the sector to grow further. At present, we cannot prevent, re-use or recycle all of our waste. However, some of our residual waste has value in the form of recoverable energy and other by-products, such as soil conditioners. Through effective prevention, re-use and recycling, residual waste will eventually become a finite and diminishing resource; but we need to deal with this waste effectively for the foreseeable future.

208 The benefits of recovery include preventing some of the negative greenhouse gas impacts of waste in landfill. Preventing these emissions offers a considerable climate change benefit, with the energy generated from the biodegradable fraction of this waste also offsetting fossil fuel power generation, and contributing towards our renewable energy targets. Even energy from the non-biodegradable component, whilst suffering from the negative climate impacts of other fossil fuels, has additional advantages in terms of providing comparative fuel security, provided it can be recovered efficiently.

209 The revised Waste Framework Directive allows for deviation from the waste hierarchy where it can be clearly demonstrated there is a better environmental outcome from doing so, which may be the case for energy recovery from certain waste streams. Conversely, while energy from waste has the potential to deliver carbon and other environmental benefits over sending waste to landfill, energy recovery also produces some greenhouse gas emissions. It is important to consider the relative net carbon impact of these processes, and this will depend on the composition of feedstocks and technologies used.

210 Energy from waste covers a range of complementary processes which recover additional value from the waste, some of which extract the energy directly while others convert residual waste into different types of fuel for later use. We need to understand how different technologies can work together and with the different feedstocks available.

Did you know?

In 2009 enough electricity was generated from biodegradable municipal waste to supply all the households in Leeds.

211 We will need to have sufficient infrastructure in place to support increasingly efficient recovery that is flexible enough to adapt to changing feedstocks over time. As we recycle more, we need to understand how we can adapt to recover the best value from what is left, while delivering the best environmental outcomes. We are aiming to get the most energy out of the residual waste, rather than to get the most waste into energy recovery.

212 Our overarching goals are to ensure that:

- Recovery of energy from waste and its place in the waste hierarchy is understood and valued by households, businesses and the public sector in the same way as re-use and recycling.
- Energy is recovered in a variety of ways, using the best technology available for the circumstances. The resulting electricity, heat, fuel or other products are seen as commodities with real economic value. Where necessary incentives and regulation are aligned to reflect this value.
- Recovery of energy from waste makes an important contribution to the UK's renewable energy targets, minimising waste to landfill and helping to meet UK carbon budgets.

- With increased trust in energy from waste and innovative incentives, recovery infrastructure is generally accepted, and industry and communities make use of energy from waste to routinely meet a proportion of their energy and waste management needs.

Renewable energy from waste

213 In 2009/10, 13.6% of local authority collected waste was used for energy recovery and 46.9% was landfilled. Figures from the 2010 survey of commercial and industrial (C&I) waste arisings in England show that while 52% of C&I waste was recycled, re-used or composted, only 2% was incinerated with energy recovery.

214 Energy recovery is an excellent use of many wastes that cannot be recycled and could otherwise go to landfill. It can contribute secure, renewable energy to UK demand for transport, heat, biomethane and electricity and is generally the best source of feedstocks for UK bio-energy needs. Our horizon scanning work up to 2020, and beyond to 2030 and 2050 indicates that even with the expected improvements in prevention, re-use and recycling, sufficient residual waste feedstock will be available through diversion from landfill to support significant growth in this area, without conflicting with the drive to move waste further up the hierarchy. Maximising the potential for growth in continuous generation available from energy from waste will require both better use of the available residual waste and development of high efficiency flexible infrastructure.

215 Based on the capacity forecast published in support of the 2010 Spending Review assessment of waste PFI, waste derived renewable electricity from thermal combustion in England is calculated to grow from the current 1.2TWh to between 3.1TWh and 3.6TWh by 2020, depending on how much of the solid recovered fuel produced is utilised in the UK. Similarly it is projected that sufficient food waste will be available to help deliver the Government's ambition for sustained growth in anaerobic digestion.

216 The potential for deploying more efficient electricity generation could further enhance the renewable energy derived from this waste. Better use of heat, both directly and through continued growth in the market for refuse derived fuels going to industrial Combined Heat and Power users will also play an important part in ensuring that we extract the maximum value from residual waste. The introduction of the Renewable Heat Incentive (RHI) is expected to bring forward an increase in the combined and dedicated generation of renewable heat from waste as well as production of biogas for heat production and the injection of biomethane into the gas grid.

217 Research indicates that when used for heat, biomethane generated from residual wastes could produce greenhouse gas savings of between 66% and 92% compared to natural gas[14]. Waste provides a potentially valuable source of biomethane through number of technologies including anaerobic digestion, gasification and pyrolysis. Similarly transport biofuels from waste can deliver higher lifecycle greenhouse gas savings and have good sustainability characteristics compared to crop-based biofuels.

218 The Government recognises that many of the technologies required to deliver more complex forms of energy recovery such as biomethane are less mature than other forms of energy recovery, with technical challenges to overcome, and the consequential difficulties associated with

14 Analysis of the Greenhouse Gas Emissions for Thermochemical BioSNG Production and Use in the UK-E4 Tech ñ June 2010- see Appendix J† (weblink: http://www.nnfcc.co.uk/metadot/index.pl?id=10772;isa=DBRow;op=show;dbview_id=2539)

energy outputs and carbon impacts of technologies. Maintaining the contribution of energy from waste to UK renewable energy generation will require the increased deployment of higher efficiency approaches such as combined heat and power (CHP).

231 The broad range of technologies covered by energy from waste and their place in the hierarchy are not well understood by the public, and perceptions are often shaped by outdated or incomplete information. These information gaps and the uncertainty they engender mean there can be very emotive negative responses to proposals for energy from waste infrastructure – particularly larger scale facilities – from the local community. These concerns act as barriers to the acceptance of energy recovery infrastructure and lead to objections and delays in planning and development.

232 Overcoming these barriers is key to the development and growth of energy from waste and requires both significant community engagement and a strong, credible evidence base that puts any uncertainties into a meaningful context. Ensuring information is available, trusted and easily understood is a key step to gaining acceptance. This is particularly important in addressing concerns on health impacts where science by its nature is often unable to deliver the definitive answer, but can demonstrate relative risks to allow people to make informed decisions.

233 There are roles for government, local authorities, waste management companies and developers in ensuring that clear, complete and trusted sources of information are available, and that the concerns of the community are addressed. Civil society can also help to address concerns and engage the local community.

234 Historically growth in energy from waste has focussed on local authority waste, primarily due to the ability to finance infrastructure based on the certainty of long term contracts. However, significant opportunities for growth in energy recovery exist for commercial and industrial (C&I) waste, for example residual mixed 'household like' commercial waste and individual waste streams where recycling is not currently viable such as treated wood. There are also opportunities for businesses themselves to recognise and exploit the value in their waste. For example, there is the potential for individual businesses or groups of businesses to use their residual waste to power and/or heat their premises, using one of a wide range of technologies.

235 High energy using industries – such as cement kilns – do and could use more waste derived fuels as a substitute for fossil fuel. This often gives high conversion efficiencies as both heat and power can be used. Both C&I and household waste can be processed for use in this way and local authorities and businesses should consider how to exploit industrial use of waste as a fuel where this would provide the best environmental outcome.

236 Benefits for business of using energy from waste include cost savings on waste management, reduced fuel costs and reduced volatility of prices as these are decoupled from fossil fuel prices. Adapting existing processes to run on waste derived fuel may be less costly and easier to finance than building new infrastructure, which in turn may be reflected in lower costs to local authorities and businesses who recover their waste in this way.

237 Experience to date with CHP infrastructure has highlighted a potential difficulty in securing long term customers for heat ahead of construction of the plant. Without heat offtake, the lower efficiencies achievable from electricity only generation could waste valuable opportunities to help decarbonise the heat sector. This is a particular opportunity for business, particularly larger firms, through the greater exploitation of CHP for commercial and industrial premises.

Department
for Environment
Food & Rural Affairs

Waste Management Plan for England

January 2021

recycling. Many local authorities continue to expand services such as food waste collection (which is then composted or sent for anaerobic digestion (AD)), but others have seen reductions in their recycling rate. Overall, the rate of increase has slowed in the last 5 years. We will continue to work with local authorities to increase household recycling.

For various reasons, including uncertainty about quality, lack of information and high costs when collections are inconsistent, the benefits of reusing products for example after remanufacture or reconditioning are not fully realised at present. Leaving the EU provides us with an opportunity to review and streamline the regulatory environment to overcome these barriers.

The sector's latest best estimates for non-household municipal recycling, which concerns recycling of materials similar in nature to household waste, put the current recycling rate at approximately 43%[30]. We are continuing to comfortably exceed the target to recover 70% of non-hazardous construction and demolition waste by 2020. The annual recovery rate for construction and demolition in England has remained at around 92% since 2010. In 2016, the recovery rate was 92.1%[31].

This Plan sets out a number of other initiatives that are under way to boost recycling.

The government continues to support AD as the most effective way to treat separately collected food waste to produce energy and valuable bio-fertiliser. This ensures that food waste is diverted from landfill and reduces greenhouse gas emissions. The government is committed to increasing the energy from waste produced through AD and in February 2019 published a consultation on measures to increase recycling, including measures to increase the amount of separately collected food waste from households and businesses. These measures would support further growth in AD. We have also committed in the Resources and Waste Strategy to reduce the air quality impacts arising from digestate and levels of plastic contamination to improve the quality of end products.

Other recovery

Residual waste generally refers to the waste collected from households or businesses in a black bag or wheelie bin. The government supports efficient energy recovery from residual waste – energy from waste is generally the best management option for waste that cannot be reused or recycled in terms of environmental impact and getting value from the waste as a resource. It plays an important role in diverting waste from landfill. In 2016, 6.2 million tonnes of residual waste were disposed of in energy from waste facilities[32]. The Resources and Waste Strategy promotes the greater efficiency of energy from waste plants through utilisation of the heat generated in district heating networks or by industry, and by seeking

[30] WRAP's estimate based on an end destination of materials.
[31] https://www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management - See Table 3_1

[32] https://www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management - See Table 5_3

food waste would lead to a need for additional infrastructure for this. Also, where local authorities introduce greater separate collection to improve the quality of materials this too would impact on collections infrastructure. Within England, local authorities assess the need for any changes to collection arrangements that best fit their local circumstances and meet the legal obligations to collect waste. At a national level, the Waste and Resources Action Programme (WRAP) assesses the performance of local authority collection arrangements in terms of yields of residual waste and of dry recyclables[110]. This work will help to inform future decisions on collection schemes. We have committed to funding the net costs of new burdens on local authorities arising from new statutory duties introduced to increase consistency in recycling and we will work with local government bodies to develop our assessment of costs and changes necessary. Where collections infrastructure has to change, we would expect this to be done at the earliest opportunity allowed for by contractual obligations.

Technologies for managing residual waste

The Resources and Waste Strategy promotes efficient energy recovery from residual waste, but the government does not express a preference for one technology over another, since local circumstances differ. Efficient energy recovery from residual waste which can deliver environmental benefits, reduce carbon impacts and provide economic opportunities, and innovative technologies which improve the environmental outcome for the treatment of residual waste are welcomed. For example, the government encourages innovative waste treatment technologies that create transport fuels through the Renewable Transport Fuels Obligation.

The Resources and Waste Strategy recognises that energy from waste is generally the best management option for waste that cannot be reused or recycled in terms of environmental impact and getting value from the waste as a resource. It promotes the greater efficiency of energy from waste plants through utilisation of the heat generated in district heating networks or by industry, and by seeking an increase in the number of plants obtaining R1 recovery status[111]. Any given technology is more beneficial if both heat and electricity can be recovered. Particular attention should therefore be given to the location of the plant to maximise opportunities for heat use.

The Resources and Waste Strategy considered whether further capacity was needed to manage residual waste and welcomed further continued investment in energy from waste facilities that raises efficiency standards and minimises impacts on the environment.

[110] http://www.wrap.org.uk/content/local-authority-waste-and-recycling-information

[111] 'R1' Recovery status acts as a proxy for the energy-generating efficiency of facilities. Facilities, including gasification and pyrolysis plants, which achieve the status are classed as a recovery operation for the purposes of the waste hierarchy and so are a level up from the bottom rung of 'disposal'.

Department
for Environment
Food & Rural Affairs

Consultation on environmental targets

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waste, there is a separate, existing government commitment within the 25 YEP to eliminate avoidable plastic waste by 2042.

Questions:

- **Do you agree or disagree with the proposed scope of the residual waste target being 'all residual waste excluding major mineral wastes'? [Agree/Disagree/Don't know]**
    - **[If disagree] What reasons can you provide for why the government should consider a different target scope?**

The proposed target can drive both waste minimisation and recycling of unavoidable waste. Measuring in relation to population size ensures a target remains comparable over time and isn't affected by impacts beyond our control. This is described in Figure 1 below.

Figure 1: Proposed metric for reducing residual waste

$$\text{Residual waste (excl. major mineral waste) per capita (kg)} = \frac{\text{(Tonnes of waste sent to landfill + put through incineration + sent overseas for energy recovery + used in energy recovery for transport fuel excl. major mineral waste)} * 1000}{\text{Population}}$$

We propose to measure at the end-point of waste management to include the treatments that are typically associated with mixed residual waste, covering waste that is sent to landfill, put through incineration (including energy from waste incineration), sent overseas for energy recovery or used in energy recovery for transport fuel. The government will continue to review which treatments are appropriate to include as new technologies and treatment options emerge. Environment Agency data on permitted waste site activities and international waste shipments will be used to report on the metric. This will provide a robust approach, recognising that there is limited data availability at the point waste is collected.

Incineration with energy recovery is preferable to disposal of waste via landfill or incineration without energy recovery. However, it is important to include all of these treatment options to:

a. provide the best proxy measure for waste that isn't separately collected;
b. help drive real improvement via waste minimisation and increased recycling, rather than simply diverting waste from landfill to incineration with energy recovery.

The proposed target excludes waste sent for anaerobic digestion (AD), which treats separately collected food waste. AD is one of the least detrimental end of life treatment options for food waste, when considering climate change impacts and depletion of natural

NR8 Response to the Council's Outline Statement on Waste Need

Appendix NR8 - Response to the Council's Outline Statement on Waste Need (CD11.9)

1. Table 3.2 of my main proof, prepared by Tolvik and reproduced below, represents Waste Data Interrogator (WDI) data for residual waste (Tolvik definition[1]) generated within the Dorset / BCP Waste Planning Authority (WPA) area presented by its fate i.e. form of management.

Table 3.2: Dorset & BCP Residual Waste and its Fate in 2022

	Incineration	Landfill	Mass Loss	Total
Treated in England as per WDI	82,429	67,193		149,621
Estimated share of tonnage from SW region but not WPA coded	3,182	3,040		6,222
RDF export (adjusted for WDI under reporting)	70,768			70,768
Canford MBT plant			34,444	
Total	**156,379**	**70,233**	**34,444**	**261,055**

2. There are a number of accompanying explanatory notes to the data in this table:

   a. The significant majority of the waste is derived from 4 European Waste Codes (EWC codes) (biodegradable waste - 20 02 01; Combustible waste - 19 12 10; Mixed Municipal waste – 20 03 01; and Other wastes from mechanical treatment – 19 12 12). However, in 2022, Tolvik determined that Municipal ERFs in England accepted wastes under 74 EWC codes.

   b. There is waste arising within the South West Region which is not coded to a specific WPA. Tolvik take this total figure and then estimate and distribute a share of this to each WPA area.

   c. On adjusted RDF exports, Tolvik advise: *"WDI identifies tonnages of 19 12 12 and 19 12 10 where the destination is "Outside the UK". This includes some port operations which are simply transfer operations so we discount these to*

[1] "Solid, non-hazardous, combustible waste which remains after recycling either 'treated' (in the form of a RDF or SRF) or 'untreated' (as "black bag" waste)"

prevent double counting. The remaining tonnage is then tagged to individual facilities which produce RDF for export. This is compared with the EA's monthly report on Transfrontier Shipments of Waste – and there is always and under-reported tonnage – largely because some RDF is collected and the producer has little / no idea whether the broker will export it or take it to a UK EfW. The under-reporting does vary significantly year to year and rather an average, we reconciled 2022 data figures in the table above" [i.e. Table 3.2].

d. The Canford MBT plant mass loss figure is simply the difference between total tonnage waste in and total tonnage waste out in a 12 month window and, as explained in my main proof, is subject to whether there is an equal amount of waste on site at the start and finish of the accounting period.

3. In my Appendix NR9, Tolvik provides more comprehensive waste data as part of its modelling exercise. This shows for 2022 a total Dorset / BCP residual waste tonnage of **294,507 tonnes** (BCP LACW 107,009 tonnes; Dorset LACW 83,229 tonnes; BCP C&I 62,187 tonnes; and Dorset C&I 42,082 tonnes).

4. Tolvik's commentary on the difference between **261,055** and **294,507** tonnes is as follows:

a. *"The challenge here is that WDI data at a WPA level generally falls short of our estimates at a WPA level – largely because as waste passes through the supply chain e.g. via transfer stations its origin gets confused – but it of course reconciles at a national level. With next to no landfill in Dorset / BCP this is a particular issue – as experience shows the further the ultimate destination from source the less specific weighbridge operators are in inputting the correct location of waste origin"*.

b. *"In practice the 294k total is taken from analysing national and regional data over the last 5 years estimating allocations to WPAs; national data is pretty consistent, regional data not too variable (although can be very wrong for London/Essex area for example where a disinterested weighbridge operator is unlikely to be overly interested in working out if Epping Forest is London or Essex) and even poorer at WPA level. Our point being that for any one year the WDI derived figures jump around from our modelled estimates and so we*

do not get overly concerned about the sort of difference we see for this small area for one year".

5. Turning to the Council's 'Outline Statement on Waste Need'. I only focus on their 'Assessment of Local Need' in paragraphs 1.3 to 1.7.[2] I reproduce the Council's Table 1 from the Statement below.

Table 1: Residual waste arising in Dorset subregion 2021 & 2022. Source: WDI (values in 000s tonnes).

No	Component	2021	2022	Constituent Data Values
1	Subregion waste to Landfill in England	36.3	39.7	50% 191212 plus mixed municipal and biodegradable. No RDF reported
2	Subregion waste to EfW in England	32.4	67.4	RDF plus mixed municipal plus 191212
3	Exports outside England from subregion sites	85.8	54.8	Only RDF (191210) reported
4	Transfers of subregion waste to transfer/treatment sites outside subregion	46.5	24.4	Transfer/Treatment only as others may involve non residual mixed municipal i.e., commingled recyclates.
5	Waste from outside subregion to subregion transfer/treatment sites	-22.5	-2.2	191212 plus mixed municipal and biodegradable.
	Total Residual Waste	**178.5**	**184.1**	

6. I comment on this Table and the supporting text in paragraphs 1.3-1.7 of the Statement as follows:

   a. It is based on two single year sets of WDI data looking at the WPA area only.

   b. It is based solely on 4 EWC codes (LOW codes) as opposed to the aforementioned 74 codes for which waste went to English ERFs in 2022. Whilst many of these codes only gave rise to very small tonnages, the point is the market is bigger than inferred – of which bulky waste 20 03 07 is an obvious omission.

   c. The comment in 1.4 (1.) that the: *"…. waste description 'mixed municipal waste' covers both black bag waste destined for disposal/recovery i.e., residual waste and commingled recyclates going for recycling via a Material Recycling Facility"*

[2] Their commentary on regional need (paragraphs 1.8-1.11) is superseded by the Tolvik long-term Study Area analysis in my proof. In terms of National Need (paragraphs 1.12-1.17), I deal with the position extensively in sub-section 3.4 of my proof in terms of future recycling rates and waste targets / ambitions.

is wholly irrelevant as Tolvik is only considering tonnages which end up going to ERF and landfill. Thus it is unclear what point is being made or what adjustments have been undertaken.

d. With regard to 19 12 12 Tolvik counts 100% of that EWC code sent to ERFs, but only 70% of that EWC code sent to landfill. It is estimated that 70% of the landfill input of 19 12 12 is combustible based on detailed published work undertaken by Tolvik on behalf of the Environmental Services Association "UK Residual Waste 2030 Market Review". The Council (undoubtedly Mr Potter) assumes that only 50% of 19 12 12 is combustible. I assume, as stated, that the percentage reduction has only been applied to the landfilled figure.

e. The Council's figure for RDF export is not adjusted for WDI underreporting.

f. There is no evidence of regard has been given to the waste arising within the South West Region which is not coded to a specific WPA (it cannot be determined from Table 1).

g. No account has been taken of the mass loss at Canford. Tolvik's position is that if an ERF is built, it can out compete an MBT plant.

7. The differences between the Tolvik data for 2022, and that now produced by the Council, cannot be determined purely on the basis of the tables themselves. However, as set out above, several differences in approach have been identified that will result in the Council's figures being lower than Tolvik's. There may or may not explain the totality of the difference.

8. Separate to the above, it cannot be determined if the data has been completely and / or correctly extracted from WDI by a specific party. At the Northacre ERF inquiry (relevant extracts in sub-section 3.4 of my main proof), Mr Potter who provided the data for Wiltshire Council in that case, and now for Dorset Council, failed to extract the data properly, resulting in a shortfall of 172,000 tonnes in RDF exports. This fact was presented in a rebuttal response provided by Tolvik which was not disputed. Paragraph 58 of the decision letter refers (see CD10.1).

9. I conclude, based on the foregoing, that the Tolvik data on Dorset / BCP residual waste tonnages is the more robust data.

SCENARIO A - SUMMARY

LACW

	% in Catchment
Bournemouth, Christchurch and Poole	100%
Devon County Council	0%
Dorset	100%
Hampshire County Council	0%
Somerset County Council	0%
Southampton City Council	0%
Wiltshire	0%

2035 Local Authority Waste Recycling Rate for England: 55.0%

Halve Residual Waste by 2042 from 2019: Yes subject to a maximum recycling rate of 75.0%

C&I Waste

	% in Catchment
Bournemouth, Christchurch and Poole	100%
Devon County Council	100%
Dorset	100%
Hampshire County Council	50%
Somerset County Council	100%
Southampton City Council	100%
Wiltshire	100%

2035 C&I Waste Recycling Rate for England: 70.0%

Halve Residual Waste by 2042 from 2019: Yes

Subject to a maximum achievable Recycling Rate for LACW & C&I Waste: 75.0%

ktpa	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
TOTAL RESIDUAL LACW	189	186	184	181	178	176	174	172	170	167	165	163	161	152	143	135	126	117	109	100	100	100	99
TOTAL RESIDUAL C&I WASTE	463	457	445	440	435	430	425	420	414	409	403	398	392	385	378	370	363	355	347	340	341	343	345
TOTAL RESIDUAL WASTE	**652**	**643**	**629**	**621**	**614**	**606**	**599**	**591**	**584**	**576**	**569**	**561**	**553**	**537**	**521**	**505**	**489**	**472**	**456**	**440**	**441**	**443**	**445**
AVAILABLE EFW CAPACITY			176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176	176
CAPACITY GAP			**453**	**445**	**437**	**430**	**422**	**415**	**408**	**400**	**392**	**385**	**376**	**361**	**345**	**329**	**312**	**296**	**280**	**263**	**265**	**267**	**268**
Chineham			6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Marchwood			21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Exeter			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Devonport			41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Bridgwater			109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			176	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**	**176**

Available EfW Capacity

ktpa	Total Capacity	Merchant	Comment
Chineham	95	6	Based on average over last 4 years - 25% for Catchment, 75% outside Catchment
Marchwood	200	21	Based on average over last 4 years
Exeter	59	0	Based on average over last 4 years
Devonport	256	41	Based on average over last 4 years - 50% for Catchment, 50% outside Catchment
Bridgwater	109	109	As per Northacre appeal
Capacity	**719**	**176**	

SCENARIO A - LACW

ACTUAL | **TOLVIK PROJECTED** | MAXIMUM RECYCLING LEVEL 75%

https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables

Local Authority Collected Waste Arisings	2013	2014	2015	2016	2017	2018	2019	2020	2021
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bournemouth, Christchurch and Poole	200,267	202,950	204,761	199,412	192,053	189,075	199,459	195,515	199,145
Devon County Council	380,789	387,143	375,761	378,759	372,539	372,804	372,064	379,574	386,110
Dorset	187,861	191,290	193,146	196,839	187,198	188,815	188,203	191,009	198,714
Hampshire County Council	654,453	660,209	658,270	654,906	624,889	627,441	623,031	602,632	614,163
Somerset County Council	251,608	260,122	264,526	264,554	260,652	258,881	260,668	264,976	271,604
Southampton City Council	108,374	110,474	112,485	109,513	103,684	101,303	99,452	100,345	102,612
Wiltshire	253,591	257,718	246,339	242,397	238,134	230,101	232,569	225,951	232,635

