12. Landscape and Visual

12.1 Introduction

12.1.1 MVV Environment Limited (the Applicant) has submitted a full planning application for a Carbon Capture Retrofit Ready (CCRR) Energy from Waste Combined Heat and Power (EfW CHP) Facility at Canford Resource Park (CRP), off Magna Road, in the northern part of Poole. Together with associated CHP Connection, Distribution Network Connection (DNC) and Temporary Construction Compounds (TCCs), these works are the Proposed Development.

12.1.2 The primary purpose of the Proposed Development is to treat Local Authority Collected Household (LACH) residual waste and similar residual Commercial and Industrial (C&I) waste from Bournemouth, Christchurch, Poole and surrounding areas, that cannot be recycled, reused or composted and that would otherwise be landfilled or exported to alternative EfW facilities further afield, either in the UK or Europe.

12.1.3 The Proposed Development will recover useful energy in the form of electricity and hot water from up to 260,000 tonnes of non-recyclable (residual), non-hazardous municipal, commercial and industrial waste each year. The Proposed Development has a generating capacity of approximately 31 megawatts (MW), exporting around 28.5MW of electricity to the grid. Subject to commercial contracts, the Proposed Development will have the capability to export heat (hot water) and electricity to occupiers of the Magna Business Park and lays the foundations for a future CHP network to connect to customers off Magna Road.

12.1.4 The location and the extent of the Proposed Development is identified by the red line shown on **Figure 1.1**. In total, the Proposed Development covers an area of 10.1hectares (Ha).

12.1.5 A full description of the Proposed Development is provided in **ES Chapter 3: Description of the Proposed Development**. A list of terms and abbreviations can be found in **ES Appendix 1.1**.

12.1.6 This chapter presents the approach and findings of the assessment of potential effects on landscape and visual resources. This chapter presents the methodology followed and provides a review of the baseline conditions in the vicinity of the Proposed Development and surrounding area. This chapter then presents the results of the assessment and the impact of the Proposed Development on the baseline in order to determine the anticipated magnitude and significance of effect. Mitigation measures are presented and discussed to minimise the impacts of the Proposed Development during the construction and operational phases to an acceptable level.

12.1.7 This assessment has been undertaken by The Environmental Dimension Partnership Ltd (EDP) to assess the Proposed Development in relation to the effects it would have upon landscape and visual Receptors.

12.1.8 This chapter is supported by the following documents:

- **ES Appendix 12.1: Landscape and Visual Impact Assessment**;
- **ES Appendix 12.2: Table of Effects**; and
- **Figures 12-1 to 12-12**, which are contained in **ES Appendix 12.1**.

12.2 Assessment Criteria & Methodology

Legislative Context, Technical Guidance and Best Practice

Legislative Context

12.2.1 The Environmental Impact Assessment (EIA) approach and methodology is set out in **Section 2** of this ES Chapter. Regarding landscape and visual matters, the 'Guidelines for Landscape and Visual Impact Assessment' 3rd Edition (GLVIA3)', paragraph 2.2 includes that the European Landscape Convention (ELC), to which the UK is a signatory, defines landscape as:

"Landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA), 2013).

12.2.2 The GLVIA3, paragraph 2.4, states that the importance of the ELC definition is that it *"…moves beyond the idea that landscape is only a matter of aesthetics and visual amenity*". Landscape assessment requires that proposed changes are assessed holistically in terms of all dimensions of the landscape resource. Those other dimensions include whether the site has historical or cultural relevance, its habitats, its landscape fabric, and its long-term management. Frequently, the loss of openness and change to visual character are counterbalanced by neutral or even positive impacts on other dimensions of the landscape resource.

12.2.3 The GLVIA also states, in reference to the European Union Directive 2011/92/EU, that:

"*The Directive is clear that the emphasis is on the identification of likely significant environmental effects. This should embrace all types of effect and includes, for example, those that are positive/beneficial and negative/adverse, direct and indirect, and long and short term, as well as cumulative effects. Identifying significant effects stresses the need for an approach that is in proportion to the scale of the project that is being assessed and the nature of its likely effects. Judgement needs to be exercised at all stages in terms of the scale of investigation that is appropriate and proportional. This does not mean that effects should be ignored, or their importance minimised but that the assessment should be tailored to the particular circumstances in each case*."

