4. Alternatives and Design Iterations

4.1 Introduction

4.1.1 Schedule 4, paragraph 2 of the EIA Regulations requires Environmental Statements (ES) to include:

'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.'

4.1.2 The EIA Regulations do not require the full assessment of all potential alternatives, only a reasonable account of those actually considered by a developer prior to the submission of the planning application.

4.1.3 For the Proposed Development there are two realistic types of alternative; the 'do nothing', where the existing Canford Resource Park (CRP) area covered by the redline remains in its current state, or alternative designs to the Proposed Development submitted for planning approval.

4.1.4 Therefore, the assessment of alternatives to the EfW CHP Facility has considered options within the following categories:

- 'Do Nothing': under this scenario alternative sites are considered; the Proposed Development is not implemented and baseline conditions continue in their current trends;
- A different design: under this scenario the Proposed Development is realised with alternative designs, often in the context of developmental constraints present at the EfW CHP Facility Site.

4.2 The 'Do Nothing' Scenario

4.2.1 Alternative sites to supply energy to the intended customers of the Proposed Development are effectively limited to the EfW CHP Facility Site and its immediate surroundings. The CRP is allocated in the development plan for the intensification and redevelopment of facilities including waste management (Policy 3 of the Waste Plan). The Waste Plan has gone through a robust process to determine policy, allocations and a sustainability appraisal has been undertaken in support of this.

4.2.2 Under the 'do nothing' scenario, no development would take place at CRP and existing uses on-site at the CRP would remain. The area contained within the Red Line Boundary at CRP would remain underused in terms of its economic potential and would not fulfil the aims of Policy 3 of the Waste Plan, which allocates CRP for the intensification and redevelopment of facilities including waste management.

4.2.3 This is not a reasonable alternative option, and as such it is not deemed appropriate to consider alternative sites. Therefore, this option has not been addressed further in this chapter and the ES.

4.3 Waste capacity

4.3.1 The **Planning Statement** identifies that the adopted Waste Plan for BCP Dorset (adopted 2020) identifies a shortfall within the BCP and Dorset area of 232,000 tonnes per annum of residual waste management capacity. This takes account of measures to avoid, re-use, and recycle waste. Adding the known export from the CRP Mechanical and Biological Treatment (MBT) plant of 113,000 tonnes per annum of refuse derived fuel (RDF) creates a need for 345,000 tonnes per annum of residual waste management capacity.

4.3.2 National Planning Policy for Waste advises LPAs and others to take account only of operational facilities when assessing waste need. Aside from the CRP MBT there are no operational waste management facilities for residual waste in BCP or Dorset. Planning permission exists for a 60,000 tonnes per annum plant at Parley but development has not commenced. Even if this were taken into account there would be a need for 285,000 tonnes per annum of residual waste management capacity, hence the 260,000 annual capacity of the proposed EfW CHP Facility is appropriate.

4.4 Alternative technological solutions

4.4.1 It is considered that there are no alternative technological solutions that could achieve all of the purposes of the Proposed Development. Alternative distributed energy sources are available, and these might be low carbon and provide energy security, but only fuelled generation (as distinct from intermittent generation e.g., solar or wind) could achieve the same level of service (i.e., baseload supply of electricity and/or heat) unless significant storage capacity were included. Additionally, only the use of residual waste fuel can achieve both the generation of energy and the recovery of energy from residual waste for this purpose. The area of land required for equivalent energy generation by solar or wind would also be much greater and would provide no opportunity for the development of a heat network.

4.4.2 No alternative means of securing outlets for recovery of residual waste could, on the basis of considering commercially proven technologies only, demonstrate the same level of certainty as the Proposed Development. **ES Appendix 4.1** [1]presents further information of alternative forms of residual waste treatment and why conventional incineration continues to be the selected technology for MVV and the Applicant.

4.4.3 Recycling and re-use of waste is not considered an alternative, as the waste processed by the Proposed Development will only be residual waste and hence by definition is not capable of recycling or re-use. On the basis of the Applicant's knowledge of the waste industry in England, and the extent to which the waste management industry is reliant on landfill and export of residual waste, the Proposed Development represents the most secure option, as well as the best option on a balance of regulatory, technical, and commercial certainty, for the management of locally generated residual waste, in accordance with the waste hierarchy.