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
198,603	198,010	197,406	196,830	196,355	195,851	195,944	196,005	196,086	196,173	196,169	196,135	196,041	195,970	195,860	195,706	195,530	195,348	195,216	195,092	194,928	194,291	193,656
393,656	394,943	396,100	397,151	398,250	399,200	401,385	403,418	405,435	407,361	409,145	410,810	412,353	414,050	415,618	417,088	418,503	419,838	421,198	422,472	423,566	422,142	420,725
200,983	201,049	201,086	201,033	201,070	201,029	201,571	202,069	202,497	202,915	203,290	203,617	203,870	204,131	204,346	204,569	204,762	204,894	205,069	205,224	205,314	204,620	203,929
620,321	619,383	618,231	616,880	615,684	614,246	614,966	615,551	616,129	616,606	617,018	617,324	617,566	617,932	618,139	618,342	618,501	618,596	618,811	618,914	618,879	616,696	614,522
276,349	276,895	277,266	277,531	277,895	278,177	279,391	280,485	281,549	282,584	283,582	284,525	285,386	286,225	286,990	287,730	288,402	289,018	289,642	290,195	290,637	289,566	288,498
102,425	102,006	101,680	101,319	101,016	100,737	100,742	100,746	100,780	100,829	100,833	100,788	100,738	100,851	100,939	100,987	100,985	100,994	101,008	101,009	100,989	100,749	100,512
235,245	235,289	235,155	234,967	234,833	234,680	235,297	235,837	236,349	236,837	237,321	237,772	238,160	238,560	238,900	239,217	239,508	239,760	240,041	240,293	240,456	239,606	238,759

Local Authority Collected Waste Residual	2013	2014	2015	2016	2017	2018	2019	2020	2021
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bournemouth, Christchurch and Poole	113,655	104,089	104,369	101,568	94,760	93,683	94,958	97,753	107,009
Devon County Council	175,792	176,687	173,105	173,185	175,625	168,680	166,717	173,372	176,911
Dorset	89,362	89,877	83,655	83,137	78,069	80,236	82,459	79,042	83,229
Hampshire County Council	402,912	405,080	391,141	376,393	366,732	370,044	364,068	376,795	377,735
Somerset County Council	127,305	126,273	126,807	126,972	126,158	125,145	124,789	127,779	121,358
Southampton City Council	83,492	84,201	82,607	80,456	76,402	74,397	72,382	74,758	76,521
Wiltshire	150,967	151,688	145,372	142,695	136,902	124,270	126,799	128,247	130,085

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
105,996	105,016	103,979	102,961	102,000	101,026	100,363	99,682	99,012	98,343	97,629	96,899	96,086	89,329	82,560	75,781	69,005	62,240	55,501	48,773	48,732	48,573	48,414
177,370	175,174	172,670	170,103	167,541	164,900	162,746	160,498	158,212	155,861	153,428	150,923	148,108	142,260	136,316	130,293	124,208	118,056	111,869	105,618	105,892	105,536	105,181
82,595	81,159	79,589	77,983	76,412	74,812	73,425	72,013	70,569	69,116	67,641	66,145	64,496	62,643	60,772	58,899	57,014	55,108	53,211	51,306	51,328	51,155	50,982
378,313	374,782	370,887	366,884	362,987	358,962	356,200	353,354	350,498	347,579	344,619	341,595	338,288	316,523	294,656	272,772	250,856	228,906	206,988	185,022	185,011	184,359	183,709
121,322	119,567	117,564	115,511	113,494	111,439	109,745	107,986	106,199	104,385	102,540	100,661	98,568	94,957	91,301	87,615	83,890	80,131	76,357	72,549	72,659	72,391	72,125
75,047	73,514	71,954	70,379	68,853	67,350	66,042	64,732	63,441	62,158	60,848	59,507	58,065	55,131	52,179	49,201	46,197	43,199	40,201	37,199	37,191	37,103	37,015
128,531	125,774	122,690	119,582	116,507	113,425	110,709	107,943	105,150	102,333	99,503	96,647	93,519	89,107	84,657	80,187	75,696	71,183	66,668	62,135	62,177	61,957	61,738

Local Authority Collected Waste Recycling	2013	2014	2015	2016	2017	2018	2019	2020	2021
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bournemouth, Christchurch and Poole	43.2%	48.7%	49.0%	49.1%	50.7%	50.5%	52.4%	50.0%	46.3%
Devon County Council	53.8%	54.4%	53.9%	54.3%	52.9%	54.8%	55.2%	54.3%	54.2%
Dorset	52.4%	53.0%	56.7%	57.8%	58.3%	57.5%	56.2%	58.6%	58.1%
Hampshire County Council	38.4%	38.6%	40.6%	42.5%	41.3%	41.0%	41.6%	37.5%	38.5%
Somerset County Council	49.4%	51.5%	52.1%	52.0%	51.6%	51.7%	52.1%	51.8%	55.3%
Southampton City Council	23.0%	23.8%	26.6%	26.5%	26.3%	26.6%	27.2%	25.5%	25.4%
Wiltshire	40.5%	41.1%	41.0%	41.1%	42.5%	46.0%	45.5%	43.2%	44.1%

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
46.6%	47.0%	47.3%	47.7%	48.1%	48.4%	48.8%	49.1%	49.5%	49.9%	50.2%	50.6%	51.0%	54.4%	57.8%	61.3%	64.7%	68.1%	71.6%	75.0%	75.0%	75.0%	75.0%
54.9%	55.6%	56.4%	57.2%	57.9%	58.7%	59.5%	60.2%	61.0%	61.7%	62.5%	63.3%	64.1%	65.6%	67.2%	68.8%	70.3%	71.9%	73.4%	75.0%	75.0%	75.0%	75.0%
58.9%	59.6%	60.4%	61.2%	62.0%	62.8%	63.6%	64.4%	65.2%	65.9%	66.7%	67.5%	68.4%	69.3%	70.3%	71.2%	72.2%	73.1%	74.1%	75.0%	75.0%	75.0%	75.0%
39.0%	39.5%	40.0%	40.5%	41.0%	41.6%	42.1%	42.6%	43.1%	43.6%	44.1%	44.7%	45.2%	48.8%	52.3%	55.9%	59.4%	63.0%	66.6%	70.1%	70.1%	70.1%	70.1%
56.1%	56.8%	57.6%	58.4%	59.2%	59.9%	60.7%	61.5%	62.3%	63.1%	63.8%	64.6%	65.5%	66.8%	68.2%	69.5%	70.9%	72.3%	73.6%	75.0%	75.0%	75.0%	75.0%
26.7%	27.9%	29.2%	30.5%	31.8%	33.1%	34.4%	35.7%	37.0%	38.4%	39.7%	41.0%	42.4%	45.3%	48.3%	51.3%	54.3%	57.2%	60.2%	63.2%	63.2%	63.2%	63.2%
45.4%	46.5%	47.8%	49.1%	50.4%	51.7%	52.9%	54.2%	55.5%	56.8%	58.1%	59.4%	60.7%	62.6%	64.6%	66.5%	68.4%	70.3%	72.2%	74.1%	74.1%	74.1%	74.1%

TOTAL RESIDUAL LACW	203,017	193,966	188,024	184,705	172,829	173,919	177,417	176,795	190,238	188,592	186,175	183,568	180,944	178,412	175,839	173,788	171,695	169,581	167,459	165,269	163,044	160,582	151,972	143,332	134,680	126,019	117,348	108,712	100,079	100,061	99,728	99,396
Marchwood Sensitivity	0									FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE

Local Authority Collected Waste 2035 Recycling	50%	55%
Bournemouth, Christchurch and Poole	49.3%	51.0%
Devon County Council	58.6%	64.1%
Dorset	62.7%	68.4%
Hampshire County Council	41.2%	45.2%
Somerset County Council	59.8%	65.5%
Southampton City Council	37.3%	42.4%
Wiltshire	55.7%	60.7%
England Average	50.00%	55.00%

SCENARIO A - C&I Waste

TOLVIK PROJECTED MAXIMUM RECYCLING LEVEL 75%

C&I Waste Arisings	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Bournemouth, Christchurch and Poole	154,098	161,879	158,723	158,961	160,153	161,034	161,920	162,810	163,706	164,606	165,511	166,422	167,337	168,257	169,183	170,113	171,049	171,990	172,936	173,887	174,843	175,805	176,772	177,744	178,722
Devon County Council	234,457	246,297	241,494	241,856	243,670	245,010	246,358	247,713	249,075	250,445	251,822	253,207	254,600	256,000	257,408	258,824	260,248	261,679	263,118	264,565	266,021	267,484	268,955	270,434	271,921
Dorset	104,277	109,543	107,407	107,568	108,375	108,971	109,570	110,173	110,779	111,388	112,001	112,617	113,236	113,859	114,485	115,115	115,748	116,384	117,024	117,668	118,315	118,966	119,620	120,278	120,940
Hampshire County Council	556,435	584,535	573,136	573,996	578,301	581,481	584,680	587,895	591,129	594,380	597,649	600,936	604,241	607,565	610,906	614,266	617,645	621,042	624,457	627,892	631,345	634,818	638,309	641,820	645,350
Somerset County Council	171,387	180,042	176,531	176,796	178,122	179,102	180,087	181,077	182,073	183,074	184,081	185,094	186,112	187,135	188,165	189,200	190,240	191,286	192,339	193,396	194,460	195,530	196,605	197,686	198,774
Southampton City Council	89,546	94,068	92,234	92,372	93,065	93,577	94,092	94,609	95,130	95,653	96,179	96,708	97,240	97,775	98,312	98,853	99,397	99,944	100,493	101,046	101,602	102,160	102,722	103,287	103,855
Wiltshire	158,518	166,523	163,276	163,521	164,747	165,653	166,564	167,481	168,402	169,328	170,259	171,196	172,137	173,084	174,036	174,993	175,956	176,923	177,896	178,875	179,859	180,848	181,843	182,843	183,848
	1,312,220	1,378,386	1,351,548	1,353,573	1,363,711	1,371,201	1,378,732	1,386,305	1,393,920	1,401,576	1,409,275	1,417,016	1,424,799	1,432,625	1,440,494	1,448,407	1,456,363	1,464,363	1,472,407	1,480,495	1,488,627	1,496,804	1,505,027	1,513,294	1,521,607

C&I Waste Residual	2019 (Est)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Bournemouth, Christchurch and Poole	65,738	60,155	62,187	59,988	59,091	57,655	57,006	56,348	55,681	55,005	54,320	53,626	52,922	52,209	51,487	50,755	49,819	48,871	47,911	46,940	45,956	44,960	43,951	44,193	44,436	44,680
Devon County Council	100,019	91,525	94,616	91,271	89,905	87,721	86,734	85,732	84,718	83,689	82,647	81,590	80,520	79,435	78,336	77,223	75,799	74,356	72,896	71,418	69,921	68,405	66,871	67,239	67,609	67,980
Dorset	44,484	40,706	42,082	40,594	39,986	39,015	38,576	38,130	37,679	37,222	36,758	36,288	35,812	35,330	34,841	34,345	33,712	33,071	32,421	31,764	31,098	30,424	29,742	29,905	30,070	30,235
Hampshire County Council	237,373	217,215	224,553	216,613	213,372	208,188	205,844	203,469	201,060	198,619	196,145	193,638	191,098	188,523	185,915	183,272	179,892	176,470	173,004	169,496	165,943	162,346	158,704	159,577	160,455	161,337
Somerset County Council	73,113	66,904	69,164	66,719	65,721	64,124	63,402	62,670	61,928	61,177	60,415	59,642	58,860	58,067	57,263	56,449	55,408	54,354	53,287	52,206	51,112	50,004	48,882	49,151	49,422	49,693
Southampton City Council	38,200	34,956	36,137	34,859	34,338	33,504	33,126	32,744	32,356	31,964	31,565	31,162	30,753	30,339	29,919	29,494	28,950	28,399	27,841	27,277	26,705	26,126	25,540	25,681	25,822	25,964
Wiltshire	67,623	61,881	63,971	61,709	60,786	59,309	58,641	57,964	57,278	56,583	55,878	55,164	54,440	53,707	52,964	52,211	51,248	50,273	49,286	48,286	47,274	46,249	45,212	45,461	45,711	45,962
	626,551																									

C&I Waste Recycling	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
	61.0%	61.6%	62.2%	62.8%	64.0%	64.6%	65.2%	65.8%	66.4%	67.0%	67.6%	68.2%	68.8%	69.4%	70.0%										
	61.0%	61.3%	61.6%	61.9%	62.5%	63.0%	63.5%	64.0%	64.5%	65.0%	65.5%	66.0%	66.5%	67.0%	67.5%										
Selected	61.0%	61.6%	62.2%	62.8%	64.0%	64.6%	65.2%	65.8%	66.4%	67.0%	67.6%	68.2%	68.8%	69.4%	70.0%	70.7%	71.4%	72.1%	72.9%	73.6%	74.3%	75.0%	75.0%	75.0%	75.0%

TOTAL RESIDUAL C&I WASTE	464,734	480,434	463,447	456,513	445,422	440,407	435,324	430,171	424,949	419,656	414,292	408,856	403,348	397,767	392,113	384,882	377,560	370,145	362,638	355,037	347,341	339,550	341,418	343,296	345,184

NR10 Tolvik Approach on Modelling Future Residual Waste Reduction

Appendix NR10 - Tolvik Approach on Modelling Future Residual Waste Reduction

1. The Government Environmental Improvement Plan (EIP) target is to reduce residual waste **per capita** by half from 2019 levels by 2042.

2. When looking at per capita waste levels, the population of England on average is projected in period 2019 to 2042 to increase by 6% and more detailed regional projections suggest that increases in the south west are higher – with an effective increase of around 8%.

3. The target can be achieved through a mix of reducing waste generation per capita and recycling. Tolvik's modelling assumes 0.75% per annum reduction in Household Waste per person and that C&I Waste generation is 1% below GDP growth. These are in line with best achieved previous trends in England.

4. As can be seen from my paragraph 3.4.17 point ii) in my main proof, DEFRA's baseline for total residual waste in 2019 is 33.6 million tonnes (Mt), but the Tolvik figure (their definition of residual waste) is circa 23.6Mt in 2019. The Appeal Proposal would only treat Tolvik definition residual waste.

5. The DEFRA target relates to a range of different residual waste streams, not just Tolvik's definition of residual waste, as has been modelled. The target does not mean every stream will reduce equally by 50% and it must be right to apply 'practical' limits to recycling rates which will influence the most difficult mixed wastes (such as those under consideration in relation to the Appeal Proposal) – hence the maximum 75% recycling rate which has been applied the modelling. This figure aligns with that in the Second National Infrastructure Assessment produced by the National Infrastructure Commission released in October 2023. This states: *"These targets mean recycling rates will need to continue to improve beyond 2035. Meeting the 2042 target would represent a municipal recycling rate of around 75 per cent"* (refer to the Council's 'Outline Statement on Waste Need' (CD11.9) at paragraph 1.14).

6. Other residual wastes (outside of Tolvik's definition) include, for example, single stream, non-mixed wastes which are currently thermally treated. These are likely to be easier to recycle and could be subject to recycling rates in excess of 50%.

7. The effect of the maximum 75% recycling rate in the Tolvik model is a 41% reduction per capita from 2019 to 2042 as shown.

SCENARIO B - SUMMARY

LACW

	% in Catchment
Bournemouth, Christchurch and Poole	100%
Devon County Council	0%
Dorset	100%
Hampshire County Council	0%
Somerset County Council	0%
Southampton City Council	0%
Wiltshire	0%

2035 Local Authority Waste Recycling Rate for England: 55.0%

Halve Residual Waste by 2042 from 2019: Yes subject to a maximum recycling rate of 75.0%

C&I Waste

	% in Catchment
Bournemouth, Christchurch and Poole	100%
Devon County Council	100%
Dorset	100%
Hampshire County Council	50%
Somerset County Council	100%
Southampton City Council	100%
Wiltshire	100%

2035 C&I Waste Recycling Rate for England: 70.0%

Halve Residual Waste by 2042 from 2019: Yes

Subject to a maximum achievable Recycling Rate for LACW & C&I Waste: 75.0%

ktpa	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
TOTAL RESIDUAL LACW	189	186	184	181	178	176	174	172	170	167	165	163	161	152	143	135	126	117	109	100	100	161	160
TOTAL RESIDUAL C&I WASTE	463	457	445	440	435	430	425	420	414	409	403	398	392	385	378	370	363	355	347	340	341	343	345
TOTAL RESIDUAL WASTE	**652**	**643**	**629**	**621**	**614**	**606**	**599**	**591**	**584**	**576**	**569**	**561**	**553**	**537**	**521**	**505**	**489**	**472**	**456**	**440**	**441**	**504**	**506**
AVAILABLE EFW CAPACITY			261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261	261
CAPACITY GAP			**368**	**360**	**353**	**345**	**338**	**330**	**323**	**315**	**308**	**300**	**292**	**276**	**260**	**244**	**228**	**211**	**195**	**179**	**180**	**243**	**245**
Chineham			6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Marchwood			21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	-	-
Exeter			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Devonport			41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Bridgwater			109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
Northacre			85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85
			261	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**	**261**

Available EfW Capacity

ktpa	Total Capacity	Merchant	Comment
Chineham	95	6	Based on average over last 4 years - 25% for Catchment, 75% outside Catchment
Marchwood	200	21	Based on average over last 4 years
Exeter	59	0	Based on average over last 4 years
Devonport	256	41	Based on average over last 4 years - 50% for Catchment, 50% outside Catchment
Bridgwater	109	109	As per Northacre appeal
Northacre	243	85	130 Wilts LACW waste, 25% from Swindon
Capacity	**962**	**261**	

Marchwood Sensitivity: Yes

Marchwood EfW First Ops: 2004

Assumed Life: 40 years

Decommissioning date: 2044

LACW Available

Southampton City Council: 100%

	% of Hants Pop	
Basingstoke and Deane	13%	0%
East Hampshire	9%	0%
Eastleigh	10%	0%
Fareham	8%	0%
Gosport	6%	0%
Hart	7%	0%
Havant	9%	0%
New Forest	13%	100%
Rushmoor	7%	0%
Test Valley	9%	0%
Winchester	9%	0%
		13%

SCENARIO B - LACW

ACTUAL | **TOLVIK PROJECTED** | MAXIMUM RECYCLING LEVEL 75%

https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables

Local Authority Collected Waste Arisings	2013	2014	2015	2016	2017	2018	2019	2020	2021
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bournemouth, Christchurch and Poole	200,267	202,950	204,761	199,412	192,053	189,075	199,459	195,515	199,145
Devon County Council	380,789	387,143	375,761	378,759	372,539	372,804	372,064	379,574	386,110
Dorset	187,861	191,290	193,146	196,839	187,198	188,815	188,203	191,009	198,714
Hampshire County Council	654,453	660,209	658,270	654,906	624,889	627,441	623,031	602,632	614,163
Somerset County Council	251,608	260,122	264,526	264,554	260,652	258,881	260,668	264,976	271,604
Southampton City Council	108,374	110,474	112,485	109,513	103,684	101,303	99,452	100,345	102,612
Wiltshire	253,591	257,718	246,339	242,397	238,134	230,101	232,569	225,951	232,635

Local Authority Collected Waste Arisings	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Bournemouth, Christchurch and Poole	198,603	198,010	197,406	196,830	196,355	195,851	195,944	196,005	196,086	196,173	196,169	196,135	196,041	195,970	195,860	195,706	195,530	195,348	195,216	195,092	194,928	194,291	193,656
Devon County Council	393,656	394,943	396,100	397,151	398,250	399,200	401,385	403,418	405,435	407,361	409,145	410,810	412,353	414,050	415,618	417,088	418,503	419,838	421,198	422,472	423,566	422,142	420,725
Dorset	200,983	201,049	201,086	201,033	201,070	201,029	201,571	202,069	202,497	202,915	203,290	203,617	203,870	204,131	204,346	204,569	204,762	204,894	205,069	205,224	205,314	204,620	203,929
Hampshire County Council	620,321	619,383	618,231	616,880	615,684	614,246	614,966	615,551	616,129	616,606	617,018	617,324	617,566	617,932	618,139	618,342	618,501	618,596	618,811	618,914	618,879	616,696	614,522
Somerset County Council	276,349	276,895	277,266	277,531	277,895	278,177	279,391	280,485	281,549	282,584	283,582	284,525	285,386	286,225	286,990	287,730	288,402	289,018	289,642	290,195	290,637	289,566	288,498
Southampton City Council	102,425	102,006	101,680	101,319	101,016	100,737	100,742	100,746	100,780	100,829	100,833	100,788	100,738	100,851	100,939	100,987	100,985	100,994	101,008	101,009	100,989	100,749	100,512
Wiltshire	235,245	235,289	235,155	234,967	234,833	234,680	235,297	235,837	236,349	236,837	237,321	237,772	238,160	238,560	238,900	239,217	239,508	239,760	240,041	240,293	240,456	239,606	238,759

Local Authority Collected Waste Residual	2013	2014	2015	2016	2017	2018	2019	2020	2021
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bournemouth, Christchurch and Poole	113,655	104,089	104,369	101,568	94,760	93,683	94,958	97,753	107,009
Devon County Council	175,792	176,687	173,105	173,185	175,625	168,680	166,717	173,372	176,911
Dorset	89,362	89,877	83,655	83,137	78,069	80,236	82,459	79,042	83,229
Hampshire County Council	402,912	405,080	391,141	376,393	366,732	370,044	364,068	376,795	377,735
Somerset County Council	127,305	126,273	126,807	126,972	126,158	125,145	124,789	127,779	121,358
Southampton City Council	83,492	84,201	82,607	80,456	76,402	74,397	72,382	74,758	76,521
Wiltshire	150,967	151,688	145,372	142,695	136,902	124,270	126,799	128,247	130,085

Local Authority Collected Waste Residual	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Bournemouth, Christchurch and Poole	105,996	105,016	103,979	102,961	102,000	101,026	100,363	99,682	99,012	98,343	97,629	96,899	96,086	89,329	82,560	75,781	69,005	62,240	55,501	48,773	48,732	48,573	48,414
Devon County Council	177,370	175,174	172,670	170,103	167,541	164,900	162,746	160,498	158,212	155,861	153,428	150,923	148,108	142,260	136,316	130,293	124,208	118,056	111,869	105,618	105,892	105,536	105,181
Dorset	82,595	81,159	79,589	77,983	76,412	74,812	73,425	72,013	70,569	69,116	67,641	66,145	64,496	62,643	60,772	58,899	57,014	55,108	53,211	51,306	51,328	51,155	50,982
Hampshire County Council	378,313	374,782	370,887	366,884	362,987	358,962	356,200	353,354	350,498	347,579	344,619	341,595	338,288	316,523	294,656	272,772	250,856	228,906	206,988	185,022	185,011	184,359	183,709
Somerset County Council	121,322	119,567	117,564	115,511	113,494	111,439	109,745	107,986	106,199	104,385	102,540	100,661	98,568	94,957	91,301	87,615	83,890	80,131	76,357	72,549	72,659	72,391	72,125
Southampton City Council	75,047	73,514	71,954	70,379	68,853	67,350	66,042	64,732	63,441	62,158	60,848	59,507	58,065	55,131	52,179	49,201	46,197	43,199	40,201	37,199	37,191	37,103	37,015
Wiltshire	128,531	125,774	122,690	119,582	116,507	113,425	110,709	107,943	105,150	102,333	99,503	96,647	93,519	89,107	84,657	80,187	75,696	71,183	66,668	62,135	62,177	61,957	61,738

Local Authority Collected Waste Recycling	2013	2014	2015	2016	2017	2018	2019	2020	2021
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Bournemouth, Christchurch and Poole	43.2%	48.7%	49.0%	49.1%	50.7%	50.5%	52.4%	50.0%	46.3%
Devon County Council	53.8%	54.4%	53.9%	54.3%	52.9%	54.8%	55.2%	54.3%	54.2%
Dorset	52.4%	53.0%	56.7%	57.8%	58.3%	57.5%	56.2%	58.6%	58.1%
Hampshire County Council	38.4%	38.6%	40.6%	42.5%	41.3%	41.0%	41.6%	37.5%	38.5%
Somerset County Council	49.4%	51.5%	52.1%	52.0%	51.6%	51.7%	52.1%	51.8%	55.3%
Southampton City Council	23.0%	23.8%	26.6%	26.5%	26.3%	26.6%	27.2%	25.5%	25.4%
Wiltshire	40.5%	41.1%	41.0%	41.1%	42.5%	46.0%	45.5%	43.2%	44.1%

Local Authority Collected Waste Recycling	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Bournemouth, Christchurch and Poole	46.6%	47.0%	47.3%	47.7%	48.1%	48.4%	48.8%	49.1%	49.5%	49.9%	50.2%	50.6%	51.0%	54.4%	57.8%	61.3%	64.7%	68.1%	71.6%	75.0%	75.0%	75.0%	75.0%
Devon County Council	54.9%	55.6%	56.4%	57.2%	57.9%	58.7%	59.5%	60.2%	61.0%	61.7%	62.5%	63.3%	64.1%	65.6%	67.2%	68.8%	70.3%	71.9%	73.4%	75.0%	75.0%	75.0%	75.0%
Dorset	58.9%	59.6%	60.4%	61.2%	62.0%	62.8%	63.6%	64.4%	65.2%	65.9%	66.7%	67.5%	68.4%	69.3%	70.3%	71.2%	72.2%	73.1%	74.1%	75.0%	75.0%	75.0%	75.0%
Hampshire County Council	39.0%	39.5%	40.0%	40.5%	41.0%	41.6%	42.1%	42.6%	43.1%	43.6%	44.1%	44.7%	45.2%	48.8%	52.3%	55.9%	59.4%	63.0%	66.6%	70.1%	70.1%	70.1%	70.1%
Somerset County Council	56.1%	56.8%	57.6%	58.4%	59.2%	59.9%	60.7%	61.5%	62.3%	63.1%	63.8%	64.6%	65.5%	66.8%	68.2%	69.5%	70.9%	72.3%	73.6%	75.0%	75.0%	75.0%	75.0%
Southampton City Council	26.7%	27.9%	29.2%	30.5%	31.8%	33.1%	34.4%	35.7%	37.0%	38.4%	39.7%	41.0%	42.4%	45.3%	48.3%	51.3%	54.3%	57.2%	60.2%	63.2%	63.2%	63.2%	63.2%
Wiltshire	45.4%	46.5%	47.8%	49.1%	50.4%	51.7%	52.9%	54.2%	55.5%	56.8%	58.1%	59.4%	60.7%	62.6%	64.6%	66.5%	68.4%	70.3%	72.2%	74.1%	74.1%	74.1%	74.1%