Guidance Best Practice

12.2.4 This Landscape and Visual Impact Assessment (LVIA) has been prepared in accordance with best practice guidance, as set out in the GLVIA3 which "*takes into account recognition of the European Landscape Convention by the United Kingdom government*", with regard to the definition of landscape; value of landscape; and the assessment of the effects of the development on landscape, as set out above. This assessment has been prepared with regard to the ELC.

Baseline Data Collection

12.2.5 The baseline comprises a factual description of the landscape and visual amenity resource of the Proposed Development. It is based on a review of landscape character documentation (with on-site corroboration), anticipated changes within the landscape, a review of planning polices and designations, and a review of the visual amenity and general visibility of the Proposed Development. The baseline data collection comprised of a desk-

based analysis, on-site survey work and included Zone of Theoretical Visibility (ZTV) analysis to aid the understanding of the potential visibility of the Proposed Development.

12.2.6 The baseline describes, classifies, and evaluates the baseline landscape and visual resources and identified the Receptors and viewpoints to be included within the assessment. In addition, the baseline also considers those schemes that are operational, consented, and in planning determination, to evaluate the potential cumulative effects resulting from the introduction of the Proposed Development to a baseline that currently exists or is likely to exist.

12.2.7 In compiling the baseline, EDP has undertaken the following key tasks:

- a review of the planning policy context for the Proposed Development;
- a desk-top study and web search of relevant background documents and maps. EDP's study included reviews of aerial photographs, web searches, county[1] and district[2] publications, and landscape character assessments. EDP has also obtained, where possible, information about relevant landscape and other designations, such as Areas of Outstanding Natural Beauty (AONBs)[3], parks and gardens included on English Heritage's 'Register of Historic Parks and Gardens of Special Historic Interest in England' (RPG), Listed Buildings (LB), Scheduled Monuments (SM)[4], Conservation Areas (CA) and Tree Preservation Orders (TPO)[5]; and
- field assessments of local conditions were undertaken during August 2021 and December 2022. This included a photographic survey of the character and fabric of the Proposed Development and its surroundings, using photography from representative viewpoints, undertaken by a qualified landscape architect.

12.2.8 Further details of these key tasks are provided within the assessment methodology section below.

Predicting Effects

12.2.9 The likely effects of the Proposed Development on the landscape resource and visual amenity are assessed through the combination of an assessment of representative viewpoints, desk research and fieldwork.

12.2.10 To assess the likely effects, the assessment draws on the baseline to identify Receptors which may include, but not be limited to, those listed below.

12.2.11 Landscape Receptors may include:

- landscape designations on a national, regional or local level (where relevant);
- the landscape fabric of the Proposed Development Boundary;
- the 'host' landscape character area that contains the Proposed Development;
- 'non-host' landscape character areas surrounding the host character area, and which have the potential to be affected by the Proposed Development (where relevant); and

[1] https://www.dorsetcouncil.gov.uk/countryside-coast-parks/the-dorset-landscape/landscape-character-assessment-map
[2] https://www.poole.gov.uk/_resources/assets/attachment/full/0/47833.pdf
[3] https://cranbornechase.org.uk/wp-content/uploads/2020/04/CCAONB-Management-Plan-2019-2024-for-WEB.pdf
[4] https://historicengland.org.uk/listing/the-list/map-search?clearresults=true
[5] https://maps.christchurchandeastdorset.gov.uk/map/Aurora.svc/run?script=%5CAurora%5CBoP_TPO.AuroraScript%24&nocache=79d73daf-7e48-0f55-25c8-7e4fffaf67ba&resize=always

- specific landscape features of value such as vegetation or grassland, as identified through the ecology and arboriculture surveys.

12.2.12 Visual Receptors may include:

- users of National Cycle Routes and National Trails;
- users of local/regional cycle and walking routes;
- those using local Public Rights of Way (PRoW) – walkers, horse riders, and cyclists;
- users of open spaces with public access;
- settlements and private residences;
- people using major (A and B) roads;
- people using minor roads; and
- people using local railways.

12.2.13 The tables within Appendix EDP 2 of **ES Appendix 12.1**, summarised below for ease of reference, offer templates for assessing overall sensitivity of any landscape or visual Receptor, and magnitude of change/impact.