[1] DEFRA's report; Energy from Waste A guide to the debate, Feb 2014, provides an explanation of what 'residual waste' is, it states; "Residual waste is mixed waste that cannot be usefully reused or recycled. It may contain materials that could theoretically be recycled, if they were perfectly separated and clean, but these materials are currently too contaminated for recycling to be economically or practically feasible. It may also be that there is currently no market for the material or it is uneconomic to take to market. An alternative way of describing residual waste is 'mixed which at that point in time would otherwise go to landfill'. Generally energy recovery should be from residual waste"

4.5 A different design

4.5.1 Having confirmed that the EfW CHP Facility Site is a suitable option for the location of a waste management facility and that the technology proposed is the most appropriate, the Applicant has considered a range of design and layout options.

4.5.2 Aspects under review included:

- Layout for specific parts of the EfW CHP Facility;
- Scale and design of the Proposed Development;
- Location of a Temporary Construction Compound;
- DNC and CHP Connection; and
- Measures to protect local residential and environmental amenity.

Layout

4.5.3 An early consideration in the preparation of the planning application for the Proposed Development was to understand in detail the constraints and opportunities. The findings of the environmental surveys, and appraisal work undertaken in preparation of the application for the Proposed Development, are described within the technical chapters of this ES (Chapters 6 to 15).

4.5.4 After a preliminary assessment of the building space requirements, sufficient to house a facility that could process up to 260,000 tonnes per annum (tpa) of residual waste, was undertaken, the Applicant's technical, construction and development teams reviewed the 'best fit' for an EfW CHP Facility. Considerations influencing the design and layout included the following:

- Technical and process requirements;
- Constructability;
- Vehicle access and circulation;
- Adjacent ecologically designated sites;
- Existing land uses within CRP; and,
- Further environmental improvements.

4.5.5 Four potential options were considered in the selection of the preferred site layout, these are presented in **Figure 4.1**.

Figure 4.1: Alternative Site Layouts

4.5.6 The selected layout option was considered the most efficient at suitably addressing the considerations outlined above and was therefore selected as the preferred option for the layout of the EfW Facility, see **Figure 4.2**.

Figure 4.2: Preliminary site layout

4.5.7 Having established the preliminary site layout, as illustrated on **Figure 4.2**, the architects for the Proposed Development undertook a site context analysis and developed the architectural design. Using this information, and feedback from the technical consultants, the final layout was selected. Key features of the final layout option were amended to address environmental conditions, as follows:

- **ID14: Emergency Diesel Generator** – initial outputs from air quality modelling for the Proposed Development identified a potential issue related to emissions and the proximity to the designated Canford Heath. The location of the diesel generator was moved to the north-east, away from the boundary with the designated site; and
- **Parking and western boundary** – in order to increase the distance between the adjacent designated Canford Heath site and the built elements of the Proposed Development, the areas of car parking were pulled away from the western boundary, which has enabled more vegetation to be retained in this area.

4.5.8 The final layout option is presented in **Figure 4.3**.

Figure 4.3: Final refined site layout

Scale and design of the Proposed Development

Chimney height

4.5.9 The EfW CHP Facility will include one chimney. The height of the chimney is determined by factors including technology requirements and the requirements of the Environmental Permit (EP) that will be issued by the Environment Agency. Preliminary design considerations were based upon a chimney of approximately 90m in height. Following initial air quality modelling outputs, it was determined that there would be potential significant air quality effects upon the habitats that support the ecological designation of Canford Heath, directly adjacent to the EfW CHP Facility Site. In response to this, the chimney height was reviewed. A range of heights were modelled to understand the likely effects upon the heath, whilst balancing the landscape and visual effects relating to the introduction of a tall feature in the landscape, and the requirements for aerodrome safeguarding associated with Bournemouth Airport.

4.5.10 Based on the balance of air quality, landscape and visual and aerodrome safeguarding requirements, the chimney for the Proposed Development would have a maximum height of 110 m above finished floor level (FFL[2]) and an approximate diameter of 3.1 m.

Design

4.5.11 There are many forms that a new EfW facility can take, however, they are all driven by the inherent processes. This process is linear, with the required building height increasing from waste input (lowest required building height) through to the incineration process in the boiler (highest required building height) and resultant Incinerator Bottom Ash (IBA) and Air Pollution Control residues (APCr) and energy recovery. As discussed above, the height of the chimney is principally informed by the requirements related to air quality; therefore its height defines its architectural treatment. Based on these parameters, the architect prepared four options for consideration.