TOTAL RESIDUAL LACW	203,017	193,966	188,024	184,705	172,829	173,919	177,417	176,795	190,238

TOTAL RESIDUAL LACW	188,592	186,175	183,568	180,944	178,412	175,839	173,788	171,695	169,581	167,459	165,269	163,044	160,582	151,972	143,332	134,680	126,019	117,348	108,712	100,079	100,061	99,728	99,396

Marchwood Sensitivity Yes

	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61,117	60,945

Local Authority Collected Waste 2035 Recycling	50%	55%
Bournemouth, Christchurch and Poole	49.3%	51.0%
Devon County Council	58.6%	64.1%
Dorset	62.7%	68.4%
Hampshire County Council	41.2%	45.2%
Somerset County Council	59.8%	65.5%
Southampton City Council	37.3%	42.4%
Wiltshire	55.7%	60.7%
England Average	50.00%	55.00%

SCENARIO B - C&I Waste

TOLVIK PROJECTED MAXIMUM RECYCLING LEVEL 75%

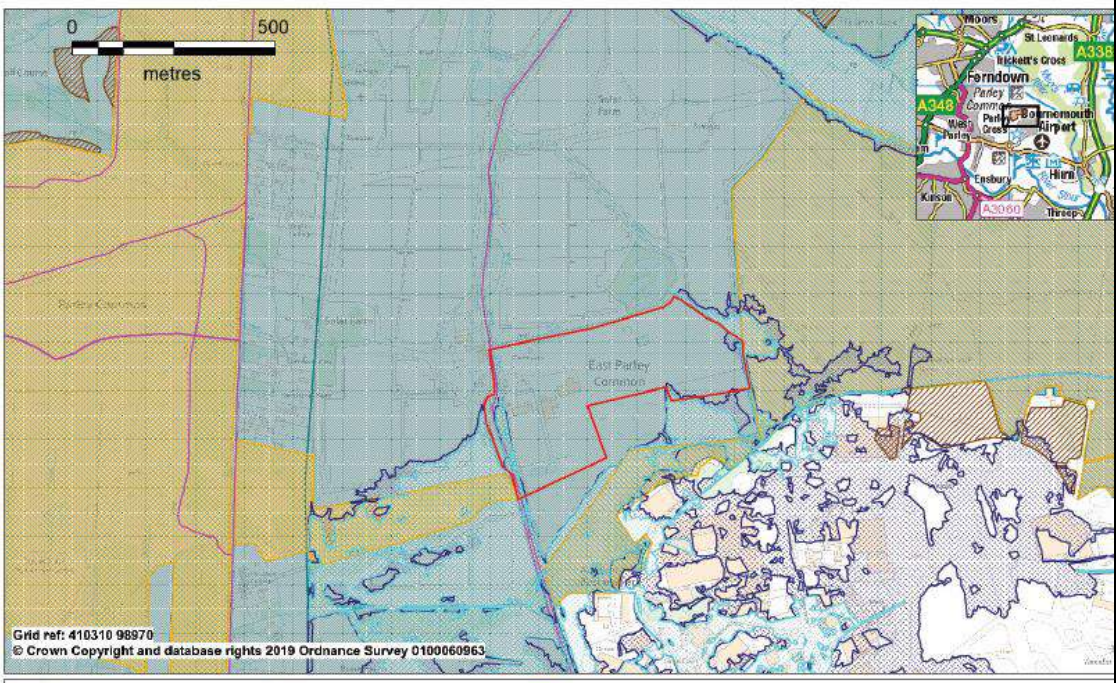
C&I Waste Arisings	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Bournemouth, Christchurch and Poole	154,098	161,879	158,723	158,961	160,153	161,034	161,920	162,810	163,706	164,606	165,511	166,422	167,337	168,257	169,183	170,113	171,049	171,990	172,936	173,887	174,843	175,805	176,772	177,744	178,722
Devon County Council	234,457	246,297	241,494	241,856	243,670	245,010	246,358	247,713	249,075	250,445	251,822	253,207	254,600	256,000	257,408	258,824	260,248	261,679	263,118	264,565	266,021	267,484	268,955	270,434	271,921
Dorset	104,277	109,543	107,407	107,568	108,375	108,971	109,570	110,173	110,779	111,388	112,001	112,617	113,236	113,859	114,485	115,115	115,748	116,384	117,024	117,668	118,315	118,966	119,620	120,278	120,940
Hampshire County Council	556,435	584,535	573,136	573,996	578,301	581,481	584,680	587,895	591,129	594,380	597,649	600,936	604,241	607,565	610,906	614,266	617,645	621,042	624,457	627,892	631,345	634,818	638,309	641,820	645,350
Somerset County Council	171,387	180,042	176,531	176,796	178,122	179,102	180,087	181,077	182,073	183,074	184,081	185,094	186,112	187,135	188,165	189,200	190,240	191,286	192,339	193,396	194,460	195,530	196,605	197,686	198,774
Southampton City Council	89,546	94,068	92,234	92,372	93,065	93,577	94,092	94,609	95,130	95,653	96,179	96,708	97,240	97,775	98,312	98,853	99,397	99,944	100,493	101,046	101,602	102,160	102,722	103,287	103,855
Wiltshire	158,518	166,523	163,276	163,521	164,747	165,653	166,564	167,481	168,402	169,328	170,259	171,196	172,137	173,084	174,036	174,993	175,956	176,923	177,896	178,875	179,859	180,848	181,843	182,843	183,848
	1,312,220	1,378,386	1,351,548	1,353,573	1,363,711	1,371,201	1,378,732	1,386,305	1,393,920	1,401,576	1,409,275	1,417,016	1,424,799	1,432,625	1,440,494	1,448,407	1,456,363	1,464,363	1,472,407	1,480,495	1,488,627	1,496,804	1,505,027	1,513,294	1,521,607

C&I Waste Residual	2019 (Est)	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Bournemouth, Christchurch and Poole	65,738	60,155	62,187	59,988	59,091	57,655	57,006	56,348	55,681	55,005	54,320	53,626	52,922	52,209	51,487	50,755	49,819	48,871	47,911	46,940	45,956	44,960	43,951	44,193	44,436	44,680
Devon County Council	100,019	91,525	94,616	91,271	89,905	87,721	86,734	85,732	84,718	83,689	82,647	81,590	80,520	79,435	78,336	77,223	75,799	74,356	72,896	71,418	69,921	68,405	66,871	67,239	67,609	67,980
Dorset	44,484	40,706	42,082	40,594	39,986	39,015	38,576	38,130	37,679	37,222	36,758	36,288	35,812	35,330	34,841	34,345	33,712	33,071	32,421	31,764	31,098	30,424	29,742	29,905	30,070	30,235
Hampshire County Council	237,373	217,215	224,553	216,613	213,372	208,188	205,844	203,469	201,060	198,619	196,145	193,638	191,098	188,523	185,915	183,272	179,892	176,470	173,004	169,496	165,943	162,346	158,704	159,577	160,455	161,337
Somerset County Council	73,113	66,904	69,164	66,719	65,721	64,124	63,402	62,670	61,928	61,177	60,415	59,642	58,860	58,067	57,263	56,449	55,408	54,354	53,287	52,206	51,112	50,004	48,882	49,151	49,422	49,693
Southampton City Council	38,200	34,956	36,137	34,859	34,338	33,504	33,126	32,744	32,356	31,964	31,565	31,162	30,753	30,339	29,919	29,494	28,950	28,399	27,841	27,277	26,705	26,126	25,540	25,681	25,822	25,964
Wiltshire	67,623	61,881	63,971	61,709	60,786	59,309	58,641	57,964	57,278	56,583	55,878	55,164	54,440	53,707	52,964	52,211	51,248	50,273	49,286	48,286	47,274	46,249	45,212	45,461	45,711	45,962
	626,551																									

C&I Waste Recycling	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
	61.0%	61.6%	62.2%	62.8%	64.0%	64.6%	65.2%	65.8%	66.4%	67.0%	67.6%	68.2%	68.8%	69.4%	70.0%										
	61.0%	61.3%	61.6%	61.9%	62.5%	63.0%	63.5%	64.0%	64.5%	65.0%	65.5%	66.0%	66.5%	67.0%	67.5%										
Selected	61.0%	61.6%	62.2%	62.8%	64.0%	64.6%	65.2%	65.8%	66.4%	67.0%	67.6%	68.2%	68.8%	69.4%	70.0%	70.7%	71.4%	72.1%	72.9%	73.6%	74.3%	75.0%	75.0%	75.0%	75.0%

TOTAL RESIDUAL C&I WASTE	464,734	480,434	463,447	456,513	445,422	440,407	435,324	430,171	424,949	419,656	414,292	408,856	403,348	397,767	392,113	384,882	377,560	370,145	362,638	355,037	347,341	339,550	341,418	343,296	345,184

Inset 7 - Eco Sustainable Solutions, Parley



Allocated Waste Site
Flood zone 3
Flood zone 2
Green Belt
Public right of way
Site of Nature Conservation Interest
SAC/SPA
SAC/SPA/Ramsar

Our Ref: 262701

29 September 2023

By email only:
gareth.ball@bcpcouncil.gov.uk
planning.poole@bcpcouncil.gov.uk

FAO Mr Gareth Ball
BCP Council – Planning
Civic Centre
Bourne Avenue
Bournemouth
BH2 6DY

Dear Mr Ball

APP/23/00822/F - PROPOSED CANFORD ENERGY FROM WASTE (EFW) FACILITY AND ASSOCIATED INFRASTRUCTURE AT CANFORD RESOURCE PARK, ARENA WAY, MAGNA RAOD WIMBORNE

We write on behalf of Powerfuel Portland Limited (PPL) to **object** to the above planning application.

As the Council may be aware, PPL has pursued a planning application for its own Energy Recovery Facility (ERF), on land at the Port of Portland, Dorset. This application (ref: WP/20/00692/DCC) was refused by Dorset Council and is now the subject of an appeal, which will follow the inquiry procedure and opens on 5th December 2023.

The Portland ERF proposal is on an allocated employment site, on brownfield land and which falls outside of the Green Belt. It is a waste recovery facility which can meet the need for which the Canford EfW scheme has been proposed. In fact it is more appropriately scaled to meet local need and can do so without causing any harm to the Green Belt and significantly less other harm. Further, it would deliver greater overall benefits associated with its unique location. As such, it is a material planning consideration in your authority's determination of the Canford EfW scheme.

Accordingly, we request that full regard be given to the contents of this letter of objection, which we believe demonstrates that the Canford EfW facility application should be refused on its own terms.

Further, determination of the application should be deferred until the outcome of the Portland ERF appeal is known (the Inspectorate's target decision date is 26th January 2024), as in the event the appeal is allowed, which we strongly believe will be the case, the Canford scheme must fail to demonstrate very special circumstances and breach Waste Local Policy 21, as an alternative, suitable non-Green Belt site will have been proven to exist.

Our objection covers a number of areas and all subsequent points have been numbered for ease of future reference.

The Dorset Waste Plan Allocation and the Correct Application of Green Belt Policy

1. The Dorset Waste Plan (DWP) Policy 3 allocates a number of sites for waste management including for intensification and re-development. These include for facilities for the management of non-hazardous waste. One such allocation is Land at Canford Magna, Magna Road, Poole (i.e. land which includes part of the Canford EfW facility). The site is identified as Inset 8 and any development must meet (all) four criteria in Policy 3 which comprise:

    a. Compliance with other relevant DWP policies.
    b. Satisfactorily addressing the relevant 'Development Considerations' as set out in the site specific Inset 8.
    c. Causing no unacceptable cumulative impacts.
    d. Not adversely affecting the integrity of European designated habitats.

2. The 'Development Considerations' in Inset 8 relevant to the Canford site include:

    a. Given the site's location within the South-East Dorset Green Belt, applications will be considered against national policy and DWP Policy 21. An EfW plant is by definition inappropriate development (DWP paragraph 12.105).
    b. The provision of sufficient information to enable Habitats Regulations Assessment (HRA) screening and if necessary appropriate assessment, to inform an assessment of effects, include studies that demonstrate that any emissions from development will not impact on the features (species and habitats including lichens and bryophytes) of the nearby European Sites.
    c. The retention of existing vegetation to reduce visual impacts.

3. Inset 8 recognises the existing waste facilities in the overall allocation, including the partly constructed Low Carbon Energy Facility. In this context it then identifies that the 'Potential Additional Capacity' of the site has been assessed for circa 25,000 tpa of additional capacity (exact capacity considered on an individual proposal basis). Finally, it identifies the allocation site as comprising previously developed land (PDL).

4. As a general point of principle, waste site allocations such as the above in Green Belt, require considerable caution. Whilst they are an allocation, that allocation itself (and in this case Policy 21 as well) necessitates that applications still have to prove that very special circumstances (VSCs) exist in order for permission to be granted. Further, that a key consideration in establishing VSCs is the absence of being able to meet the need for the development on an alternative suitable non-Green Belt site. In this case Policy 21 specifically requires absence of non-Green Belt alternatives to be proven. Such Green Belt waste site allocations are by no means unique within England and have resulted in a number of high profile planning cases / failures.[1]

[1] For example in the Surrey Waste Plan where Green Belt allocations at Capel and at Trumps Farm failed to deliver successful EfW permissions, despite planning applications; and in the Hertfordshire Waste Site Allocations Local Plan where the Secretary of State called-in and refused the New Barnfield EfW proposal on an allocated site in the Green Belt.

5. Thus, national Green Belt policy is judged to be the key planning consideration for the Canford scheme. The applicant for the Canford scheme has significantly misunderstood the correct interpretation and application of national Green Belt policy.

6. The first question is whether a specific development is appropriate or inappropriate development. All new buildings within the Green Belt are by definition inappropriate development unless comprising a building(s) listed in NPPF paragraph 149 a) to g). An EfW facility does not fall within the list. The only caveat is whether the EfW facility complies with part g) of paragraph 149 which considers a building appropriate where it is:
"limited infilling or the partial or complete redevelopment of previously developed land, whether redundant or in continuing use (excluding temporary buildings), which would:
– not have a greater impact on the openness of the Green Belt than the existing development; …."

7. The applicant, in its Planning Statement (PS) paragraph 8.2.2, identifies the site as currently occupied by an 800m^2 building (circa 37m by 22m) which is 13.4m height with a 35m high chimney. This development is associated with the aforementioned partly constructed Low Carbon Energy Facility. The applicant describes how this would be demolished as part of the scheme and then postulates that their new EfW facility with a buildings footprint of 11,816m^2, with the main building being 162m by 62m and having a roof height of up to 50m,[2] together with a 110m high stack; might somehow be appropriate development by virtue of NPPF paragraph 149 g). Such a claim is hopeless and a misinterpretation of national and DWP policy. As explained below, the proposal is very significantly larger and has a much greater impact on openness than the existing development and does not fall within paragraph 149(g) of the NPPF.

8. PPL estimate that the Canford EfW facility has a building volume in excess of **42 times** the Low Carbon Energy Facility building which would be demolished (~452,000m^3 compared to 10,720m^3).

9. There is no merit in the applicant's argument (PS paragraph 8.2.2) that account should be taken of the unimplemented portion of the Low Carbon Energy Facility development, as quite plainly, for the purposes of NPPF paragraph 149 g), it is not ***'existing development'***. Further:

    a. It relates to a planning permission dating back to 2013 for a failed development (technology failure), of which there is no prospect whatsoever of it ever being built out.
    b. Even if it had been fully built out, the built volume of the proposed Canford EfW would be over **6.5 times** greater than that of the entire Low Carbon Energy Facility development.
    c. All such considerations completely ignore the proposed 2,700m^2 grid connection compound (77m by 47m), and its associated built development, which is not on previously developed land; and thus to which NPPF paragraph 149 g) has no relevance. We return to this component of the scheme (which does not fall within the DWP allocation) subsequently.

[2] See ES paragraphs 3.4.4 & 3.4.6

10. Turning to 'openness', with which the applicant struggles to grapple, as *set out in paragraph 137 of the NPPF, the fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The courts have determined that: "Openness is the counterpart of urban sprawl and is also linked to the purposes to be served by the Green Belt."* [3]

11. It is well established (and set out in the Planning Practice Guidance (PPG) and determined by the courts) that: *"openness is capable of having both spatial and visual aspects – in other words, the visual impact of the proposal may be relevant, as could its volume…"* [4] PPG further indicates duration of development and degrees of activity can feed into considerations around openness, however, these are still matters that relate either to spatial openness or visual openness. The spatial dimension relates to keeping land open and free from development. As PPG states, volume [of development] is relevant. The visual aspects encompass a perceptual dimension i.e. it is relevant to consider how a development may affect the perceived openness of the Green Belt.

12. Taken very briefly, the Canford EfW facility adds a building in the Green Belt circa **42 times** the volume of the building to be demolished. As a matter of fact, impact on the spatial openness of this part of the Green Belt would be harmed to a far greater degree than is the case with the existing development.[5]

13. In terms of the visual dimension, by reference to the application photomontages (extracts reproduced below), a very large and visible building plus its 110m high stack (with aviation warning light) would be introduced into the Green Belt. There would undoubtedly be a very real and evident reduction in the perceived openness of this part of the Green Belt i.e. there would be a far greater perception of built development.

Viewpoint 2 - View south-west from footway along southern edge of the A341 - Magna Road

[3] Lord Carnwath *paragraph 22 in R (Samuel Smith Old Brewery (Tadcaster) and others) v North Yorkshire County Council [2020] UKSC3*
[4] Planning Practice Guidance: Paragraph: 001 Reference ID: 64-001-20190722
[5] It is completely opaque to what sort of spatial dimension the applicant is referring to in PS paragraph 8.2.6.

Viewpoint 10 – View north east from Bridleway 23 within Open Access Land at Canford Heath

Viewpoint 12 – View east view from Footpath 5 at Corfe Hills

14. It is indisputable therefore, notwithstanding the applicant's claims to the contrary, that the Canford EfW facility would be **inappropriate** development for the purposes of Green Belt policy. It lacks any credibility that they have claimed otherwise. Thus, in such circumstances, NPPF paragraphs 147 and 148 apply. The former recognises that inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances. Paragraph 148 is reproduced below in order to highlight the applicant's misunderstanding of the policy requirement.

    "When considering any planning application, local planning authorities should ensure that substantial weight is given to any harm to the Green Belt. 'Very special circumstances' will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm resulting from the proposal, is clearly outweighed by other considerations".

15. The applicant's misunderstanding is encapsulated in two paragraphs of their PS.

    a. 8.2.14: *"Based on the above, if there is harm to openness, its weight is relatively slight"*.

    b. 8.2.61: *"VSC conclusion - Overall, there are a number of strong Very Special Circumstances supporting the Proposed Development. The strength of these*

outweighs the weight that might be attached to the harm to the Green Belt that might be created by the Proposed Development".

16. With regard to the former, NPPF paragraph 148 dictates that the starting point for any harm to the Green Belt is that it be given **substantial** weight. The applicant is simply wrong in asserting it can be given any lesser weight. Moreover, given the points made above with regard to the significant increase in scale of the proposal over the existing development, the harm by reason of inappropriateness alone (apart from other issues) should carry substantial weight against the grant of permission.

17. With regard to their paragraph 8.2.61, the applicant has made numerous errors. Very special circumstances (VSCs) are not individual planning considerations which weigh in favour of inappropriate development. VSC are what exist if the harm to the Green Belt (by virtue of inappropriateness), and any other harm it causes, are clearly outweighed by other considerations. Hence, their conclusion of VSCs outweighing Green Belt harm, is non-sensical and addresses the wrong test.

18. What national Green Belt policy actually requires is that the totality of the harm to the Green Belt is properly established and given substantial weight (as a minimum). Then any other harm arising from the proposal is added to the weighing exercise against the scheme. Only then is the totality of this harm weighed against considerations which fall in favour of the scheme. VSCs will only be established if the considerations in favour of the scheme **clearly** outweigh the totality of the harm (NPPF para. 148). This is not an "on balance" assessment.

19. The term 'any other harm', in paragraph 148 of the NPPF, was explained in *Redhill Aerodrome Ltd v Secretary of State for Communities and Local Government* [2015] J.P.L. 416. In this case the Court of Appeal held that the words "any other harm" in the Framework were unqualified and that all other considerations (which by definition would be non-Green Belt factors) must be included in the weighing exercise (irrespective of whether they are determinative in their own right or not).

20. The Canford EfW application, as submitted, contains no assessment of the proposal against the proper requirements of national Green Belt policy, as is required by DWP Policy 3.

Harm to the Green Belt

21. The first element of assessing Green Belt harm is understanding whether the area of Green Belt in question has particular sensitivities or pressures, noting that whilst any harm to any part of the Green Belt through inappropriate development must be given substantial weight (as a minimum), the weighting can increase in sensitive locations.

22. The Green Belt defined in the Poole Local Plan (November 2018) was informed by and assessed in the Poole Green Belt Review (July 2017). In a manner very similar to documents of this type prepared across the country, it divides the authority's Green Belt into individual parcels and scores each against set criteria. The Review adopts three scoring criteria as follows, which effectively establish the importance of each parcel in Green Belt terms:

a. The 'openness' of the parcel – ranked high, medium, low and none.
b. The 'permanence' of the parcel – again ranked high, medium, low and none.
c. Its contribution to the first four Green Belt purposes (as per NPPF paragraph 138) – again ranked high, medium, low and none, with each scored 3, 2, 1 or 0, respectively.

23. The authority's Green Belt was divided into 18 parcels, of these only 4 were of any relevance to the fourth Green Belt purpose (preserving the setting and special character of historic towns). Thus, the maximum score any of the remaining 14 Green Belt parcels could score would be: high for openness; high for permanence; and 9 out of 9 for contribution to purposes.

24. The Canford EfW application site is located almost centrally within Parcel 16 – titled 'Tract of land to south of A341 Magna Road between Merley and Bearwood'. The Parcel scores:

- Openness – **High**
- Permanence – **High**
- Contribution to purposes:
  - Purpose a) To check unrestricted sprawl of large built up areas: 3
  - Purpose b) To prevent neighbouring towns merging: 2
  - Purpose c) To safeguard the countryside from encroachment: 3
  - Total: **8 out of 9**

25. Thus, it can be seen the Green Belt Parcel within which the Canford EfW proposal is located, almost achieves the highest possible score. In overall terms, it scores 4th highest of all 18 of the Parcels, and is one of only 5 Parcels where there is no potential to change the Green Belt boundary without harming the overall role and purpose of the South East Dorset Green Belt (see pages 110-111 of the Review).

26. In the DWP process, the Canford site was not considered in terms of a non-Green Belt alternative at the Port of Portland, which was not advanced as a site in the plan process. However, it is of considerable relevance (set against a lengthy history of the Canford allocation which has yet to deliver significant residual waste management facilities[6]) that a non-Green Belt alternative has now emerged and will be considered at appeal before the end of the year.

27. In conclusion, and based upon the Review's assessment of Parcel 16, the Canford proposal is located in an important and sensitive area of Green Belt which sits between Bearwood and Merley, the former forming part of the large built-up area which sits at the eastern boundary of the Parcel. The Parcel is predominantly open, bar the collection of industrial buildings associated with the existing waste facility which introduce built form and act as an urbanising influence. The Parcel has particular importance for the first purpose, preventing urban sprawl of a large built-up area. It has medium importance in maintaining the physical gap between Bearwood and Merley and high importance in

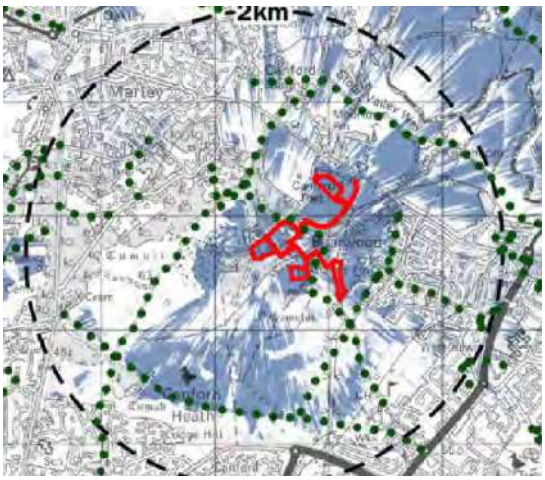
[6] As opposed to smaller scale intermediate treatment facilities or transfer stations etc.

terms of safeguarding the countryside from encroachment by virtue of appearing predominantly open and rural in character. [7]

28. A very important characteristic of the area is that whilst it contains the current waste facilities, they are limited in height (buildings below 13.5m) and very well screened by existing woodland and topography, to the extent that many people would not know of their presence. Moving around the area there is a strong perception of a lack of development and sense of openness. This is a key characteristic which contributes towards giving this particular Parcel its importance compared to other parts of Poole's Green Belt.

29. The spatial harm to the Green Belt through the introduction of the Canford EfW with buildings with a significantly increased built form and with a footprint of 11,816m^2, although only partially / marginally mitigated by the site being PDL and the demolition of the existing 800m^2 existing building. However, the 2,700m^2 grid connection compound would not be on PDL and would include a range of built elements causing further spatial harm to the Green Belt. Overall, there would be significant spatial harm.