12.2.14 Assessment of the overall sensitivity of any landscape or visual Receptor is determined by combining judgements of their susceptibility to the type of change or development proposed, and the value attached to the landscape or view, as set out at paragraph 5.38 of GLVIA. However, the GLVIA states that assessment of overall sensitivity can change on a case-by-case basis. For example, a high susceptibility to change and a low value may result in a medium overall sensitivity, unless it can be demonstrated that the Receptor is unusually susceptible or is in some way more valuable. A degree of professional judgement has been applied in arriving at the overall sensitivity for both landscape and visual Receptors.

12.2.15 **Table 12-1** provides an indication of the criteria by which the overall sensitivity of a landscape Receptor is judged within this assessment and considers both value and susceptibility independently.

Table 02-1: Landscape Sensitivity Criteria

Category	Landscape Receptor Value Criteria	Landscape Susceptibility to Change Criteria
Very High	Nationally/internationally designated/valued countryside and landscape features; strong/distinctive landscape characteristics; absence of landscape detractors.	Strong/distinctive landscape elements/aesthetic/perceptual aspects; absence of landscape detractors; landscape Receptors in excellent condition. Landscapes with clear and widely recognised cultural value. Landscapes with a high level of tranquillity.
High	Locally designated/valued countryside (e.g., Areas of High Landscape Value, Regional Scenic Areas) and landscape features; many distinctive landscape characteristics; very few landscape detractors.	Many distinctive landscape elements/aesthetic/perceptual aspects; very few landscape detractors; landscape Receptors in good condition. The landscape has a low capacity for change as a result of potential changes to defining character.

Medium	Undesignated countryside and landscape features; some distinctive landscape characteristics; few landscape detractors.	Some distinctive landscape elements/aesthetic/perceptual aspects; few landscape detractors; landscape Receptors in fair condition. Landscape is able to accommodate some change as a result.
Low	Undesignated countryside and landscape features; few distinctive landscape characteristics; presence of landscape detractors.	Few distinctive landscape elements/aesthetic/perceptual aspects; presence of landscape detractors; landscape Receptors in poor condition. Landscape is able to accommodate large amounts of change without changing these characteristics fundamentally.
Very Low	Undesignated countryside and landscape features; absence of distinctive landscape characteristics; despoiled/ degraded by the presence of many landscape detractors.	Absence of distinctive landscape elements/aesthetic/perceptual aspects; presence of many landscape detractors; landscape Receptors in very poor condition. As such landscape is able to accommodate considerable change.

12.2.16 For visual Receptors, judgements of susceptibility and value are closely interlinked considerations. For example, the most valued views are those which people go and visit because of the available view – and it is at those viewpoints that their expectations will be highest, and thus most susceptible to change.

12.2.17 **Table 12-2** provides an indication of the criteria by which the overall sensitivity of a visual Receptor is judged within this assessment and considers both value and susceptibility together.

Table 12-2: Visual Receptor Sensitivity Criteria

Category	Visual Receptor Criteria
Very High	Designed (intentionally created) view (which may be to or from a recognised heritage asset or other important viewpoint), or where views of the surroundings are an important contributor to the experience. Key promoted viewpoint e.g., interpretative signs. References in literature and art and/or guidebooks tourist maps. Protected view recognised in planning policy designation.
High	Examples may include views from residential properties, especially from rooms normally occupied in waking or daylight hours; national PRoW e.g., National Trails, and nationally designated countryside/landscape features with public access which people might visit purely to experience the view; and visitors to heritage assets of national importance.
Medium	View of clear value but may not be formally recognised e.g., framed view of high scenic value, or destination hill summits. It may also be inferred that the view is likely to have value e.g., to local residents.

Low	Examples may include views from recreational Receptors where there is some appreciation of the landscape e.g., golf and fishing; local PRoW, access land, and National Trust land, also panoramic viewpoints marked on maps; road routes promoted in tourist guides for their scenic value.
Very Low	View is not promoted or recorded in any published sources and may be typical of the views experienced from a given Receptor.

Magnitude of Change

12.2.18 The magnitude of any landscape or visual change is determined through a range of considerations particular to each Receptor. The three attributes considered in defining the magnitude are:

- scale of change;
- geographical extent; and
- duration and reversibility/proportion.