4.5.12 The context for the CRP is unusual in that it is an industrial enclave in a rural setting. Although it is to a large extent screened by existing mature trees, the required size of the building and chimney mean that its higher profile will be visible from a distance. The surrounding topography and landscape is rural in context, in that natural contours, with the exception of the domed structure of the closed White's Pit landfill, to the west, define the surrounding skyline profile of CRP.

4.5.13 In all four options, the chimney is illustrated as a single slim element due to the ratio between its height and diameter. It was determined that, given the required height, any adornment or alternative form, would result in additional visual effects.

4.5.14 The summary of the concept designs is set out in **Tables 4-1 to 4-4** below.

[2] FFL of the buildings and chimney at the EfW CHP Facility Site is 44.65m AOD

Table 4-1: Summary of architectural concept design for the EfW CHP Facility – Option 1

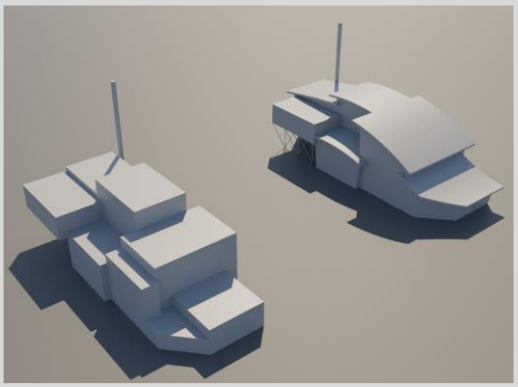
Option 1 description	Option 1 model image
This option was the starting point for the design. the architect modelled various mass requirements of the building 'boxes' using the selected site layout to offer a visual indication of how the building needed to function. From that model, a series of curved profiles were produced to enclose the mass to reflect the site context as described above. When viewing the Proposed Development from a distance, the curved profile of the roof reflects the natural environment.	

Table 4-2: Summary of architectural concept design for the EfW CHP Facility – Option 2

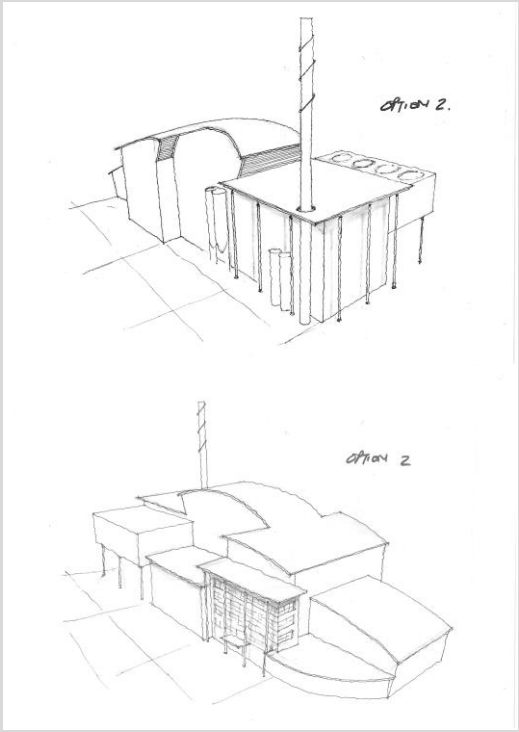
Option 2 description	Option 2 model image
Option 2 breaks the curved form down to efficiently enclose the required building massing. From a distance however, the main roof profile is still consistent with the visual impact of Option 1. This option includes the APC building and administration block as flat roofed profiles, with significant eaves overhangs, supported by columns. The main APC roof is directional in that no overhang is permissible over the air-cooled condenser (ACC). However, on the chimney side of that building, the overhang is significant and supported by canted columns, to allow the functional requirements of access to the APC silos. This chimney then 'pierces' the roof at its junction. This achieves two things – a lessening of the visual impact of the chimney at closer distances to the building, and shelter for the various functional activities below – such as the Continuous Emission Monitoring system (CEMs) platform. The APC building could have a green roof. The ACC block is clad with decorative cladding panels on the vertical sides but has to remain open at the top and bottom for airflow requirements. The administration building adopts the same architectural theme as the APC building.	