30. However, the perceived, visual harm to openness would be far greater. The Canford EfW, with the main building at up to 50m in height, a vast volumetric mass and 110m high stack, would give rise to a significant incremental change in the perception of the openness of the Green Belt Parcel. It would extend prominently above the woodland and raised ground which encapsulate the current waste facilities. The submitted ZTV of the EfW building itself - ES Figure 12.9 shows that the building would visible across the majority of the entire stretch of Green Belt between Bearwood and Merley (see extract below).



[7] It is notable that the subsequent BCP Council & Dorset Council Strategic Green Belt Study Stage 1 (LUC December 2020), which whilst not yet tested at a Plan examination, confirms the sensitivity of the Green Belt where the Canford site is located. It places it in a Parcel referenced OA31 (which has a different area to Pacel 16 of the Poole study). The Parcels, including OA31, are again scored against the Green Belt purposes, but on a 5 point scale. OA31 is scored in the second highest category (of 5) on Green Belt purposes 1 and 2; and the absolute highest category in relation to purpose 3.

31. The above ZTV and the submitted Photomontages (3 of which have been reproduced as extracts previously) show that:

    a. The EfW would be clearly visible from all points of the compass and particularly so from the north, north-east, south-west and the west.
    b. From viewpoints (VPs) 2, 5 and 6 it would be viewed breaking the horizon and against the sky.
    c. From VPs 10 and 12 it would actually sit on the horizon and be entirely sky lined.
    d. In none of the Photomontages is there any clear view of the existing waste management buildings at Canford, providing confirmation that these existing facilities, due to their limited height, mass and scale, are screened as a result of existing woodland and topography and as such their perceived impacts on the Green Belt is limited.

32. By contrast, due to its size, the Canford EfW would result in very significant harm to the visual / perceived openness of the Green Belt.

33. The facility, together with its grid connection compound, would give a perception of urban sprawl from the large built-up area lying close by to the east, harming the first Green Belt purpose. Whilst, a gap would still be retained between Bearwood and Merley, the overall scale of development would give a degree of perception of erosion of that gap. With regard to the third purpose, there would be a real perception of encroachment into the countryside.

34. In conclusion, the Canford EfW would significantly adversely affect both the spatial and visual openness of the Green Belt, very significantly in the case of the later; and cause harm in relation to the first three Green Belt purposes. Given the importance of this area of Green Belt (as confirmed by the Green Belt Review), the overall harm caused to the Green Belt should, in our judgement, be afforded very substantial weight.

Any Other Harm

35. **Landscape and Visual Effects:** We have not undertaken a complete review of the landscape and visual effects of the Canford EFW and will reserve our position to do so. The applicant's own assessment finds permanent significant visual impacts from 4 of the 14 VPs (see ES paragraph 12.12.4). Thus, some significant adverse visual effects weigh against the scheme.

36. However, even an initial review of the submitted landscape and visual impact assessment (LVIA) highlight some significant concerns about the approach and judgment / statements which are made. By way of example:

    a. The visual effects for VP 12 (see Photomontage extract reproduced previously) are described in the assessment tables (ES Appendix 12.2) as being of a **low** magnitude of effect resulting in no significant impact. The assessment states: *"It is anticipated that the top of the building and the chimney will be identifiable in the view, against the existing horizon"*. It would be fair to say that this statement hugely understates the effects of seeing a 50m high EfW perched on the horizon.

b. VP 6 (see the Photomontage extract reproduced below) has a **very high** receptor sensitivity. However, the magnitude of effect is assessed as **very low** which is the only way the assessor could again avoid concluding a significant effect. In determining the magnitude of change, the assessment states that: *"A Photomontage of this location is included within Technical Appendix 12.1, Appendix EDP 4. It is anticipated that the building may be identifiable in the distance, however the roofline does not break the horizon over the Heath behind, the chimney may be identifiable against the skyline"*. The assessment is plainly wrong as the EfW is more than 'identifiable' and the roof line plainly sits way above the skyline.

Viewpoint 6 - View south-west from Footpath 3/Ferndown, Stour and Forest Trail Long Distance Route

c. A sense of the local landscape character and the effects of the proposal on it, can be gained from the Photomontages reproduced in this letter. The LVIA describes the relevant character area within which the proposal sits ('Heathland / Farmland Mosaic') as only being of **Medium** sensitivity and the development only have a **Medium** magnitude of effect, once again avoiding a significant impact. Given the scale of the scheme and its stark appearance in a landscape which has areas of high landscape quality, PPL disputes this judgement.

37. PPL's initial review of the submitted LVIA shows it lacks credibility in a number of areas. It is strongly recommended that the Council procures an independent detailed peer critical review of the work by Landscape Architecture professionals.

38. Even by the applicant's own LVIA, significant adverse, permanent effects would occur. PPL believe the actual level of adverse impact which would occur has been materially understated. It is critical that the correct level of adverse impact is determined and applied in the context of harm and specifically in the context of Green Belt and the consideration of 'any other harm' and the balancing exercise which must be undertaken.

39. **Heritage:** ES Chapter 10 (10.10 Summary) finds that the Canford EfW facility would result in a change to the setting of 3 Scheduled Monuments, all of which are Barrows lying to the south / south-west of the site. The effects are described in the ES chapter as minor adverse resulting in less than substantial harm (in NPPF terms). No other harm to any other heritage assets is referenced.

40. The ES Chapter itself lacks much detail and defers to ES Appendix 10.1 for the fuller assessment. This identifies (paragraphs 6.3.52 and 6.3.53) that the Photomontage for VP 10 (reproduced above) represents a view from the most distant of the 3 Scheduled Barrows. It identifies that: *"The open expanse of the landscape would have contributed to the setting of the barrows and continues to do so"* and that: *"the undeveloped nature and open character of their setting does positively contribute to their significance"*. It then finds: *"The Proposed Development would be highly visible and legible in the setting of the Scheduled barrows to the south and south. Whilst the sense of openness would remain until the Proposed Development is seen from particular locations and angles, it will be legible as much more than an individual tall element in the widest setting of the monuments"*. Paragraph 6.3.54 then simply dismisses the effect as being minor and at the lower end of less than substantial harm, without any justification for such a finding.

41. Notably, VP 10 is one of the 4 VPs from where significant visual effects were predicted. It is difficult to reconcile how the visual effects and acknowledged change to the setting result in an effect on a Scheduled Monument at this location at the lower end of less than substantial harm.

42. No assessment is provided in relation to the 2 Barrows (both also Scheduled Monuments) which are actually located much less than half the distance from the EfW facility than the Barrow at VP 10. On the assumption that any harm attributed to these closer Scheduled Monuments would be at least equal, and very possibly greater than, the assessment provided for the more distanced Scheduled Monument, PPL believe this needs further attention and consideration.

43. Once again, on the applicant's own assessment, material harm would occur in relation to 3 Scheduled Monuments. It appears highly likely, based on the foregoing, that such harm has been underplayed. It is recommended the Council undertakes its own review of the harm to the setting of all 3 Scheduled Barrows. Irrespective, harm would occur that needs to be carried through to the overall Green Belt policy balancing exercise.

44. **Ecology:** The submitted Shadow Habitat Regulations Assessment (SHRA) identifies potential harm arising from exceedances of relevant acid deposition thresholds which are predicted for woodland / bog / grassland / heathland habitats within the Dorset Heaths SAC / SPA / Ramsar site. This harm would occur with a proposed stack height of 110m and is dependent on the Environmental Agency agreeing to an ELV of 5mg/Nm-3 for ammonia; both of which are specific mitigation measures in relation to these habitats. The SHRA states that (paragraph 5.44): *"when a habitat's critical load is already exceeded, scope for further small increments is necessarily limited. In addition, NE's information on monitored features on units of the SAC shows that Annex I habitats depressions on peat substrates of the Rhynchosporion, European dry heaths and Northern Atlantic wet heaths to be in an unfavourable condition on most of the SSSI parcels covered by the relevant 1% Critical Load contours. This may limit their capacity to withstand additional small increases potentially caused by the Proposed Development"*.

45. A further mitigation package (in addition to a stack height of 110m and an ELV of 5mg/Nm-3 for ammonia) is proposed to address the effects of the harm on the Dorset Heaths SAC / SPA / Ramsar site in the form of a financial contribution towards

monitoring and management of the designated site by Natural England (NE) to be delivered via:

- A Biodiversity Enhancement Contribution and Trickle Fund; and
- A Monitoring and Supportive Management Plan.

46. The Biodiversity Enhancement Contribution is proposed to be paid by the applicant prior to commencement of their development, in addition to an annual Trickle Fund to be paid during the lifetime of the proposal. These funds would be used by the planning authority for the appropriate management of habitats within the SAC aiming to reduce and/or prevent potential effects from acid deposition and would be secured through a section 106 agreement. This agreement would also include preparation of a Monitoring and Supportive Management Plan, which would set out a schedule of future soil sampling and bryophyte and lichen monitoring surveys and action to be taken should this monitoring indicate deterioration of the habitats.

47. The provision of the Biodiversity Enhancement Contribution is an acknowledgement that the Canford proposal would cause harm to the designated site.

48. To address the in-combination effects of their proposal, the applicant is reliant on the Eco Sustainable Solutions (ESS) ERF scheme providing its own mitigation (in the form of a monitoring and supportive management plan alongside financial contributions), agreed with NE and controlled by a section 106 agreement. The SHRA states that it is assumed and understood that this mitigation would be provided.

49. There is no indication that the applicant has any understanding of the mitigation measures proposed by the ESS ERF scheme and whether these would be sufficient to fully mitigate the impacts of the in-combination effects. The SHRA is also silent on whether any mitigation is required to address the impacts of the contribution from the Whittle Power Facility.

50. The conclusion of no adverse effects on integrity (harm) from the project alone and in-combination is based on the implementation of unquantified levels of mitigation required not only by the applicant but also a third-party (ESS). The legal requirements of the Habitats Regulations are well-established (see e.g. *R (Champion) v North Norfolk DC* [2015] 1 WLR 3710 and *R (Wyatt) v Fareham BC* [2022] JPL 1509). As the CJEU formulated the test (accepted by Lord Carnwath in *Champion* at [14]) in *Sweetman v An Bord Pleanala* (Case C-258/11) [2014] PTSR 1092 at [40]:

    "Authorisation for a plan or project, as referred to in article 6(3) of the Habitats Directive, may therefore be given only on condition that the competent authorities once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field are certain that the plan or project will not have lasting adverse effects on the integrity of that site. That is so where no reasonable scientific doubt remains as to the absence of such effects."

51. Adopting the precautionary approach, which is applicable in such circumstances, the applicant has not demonstrated that the acknowledged harm would be fully mitigated and therefore doubt remains and the application fails the legal test and must be refused.

52. **Airfield:** At present the Canford application is subject an objection from Bournemouth Airport. At the EIA Scoping stage, the Council wrote the following response to the applicant:

"The Applicant's specialist safeguarding consultant contacted their counterpart at Bournemouth Airport and commented that if the proposed development would not penetrate any safeguarded surfaces, then there would be no requirement for an Instrument Flight Procedure (IFP) check to be undertaken. IFP design relates to route planning for aircraft and is a complicated, technical and highly regulated process. The Airport's representative carried out a brief initial assessment in this regard which indicated that there would be no effect on some relevant surface, approach and departure area considerations. However, it also identified a significant penetration of the Airport's "Type A" surface. The "Type A" surface describes parameters which enable an aircraft operator to comply with the relevant International Civil Aviation Organisation (ICAO) limitations. The responsibilities of the ICAO include establishing the requirements that exist internationally for aviation safety. These limitations are intended to ensure that for each flight, accurate take-off performance calculations are made and, in the event of an engine failure, an aircraft can either abandon the take-off run and stop safely or become airborne and clear obstacles by the required margins. Such assessments are not generic. Rather, they are unique to the aircraft type being used by the individual airline at the specific setting, so any one airline may have different assessments against the same obstacle environment. The Applicant's consultant was therefore advised that an in-depth IFP assessment would be required to support an application. This would be needed in addition to provision of other relevant details, including for example in relation to risk of bird strike.

If the Applicant's IFP assessment identifies any performance impacts in relation to current arrangements, then this is very highly unlikely to be acceptable to the Airport and the airlines operating from it as it may (for example) demand reduced payloads or changes in the type of aircraft operating. Any changes to IFPs to accommodate the scheme would also be unacceptable. Even if an alternative could be identified it would have to be agreeable to the airlines and acceptable in terms of the altered impacts on local people from modified flight paths, and even then, go through a full redesign and approval process which would be expected to take a period of years. In essence, any impact from the proposed development in this regard is unlikely to be acceptable. The Airport represents infrastructure of considerable economic importance to the BCP area and wider sub-region. It was impacted heavily by the pandemic and any threat to its recovery from that will be strongly opposed. In this context any planning application for a facility of the nature anticipated at Canford will be subject to very careful scrutiny".

53. The ES for the current application does not cover aviation safeguarding in any way. Instead, the submitted Planning Statement contains a brief Aviation Impact Assessment as Appendix 3. This sets out, as advised at the Scoping stage, that the top of the EfW stack would sit just less than 5m below the Outer Horizontal Surface and the Approach Surface. However, no IFP assessment was undertaken, despite the explicit request to do so in the Scoping Opinion. In this regard the submitted ES does not comply with Regulation 18(4)(a) of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

54. Whilst it will ultimately be a matter for Bournemouth Airport to determine whether it maintains its objection or is ultimately content that it could co-exist with the EfW facility, a degree of harm is considered likely and the Council should weigh this in the balance.[8]

55. **Compliance with the Allocation:** The DWP Inset 8 covers the Canford Magna site allocation and describes how there are opportunities to intensify waste management uses to manage larger quantities of waste and provide the ability to manage waste further up the waste hierarchy, within the existing site (6.08ha) and on land to the west, referred to as the 'Extension' comprising 0.66ha of land. Under the heading 'Potential additional capacity', it states that the: *"Site has been assessed for circa 25,000tpa of additional capacity for residual waste management"*.

56. As stated in our point 2 previously, the allocation is subject to 'Development Considerations' including compliance with DWP Policy 21, HRA assessment and retention of existing vegetation to reduce visual impacts.

57. The proposed Canford EfW, at 260,000 tpa, would be over **10 times** the capacity assessed in making the allocation. The EfW building would be over 35.5m taller than the existing buildings on the site and the new stack 75m taller and significantly wider than the existing stack on site. At such a scale, the existing vegetation, retained or otherwise, would play no role whatsoever in reducing the visual impacts of the upper half of the development.

58. In addition, the proposal includes the creation of a single track permanent road through open countryside and outside of the allocation, terminating in the point of grid connection circa 700m to the south east of the main EfW building. The grid connection requires a permanent 2,700m^2 compound, again in open countryside and outside of the allocation, surrounded by a 2.4m high metal palisade fence and containing a variety of electrical equipment, two 29m high masts and a new building with a circa 33m^2 footprint.

59. The Canford application contains no structured alternative site assessment such that the lack of suitable non-Green Belt sites can be discounted and thus is judged to be in conflict with DWP Policy 21. In respect of the Portland ERF, it simply relies upon the decision of Dorset Council's planning committee to refuse the application and dismisses it on that premise. However, that application is now subject to a planning appeal and as such remains a live application and entirely capable (indeed considered likely) of being granted planning permission.

60. The Canford proposal is clearly at odds with the scale of development considered to be potentially acceptable in making the allocation and, for the reasons stated previously, does not comply with the allocations 'Development Considerations'; and therefore fails

[8] As considered by the Inspector in another Green Belt case where the Warren Farm Motorway Service Area (MSA) resulted in non-determinative harm to Denham Airport, a general aviation aerodrome. At para 63 of the decision (APP/X0415/W/21/3272171) the Inspector stated: *"Therefore, the existence of the airport would be unlikely to be prejudiced or its overall economic value in serving business, leisure, and training needs reduced, as referred to in paragraph 106 of the Framework. Moreover, the MSA would not place unreasonable restrictions on the airport. Furthermore, I do not see the increase in risk being of a magnitude which would be sufficient, in itself, to justify dismissing the appeal. But it is an issue that should be attributed some harm in the overall planning balance".*

to meet the required criteria in DWP Policy 3. Thus, any such comforts the scheme could glean from an allocation in the Green Belt, which we suggest are precious few, fall away.

Considerations Weighing in Favour of the Canford Proposal

61. The claimed benefits of the Canford EfW facility proposal are listed under the (incorrect) heading 'Very Special Circumstances' on page 101 in the submitted Planning Statement (PS). Each is considered below, adopting the applicant's headings.

62. ***Fighting Climate Change:*** PS paragraph 8.2.18 states: *"As ES Chapter 7: Climate Change and Greenhouse Gases concludes, the Proposed Development will have a net effect of reducing GHG emissions associated with waste management"*. This is then afforded great (positive) weight.

63. In fact the actual conclusions of ES Chapter 7 say nothing of the sort. Minor adverse effects are predicted during construction, but for the more important operational phase paragraph 7.7.72 and 7.7.3 reads:

    "With implementation of the further mitigation measures, excepting CCUS, the Proposed Development's residual effects have the potential to be reduced to ***minor adverse*** *and not significant in the short term. In the longer term, considering the necessary decarbonisation trajectory for the UK to 2050, the residual effect of the Proposed Development is likely to remain* ***moderate adverse and significant****.*

    When compared to the Proposed Development and evaluated on the same basis, the business-as-usual future baseline would also be considered to be causing moderate adverse or greater effects. In this comparison, there would therefore be little or no material net change in environmental effects in the with-development scenario compared to the do-nothing future baseline scenario. While a non-significant or beneficial residual effect of the Proposed Development cannot be concluded under the methodology and effect definitions set out in paragraph 7.2.33, the likely significant adverse effects also occurring in the baseline scenario should be borne in mind".

64. It appears that the author of this part of the PS has not read ES Chapter 7 and the conclusion that significant adverse climate change effects would occur. Thus, when taken on the basis of its own assessment, the Canford proposal offers no benefits in terms of fighting climate change.[9]

65. We do note that the applicant has a second stab at dealing with climate change in PS sub-section 9.4, but even this only gets as far stating the scheme benefits will increase greatly when carbon dioxide is captured from the exhaust gases and despatched to permanent geological storage. However, this is not a part of the proposal and we comment further on carbon capture below.

66. ***Pattern of Waste Management:*** This relates to the locational benefits of providing a residual waste management facility at Canford and that it would be more convenient for

[9] The methodology adopted by the applicant is not one that PPL would advocate or has used in relation to our own proposal. PPL considers that the applicant may have understated the potential carbon benefits of the Canford proposal but notes that the Portland proposal, incorporating shore power, would have greater benefits.

it to go there because currently some mixed residual waste goes there and historically more waste went there. It is acknowledged that the existing Canford MBT plant received circa 118,000 tpa of waste and exported circa 82,000 tpa of RDF to Europe in 2020; and that co-locating the EfW plant at Canford could have some benefits in relation to this waste. However, based on the submitted Canford application documents, it does not appear clear whether the EfW would take waste from the adjacent MBT plant, or whether it would ultimately seek to take the residual waste directly, bypassing the MBT plant entirely. If the latter, clearly any co-locational benefit falls away. Furthermore, and irrespective of the preceding point, the balance of waste for the EfW plant, potentially up to 178,000 tpa, is not going to Canford at present. Thus, this is a limited benefit which attracts some modest positive weight.

67. ***Proximity principle, self-sufficiency and spatial strategy:*** This relates to the provision of local residual waste management infrastructure and the avoidance of extensive transportation of residual waste from the BCP and Dorset Council areas. Whilst in this section the applicant confuses the meaning of the proximity principle and self-sufficiency (which relates to the UK as a whole),[10] we do believe the provision of new local residual waste management infrastructure (as the applicant expands upon in sub-section 9.1 of the PS) is the main benefit of the proposal and should be afforded significant positive weight.

68. ***Co-located development:*** This is partially a second bite of the same cherry as set out under the Pattern of Waste Management heading above. It is afforded no further weight by virtue of duplication. The slightly new element is a statement about potential opportunities for IBA processing at White's pit, which we do not believe gets a mention anywhere else in the entire application, and an unfathomable statement that: *"There is also potential for co-ordination of energy production and use with both the existing landfill gas engines and the newly constructed solar farm at White's Pit".* We cannot see any benefit in this which should be afforded weight in a Green Belt balancing exercise. We further note that high-performing IBA processing facilities, as a general rule, are typically located independently and serve multiple EfW plants due to the scale efficiencies required to afford the more sophisticated technology that is required to maximise recovery of recyclate from the IBA and optimise re-processing. There is no suggestion that such a 'strategic' IBA processing facility could be located at Canford or White's pit.

69. ***Heat network and private wire potential:*** Heat off-takes from EfW facilities and private wire connections are very complex to provide for multiple reasons including: cost; lack of fiscal incentives; seasonality; resilience and back-up; and the regulation of the energy distribution network and consumer choice. In addition, the required infrastructure involves significant upfront capital investment that is only repaid over many years and therefore any proposal needs to consider the commitment and credit worthiness of the heat off-taker. As such, under prevailing conditions, CHP off-takes and / or district heating networks and private wire are almost universally limited to:

    - Single large credit-worthy industrial users with a high process power or heat (steam) demand – e.g. Ineos in relation to the Runcorn EfW facility.

[10] As prescribed under the heading 'Principles of self-sufficiency and proximity' in The Waste (England and Wales) Regulations 2011 (as amended), Schedule 1, paragraph 4(2) – see: https://www.legislation.gov.uk/uksi/2011/988/schedule/1/paragraph/4

- Institutional uses generally under a single ownership / control, such as hospitals, university campuses and prisons.
- Feeding into Council owned pipe networks which then serve predominantly Council owned clusters of properties including municipal buildings and council houses.
- To a lesser extent, some new build projects where the developer installs the network.
- Large single power demand and high credit quality users such as data centres.

70. Where CHP off-take, district heating and private wire typically does not work, and rarely if ever has been delivered, is:

- Retrofit into residential housing and in particular single dwellings.
- Retrofit as space heating in small and medium scale production, storage and distribution units.
- Retrofit into other small scale buildings (say less than 1,000m^2) e.g. retail uses, offices etc.
- Into buildings in multiple ownership and with regular turnover of ownership.
- Private wire into buildings / uses without a high power demand.

71. The Canford EfW application is supported by a CHP Assessment (PS Appendix 4). This identifies that a CHP connection 'corridor' would be provided. This simply appears to be a route on a piece of paper. Reference to the applicant's proposed planning conditions (PS Appendix 7) shows at condition 17, there is no intention to install and CHP pipework or cabling etc. unless future viable opportunities are assessed as feasible. Even then, the applicant's commitment is only to run pipework / cabling to the site boundary.

72. The CHP Assessment identifies, at its Appendix B, the CHP off-take opportunities are:

B2
Combined Heat and Power Assessment

B.1 Within the 1.5 km radius, additional to Magna Business Park, the building types with possibility of connection to the heat network and some technical data about the network are as shown in the tables below:

Building Types	Number
Clinic	2
Residential dwellings	110
Garages	8
Industrial	4
Place of worship	1
Primary types (communal?)	72
Residential	1,323
School	1
Service	178
Supermarket	1
Unclassified	15
Sum	1,715

73. Why residential is split in two is unclear. These are all existing dwellings / houses (almost all privately owned) under construction, or houses on which the report states construction will start imminently. Given the applicant provides an estimated operational date for the EfW facility of 2027 (ES paragraph 3.9.1), which is subject to planning and judged to be extraordinarily optimistic in any event; these properties would be built before the plant. Hence, any CHP provision would need to be retrofit and is judged to be extremely improbable.

74. The other buildings are generally small scale, based on the description and review of aerial photography and again retrofitting CHP into this type and scale of development is extremely improbable.

75. This leaves Magna Park which is a new development. This site is allocated for 16,000m^2 of 'B1, B2 and B8' uses and is understood to also be consented for the same. The first 3 units are on the market and comprise something approaching 10,000m^2 divided across 3 mid-sized distribution 'sheds'. Again these are highly likely to be built and occupied long before the EfW facility could ever be operational. Further, the Canford application provides no information regarding the credit quality of the off-taker and therefore unless the owners of Magna Park commit to guarantee the heat infrastructure payback, it is highly unlikely that this investment would ever be made. Thus, in reality, Magna Park represents a very small and very unlikely outlet for direct power and or heat provision from the EfW proposal.

76. In conclusion, CHP off-take does not form part of the planning application and the local 'opportunities' appear to be retrofit to residential property and some mid-sized distribution sheds. All of the evidence nationally, points towards a very low likelihood that the applicant would ever secure an off-take in relation to such uses. To put this in its true perspective, there is no known, existing CHP scheme serving such a development mix anywhere in the UK. Accordingly, it is judged CHP potential should be given very limited weight at best.

77. Surprisingly, neither this sub-section, nor any other part of the 'very special circumstances' case make any mention of the direct energy generation benefits of the proposal, although the generation of renewable energy from the biogenic fraction of the waste fuel (circa 50% of the throughput) is referenced as an advantage of the scheme in sub-section 9.2 of the PS.

78. Thus, whilst overlooked by the applicant, in reality, the development of new domestic energy generating infrastructure, which would use an indigenous fuel source, contributing to energy security; and generate energy which is partly renewable and fully dispatchable (i.e. non-intermittent), is the second main benefit of the proposal and should be afforded significant positive weight.

79. ***Carbon capture and storage potential:*** Carbon capture does not form part of the planning application and the ES (paragraph 3.4.51) indicates the proposal*: "… has been designed to allow sufficient space for the plant and equipment for a CCS facility if required in the future (including plant and equipment to capture carbon dioxide (CO_2) from the flue gas emissions of the EfW CHP Facility and transport this to a storage facility)"*. It then explains: *"The area proposed for the laydown/maintenance and future*

environmental requirements area (ID23 Figure 3.1) as part of the Proposed Development could accommodate a future CCS facility".