12.2.19 Receptor locations from which views of the Proposed Development are not likely to occur will receive no change and therefore no effect. With reference to the ZTV and Proposed Development Boundary survey, the magnitude of change is defined for Receptor locations from where visibility of the Proposed Development is predicted to occur.

12.2.20 **Table 12-3** provides an indication of the criteria by which the size/scale of change at a landscape or visual Receptor is judged within this assessment.

Table 12-3: Scale of Change Criteria

Category	Landscape Receptor Criteria	Visual Receptor Criteria
Very High	Total loss of, or major alteration to key elements/features/characteristics of the baseline condition. Addition of elements which strongly conflict with the key characteristics of the existing landscape.	There would be a substantial change to the baseline, with the Proposed Development creating a new focus and having a defining influence on the view.
High	Notable loss or alteration to one or more key elements/features/characteristics of the baseline condition. Addition of elements that are prominent and may conflict with the key characteristics of the existing landscape.	The Proposed Development will be clearly noticeable, and the view would be fundamentally altered by its presence.
Medium	Partial loss or alteration to one or more key elements/features/characteristics of the baseline condition. Addition of elements that may be evident but do not necessarily conflict with the key characteristics of the existing landscape.	The Proposed Development will form a new and recognisable element within the view which is likely to be recognised by the Receptor.

Low	Minor loss or alteration to one or more key elements/features/characteristics of the baseline landscape. Addition of elements that may not be uncharacteristic within the existing landscape.	The Proposed Development will form a minor constituent of the view, being partially visible or at sufficient distance to be a small component.
Very Low	Barely discernible loss or alteration to key elements/features/characteristics of the baseline landscape. Addition of elements not uncharacteristic within the existing landscape.	The Proposed Development will form a barely noticeable component of the view, and the view whilst slightly altered would be similar to the baseline situation.
Negligible	No appreciable change	No appreciable change

12.2.21 **Table 12-4** provides an indication of the criteria by which the geographical extent of the area affected is judged within this assessment.

Table 12-4: Geographical Extent Criteria

		Landscape Receptors	Visual Receptor Criteria
Largest	↑	Large scale effects influencing several landscape types or character areas.	Direct views at close range with changes over a wide horizontal and vertical extent.
		Effects at the scale of the landscape type or character areas within which the proposal lies.	Direct or oblique views at close range with changes over a notable horizontal and/or vertical extent.
		Effects within the immediate landscape setting of the Proposed Development Boundary.	Direct or oblique views at medium range with a moderate horizontal and/or vertical extent of the view affected.
		Effects at the level of the Proposed Development Boundary (within Red Line Boundary itself).	Oblique views at medium or long range with a small horizontal/vertical extent of the view affected.
Smallest	↓	Effects only experienced on parts of the Proposed Development at a very localised level.	Long range views with a negligible part of the view affected.

Significance of Effect

12.2.22 The purpose of the EIA process is to identify the likely significant environmental effects (both beneficial and adverse) arising from a proposed development.

12.2.23 To consider the likely level of any effect, the sensitivity of each Receptor is combined with the predicted magnitude of change (as set out above), with reference also made to the geographical extent, duration and reversibility of the effect within the assessment. The level of effect can be derived by combining the sensitivity and magnitude in accordance with the matrix in **Table 12-5**.

Table 12-5: Level of Effects Matrix

Overall Sensitivity	Overall Magnitude of Change				
	Very High	**High**	**Medium**	**Low**	**Very Low**
Very High	**Substantial**	**Major**	**Major/-Moderate**	**Moderate**	Moderate/-Minor
High	**Major**	**Major/-Moderate**	**Moderate**	Moderate/-Minor	Minor
Medium	**Major/-Moderate**	**Moderate**	Moderate/-Minor	Minor	Minor/-Negligible
Low	**Moderate**	Moderate/-Minor	Minor	Minor/-Negligible	Negligible
Very Low	Moderate/-Minor	Minor	Minor/-Negligible	Negligible	Negligible/-None