Table 4-3: Summary of architectural concept design for the EfW CHP Facility – Option 3

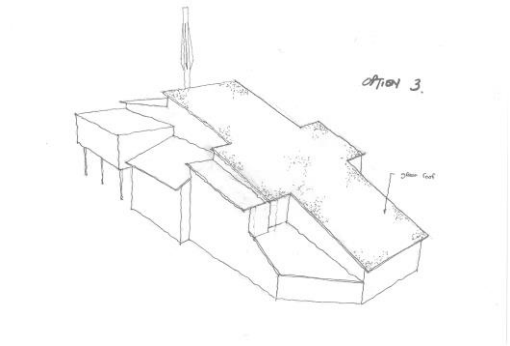
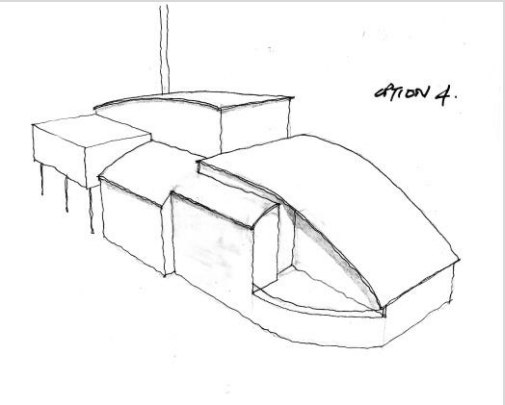
Option 3 description	Option 3 model image
Option 3 explores an alternative approach to the enclosure of the required building massing with angular monopitch forms. The main roof is continuous from tipping hall to boiler apex and could maximise the green roof potential. This may be of benefit when viewed from a distance from a southerly direction. Although striking in appearance, the architects concluded that this sort of building form would sit awkwardly in its context. The angular forms would visually jar against the natural landscape profiles and the architectural statement it would make would be at odds with its surroundings.	

Table 4-4: Summary of architectural concept design for the EfW CHP Facility – Option 4

Option 4 description	Option 4 model image
Option 4 returns to the curved forms but explores the potential to change some of the curved enclosures to span in different directions. Whilst this enclosed the required building massing reasonably efficiently, its resultant effect did not have the same visual 'flow' of both Options 1 and 2. It consequently appears as a series of separate and visually unconnected curved volumes. In the architect's opinion the distant views would be less successful than Option 2, and the higher profiles are not natural landscape flows, but shapes truncated by vertical elements, alien to a natural landscape.	

4.5.15 At a pre-application design meeting with the Local Planning Authority on 31 January 2023, the various design options were shown to the BCP Council. The design team explained how different options had been explored, setting out how curved building aspects (Options 1 and 2) had been considered as well as alternative more angular design (Option 3). It was explained that an angular design would be less efficient in terms of large roof voids and where the angular form may jar with the landscape. Option 4 explored splitting the building up into different built elements, however that design was deemed more suited to an urban environment, which is not applicable to CRP.

4.5.16 In terms of design evolution, the preferred design (Option 2) features curved design aspects to ensure that the building is as least visually intrusive as possible and in order to best complement long distance landscape views.

4.5.17 In terms of refinements, it was explained that cladding options have been explored and muted, neutral colours, such as pale greens, light greys and browns are preferred to ensure

that the building appears congruous with its rural setting and surrounding trees. The LPA were in general agreement that the design options were limited due to the nature of the proposals and the necessary size of the building. No significant concerns were raised with the preferred design. The BCP Council expressed that they would prefer the use of muted, neutral colours for the building to minimise visual impact, and that the use of green roofs to enhance biodiversity would be supported.

4.5.18 The preferred option, and the one that forms part of the planning application for the Proposed Development, is Option 2. This achieves distant context with its surrounding landscape and some visual mitigation of the chimney and closer views with a more dramatic architectural treatment. The curved and flat profiles are integrated together to provide a complete architectural composition, whilst allowing all the functions of the EfW CHP Facility to be processed efficiently, both internally and externally.

4.5.19 This preferred design has been refined from the initial model to consider in more detail the following elements:

- Provision of approximately 2,459m^2 of green roofs; and,
- Consideration of materials, colours and finishes to minimise the visual impact of the taller elements of the EfW CHP Facility.

Location of temporary construction compound

4.5.20 Two Temporary Construction Compounds (TCCs) are under consideration, however only one is required for the construction of the Proposed Development.