80. We make a number of comments on this claim:

    a. All EfW facilities require space for laydown / maintenance facilities which are critical to accommodating the materials required for shutdown maintenance. The Canford EfW is on a very tight site constrained on all sides by a combination of protected vegetation and an existing building. In the event a CCS facility was developed on this area, discussed below, there would be no space left for laydown / maintenance facilities.
    b. We measure the CCS space as being circa 900m^2, which it is less than half the space required for any currently deployable CCS technology. It simply would not fit. Should the applicant question this, which we very much doubt, they should be asked to produce an indicative scheme to demonstrate their claim is feasible.
    c. The CCS facility would require planning permission and would represent further inappropriate development in the Green Belt. It would also be of a significant scale, with an absorber column typically around 45-50m in height and a stripper, up to 30m in height, and result in a further perception of intensification of development within the Green Belt. Setting aside the fact CCS could not be delivered in the available space, the construction of a CCS facility in this sensitive location would further add to the significant harm to the openness of the Green Belt that already arises from the EfW itself, both in spatial and visual terms.
    d. The site is generally poorly located for CO_2 capture. It is not within or close to any of the identified carbon capture clusters. It would seem extraordinarily unlikely that it would be viable to lay a new pipe over several kms to the sea straight through the Poole / Bournemouth conurbation. Transporting CO_2 by road for an unknown distance, for the balance of the life of the plant, is a singularly unattractive proposition.

81. Based on the foregoing, we believe this matter does not weigh in favour of the Canford proposal, but rather counts against it.

82. ***Biodiversity Net Gain:*** The applicant claims that increasing biodiversity net gain (BNG) over the statutory threshold of 10% and which are closely related to a proposal can be afforded significant positive weight. They then cite an appeal decision. We are unclear as to the precise context of that appeal decision and do not agree with such a proposition unless there are specific circumstances that seek to maximise BNG in a particular location (which may have been the case in the cited decision). In short, we cannot see how the additional BNG can be secured or its 30 year management guaranteed. If it is not necessary for the grant of planning permission it would fail the test to be included in either a planning condition or obligation.

83. We are supported on this point by the Inspector in a conjoined appeal for two MSA schemes in Solihull (APP/Q4625/W/21/3273047). This was a specific Green Belt case and in consideration of the planning balance, the Inspector stated (at paragraph 77 of his decision): *"It was argued that additional positive weight should be attached to the scheme providing the greatest net gain. That is not an approach I support, even if gains significantly above the minimum necessary are provided, which was the case in particular for Appeal B and accepted by its witnesses. Whilst a greater net gain is*

undoubtedly a good thing, it is not necessary to make the development acceptable in planning terms and so it cannot attract additional weight in the planning balance, or indeed be secured by condition or obligation".

84. We suggest that there is no specific requirement for the Canford EfW facility to provide 'additional' BNG; thus it cannot be secured and should not be afforded additional weight in the planning balance.

85. ***Increased investment locally:*** Under this heading the applicant says that heat and private wire power connections, which do not form a definitive part of the scheme, would deliver discounted energy, of which there is no proof or certainty, which would then likely result in increased investment in the local area, which is an entirely speculative statement. We cannot see how any material positive weight is attributable to such an uncertain claim.

86. Surprisingly, this sub-section makes no mention of the economic benefits through the capex and opex of constructing and operating the proposal and its associated employment benefits, although these are subsequently referenced as advantages of the scheme in sub-section 9.3 of the PS. The applicant does not afford them any degree of weight, but we take the view they should be afforded moderate beneficial weight.

87. ***No suitable alternative sites:*** As referenced previously, the applicant provides no detailed, structured alternative site assessment. However, the subject is covered briefly within the VSC section of the PS covering four sites.

88. We agree with the applicant's conclusions in relation to the Parley, Mannings Heath and Binnegar Quarry sites.

89. In terms of the fourth site, our site and proposal at Portland, the applicant undertakes no material analysis and simply references Dorset Council's decision to refuse the application on 24th March 2023. That decision is now appealed and will be heard by inquiry in December 2023 with the target date for the Inspector's decision being 26th January 2024.

90. The Portland ERF scheme was the subject of a very comprehensive and detailed planning application which was in determination for 3.5 years. Unlike the position at Canford, the Portland planning application was twin-tracked with an Environmental Permit application (as considered best practice), which we expect will be granted shortly, and before the appeal is heard. It has also been given a clean bill of health in relation to appropriate assessments carried out by both Dorset Council and the Environment Agency.

91. The Portland ERF proposal is on an allocated employment site within an operational industrial port, on brownfield land and falls outside of the Green Belt. It is a waste recovery facility which can meet the need for which the Canford EfW scheme has been proposed and can do so without causing any harm to the Green Belt and significantly less other harm. Further, it would give rise to a series of benefits greater than those which an EfW at Canford would, or could, deliver. As such, it is a material planning consideration in your authority's determination of the Canford EfW scheme.

92. In the event that the Portland appeal is allowed, which we believe will be the case, the identified need will be shown to be capable of being met on a site outside of the Green Belt. Thus, the Canford EfW proposal could not demonstrate that very special circumstances exist and therefore could not comply with DWP Policy 21. Accordingly, it must then be refused. Hence, your authority should not determine the Canford application until the Portland appeal decision is known, expected on 26th January 2024.

93. It is not the purpose of this letter / objection to exhaustively describe the merits of the Portland ERF scheme or all of the advantages of developing an ERF at the Portland site over the Canford allocation. However, in summary, the benefits of the proposal are that it would:

    a. Provide Dorset and BCP Council's with some commercial scale residual waste treatment capacity (noting that it presently has none, nor any active disposal sites), which would move the management of residual waste up the hierarchy, reduce the requirement for the Council's to export their waste out of their administrative areas and allow them to take greater responsibility for their own waste.
    b. Provide on-shore low carbon energy supply for the Port and specifically berthed ships (via provision of Shore Power infrastructure and energy) which will result in a general improvement in air quality for the local area, help ensure the continued cruise ship business that provides significant local socio-economic benefits and facilitate the continued commercial business and employment at the Port.
    c. Provide a source of dispatchable, low carbon / partial renewable energy generation, using new generation infrastructure and utilising an indigenous fuel source.
    d. Result in a net reduction in CO_2 emissions over its design life.
    e. Provide an identified, deliverable and credible opportunity to provide district heating to two local prison facilities that have the credit quality to allow the required investment to be delivered with potential for future expansion to other heat users.
    f. Represent a circa £180 million capital investment, and create skilled jobs (construction and operational phases), plus a further positive GVA added throughout the plant's life.
    g. Provide a Heritage Mitigation Strategy which would include removing a Scheduled Monument from the 'At Risk' Register.
    h. Provide an important footpath link which would complete the 'round the island' footpath.
    i. Has sufficient adjacent space to install a carbon capture facility and a coastal location with potential synergies for proximate undersea CO_2 geological storage.
    j. Opportunities to move waste and residual materials to and from the site by sea, rather than by road, a further unique benefit derived from the site's port location.

94. Dorset Council's reasons for refusal are judged to be narrow and based around conflicting technical consultee responses. PPL believes our planning prospects at appeal are very strong and that this is reflected in our Statement of Case, a copy of which is attached as Annex A to this letter.

The Green Belt Balancing Exercise and Conclusions

95. The Canford proposal is demonstrably inappropriate development in the Green Belt and would significantly affect both the spatial and visual openness of the Green Belt, very significantly in the case of the later; and cause harm in relation to the first three Green Belt purposes. The overall harm caused to the Green Belt should be afforded very substantial weight.

96. In terms of 'any other harm' there would be significant landscape and visual effects and harm to the setting of 3 Scheduled Monuments, all barrows, which whilst constituting less than substantial harm, would represent a real change to their settings; and is not accepted as being at the lower end of the scale. The landscape and heritage harm should be afforded considerable weight.

97. The applicant has not demonstrated that acknowledged harm to European protected habitats would be fully mitigated and thus, on a precautionary basis, this harm weighs against the proposal. A degree of harm to the operation of Bournemouth Airport also weighs against the scheme.

98. The applicant concludes that the greenhouse gas (CO_2) effects of the proposal would be moderately adverse and significant. Ordinarily this would result in considerable harm weighing against it. However, we doubt the efficacy of the applicant's work in this regard. The applicant then specifically relies on CCS to mitigate this harm which, as a matter of fact, does not form part of the proposal. Further, despite the applicant's claims, the scheme / site is not capable of accommodating a carbon capture plant as the only possible location for such an element is way too small. This is a significant shortcoming of the proposal, highlighting its lack of future resilience and should be afforded considerable adverse weight.

99. Finally, a prospective alternative non-Green Belt site exists on which an appeal decision should be delivered by 26th January 2024. This is located on an allocated, brownfield employment site, can meet the need for which the Canford EfW scheme has been proposed, and can do so without causing any harm to the Green Belt, and significantly less other harm. In addition, it would have greater overall benefits than the Canford proposal. As things stand, this should be afforded considerable weight. If the appeal is allowed that would become very substantial weight and a determinative factor against the Canford proposal in its own right.

100. In terms of considerations weighing in favour of the proposal, we attribute significant positive weight to both the provision of 'local' residual waste management infrastructure which would deliver better environmental outcomes for BCP's / Dorset's waste; and the provision of new domestic energy generating infrastructure and its associated benefits.

101. In addition, there is moderate weight afforded to overall economic benefits and modest positive weight afforded to how the proposal fits with the overall 'pattern of waste management' by virtue of co-location.

102. We attribute very limited weight, at best, to the opportunities to deliver a heat network and / or private wire, and no positive weight to the overprovision of BNG, or wholly speculative 'increased investment locally', by virtue of elements which are not even part

of the proposal. Further, the proposal takes no benefit through being on an allocated site as it clearly falls well outside of the scope of development planned for by that allocation.

103. In summary, the considerations weighing for the proposal, two of which attract significant weight, are the standard, typical benefits of delivering an EfW facility. However, this is self-evidently a case where there is very significant harm to the Green Belt coupled with multiple other harms which in combination weigh very heavily against the scheme. We cannot see how, when reviewed objectively, the positive considerations **clearly** outweigh the harm to the Green Belt and the totality of the other harm. Accordingly, the application should be refused.

104. Looked at simply, the proposal would effectively deliver the same waste management, energy and economic benefits as the 'typical' or 'average' UK EfW, but would result in far greater harm than would be associated with such a plant. Further, unlike many contemporary EfW proposals, it lacks credible future CHP opportunities and the site cannot physically accommodate a carbon capture plant based on any currently deployable technology.

105. Finally, we reiterate that our Portland ERF scheme is an important material consideration in your authority's determination of the Canford application. If our appeal is allowed, the Canford proposal cannot demonstrate very special circumstances or comply with DWP Policy 21. We advise that unless your authority moves to refuse the Canford application swiftly, it should not otherwise determine the application until the Portland appeal decision has been issued.

We trust that the foregoing is self-explanatory and will be given full regard in your determination of the Canford EfW facility application. Please do not hesitate to contact us should you have any queries regarding the contents of this letter.

Yours sincerely

Giles Frampton

Giles Frampton
Director on behalf of Powerfuel Portland Limited

Annex A
Portland Energy Recovery Facility (ERF) – Statement of Case

Powerfuel Portland

Portland Energy Recovery Facility

BS4142 Noise Impact Assessment

AAc/267701/R04

Issue | 17 October 2023

Job number 267701-15

Ove Arup & Partners Ltd
6th Floor 3 Piccadilly Place
Manchester M1 3BN
United Kingdom
www.arup.com

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Job title		Portland Energy Recovery Facility			**Job number** 267701-15
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Issue 2	21 May 2021	**Description**	Minor corrections to first version		
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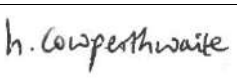
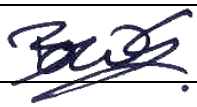
		Name	David Hiller BSc MSc PhD CEng MIOA MIMMM FGS	Greg Harris MSc MIOA	David Hiller BSc MSc PhD CEng MIOA MIMMM FGS
		Signature			
Issue 3	17 October 2023	**Filename**	R04-2023-10-10.docx		
		Description	Consideration of Bibby Stockholm and update to baseline survey data.		
			Prepared by	**Checked by**	**Approved by**
		Name	Holly Cowperthwaite BEng AMIOA	Ben Cox BEng MIOA	David Hiller BSc MSc PhD CEng MIOA MIMMM FGS
		Signature			
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Contents

Appendices

Executive summary

This report responds to Environment Agency's letter dated 08 September 2023 in relation to Environmental Permit reference EPR/AP3304SZ/A001 (see Appendix A). Amongst other things this requests further assessment of noise impact from the proposed Powerfuel Portland Energy Recovery Facility (ERF) in relation to the Bibby Stockholm migrant accommodation barge. Specifically, a more detailed assessment was requested in line with British Standard 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*.

The ERF application site is located on the north end of the Isle of Portland, to the west of Balaclava Bay. The closest permanent residential building is more than 500m from the west of the site. However, a Bibby Marine Ltd accommodation vessel, the Bibby Stockholm, is presently moored at the Portland Dock around 300m from the north west perimeter of the site. This is planned to accommodate migrants into the UK. The Bibby Stockholm arrived at Portland Port on 17th July 2023 and is contracted to remain at the Port for 18 months. Whilst the contract end date occurs some years before the ERF would be operational, the Environment Agency has requested that the Bibby Stockholm be included as a noise sensitive residential dwelling for the assessment.

An initial baseline noise survey was undertaken in April 2021 at a time when some but not all the COVID-19 pandemic restrictions had been eased. For this reason, and because of the passage of time, a new second baseline noise survey has been undertaken in September 2023.

Noise impacts from the ERF were calculated using a 3D model developed with SoundPlan noise modelling software. The plant sound levels used in the model were taken from data from permitted facilities elsewhere.

The assessment shows the predicted rating sound levels from the ERF to be above the background levels by 3dB at the Bibby Stockholm and at properties along Verne Common Road. Practicable mitigation measures have been designed and applied to the stack and to the façade of the turbine hall to reduce the overall noise emission level from the ERF to below background at all assessment locations. These mitigation measures will not change the external dimensions or appearance of the buildings compared to the application drawings.

In absolute terms the noise levels are low, indicating that the effect of noise from the operation of the ERF with the additional mitigation would be not significant.

1 Introduction

This report responds to Environment Agency's letter dated 08 September 2023 in relation to Environmental Permit reference EPR/AP3304SZ/A001 (see Appendix A). Amongst other things this requests further assessment of noise impact from the proposed Powerfuel Portland Energy Recovery Facility (ERF) in relation to the Bibby Stockholm migrant accommodation barge. Specifically, a more detailed assessment was requested in line with British Standard 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*.

An initial assessment was undertaken during the Covid-19 lockdown period, which prevented a baseline survey from being undertaken at that time. Consequently, that initial assessment used baseline survey data collected around the port, as part of on-going environmental monitoring, using an approach agreed with Dorset Council. This initial assessment was presented in the Noise Impact Assessment report referenced AAc/267701-15/R01 and dated 26 August 2020.

A subsequent assessment was undertaken in April 2021 and included a baseline noise survey at various noise sensitive receptors around the site. The assessment report, referenced AAc/267701/R03a, was undertaken at a time when some of the restrictions associated with the third national lockdown due to the COVID-19 pandemic were still in place. These restrictions meant that operations at the port along with the amounts of traffic on the roads around Portland may not have been representative of the normal operation before the pandemic.

Accordingly, for robustness, this report presents the results of new baseline noise measurements made in September 2023 when all COVID-19 restrictions had been lifted for more than 6 months, allowing the conditions to return to normal levels. Further, and for completeness, given the new survey work carried out, the noise effects have been re-assessed for all representative noise sensitive receptors, not just the Bibby Stockholm.

Appendix B provides a glossary of acoustic terminology used in this report.

2 The site, its location and noise sensitive receptors

Figure 1 shows the ERF installation boundary and Figures 2 and 3 show the boundary in the context of the wider Portland area. The closest noise sensitive receptors are identified in Figure 2 in red, with other noise sensitive locations in yellow.

The site is bordered to the south west by a former railway embankment and Incline Road, which is a private road within the port that is actively used by port traffic. Cliffs supporting grassland, scrub and woodland habitats lie to the south west of the disused rail embankment and rise steeply to approximately 125m above ordinance datum. His Majesty's Prison The Verne is approximately 430m to the south west of the site at the top of the steep slope. The eastern site boundary is formed by the shingle shoreline and overland fuel pipes from Portland Bunkers,

which are fuel bunkers in the nearby cliffs used for marine fuel supply. Existing operational port developments lies to the north and north west of the site, including the moored Bibby Stockholm accommodation vessel.

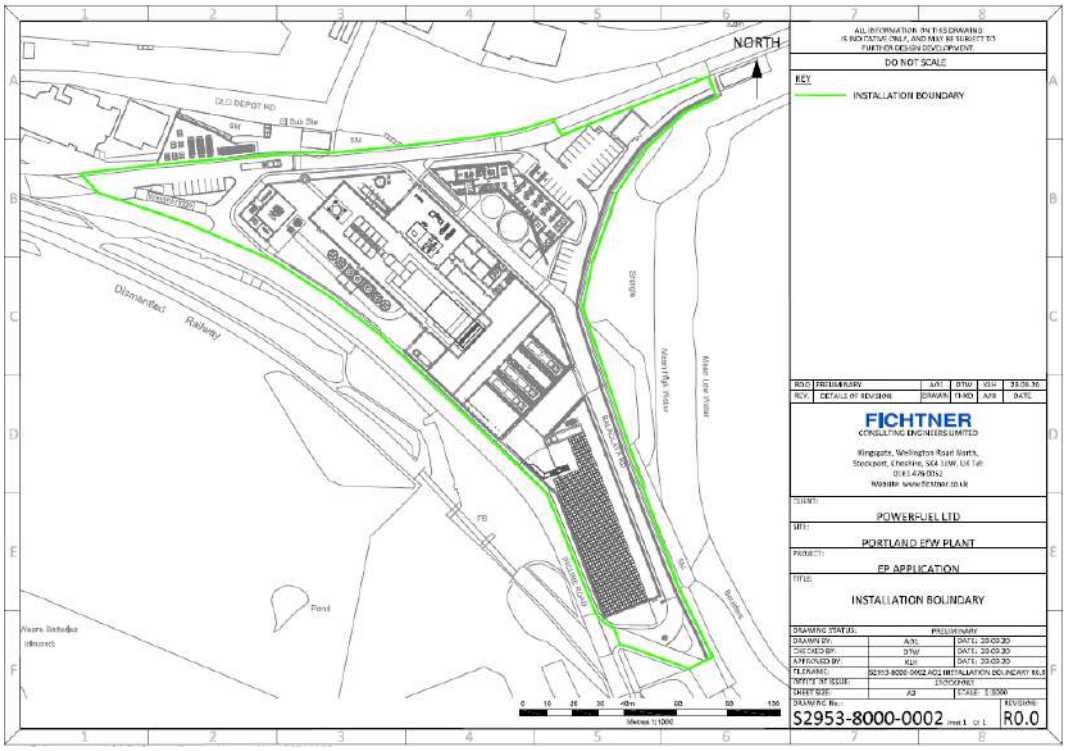

Figure 1 ERF installation boundary

Figure 2 ERF installation boundary and the nearest noise sensitive receptors (reassessment receptors in red)

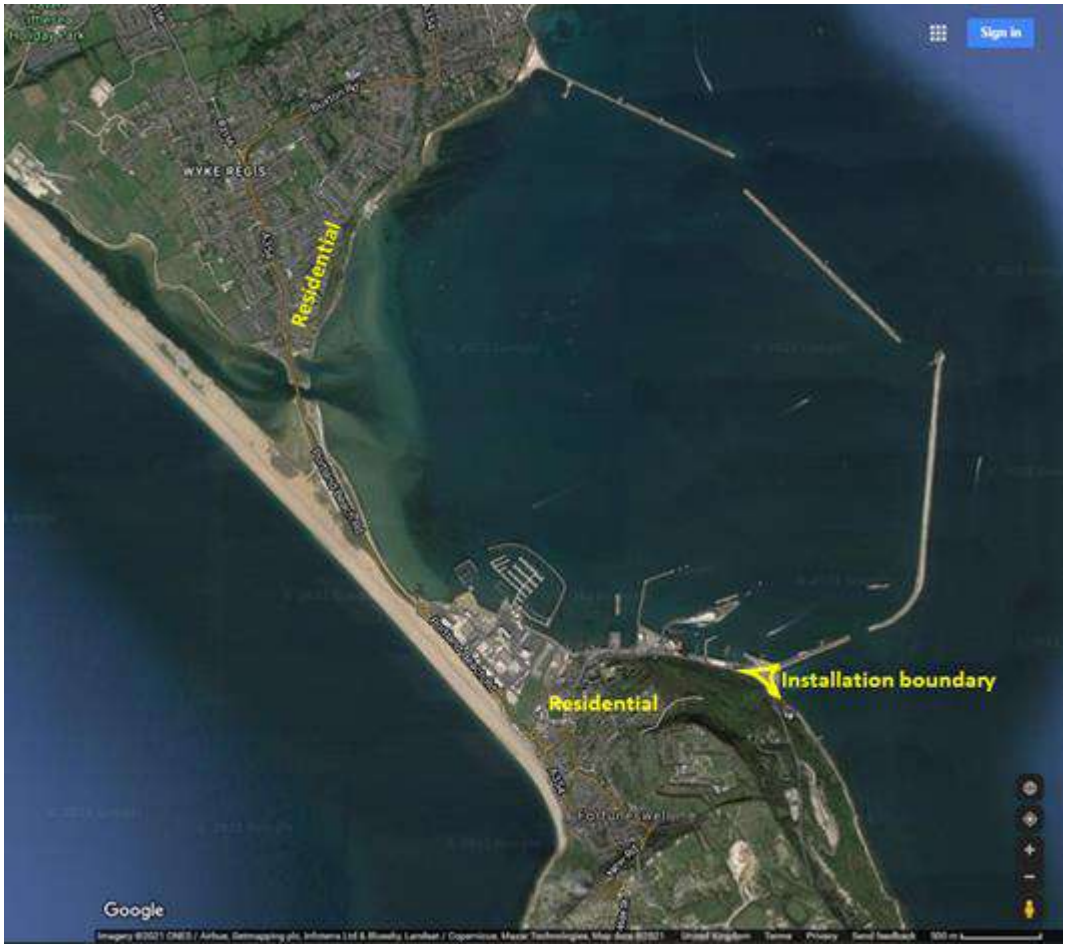

Figure 3 ERF installation boundary in the context of the wider area

2.1 Proposed site activities

The proposed development (see Figure 4 and Figure 5) is envisaged to comprise an ERF that will treat up to approximately 202,000 tonnes per annum of non-hazardous, residual waste material, with a nominal capacity of 183,000 tonnes per annum. Waste will be in the form of residual waste including RDF (refuse derived fuel). It will be a mass burn facility, using boiler and moving grate technology.

The building will enclose all elements of the RDF bale storage area in the fuel hall and waste bunker, tipping hall, cranes, conveyors, feed hopper, furnace, boiler, condenser units and turbine / generator.

The ERF will normally operate 24 hours a day, seven days a week. Residual waste for the facility will be delivered by road lorry in a baled or loose format. It could also be delivered in baled form only by ship. The road traffic noise assessment has assumed the 'worst case' traffic noise impact based on all waste inputs arriving by road during daytime. The speed limit on site is 20mph. Deliveries by sea will be unloaded via an existing berth in the port, normally the berth closest to the site, then brought up to the site from the berth by road vehicle. Vehicles servicing the ERF will operate on roads already used by other vehicles related to the port activities.

Figure 4 Visualisation of proposed ERF viewed from north east

In addition to the activities within the installation boundary, the planning application also includes associated infrastructure, including the substations and facilities required to provide electricity for ships alongside at berth. These were included in the assessment reported in report reference AAc/267701-15/R01 and made little contribution to the overall sound levels at the noise sensitive receptors.