Table 12-6: Definition of Effects

Definition of Effects	
Substantial	Effects that are in complete variance to the baseline landscape resource or visual amenity.
Major or Major/Moderate	Effects that result in noticeable alterations to much (Major effect) or some (Moderate/Major effect) of the key characteristics of the landscape resource or aspects of visual amenity.
Moderate	Effects that result in noticeable alterations to a few of the key characteristics of the baseline landscape resource or aspects of visual amenity.
Minor or Minor/Negligible	Effects that result in slight alterations to some (Minor effect) or a few (Minor/Negligible) of the key characteristics of the landscape resource or aspects of visual amenity.
Negligible or Negligible/None	Effects that result in barely perceptible alterations to a few (Negligible effect) or some (Negligible/None effect) of the key characteristics of the landscape resource or aspects of visual amenity.
None	No detectable alteration to the key characteristics of the landscape resource or aspects of visual amenity.

12.2.24 Each effect is described and evaluated individually through the integration of all the relevant factors, and assessed as either significant or not significant. For landscape and visual effects, those effects identified at a substantial, Major, Major/Moderate or Moderate level (emboldened in the table above) are generally considered to be significant and those effects assessed at a Moderate/Minor, Minor, Minor/Negligible, Negligible and Negligible/None level are considered to be not significant.

12.2.25 In certain cases, where additional factors may arise, a further degree of professional judgement may be applied when determining the level of overall change. Where this occurs, further explanation is given.

12.2.26 Effects will be described and evaluated during construction, at year 1 (completion of construction activities) and year 15 (following maturation of the landscape proposals).

Geographical Scope

12.2.27 To establish the baseline and potential limit of significant effects, a broad Study Area enabling the geographical scope of the assessment to be defined and to provide the wider geographical context, has been identified. The search focused on the local planning policy context, on identifying national and local landscape and other associated designations (e.g., AONB, RPG), and providing a general geographical understanding of the Proposed Development Boundary and its broader context (for example, in relation to landform, transport routes, and the distribution and nature of settlement).

12.2.28 Following initial analysis, based upon knowledge of the Proposed Development, the extent of the proposed Study Area for landscape and visual Receptors is as follows:

- for visual Receptors, this LVIA adopts an initial 10km EIA Study Area, which was further refined following desktop studies and site visits; and
- for landscape character Receptors, this LVIA adopts a 3km EIA Study Area.

12.2.29 These Study Areas will be measured from the EfW CHP Facility Site boundary, and whilst all significant effects are likely to be retained within the proposed 10km and 3km boundaries, occasional reference may be made to features beyond this area where appropriate and necessary. Both Study Areas were agreed with the appointed Landscape Officer at Bournemouth, Christchurch, and Poole (BCP) Council via the EIA Scoping Opinion (**ES Appendix 5.2**), see paragraph 12.2.31 for details.

Temporal Scope

12.2.30 As advised in GLVIA3, the appraisal considers the effects of any proposed mitigation. Typically, a 15-year time horizon is used as the basis for conclusions about the long-term levels of effect. Fifteen-years is a well-established and accepted compromise between assessing the shorter-term effects (which may often be rather 'raw' before any proposed mitigation has had time to take effect) and an excessively long time period.

Consultation

12.2.31 During the EIA scoping process, a consultation response was received from BCP on 11 November 2022. This included the methodology and associated terminology for undertaking the LVIA and selected locations for representative viewpoints. This correspondence included the best practice by which EDP prepares all its assessments.

12.2.32 Consultation principally involved discussions regarding the selection of representative viewpoints, location of photomontages and assessment methodology. Specifically, this included discussion and agreement on the selected 14 Photoviewpoints, alongside four 'Type 4[6]' visualisations. Through the baseline study, it was decided to add an additional photomontage location to aid the assessment work. As above, both Study Areas for landscape (3km) and visual (10km) were also agreed.

12.2.33 Further consultation was received from the Local Planning Authority (LPA) on the Type 4 Photomontages included within **Appendix EDP 5** (in **ES Appendix 12.1**). This related to

[6] https://www.landscapeinstitute.org/visualisation/

the methodology used to produce the images, rather than anything specific to the design of the proposals. The following amendments we subsequently made:

- all Photomontages were updated to include single frame images alongside panoramas; and
- based on plume visibility modelling carried out by Gair Consulting, all Photomontages were modelled with a 50m plume, flowing in a north-easterly direction as a result of a prevailing south-west wind. 50m has been selected as this is shown to be the average length of visible plume based on five years of data between 2016 and 2020.