4.5.1 Once the potential areas of search for TCCs were identified, work was undertaken to identify the appropriate size and location within the areas of search. The location of the TCCs are displayed on **Figure 2.1** and are:

- TCC1 – the Arena Way site, located off Arena Way; and
- TCC2 – the 'Greenhouse' site, located south of the EfW CHP Facility Site.

4.5.2 When determining the exact locations for the TCCs within the areas of search, consideration of the potential environmental impacts were considered. The original area of search for TCC1 was a much larger area and, through review, this was refined to the area identified on **Figure 3.26,** to sit up against the existing bund located adjacent to Magna Road, which encloses the TCC and reduces visual impact from the road.

4.5.3 The two alternatives have been considered and assessed as part of the ES. The final details of the TCC will be confirmed by the engineering, procurement, and construction contractor (EPC Contractor) prior to the commencement of construction.

DNC connection and cable route

4.5.4 The project includes the export of energy in the form of higher voltage power (132kV, to the DNO grid), lower voltage (11kV, for private wire connections) and hot water for heating systems. This electrical energy will be supplied via the Distribution Network Connection (DNC) to the distribution network.

4.5.5 The hot water has to go either to relatively proximate end users, such as are proposed at Magna Business Park, or potential future district heating infrastructure. The proposals include for both of these with the eastern CHP connection corridor to Magna Business Park and northern to Magna Road, where there may be a trunk heat main installed as part of a

future district heating network. This northern corridor could also serve any developments occurring, following future local plan review, on the Canford Arena. The route of the eastern CHP connection was chosen as described below. The northern CHP connection follows Arena Way and is proposed to be installed beneath it and there is no sensible alternative – reflecting that utility pipes and cables tend to be laid beneath roads.

4.5.6 The low voltage (11kV private wire) cables are most likely to serve the same types of customers as the heat pipes and hence it is sensible for them to be laid alongside within the same corridor. This is proposed and hence no separate alternatives have been considered to the CHP corridor routes.

4.5.7 The high voltage cable could be laid under public highway to the nearest suitable piece of existing DNO infrastructure. This has been considered to provide a link to the Redhill substation, where new infrastructure would be required to facilitate the connection. The Redhill substation is within the Green Belt and expansion of it is additionally constrained by nature conservation designation and flood risk.

4.5.8 It would also require 5km of roadworks to install the cable, including through the centre of Kinson and other built-up areas in which there is already significant utility infrastructure beneath the public highway. Furthermore, it is a route over 4km longer than that proposed and hence would require considerably more raw materials (copper or aluminium wire, insulating materials and aggregate), would involve more resistance losses of power (longer cables are inherently less efficient) and maintenance liabilities.

4.5.9 The chosen alternative of constructing the high voltage cable within the CHP corridor was considered preferable. This enables access to the existing 132kV overhead lines operated by SP Energy Networks (SPEN) close to the Magna Business Park. The site of the proposed DNC Compound, facilitating the Point of Connection (POC) to the overhead lines is considered little different in its effects to constructing infrastructure at or adjacent Redhill substation and does not potentially affect designated nature conservation land or be potentially constrained by flooding.

4.5.10 The choice of tower BM34 to make the connection to the 132kV overhead lines reflects that this, unlike BM33 to the north, stands on a straight line section of the overhead line. Connecting at a tower which forms a bend in the overhead line would add structural complexity and bulk to the necessary connection works.

4.5.11 The CHP Connections would be located at a minimum depth of 900mm underground. For the connection to Magna Business Park, in order to accommodate both CHP Connection pipes and DNC cabling, the trench width required is approximately 2.1m within a maintenance corridor of 7m. It is proposed that the CHP Connection and DNC will share a common trench, until the DNC departs to the Point of Connection (POC) to a switch compound.

4.5.12 The route taken from the EfW CHP Facility to Magna Business Park and the POC and Arena Way has been subject to environmental survey work in order to understand the most suitable route for the corridor to follow, taking into account environmental considerations. The final route selected is shown on **Figure 2.1**. Key factors that have defined the route followed include:

- **Arboricultural Impact Assessment** - which has identified trees on the route that should be retained. Where Class A trees have been identified (see **ES Appendix 8.4**), the route has been diverted around these where possible, and where this is not possible, alternative means of excavation will be employed; and,
- **Drainage studies** - the CHP connection corridor crosses Knighton Stream. The CHP route will pass beneath the Knighton Stream to ensure that it does not restrict the flow

within the stream. Construction of the crossing will be undertaken in consultation with the Environment Agency.