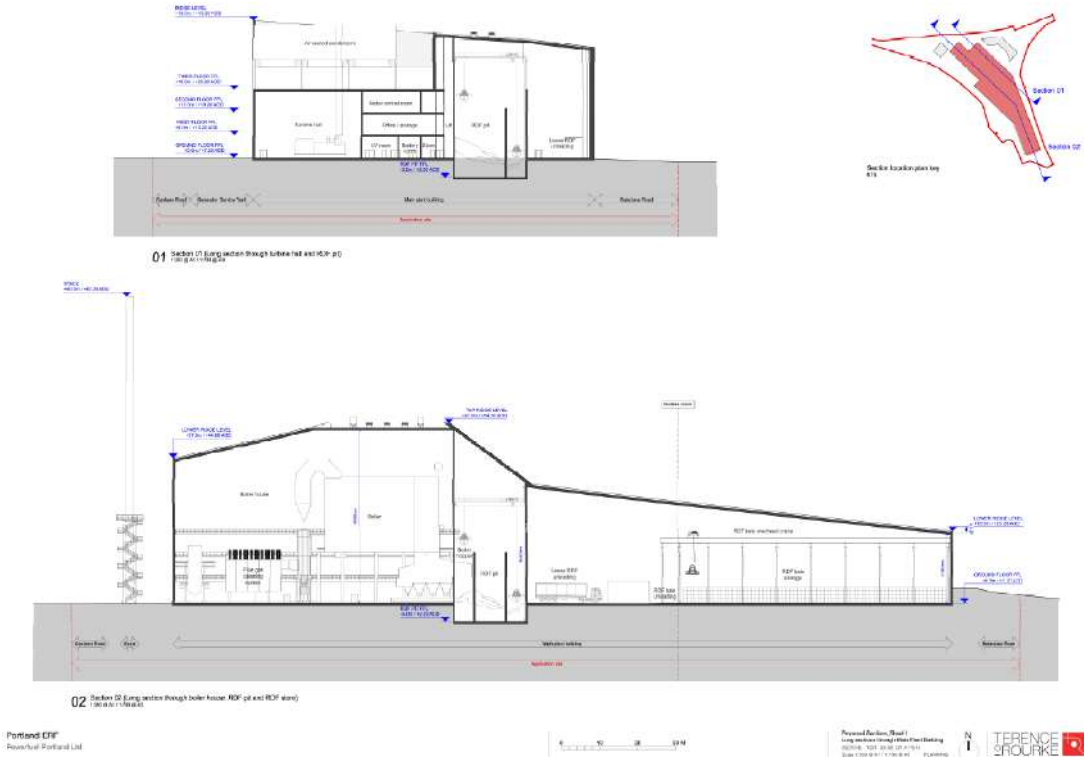

Figure 5 Long sections through the proposed ERF

2.2 Sensitive receptors

Assessment of noise from the site has been carried out for:

- Dwellings to the west of the site, on Beel Close, Leet Close, East Weare Road and Ayton Drive;
- Bibby Stockholm, the Bibby Marine Ltd accommodation vessel moored at Portland port;
- Dwellings at the top of Verne Common Road;
- Crabbers' Wharf holiday apartments;
- His Majesty's Prison (HMP) The Verne;
- Dwellings and businesses on Castletown;
- Portland Harbour moorings; and
- Residences on the north west side of the harbour at Wyke Regis and surrounding area.

3 Baseline sound surveys

In the 2021 sound survey, short-term measurements were made at residential areas across the far side of Portland Harbour. These were to enable noise impacts to be assessed at dwellings where sound propagation from the ERF would be across open water. These locations are over 3km from the Bibby Stockholm vessel and the ERF site, where changes in the baseline are low risk to this assessment.

Continuously logging sound level meters were installed as near as possible to the three closest residential properties: Leet Close, 3 Verne Common Road (Verne House), and at the port adjacent to the Bibby Stockholm accommodation vessel. These loggers collected data from Wednesday 13 to Thursday 21 September 2023 to capture sound levels during both weekdays and over a weekend. Details of the sound survey are given in Appendix C with the locations of the loggers shown in Figure C1.

At present, three generators provide the electrical power for the Bibby Stockholm vessel. Under normal operation of the vessel, two of these three will be running continuously throughout the day and night. These generators will be used throughout the 18 month contracted period that the Bibby Stockholm will be present in the port. However, in the event the vessel remains for a much longer period, they would be replaced by 'shore power' provided from the ERF. At the time of the measurements, two of the generators were running, but were they to be replaced by a grid connection the measured levels at this location and potentially at other locations near to the vessel will be lower. In order to understand how much these generators contribute to the current sound levels around the port, near-field spot measurements were taken around the generators at distances of less than 5m. Measurements this close ensure that the generator noise is dominate and allow calculations to be made of the likely levels of generator noise experienced at other locations away from the port.

Baseline levels were not measured at dwellings and businesses on Castletown as these locations would be more screened from the ERF and are already exposed to higher sound levels from the port. Control of the ERF to comply with levels at the closer receptors where baseline sound was measured will therefore ensure compliance at receptors on Castletown.

The baseline sound levels, including those measured in 2021 at residential areas across the far side of Portland Harbour, are summarised in Table 1 and Appendix C. For the short duration measurements, the mean average was taken as the representative level.

For the continuously logged data, a histogram was produced to illustrate the distribution of measured background (L_{A90}) sound levels (see Figure 10, 12, 14, Appendix C). The ambient (L_{Aeq}) and maximum ($L_{Amax,F}$) levels are also shown. The representative baseline level was determined by inspection following the method described in BS4142[1] as the point above which most of the measured sound levels occur. The histograms help to illustrate where outliers exist, which

[1] BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound.

are those levels considered infrequent enough not to be representative of typical conditions.

Table 1 Representative baseline sound levels (day 07.00-23.00; night 23.00-07.00)

Location	Representative receptors	Background level $dBL_{A90,15min}$	
		Day	Night
1	Residences at East Weare Road, Leet Close, Beel Close	33	33
2	Bibby Stockholm	41	40
3	Residences at the top of Verne Common Road	32	31
A (2021)	Wyke Regis (Castle Cove area)	39	32
B (2021)	Wyke Regis (south)	40	33

All three loggers were placed in very close proximity to the nearest noise sensitive locations and are therefore representative of the typical baseline sound levels they would experience.

Since the ERF will operate 24 hours a day, the rating noise level from its operation will be compared against the lower of the day and night baseline sound levels presented in Table 1.

4 Noise modelling

Noise impacts were calculated using a 3D representation of the ERF and surrounding topography built with SoundPlan modelling software. This is a proprietary software package commonly used in environmental noise assessment and implements the calculation methodology described in ISO 9613-2[2]. This method allows the calculation of sound levels at distance from the source(s) and takes account of factors including geometrical spreading, air absorption, ground properties, screening effects of buildings and topography.

The main factors required for the assessment are given below and full details required by the Environment Agency[3] are in Appendix B and Appendix C.

[2] ISO 9613-2, Acoustics – Attenuation of sound during propagation outdoors, Part 2, General method of calculation, 1996.
[3] Environment Agency 2019. Noise impact assessments involving calculations or modelling. Noise impact assessments involving calculations or modelling - GOV.UK (www.gov.uk). Accessed 12 October 2023

4.1 Noise sources

Table 2 provides the assumed sound levels used in the noise model, which are taken from data provided by the client team for permitted facilities elsewhere with similar noise-producing elements.

Table 2 Representative sound levels for ERF site plant

Plant	Sound power level (SWL) / Sound pressure level (SPL), dB(A)
Waste unloading, waste pit, bale store, control room, boiler room (reverberant level)	85 (SPL)
Flue stack (top)	95 (SWL)
Turbine hall	95 (SPL)
Air cooled condenser	92 each of 3 fans (SWL)

Operation of the facility is expected to require up to 80 HGV movements per day on the public highway, which represents 40 HGVs at the ERF over the course of a day. This figure is a conservative worst case as incinerator bottom ash will be exported by ship (reducing HGV numbers). Within the port, these will operate on existing roads already used by other vehicles relating to the port activities. Unloading of HGVs will be within the enclosed unloading hall.

4.2 Noise from the ERF

The building envelope design and materials have been included in the calculated noise emission levels based on profiled steel sheet cladding with louvres to the lower 6m of the walls. Whilst plants of this type do operate without cladding in some locations, profiled steel is a standard design which provides reduced noise emissions compared to the more exposed basic design. Transmission loss data assumed in the modelling of noise from the ERF have been taken from Arup's database are shown in Table 3.

Table 3 Building envelope transmission loss data, dB

Material	Rating Rw, dB	Octave band centre frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
Profiled metal	23	12	18	20	21	21	25	25	25
Louvred walls	14	5	7	11	12	13	14	12	9

The air cooled condensers (ACCs; No. 7 shown on Figure 4) are the main significant source but would be screened from the closest residential properties to the west and those on Verne Common Road by the ERF building. There will also be screening breaking the line of sight to all other noise sensitive receptors. The ACCs are therefore not a dominant noise source at the offsite noise sensitive receptors: the modelling results showed the source contributing most to the total noise level was the stack flue for most receptors.

4.3 Noise from the Bibby Stockholm generators

As described previously, the generators currently powering the accommodation vessel are planned to serve it throughout its 18 month contracted stay. However, were the vessel to remain in the port for a long time, they would be replaced by shore power generated from the ERF.

To understand how the generators affect the baseline measurements at Leet Close and Verne Common Road, the near-field generator measurements were used to validate a noise prediction model for just generator noise. The result of this generator only modelling are presented in Figure 6. The modelling shows that the levels of generator noise are more than 10dB below the lowest measured baseline level and therefore do not contribute significantly at the noise sensitive locations other than the Bibby Stockholm.

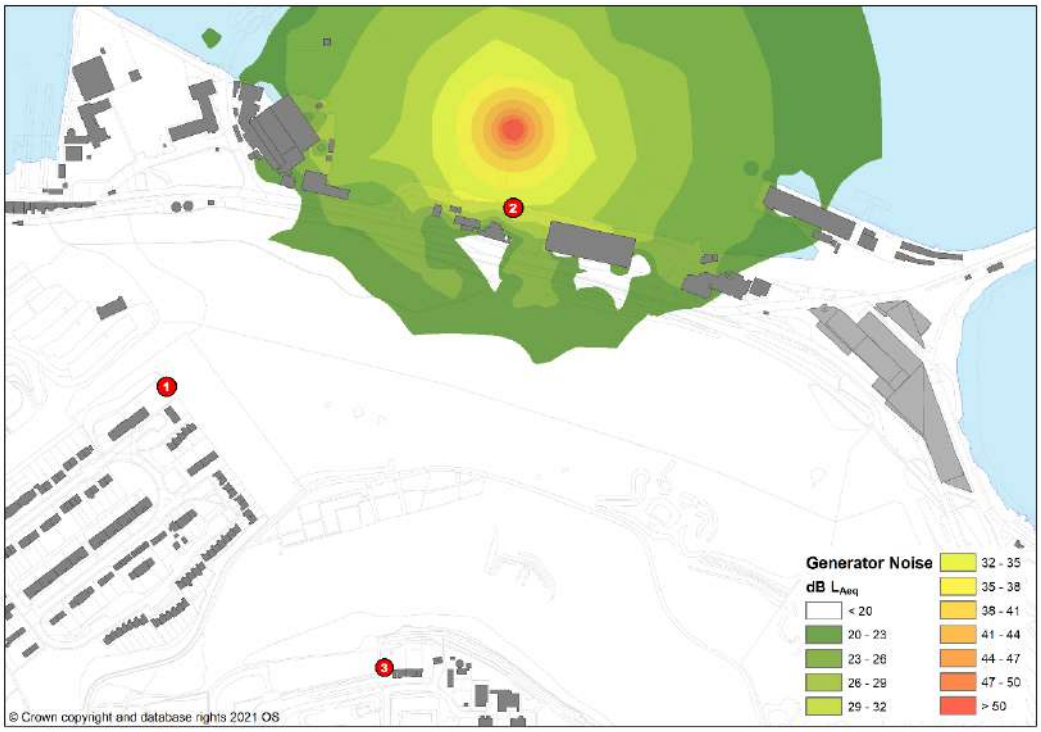

Figure 6 Bibby Stockholm generator only noise model results

Consequently, were the Bibby Stockholm to switch to shore power from the ERF, the baseline levels would only change in the immediate vicinity of this vessel, where the vessel itself is the only residential, noise sensitive receptor. The following assessment has been made considering scenarios both with generators and with grid connection.

4.4 Modelling results

The model was used to calculate sound pressure levels at various receptors in addition to those for which the baseline was measured. These are summarised in

Table 4, which presents the highest level calculated for each receptor.

A contingency of +3dB has been added to account for uncertainty in the calculations. This also provides an allowance for any tonality in the specific sound (i.e. that from the ERF). BS4142:2014+A1:2019 section 9.2 describes the subjective method of assessment which gives a penalty of 2dB for a tone which is just perceptible at the receptor to 4dB where it is clearly perceptible. Given the low predicted sound levels, 3dB is an appropriate overall allowance. This also allows for the Environment Agency environmental permitting requirement[4] that '*Where neither tonal nor impulsive corrections apply, the environment agencies will generally expect a +3dB 'other' correction to be applied for readily distinguishable industrial noise, unless you can demonstrate this is not justified*'.

Table 4 Predicted rating sound levels from the ERF (with 3dB contingency/penalty)

Location	**Predicted rating sound level, $dBL_{Ar,Tr}$**
Ayton Drive	30
Bibby Stockholm	43
Castletown	34
Coronation Road	27
Crabbers' Wharf holiday apartments	36
East Weare Drive/ Leet Close	33
4 Verne Common Road	33
HMP The Verne	39
Portland Hospital	27
Portland Marina (moorings)	34

[4] Noise and vibration management: environmental permits, updated 31 January 2023 https://www.gov.uk/government/publications/noise-and-vibration-management-environmental-permits/noise-and-vibration-management-environmental-permits (accessed 12 October 2023)

5 Assessment

British Standard BS 4142 provides a methodology for rating and assessing the likely impacts of sound of an industrial or commercial nature on residential receptors. This includes sound from mobile plant and vehicles that are an intrinsic part of the overall sound emanating from the site.

The methodology is based on comparing the background sound level (measured as L_{A90}) at a receptor with the level of noise from the source being assessed, including penalties for characteristics such as tonality and impulsivity (known as the rating level $L_{Ar,Tr}$). The following advice is provided in BS4142 for determining the significance of impacts:

- Typically, the greater the difference between the background sound level and the rating level, the greater the magnitude of the impact;
- A difference of +10 dB or more between the rating level and the background level is likely to be an indication of a significant adverse impact, depending on the context;
- A difference of around +5dB between the rating level and the background level is likely to be an indication of an adverse impact, depending on the context;
- The lower the rating level is relative to the measured background level, the less likely it is that the source being assessed will have an adverse or a significant adverse impact. Where the rating level does not exceed the background level, this is an indication of the specific sound source having a low impact, depending on the context.

Table 5 compares the predicted rating sound levels with the measured baseline levels. Figure 7 compares spectra for the measured baseline background levels with the predicted specific sound level from the ERF.

Table 5 Summary of BS4142 assessment (day 07.00-23.00; night 23.00-07.00). The predicted rating level includes +3dB penalty for tonality and uncertainty.

Receptor	**Baseline sound level, dBL_{A90}**		**Predicted rating level, dB$L_{Ar,Tr}$**		**BS4142 Assessment (dB$L_{Ar,Tr}$ – dBL_{A90})**	
	Day	**Night**	**Day**	**Night**	**Day**	**Night**
Residences at East Weare Road, Leet Close, Beel Close	33	33	33	33	0	0
Bibby Stockholm (with generators)	43	42	43	43	0	+1
Bibby Stockholm (with shore power connection)	41	40	43	43	+2	+3
Residences at the top of Verne Common Road	32	31	35	34	+3	+3
Wyke Regis (Castle Cove area)	39	32	< 30	< 30	< -9	< -2
Wyke Regis (south)	40	33	< 30	< 30	< -10	< -3

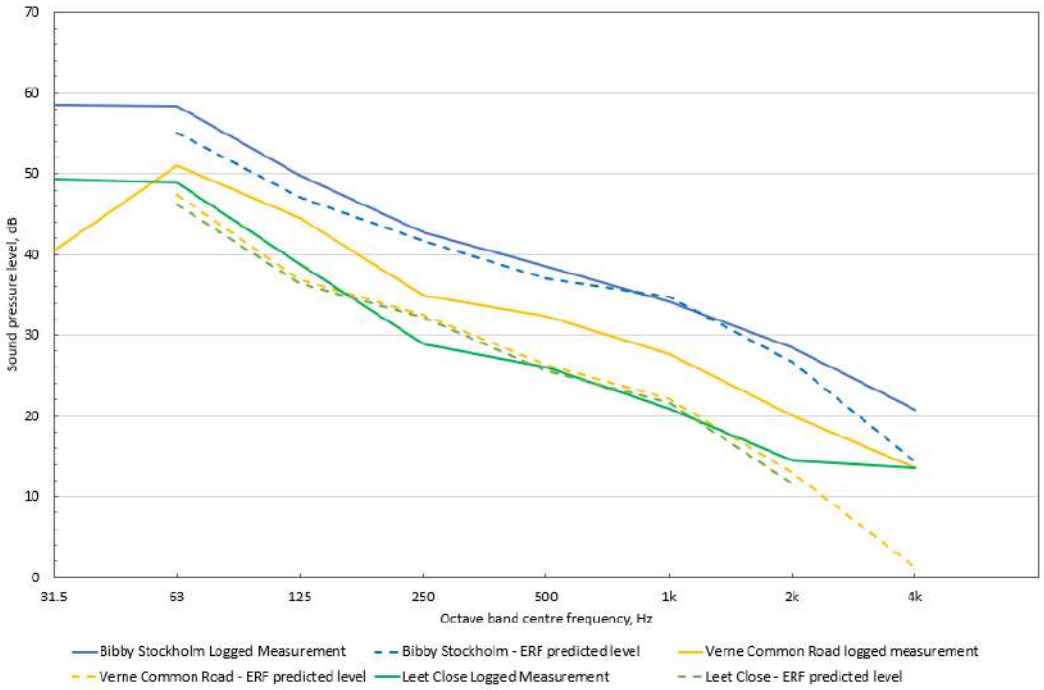

Figure 7 Comparison between measured background, L_{90}, at survey Locations 1 and 3 (solid lines) with the modelled specific sound level, L_{eq}, for the ERF (broken lines).

The assessment shows the predicted rating levels to be below or just above the representative background sound level at all the locations assessed. At the Bibby Stockholm and at the residences at the top of Verne Common Road the predicted rating level exceeds the background sound level by around 3dB, which is below the +5dB difference at which the rating level is likely to result in an adverse impact, according to BS4142. To achieve no exceedance of background levels, additional mitigation measures would be required to reduce the overall noise emission of the ERF.

At the residences on Verne Common Road, the assessment indicates that the stack will be the dominant contributor of noise from the ERF and would therefore require additional mitigation.

For the scenario where the Bibby Stockholm is directly connected to the shore power, the assessment identifies the stack, boiler room and the turbine hall (including a louvred opening) are dominant noise sources. It is therefore recommended that, in addition to the attenuation applied to the stack, further mitigation is applied to the facade of the boiler room and turbine hall to ensure the impact of the ERF on the Bibby Stockholm remains low.

In absolute terms the levels are also low, indicating that, with further mitigation measures applied to the stack, boiler room and the turbine hall facades, the impact would be negligible and the effect of the ERF would be not significant.

5.1 Noise mitigation measures

The ERF will be designed to incorporate mitigation to ensure that overall sound levels from operation of the whole development comply with the required limits at sensitive receptors. During commissioning, sound level monitoring of the plant will be undertaken to ensure compliance with these limits.

The assessment of operational sound levels from the site have identified a requirement to mitigate the stack, the western façade of the boiler room and the northern façade of the turbine hall, including the louvre.

In terms of the stack, 5dB additional mitigation is required at the source. This can be done by locating in-line attenuators after the induced draft (ID) fans and just prior to the stack, with a suitably designed splitter configuration to attenuate across broadband frequencies but also designed to mitigate the blade passage frequency.

For the western façade of the boiler room and the northern façade of the turbine hall, the cladding requires upgrading to an R_w 30 cladding panel. The louvre on the façade of the turbine hall should also be upgraded to an R_w 24 acoustic louvre. There would be no change to the external dimensions and appearance compared to the application drawings resulting from these upgrades to each of the stack and building facades. The following transmission loss data has been applied to the noise model in these areas.

Table 6 Enhanced building envelope transmission loss data, dB

Material	**Rating Rw, dB**	**Octave band centre frequency (Hz)**							
		63	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**
Wall Cladding	30	14	20	26	28	26	38	54	54
Acoustic Louvre (600mm)	24	7	8	12	21	28	30	28	27

With these additional mitigation measures in place, the predicted rating noise level from the operation of the ERF site will be below the background noise levels.

The results of the model with the mitigation measures in place are presented in Table 7.

Table 7 Summary of BS4142 assessment with mitigation measures (day 07.00-23.00; night 23.00-07.00). The predicted rating level includes +3dB penalty for tonality and uncertainty.

Receptor	Baseline sound level, dBL_{A90}		Predicted rating level, $dBL_{Ar,Tr}$		BS4142 Assessment ($dBL_{Ar,Tr} - dBL_{A90}$)	
	Day	Night	Day	Night	Day	Night
Residences at East Weare Road, Leet Close, Beel Close	33	33	29	29	-4	-4
Bibby Stockholm (with generators)	43	42	40	40	-3	-2
Bibby Stockholm (with on shore connection)	41	40	40	40	-1	0
Residences at the top of Verne Common Road	32	31	30	30	-2	-1
Wyke Regis (Castle Cove area)	39	32	< 30	< 30	< -9	< -2
Wyke Regis (south)	40	33	< 30	< 30	< -10	< -3

6 Conclusions

Responding to Environment Agency's letter dated 08 September 2023 in relation to Environmental Permit reference EPR/AP3304SZ/A001; this report has presented a BS4142 noise impact assessment for the proposed Powerfuel Portland ERF.

At this stage in the development process, the analysis is necessarily made on representative plant and associated noise emissions and the installation is assumed to operate 24 hours, except for deliveries by road. The same predicted levels of sound from the ERF have therefore been applied to both the day and night assessment.

Without additional mitigation, the predicted rating noise levels from operation of the proposed ERF, whilst only a low impact / minor effect, would exceed the measured background level at the residences on Verne Common Road and at the Bibby Stockholm accommodation vessel (when the vessel has a direct connection to shore power and is not operating on generators).

Additional mitigation applied to the flue immediately after the ID fans to reduce the stack source emission by at least 5dB, along with upgrading the cladding to R_w 30 on the western façade of the boiler room and northern façade of the turbine hall, and the louvre to R_w 24 in the turbine hall will result in ERF noise emissions that do not exceed the measured background level at any of the assessed receptors, indicating that any effect of sound from the ERF would be not significant. These mitigation measures will not change the external dimensions or appearance of the buildings compared to the application drawings.

Appendix A

Environment Agency's letter dated 08.09.2023 in relation to Environmental Permit reference EPR/AP3304SZ/A001

Notice of request for more information

The Environmental Permitting (England & Wales) Regulations 2016

Mr Giles Frampton
Director
Powerfuel Portland Limited
2nd Floor Regis House
45 King William Street
London
EC4R 9AN

Application number: EPR/AP3304SZ/A001

The Environment Agency, in exercise of its powers under paragraph 4 of Part 1 of Schedule 5 of the above Regulations, requires you to provide the information detailed in the attached schedule. The information is required in order to determine your application for a permit duly made on 18th May 2021.

Send the information to either the email or postal address below by 20th October 2023. If we do not receive this information by the date specified then we may treat your application as having been withdrawn or it may be refused. If this happens you may lose your application fee.

Email address: psc@environment-agency.gov.uk.

Postal address:
Permitting and Support Centre
Quadrant 2
99 Parkway Avenue
Parkway Business Park
Sheffield
S9 4WF

Name	Date
Principal Permitting Officer	08/09/2023

Authorised on behalf of the Environment Agency

LIT 11958 V2

1

Notes

These notes do not form part of this notice.

Please note that we charge £1,200 where we have to send a third or subsequent information notice in relation to the same issue. We consider this to be the first notice on the issues covered in this notice.

The notes in italics that appear after information requests in the attached schedule do not form part of the notice. The notes are intended to assist you in providing a full response.

Schedule

The Bibby Stockholm ("the barge") is now moored within 500 metres of the proposed installation. The barge is considered to be an additional sensitive receptor and as such it needs to be taken into consideration.

Noise

1. Submit an updated noise assessment report to account for the barge. This must be undertaken by an experienced and suitably qualified person in accordance with BS 4142.

   This will involve updating the noise modelling, background sound survey and BS 4142 assessment.

   New background sound data should be obtained which is representative of the barge. The installation is proposed to operate 24/7, so this should be representative of a day and night period, ideally to cover a weekend.

   In support of this noise assessment you will need to provide raw background sound level measurements in an Excel spreadsheet format and accompanying computer modelling files or calculation spreadsheets to BS 4142.

2. If the noise assessment report shows that noise could have a significant adverse impact at the barge, submit a noise management plan which includes proposals for the further attenuation and/or management of noise.

Odour

3. Submit an updated odour risk assessment and management plan to consider potential impacts at the barge.

   This must include controlling the risk of odour during both normal operation and shutdown periods. For this you will need to consider and provide justification for proposing/not proposing the options set out in BAT Conclusion 21 of the BAT conclusions for waste incineration or co-incineration, published December 2019.

Appendix B

Acoustic Terminology

Background sound level, $L_{A90,T}$

A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T, measured using time weighting, F, and quoted to the nearest whole number of decibels.

Decibel (dB)

The ratio of sound pressures which we can hear is a ratio of 10^6:1 (one million: one). For convenience, therefore, a logarithmic measurement scale is used. The resulting parameter is called the 'sound pressure level' (L) and the associated measurement unit is the decibel (dB). As the decibel is a logarithmic ratio, the laws of logarithmic addition and subtraction apply.

dB(A)

The unit used to define a weighted sound pressure level, which correlates well with the subjective response to sound. The 'A' weighting follows the frequency response of the human ear, which is less sensitive to low and very high frequencies than it is to those in the range 500Hz to 4kHz.

In some statistical descriptors the 'A' weighting forms part of a subscript, such as L_{A10}, L_{A90}, and L_{Aeq} for the 'A' weighted equivalent continuous noise level.

Frequency

Frequency is the rate of repetition of a sound wave. The subjective equivalent in music is pitch. The unit of frequency is the hertz (Hz), which is identical to cycles per second. A 1000Hz is often denoted as 1kHz, e.g. 2kHz = 2000Hz. Human hearing ranges approximately from 20Hz to 20kHz. For design purposes, the octave bands between 63Hz to 8kHz are generally used. The most commonly used frequency bands are octave bands, in which the mid frequency of each band is twice that of the band below it. For more detailed analysis, each octave band may be split into three one-third octave bands or narrow frequency bands.