4.5.13 The POC location was selected to be located to minimise impacts upon users of the Heathland Support Area (HSA). This includes the location within the HSA, which will still enable its during construction/maintenance, but also is located as close as possible to the Business Park, and its alignment with the existing pylon towers. As is set out in the **Planning Statement** providing the DNC Compound as proposed will also lead to an increase of 7,700 m^2 in the Heathland Support Area adjacent the Magna Business Park, a benefit not possible at Redhill substation.

Measures to protect local residential and environmental amenity

4.5.14 Considerations influencing the final layout and features of the Proposed Development include:

- **Residential amenity**
  - Taking into account considerations including noise, visual outlook and air quality in relation to residential properties in the vicinity of the EfW CHP Facility Site. These include properties along Arrowsmith Road, properties along Magna Road and Queen Anne Drive and the residential neighbourhoods of Bearwood, Canford Magna and Merley.
- **Ecology and biodiversity**
  - The Proposed Development has been informed by extensive surveys described in **ES Chapter 8: Ecology and Nature Conservation**.
  - In line with policy initially a 10% biodiversity net gain (BNG) commitment was considered for the Proposed Development. However, the Applicant has made a commitment to deliver a high level of net gain for this site and as part of their corporate mission to be climate positive, and therefore the level of BNG proposed is now 25%.
- **Cultural heritage and archaeology**
  - Although the EfW CHP Facility Site is of comparatively limited historic interest, a heritage assessment has been undertaken to understand the likely heritage effects of the Proposed Development on offsite assets. This is described in **ES Chapter 10: Historic Environment**.
- **Landscape**
  - Viewpoints were identified through the scoping process of the EIA to inform understanding of the likely landscape and visual effects of the Proposed Development. This work is described in **ES Chapter 12: Landscape and Visual**.
- **Drainage ground conditions and the water environment**
  - The EfW CHP Facility Site's ground and water characteristics were established at an early stage to ensure that the layout and features of the Proposed Development took into account drainage, flood risk and land contamination. The outcomes of this work are described in **ES Chapter 9: Geology, Hydrogeology and Ground Conditions** and **ES Chapter 11: Hydrology**.

4.6 Pre-application consultation feedback

4.6.1 In accordance with the guidance in BCP Council's Statement of Community Involvement (2020), the Applicant has undertaken pre-application consultation with statutory stakeholders and the wider community. The findings of these consultations have been considered during the design development.

4.6.2 The Applicant ensured that there was iterative feedback between the environmental analysis and technical considerations of the design and layout of the Proposed Development.

4.6.3 Consultation was undertaken with a range of stakeholders as part of the pre-application process. Where relevant, the outcomes of the consultation have been summarised and responded to within the technical chapter. Stakeholders who have been consulted include:

- BCP Council: planning, highways, landscape, heritage;
- The Environment Agency;
- Natural England; and,
- Historic England.

Consultation with the LPA

4.6.4 The various pre-application discussions with statutory and non-statutory consultees and the local community have influenced the evolution of the design of the EIA proposals and the scope of the EIA.

4.6.5 A pre-application request was submitted to BCP Council on 16 December 2021, a response was received on 16 September 2022. A subsequent meeting took place on 31 January 2023 to consider design issues.

4.6.6 Full details of this consultation are provided within the **Planning Statement**, submitted as part of the wider suite of planning application documents.

Consultation with Natural England

4.6.7 Through Natural England's Discretionary Advice Service, three meetings were held with Natural England on 16 September 2022, 8 February and 30 March 2023. These concerned matters including the methodology for assessing effects on the Dorset Heaths SAC, the preliminary results and mitigation options.

4.6.8 The outcome and full details of these discussions are covered in **ES Chapter 8: Ecology and Nature Conservation** and **ES Appendix 8.3: Shadow Habitats Regulations Assessment**.

Consultation with the Environment Agency

4.6.9 An informal pre-application discussion with the EA was held on 13 December 2022. This confirmed that the detail of the project, within **ES Chapter 6: Air Quality**, **ES Chapter 9: Geology, Hydrogeology and Ground Conditions, ES Chapter 11: Hydrology,** and **ES Chapter 13: Noise and Vibration**, would be set out to provide the EA with the information needed for it to assess the project. It was noted the EP application would follow that for planning.