Maximum sound level

The maximum noise level identified during a measurement period. Experimental data has shown that the human ear does not generally register the full loudness of transient sound events of less than 125ms duration and fast time weighting (F) has an exponential time constant of 125ms which reflects the ear's response. Slow time weighting (S) has an exponential time constant of 1s and is used to allow more accurate estimation of the average sound level on a visual display.

The maximum level measured with fast time weighting is denoted as $L_{Amax,F}$. The maximum level measured with slow time weighting is denoted $L_{Amax,S}$.

Rating sound level, $L_{Ar,Tr}$

Specific sound level plus any adjustment for the characteristic features of the sound, specified over the reference time interval, Tr.

Sound pressure level, L

The sound power emitted by a source results in pressure fluctuations in the air, which are heard as sound.

The sound pressure level (L) is ten times the logarithm of the ratio of the measured sound pressure (detected by a microphone) to the reference level of $2x10^{-5}$Pa (the threshold of hearing).

Thus L (dB) = 10 log $(P1/P_{ref})^2$ where P_{ref}, the lowest pressure detectable by the ear, is 0.00002 pascals (i.e. $2x10^{-5}$ Pa).

The threshold of hearing is 0dB, while the threshold of pain is approximately 120dB. Normal speech is approximately 60dBL_A and a change of 3dB is only just detectable. A change of 10dB is subjectively twice, or half, as loud.

Sound reduction index, R

The sound reduction index (or transmission loss) of a building element is a measure of the loss of sound through the material, ie its attenuation properties. It is a property of the component, unlike the sound level difference which is affected by the common area between the rooms and the acoustic of the receiving room. The weighted sound reduction index, Rw, is a single figure description of sound reduction index which is defined in BS EN ISO 717-1: 1997. The Rw is calculated from measurements in an acoustic laboratory. Sound insulation ratings derived from site (which are invariably lower than the laboratory figures) are referred to as the R'w rating.

Specific sound level, L_s

Equivalent continuous A-weighted sound pressure level produced by the specific sound source at the assessment location over a given reference time interval, T_r.

Statistical noise levels

For levels of noise that vary widely with time, it is necessary to employ an index which allows for this variation. The L_{p10} is the level exceeded for 10% of the time period under consideration. The L_{90} is the level exceeded for 90% of the time.

A weighted statistical noise levels are denoted L_{A10}, dBL_{A90} etc. The reference time period (T) is normally included, e.g. dB$L_{A10,\ 5min}$ or dB$L_{A90,\ 8hr}$.

Typical levels

Noise Level, dB(A)	Example
130	Threshold of pain
120	Jet aircraft take-off at 100m
110	Chain saw at 1m
100	Inside disco
90	Heavy lorries at 5m
80	Kerbside of busy street
70	Loud radio (in typical domestic room)
60	Office or restaurant
50	Domestic fan heater at 1m
40	Living room
30	Theatre

Appendix C

Baseline sound survey

C1 Measurement procedure

The most recent baseline sound survey was undertaken by logging continuously from Wednesday 13 to Thursday 21 September 2023. This was supported by attended near-field measurements of the generators associated with the Bibby Stockholm accommodation vessel. In addition, measurements made in 2021 at residential areas across the far side of Portland Harbour are presented as Location A, for Wyke Regis, Castle Cove area and Location B for Wyke Regis south.

C1.1 Measurement locations

The measurement locations were chosen to provide typical baseline sound levels closest to sensitive (residential) receptors around the proposed development and at the Bibby Stockholm accommodation vessel moored in the port.

Figure 8: Measurement locations (in red)

Location 1 was adjacent to the external space associated with the Islanders Club on Leet Close.

Location 2 was on-shore at the dock close to the Bibby Stockholm vessel. The generators were located at the furthest end of the vessel away from the shore. This measurement location was chosen as it would experience the lowest levels of generator noise while still being representative of the vessel accommodation.

Location 3 was in the garden of 3 Verne Common Road, adjacent to the northwest corner of the property.


Logger 1 location

Logger 2 location

Logger 3 location

Location A

Location B

C1.2 Survey methodology

The measurements were made with the microphone mounted using a tripod 1.2m – 1.5m above ground level under acoustically free field conditions (i.e. at least 3.5m from any acoustically reflecting surface other than the ground).

The measurement locations were chosen to provide typical baseline sound levels at representative noise sensitive receptors around the site of the proposed development.

The weather conditions during the time of the representative baseline measurements were within the limits specified in BS7445-1:2003. The weather was generally dry, with minimal cloud cover day and night.

C1.2.1 Attended survey methodology

The sound level meter was set to record sound levels over 15 minute periods during the daytime (07:00-23:00) and 5 minute periods during the night-time (23:00-07:00). For each attended measurement, the sound climate, weather conditions and the measured sound levels were all recorded. The sound level meter was set to store the L_{A90} required for the BS4142 assessment and additionally the L_{Aeq}, L_{Amin}, L_{Amax} and L_{A10} indices. Measurements were made with a fast (0.125s) time constant.

C1.2.2 Unattended survey methodology

Unattended measurements were taken using a logger set to record sound levels over five-minute intervals. The meter was set to store the L_{Aeq}, L_{A10}, L_{A90} and L_{Amax} indices. Measurements were made with a fast (0.125s) time constant. The loggers recorded measurements from 13th to 21st September 2023.

C1.3 Measurement equipment

Measurements were carried out using equipment as detailed in Table B1. The sound level meters and microphones are Class 1, conforming to BS EN 61672-1: 2013. The calibration of the sound level meters, pre-amplifier and microphone chains were checked before and after use, to confirm that there was no significant drift in meter response at the calibrator frequency and level. All Arup's sound level meters are regularly calibrated and this calibration is traceable to international standards.

Measurement Equipment	Manufacturer	Type Number	Serial Number
Sound level meter (logger)	Rion	NL-52	002631670
Microphone (logger)	Rion	UC-59	12921
Pre-amplifier (logger)	Rion	NH-25	21614
Field calibrator (logger)	Rion	NC-74	34336007
Sound level meter (logger)	Rion	NL-52	00120480
Microphone (logger)	Rion	UC-59	03152
Pre-amplifier (logger)	Rion	NH-25	10479
Field calibrator (logger)	Rion	NC-74	35015346
Sound level meter (logger)	Rion	NL-52	00264534
Microphone (logger)	Rion	UC-59	09682
Pre-amplifier (logger)	Rion	NH-25	64659
Field calibrator (logger)	Rion	NC-74	34667800
Sound level meter (attended)	Rion	NL-52	00231670
Microphone (attended)	Rion	UC-59	12921
Pre-amplifier (attended)	Rion	NH-25	21614
Field calibrator (attended)	Rion	NC-74	34336007

Table B8: Measurement equipment used for the survey

C2 Measurement results

The following provides time history graphs of the logger data and a histogram of the occurrence of sound levels in 1dB bins used to identify the representative background sound levels. The histograms only consider the period up to September 18, after which the weather conditions become outside of that valid for a BS4142 assessment. The individual measurement data for the attended locations measured across the far side of Portland Harbour in April 2021 are tabulated in the tables in C2.1 and C2.2.

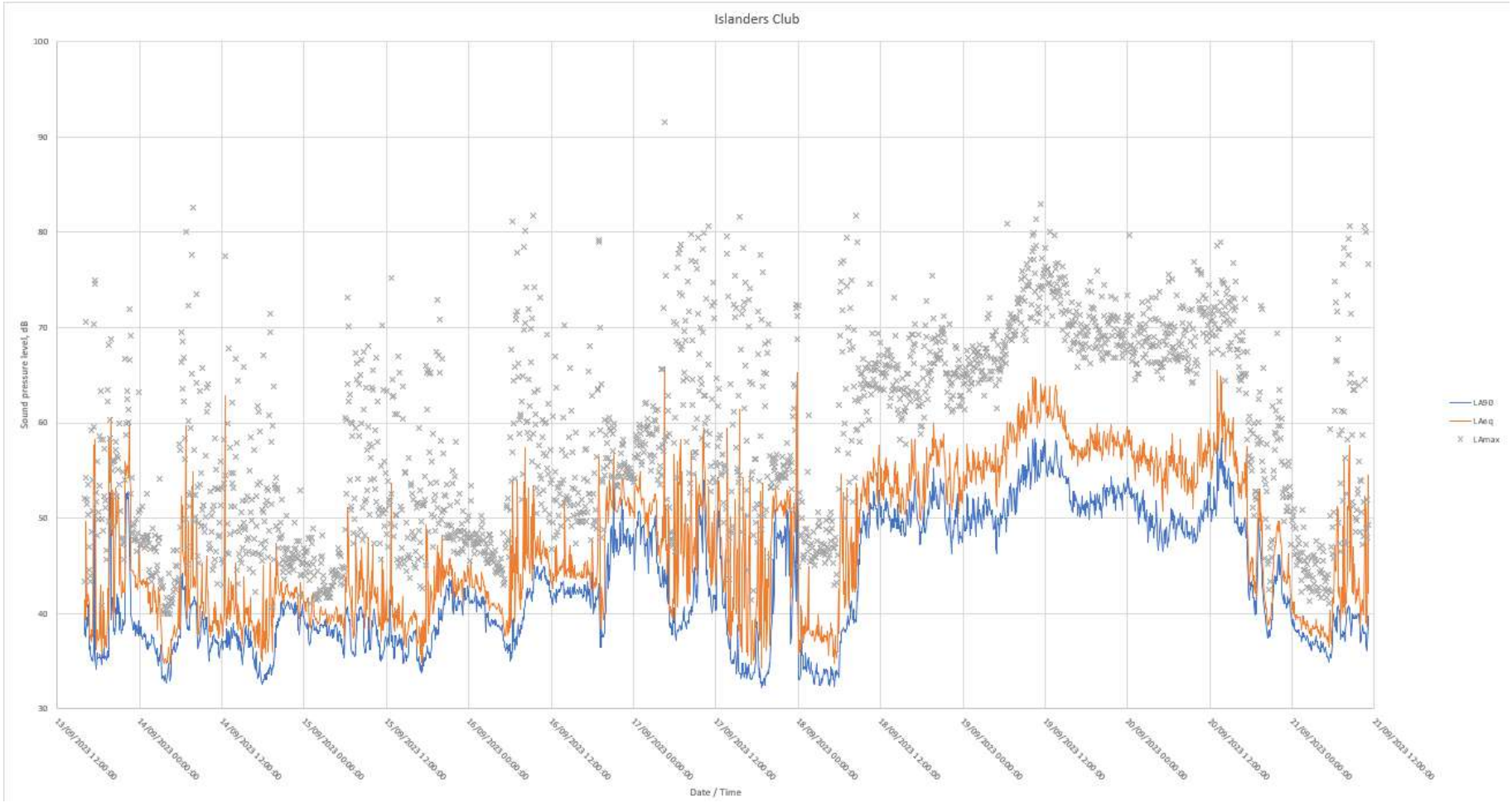

Figure 9: Unattended 5-minute measurement results – Logger 1

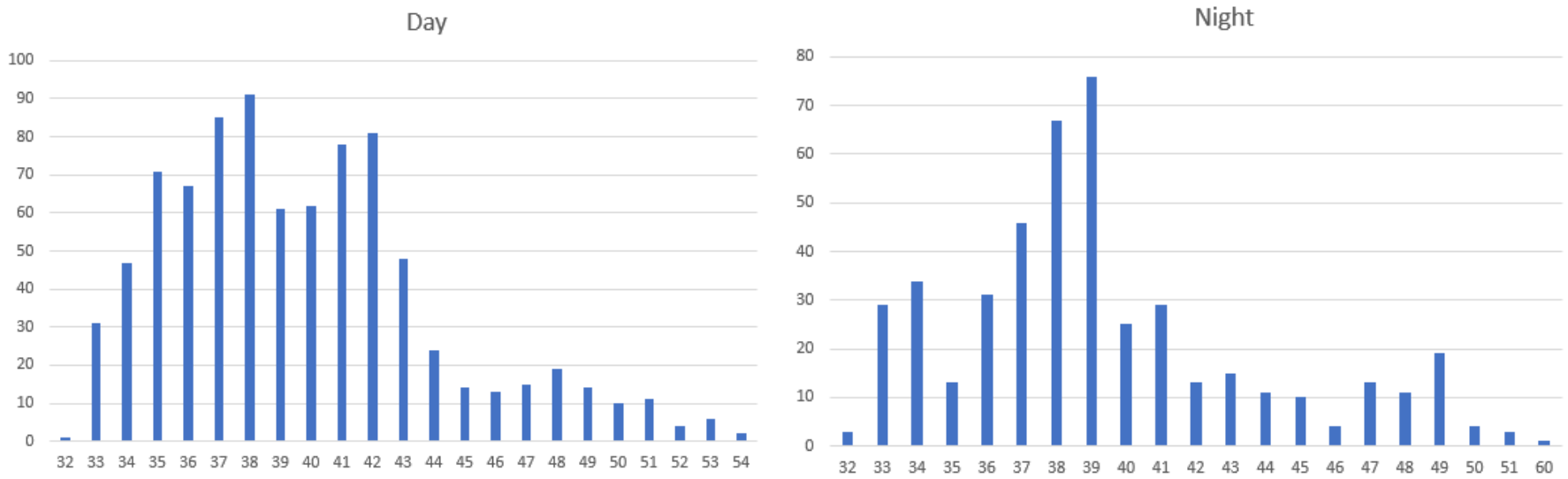

Figure 10: Histograms of day (07:00-23:00) and night (23:00-07:00) baseline background sound levels ($dBL_{A90,15min}$) at logger 1 until September 18, 2023.

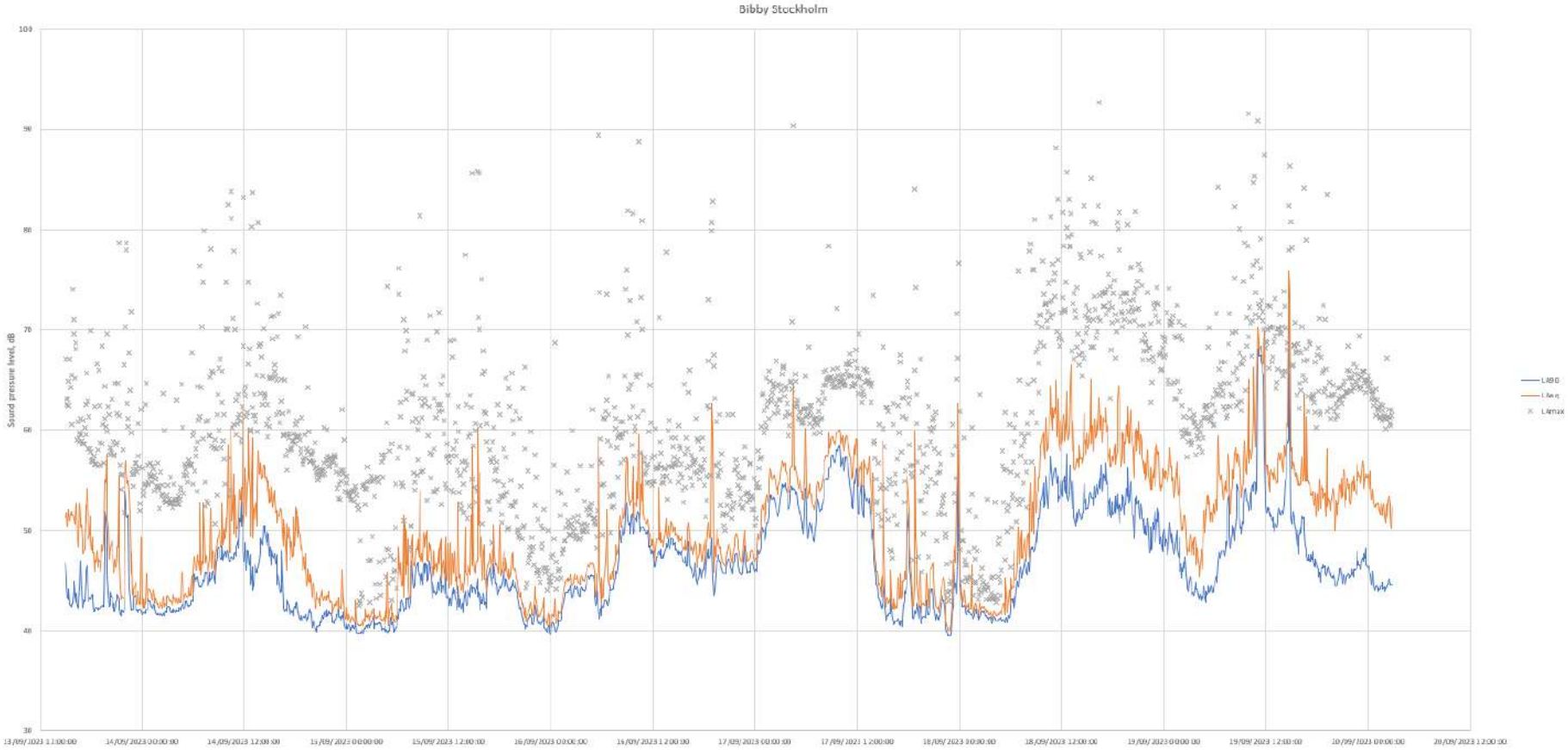

Figure 11: Unattended 5-minute measurement results – Logger 2

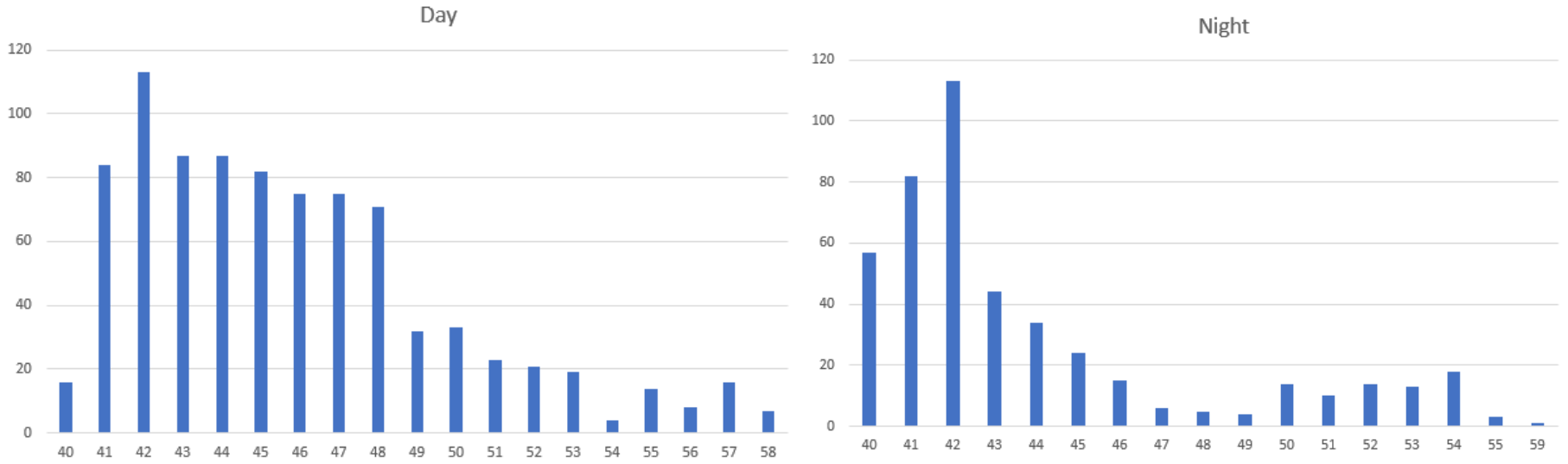

Figure 12: Histograms of day (07:00-23:00) and night (23:00-07:00) baseline background sound levels ($dBL_{A90,15min}$) at logger 2 until September 18, 2023.

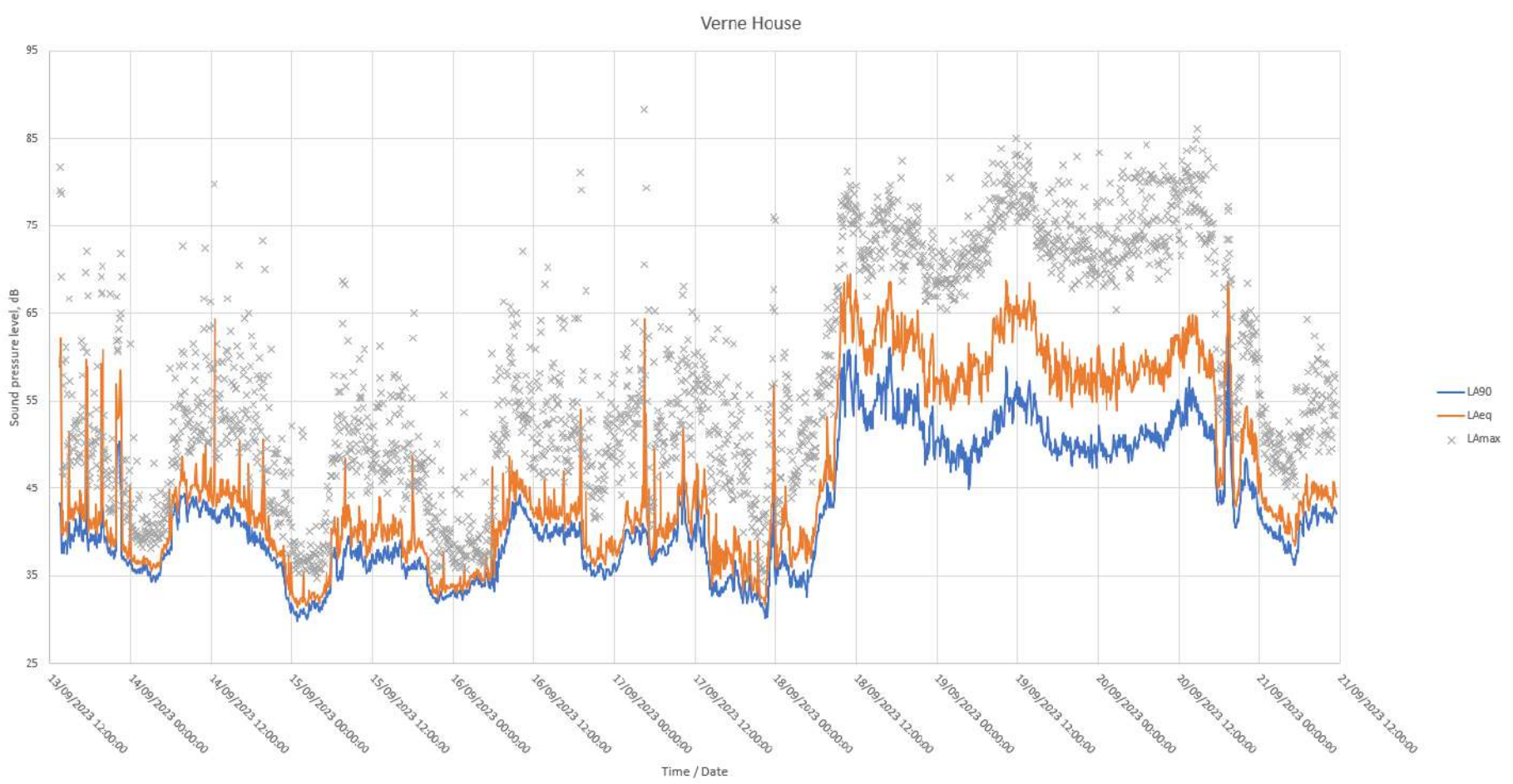

Figure 13: Unattended 5-minute measurement results – Logger 3

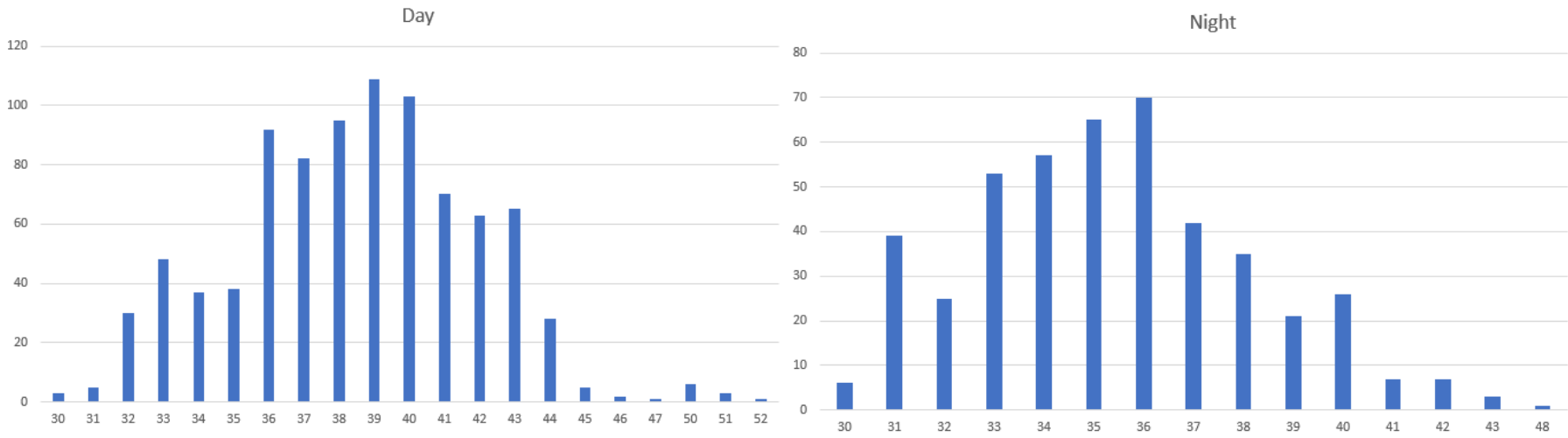

Figure 14: Histograms of day (07:00-23:00) and night (23:00-07:00) baseline background sound levels ($dBL_{A90,15min}$) at logger 3 until September 18, 2023.

C2.1 Location A

A summary of the attended measurements made across the far side of Portland Harbour at Wyke Regis / Castle Cove area in April 2021.

Date/time	Duration (minutes)	Time period	Wind speed ms^{-1}	Wind direction (from)	dBL_{Aeq}	$dBL_{Amax,F}$	dBL_{A90}	Comments
2021/04/19 13:52:02	15	Day	0-1.5	East	48.9	74.4	38.0	Primary continuous noise source is low frequency noise from moored ships. Main other noise sources were people using the beach, and cars arriving and departing the car park.
2021/04/19 15:24:47	15	Day	0	N/A	46.0	62.4	38.9	
2021/04/19 16:54:51	15	Day	0	N/A	46.1	67.2	38.8	Primary continuous noise source is low frequency noise from moored ships. Main other noise sources were people using the beach, cars arriving and departing the car park, and a helicopter overflight.
2021/04/20 01:44:57	5	Night	0	N/A	32.6	44.6	31.0	Low frequency ship noise dominant. Noise from distant birds and from ropes hitting boat masts audible.
2021/04/20 02:37:48	5	Night	0	N/A	48.4	72.3	33.7	Low frequency ship noise dominant. Noise from distant birds and from ropes hitting boat masts audible. One close car pass-by.
2021/04/20 02:44:27	5	Night	0	N/A	33.0	44.6	31.5	Low frequency ship noise dominant. Noise from distant birds and from ropes hitting boat masts audible.

C2.2 Location B

A summary of the attended measurements made across the far side of Portland Harbour at Wyke Regis south in April 2021.

Date/time	Duration (minutes)	Time period	Wind speed ms-1	Wind direction (from)	dBL$_{Aeq}$	dBL$_{Amax,F}$	dBL$_{A90}$	Comments
2021/04/19 14:20:58	15	Day	1-2	East	47.3	67.8	40.3	The dominant noise source was road traffic on the road to Portland. Low frequency noise from moored ships was also audible. The other main noise sources were people using the footpath.
2021/04/19 15:55:54	15	Day	2	East	56.3	89.8	40.2	
2021/04/19 17:26:59	15	Day	1-3	East	48.8	79.3	41	
2021/04/20 02:01:24	5	Night	1	East	34.4	44.9	32.5	Low frequency ship noise dominant. Other noise was mainly from occasional car pass-bys.
2021/04/20 03:00:34	5	Night	1	East	36.5	53.9	33.9	

Appendix D

Noise modelling assumptions

D1 Noise model data

The noise modelling information required by EA is a very large quantity of data which it is impracticable to tabulate fully. It is therefore provided separately as zipped shape files, accessible with GIS, and with a brief summary below.

D1.1 Fixed and mobile plant

Geometry and location of substation plant are included in the industrial building and area source shapefiles. Input source data can be taken from Table 2.

D1.2 Noise emitting buildings

Geometry and location of the main site building are included in the industrial building and area source shapefiles, along with the floating screens shapefile, included to accurately bring in the sloped roofs of the main site building. Input source data can be taken from Table 2.

D1.3 Site traffic

Geometry and location of site roads are included in the road traffic shapefile. 80 heavy goods vehicle movements throughout the day on site, relating to the ERF operation, have been assumed, at 20 miles per hour. The resultant sound level at the receptors was calculated in SoundPlan.

D1.4 Buildings

Any off site buildings in Portland and the remainder of the site have been modelled, and their geometry, heights and locations can be found in the building shapefile.

D1.5 Receptors

Receptors locations were modelled with point receptors at each storey of the representative nearest noise sensitive receivers. The location of these receptors is provided in the receiver shapefile and can be cross referenced with the results below giving the highest octave band sound levels at each receptor.

Receptor	Location	Facade	Coordinates			Octave band sound pressure level, dB							dBA	Dominant source of sound at the receptor
			X	Y	Z	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz		
1 F4	Ayton Drive	8	368764.9	74294.2	36.5	44.2	35.8	30.6	24.5	20.2	9.0	-15.4	27.5	Stack flue top; boiler room west; boiler room west
3 F4	Castletown	7	368887.6	74359.8	17.0	47.0	40.0	34.2	28.2	24.2	14.0	-7.7	31.2	Stack sides; Stack flue top; boiler room west louvre
4 F4	Coronation Road	11	368703.9	74079.9	48.1	41.3	32.8	27.8	21.4	16.9	5.2	-19.9	24.4	Stack flue top; Boiler room west; boiler room west
5 F4	Crabbers Wharf	6	368735.9	74413.5	15.9	47.1	41.6	35.9	29.7	25.5	14.4	-10.4	32.6	Stack sides; Turbine Room North Facade louvre; Stack flue top
7 F4	East Weare Drive	5	368989.9	74140.1	70.3	46.7	38.0	33.5	27.0	23.0	12.8	-6.8	30.1	Stack flue top; Boiler room west; boiler room west
9 F4	Jailhouse	4	369289.6	73880.5	160.9	51.8	43.3	38.1	33.4	30.9	22.5	7.5	36.3	Boiler room west; boiler room west; boiler room west
12 F4	Portland Hospital	10	368590.8	74157.3	32.5	41.0	32.5	27.2	20.9	16.4	4.7	-20.5	24.0	Stack flue top; Boiler room west; Boiler room roof
13 F1	Portland Marina	12	368441.9	74828.2	4.5	45.9	40.7	34.4	28.5	24.1	10.9	-19.2	31.4	Turbine Room North Facade louvre; Stack sides; Turbine Hall East Facade Louvre
14 F1	Ayton Drive	8	368764.9	74294.2	36.5	44.2	35.8	30.6	24.5	20.2	9.0	-15.4	27.5	Stack flue top; Boiler room west; boiler room west

A3

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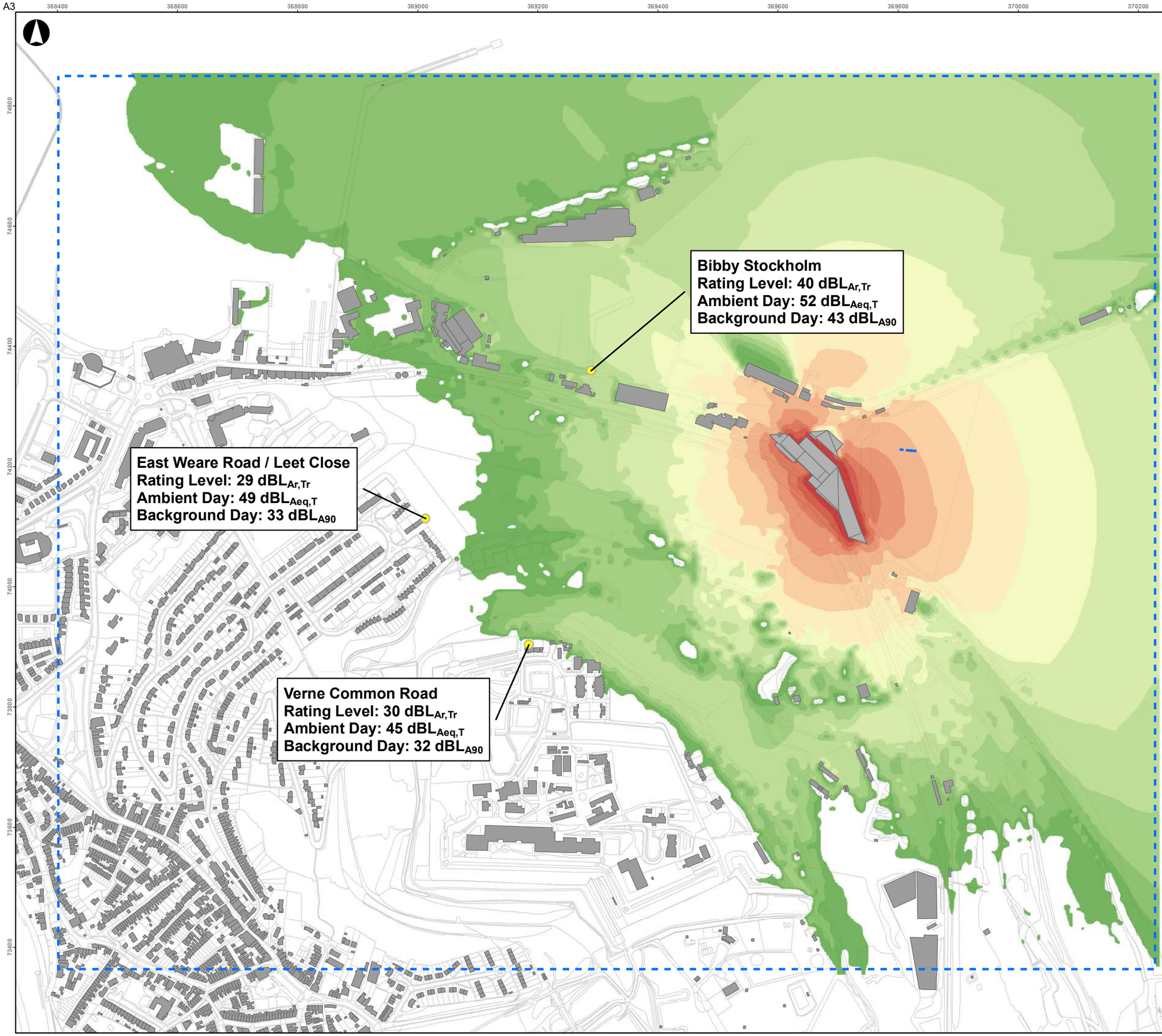
74800 74600 74400 74200 74000 73800 73600 73400



Legend

- Noise Sensitive Assessment Location
- Calculation Extent

The Rating Level ($dBL_{Ar,Tr}$) includes a 3dB penalty as described in BS4142:2014+A1:2019

The noise map is the predicted $L_{Aeq,T}$ from the ERF site without any penalty.

Modelled Noise Emission from the Operational ERF

dB L_{Aeq}

< 30	48 - 51
30 - 33	51 - 54
33 - 36	54 - 57
36 - 39	57 - 60
39 - 42	60 - 63
42 - 45	63 - 66
45 - 48	> 66

Rev	Date	By	Chkd	Appd	Authd
I4	31/10/2023	BC	DH	DH	BC

Metres

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ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client

Powerfuel Portland

Job Title

Portland Energy Recovery Facility BS4142 Noise Impact Assessment

Drawing Title

Predicted Noise Emission from the Operational Facility Compared to Measured Baseline Noise Levels Day

Scale at A3

1:6,000

Drawing Status

Issue R04

Job No	Drawing No	Rev
267701-15	002	P2

A3

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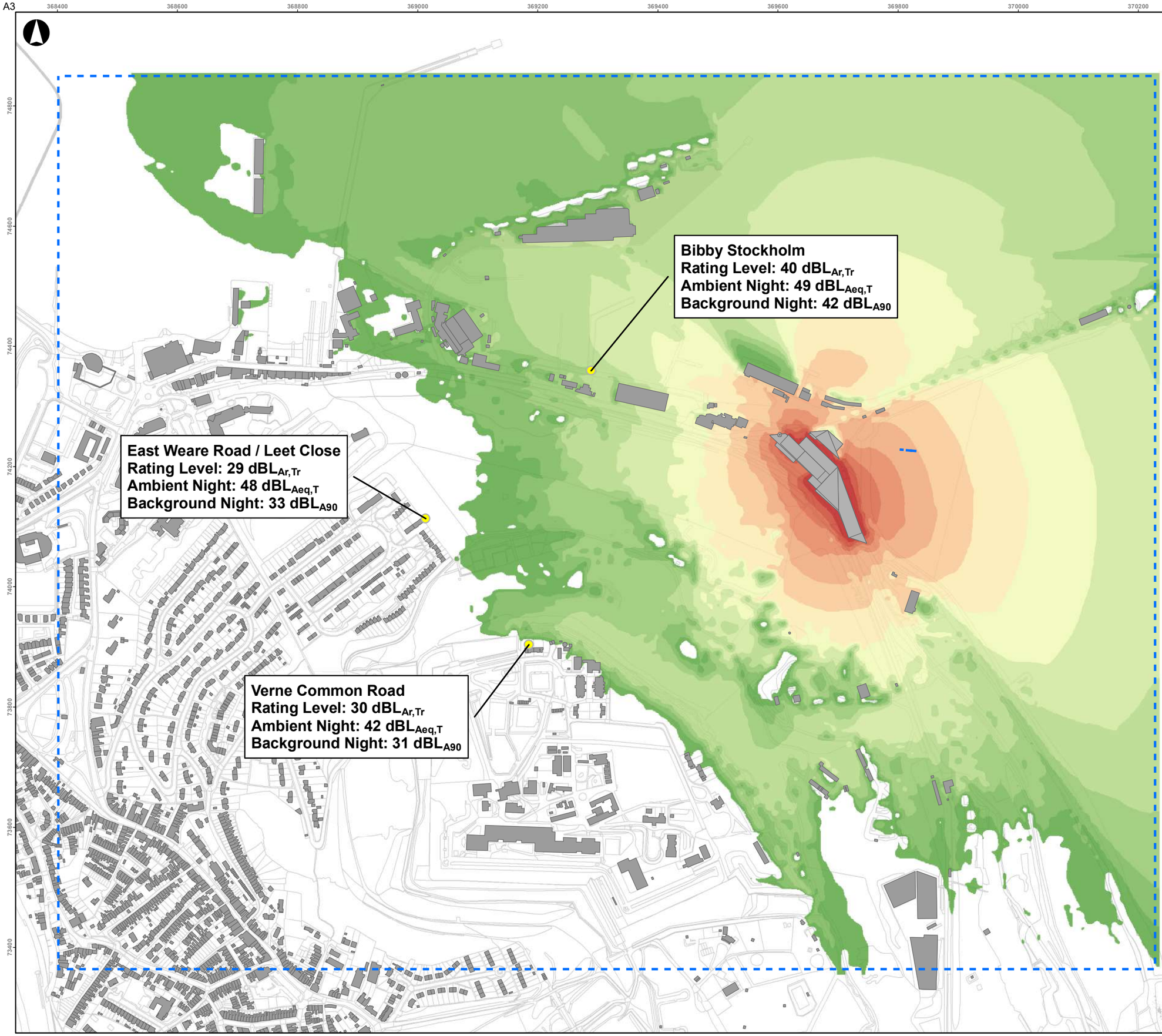


Legend

- Noise Sensitive Assessment Location
- Calculation Extent

The Rating Level (dBL$_{Ar,Tr}$) includes a 3dB penalty as described in BS4142:2014+A1:2019

The noise map is the predicted L$_{Aeq,T}$ from the ERF site without any penalty.

Modelled Noise Emission from the Operational ERF

dB L$_{Aeq}$

< 30	48 - 51
30 - 33	51 - 54
33 - 36	54 - 57
36 - 39	57 - 60
39 - 42	60 - 63
42 - 45	63 - 66
45 - 48	> 66

Rev	Date	By	Chkd	Appd	Authd
I4	31/10/2023	BC	DH	DH	BC

Metres

0 80 160 320

ARUP

13 Fitzroy Street
London W1T 4BQ
Tel +44 20 7636 1531 Fax +44 20 7580 3924
www.arup.com

Client

Powerfuel Portland

Job Title

Portland Energy Recovery Facility BS4142 Noise Impact Assessment

Drawing Title

Predicted Noise Emission from the Operational Facility Compared to Measured Baseline Noise Levels Night

Scale at A3

1:6,000

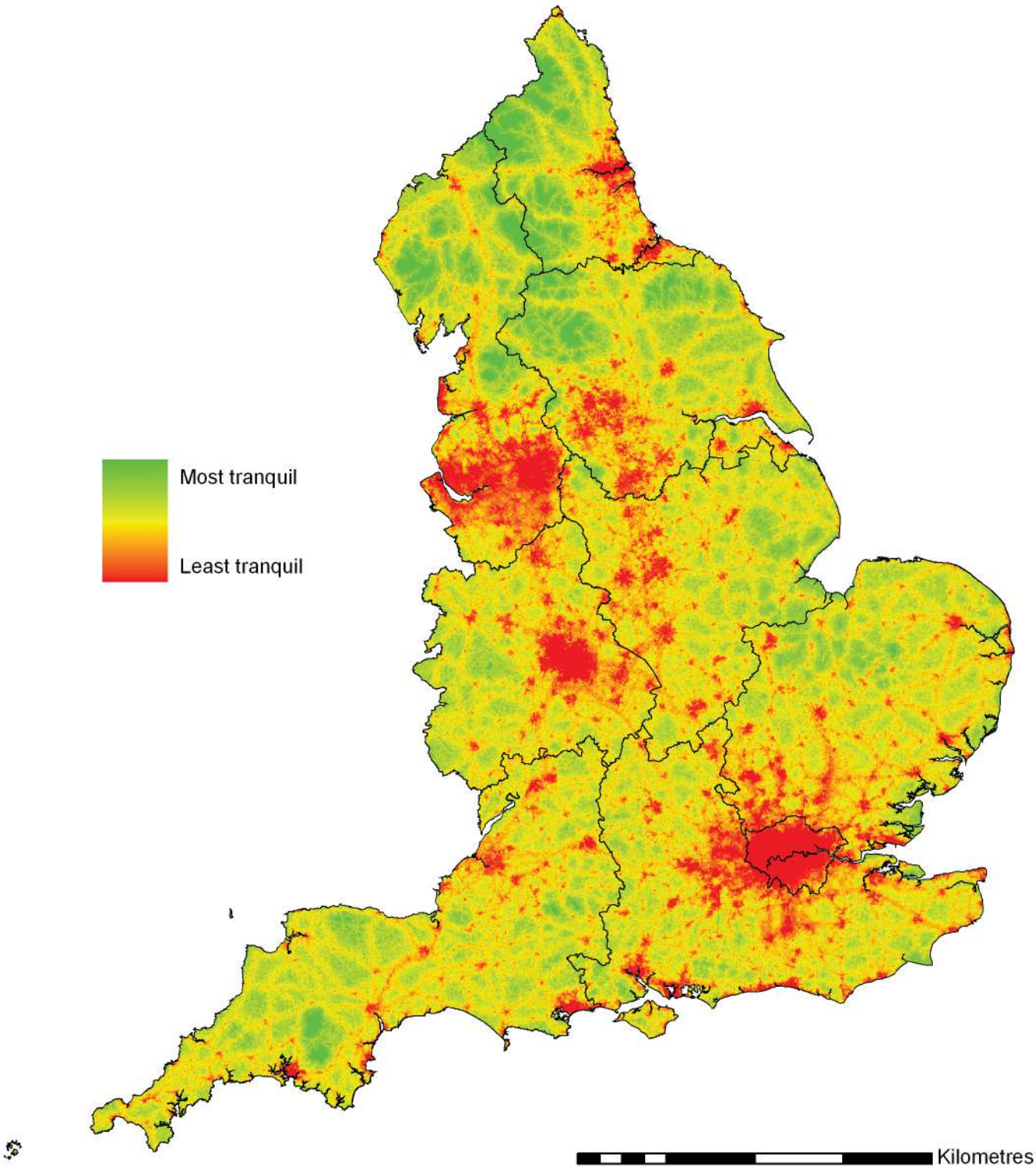
Drawing Status

Issue R04

Job No	Drawing No	Rev
267701-15	001	P2

Campaign to Protect Rural England

National map with 2001 regional boundaries



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Revised edition 2007.

Powerfuel Portland Limited
2nd Floor Regis House,
45 King William Street,
London,
EC4R 9AN

Dear Steven

Portland Energy Recovery Facility, Portland Port, Dorset

Planning Appeal Reference: APP/D1265/W/23/3327692

Letter of Support

Introduction

I write in relation to the planning appeal in relation to your planning application for an Energy Recovery Facility ("ERF") at Portland Port and our specific interest in managing the residual air pollution control residues ("APCr"). I set out our position so that it is clear to the Planning Inspector deciding the appeal that O.C.O Technology Limited is committed to supporting Powerfuel manage its APCr. As you know, this is the primary purpose of our multiple award-winning commercial carbon capture and utilisation business. Specifically, we convert APCr from facilities like the Powerfuel ERF into a lightweight aggregate substitute used in construction, diverting that waste from landfill and reducing primary aggregate demand.

Commitment

We have been in discussion with Powerfuel since 2020 and are supportive of the Portland project and its ambition to be a zero waste to landfill ERF. We help numerous similar plants divert 100% of their APCr from landfill.

From our discussions we understand that the residual waste inputs and the flue gas abatement process intended to be used at the Powerfuel ERF means that the resulting APCr will be suitable for processing at our facilities, and will comply with our Inward Specification.

Subject to finalisation of contractual terms, O.C.O is able and willing to receive the APCr produced at the Powerfuel ERF and to transport it to one of our existing licenced facilities for processing and recycling. We manage the entire process from collection from your plant storage silo, through specialist transportation using our dedicated fleet of powder tankers, to our permitted facilities where our patented process (briefly described below) results in a recycled "carbon-negative" aggregate that is approved by the Environment Agency for reuse in certain construction activities.

Facilities

O.C.O currently operates permitted recycling facilities at Avonmouth (Bristol), Leeds (Yorkshire) and Brandon (Suffolk). Our closest facility to the Powerfuel ERF is at Avonmouth (Unit 1 Severn View Industrial Estate, Central Avenue, Avonmouth, BS10 7SD). We have another facility in commissioning in Norfolk and are in the process of expanding capacity at Avonmouth with the addition of a third line. We would normally expect to use the facility closest to the source of the APCr to minimise transport for obvious environmental sustainability and cost reasons.

Together our three facilities process over 190,000 tonnes of waste each year which would have otherwise been sent to landfill and produce over [380,000 tonnes of sustainable aggregate. This APCr capacity is set to rise to around 300,000 tonnes in the next year producing over 500,000 tonnes of our Manufactured Limestone aggregate.

Customers appreciate the resilience and contractual certainty that our network of facilities affords since a temporary outage at one location can be covered at another. Furthermore, as a fail-safe we have an arrangement in place with a licensed Hazardous Waste landfill site operated by our sole shareholder, Grundon Waste Management. but we rarely require to use that fall-back This reassures our EfW clients and their customers on the efficacy and availability of our solution.

The facility at Avonmouth is our closest location to the Portland ERF that could accept this waste.

Treatment - Accelerated Carbonation Technology

O.C.O uses its patented *Accelerated Carbonation Technology* to stabilise the APCr with carbon dioxide which, in doing so, permanently captures the carbon. The carbonated material is then mixed with other binders and fillers to manufacture a carbon negative aggregate, Manufactured Limestone or "M-LS". The M-LS captures more carbon than it emits in its manufacture.

Very little energy is required for the process, which relies upon the reactivity of the waste material. Many wastes are naturally reactive with carbon dioxide in the presence of water. If the conditions are carefully controlled, this can be accelerated, taking place in minutes rather than years and resulting in the formation of calcium carbonate (manufactured limestone).

O.C.O Technology is one of the few companies in the UK to hold End of Waste approval from the Environment Agency, which means that our product can be used in a range of construction activities. We offer a range of M-LS products, including our BlockMix aggregate, which is certified to BS EN 13055-1 (Lightweight Aggregate for Concrete), is specifically suited for use in masonry. Our 6F Series aggregate, certified to BS EN 13242 (Unbound Aggregates) is ideal for use in earthworks, pavements and bound materials.

Track Record

O.C.O successfully provide this service to numerous UK EfW facilities. Notable examples include:

- Lakeside EfW in Slough (operated by Viridor and Grundon serving numerous authorities including (in 2023) Dorset and Bournemouth, Christchurch and Poole);
- Allington EfW plant in Kent (operated by FCC Environment/Kent Enviropower serving Kent County Council, Thurrock and others);
- Ness EfW in Aberdeen (operated by Indaver and serving 3 councils Aberdeen City Council, City Shire and Moray);
- Newhurst ERF in Leicestershire (operated by Encyclis)
- Ferrybridge in Yorkshire (operated by Enfinium serving Leeds, Bradford, Cumbria and other authorities).

O.C.O has an extensive network of customers and there is a growing market for the M-LS that would be produced from the Powerfuel APCr. We are confident that it will be used in suitable construction activities. As such it has a valuable end-use as a substitute for primary materials.

Award Winning

We are pleased to have won a range of awards, including most recently:

- 2023 "Carbon Capture and Storage Award" at the 2023 National Sustainability Awards;
- 2023 Best Sustainable Construction Products & Carbon Capture Tech Company
- 2023 at the Research & Development Awards hosted by Acquisition International;
- 2022 Gold Award for Health and Safety performance awarded by The Royal Society for the Prevention of Accidents (RoSPA);
- 2022 Highly Commended in the Dilmun International Environmental Award (sponsored by GPIC) for demonstrating excellence in environmental and Health and Safety management.

Further, Sir James Bevan, Chief Executive of the Environment Agency, listed O.C.O as one of the 'smart' businesses stepping up to help tackle the climate emergency. After visiting our Avonmouth facility, he explained how our process turns hazardous waste that would otherwise be sent to landfill is being used to manufacture a carbon-negative aggregate which is helping innovators in the construction industry move towards greater sustainability.

Our sustainability report is available here.

Yours sincerely,

Signed ..... (Signature)

Print Name Andrew Short

Position Head of Planning and Development

Date 30 October 2023