4.6.10 In March 2023, the Applicant approached the Environment Agency for enhanced EP pre-application discussions for the Proposed Development. However, since no significant technical questions were raised (mainly due to the Applicant's previous experience of securing EPs), further discussions on the EP are not currently required. The Applicant will continue to monitor the situation and re-engage with the EA during final preparation of the EP.

Consultation with the Public

4.6.11 The Applicant has sought to involve the local community and stakeholders extensively throughout the development process to date.

4.6.12 A project specific website was launched on 13 April 2022 to introduce the Proposed Development and make documents available to the public.

4.6.13 Press releases with regards to the project have been issued on the following dates:

- 13 April 2022 – Announcing that the EIA Scoping Report had been submitted;
- 14 October 2022 – Announcing that the EIA Scoping Opinion had been issued by BCP Council; and,
- 4 January 2023 – Announcing the Applicant's pre-application consultation.

4.6.14 Pre-application consultation events took place in January 2023. In addition to the information on the Applicant's website and the press release, posters advertising the events were placed in local community venues and invitation flyers were hand delivered to over 5,000 addresses in the immediate vicinity of the Proposed Development.

4.6.15 The events included weekday and weekend, day and evening timeslots and also provided the opportunity for visitors to have a minibus tour of the existing operational site. Over 200 people attended the consultation events, with 70 taking up the opportunity of a minibus tour.

4.6.16 From those attendees, and those that viewed the exhibition virtually, 35 pieces of feedback were received. These are summarised in the table below, which states where in the ES the comments have been addressed. Further details on the public consultation is set out in the **Statement of Community Involvement** which forms part of the wider planning application documentation.

Table 4-5: Themes from public consultation feedback

Theme	Issue raised	Where this has been addressed
Waste	Source of waste to be treated at the EfW CHP Facility Site, support for renewable energy and treatment of waste	**Planning Statement**
Traffic and Transport	Existing congestion, timing of traffic movements, local infrastructure, staff travel	**ES Chapter 15: Traffic and Transport and ES Appendices 15.1- 15.3**
Cumulative impacts	Cumulative effects of this development alongside other existing and approved developments in the locality	**ES Chapters 6 - 15**
Noise and vibration	Noise and vibration associated with construction and 24hr operation for local residents	**ES Chapter 13: Noise and Vibration and ES Appendix 13.1**

Theme	Issue raised	Where this has been addressed
Visual impact	Visual impact of buildings and chimney, particularly from key viewpoints including Canford Heath	**ES Chapter 12: Landscape and Visual Impact and ES Appendices 12.1-12.3**
Lighting	Concerns with regards to light pollution	**ES Chapter 12: Landscape and Visual Impact and ES Appendices 12.1-12.3**
Hydrology and ground conditions	Management of run off from the site	**ES Chapter 9: Geology, Hydrogeology and Ground Conditions and ES Appendices 9.1 and 9.2** **ES Chapter 11: Hydrology and ES Appendices 11.1-11.3**
Population and health	Impact on health, environment and quality of life of local people	**ES Chapter 14: Population and Health**
Employment	Interest in support for local schools, work experience and apprenticeships and opportunity for education initiatives	**ES Chapter 14: Population and Health** **Outline Employment and Skills Strategy**
Carbon and greenhouse gases	Carbon footprint, potential for district heating	**ES Chapter 7: Climate Change and ES Appendix 7.1** **Planning Statement Appendix 4 (CHP Plan)**
Ecology	Impacts on Canford Heath SSSI, ecological enhancement, effect on wildlife and birds	**ES Chapter 8: Ecology and Nature Conservation and ES Appendices 8.1-8.5**
Air quality	Air pollution and emissions from chimney, proximity to local residents and school, whether this is optimum chimney height, odour	**ES Chapter 6: Air Quality and ES Appendices 6.1-6.3**

4.7 Conclusion

4.7.1 Throughout the process, the Applicant has reviewed a range of development, design and environmental mitigation options with a view to arriving at a Proposed Development that fulfils the requirements of the waste policy, respects neighbouring communities, responds to the local environmental context and fulfils the operational requirements of the Applicant's waste operations.