12.2.34 It is important to note that the plume visibility modelling has been carried out as accurately as possible, however, due to the strict and clear methodology provided within the Landscape Institute's Technical Guidance Note 06/19 'Visual Representation of Development Proposals', these outputs do not fall under any of the 'Visualisation Types' as set out within Table 2 of the note. The plume modelling must therefore be considered an 'artist's impression'. See Section 12.10 below for further details.

12.2.35 The photomontages included within **Appendix EDP 5** (in **ES Appendix 12.1**) are fully verifiable and fall under the Type 4 category.

Assumption and Limitations

12.2.36 The following assumptions and limitations of the assessment process are acknowledged:

- baseline conditions have been established using published documents and field assessments; it is important to note that this information may change before, or during, the construction and operation of the Proposed Development, but is considered to be representative of the conditions of the Proposed Development Boundary on which to base the assessment;
- the assessment is undertaken in consideration of the 'worst-case' scenario, i.e., those potential outcomes, situations, or locations which would result in the most profound effect on landscape and visual Receptors, unless stated to the contrary. It therefore identifies the greatest degree of change likely to accrue and may be subject to mitigating factors, or alternative conditions which might reduce those effects. For example, the level of visual effect is expressed for winter landscape conditions when trees are bare of leaf cover and the visibility of development is at its greatest. Where this is the case, the assessment identifies alternative conditions or further mitigation which might result in impacts being less pronounced;
- as defined above, the assessment of likely significant effects applies a pre-determined methodology to arrive at its conclusions. This procedure brings a degree of objective, procedural rigour into what otherwise might be judged to be 'personal opinion'. Professional judgement still plays its part, but the purpose of adopting a methodology is to make the process as clear and logical as possible;
- this LVIA considers an outline scheme of the Proposed Development and the maximum parameters (as a worst-case) that are submitted with the planning application. The final design has been though a detailed design evolution process with the Applicant's architects, and taken account of consultation feedback. Details of the proposed external material finishes for the EfW CHP Facility Site are provided and subject to final approval of the material finishes (secured by planning conditions); and
- this LVIA does not consider the significance of heritage assets, or any potential direct impacts on these assets or their settings, which are set out in **ES Chapter 10: Historic Environment**. The landscape and visual chapter makes note, where there are likely to

be views of the Proposed Development from residential areas, whether this includes Listed Buildings or Conservation Areas.

12.3 Baseline Conditions

Current Baseline

12.3.1 The below provides a summary of the Landscape and Visual Baseline Appraisal of the Proposed Development and surrounding context. For full details, refer to **ES Appendix 12.1**.

Local Context

12.3.2 **Figure 12-1** in **ES Appendix 12.1** illustrates the location of the Proposed Development and the landscape and visual Study Areas for the LVIA. The Proposed Development is located at OS Grid Reference SZ 03436 96720 (approximate centre of the EfW CHP Facility Site) between the settlements of Bearwood to the south-east and Oakley to the north-west, within the unitary area of BCP Council.

12.3.3 The Proposed Development itself is located within the context of the Canford Resource Park, an existing waste management park, accessed via the A341 - Magna Road, Poole.

Published Landscape Character Areas

12.3.4 There are a number of Landscape Character Assessments (LCAs) relating to the Proposed Development and surrounding landscape (see **ES Appendix 12.1, Figure 12-5**). An overview of the described features of the character areas and related guidance and recommendations relating to the Proposed Development, are set out below.

National Landscape Character Assessment

12.3.5 At the national level, the character of England has been described and classified in the National Character Area (NCA) profiles published by Natural England. The Proposed Development Boundary and its surroundings fall within NCA 135: Dorset Heaths, which extends from the eastern edge of Dorchester across Dorset to the New Forest National Park at the eastern extent. The southern edge includes a long section of coast either side of the town of Bournemouth.

12.3.6 Given the scale of the Proposed Development, it is considered that the description of landscape character undertaken at the sub-regional level is more relevant in establishing the landscape resource baseline. These more localised assessments are described in the following paragraphs.

Local Landscape Character Assessment

Dorset Landscape Character Assessment (DLCA)

12.3.7 Produced by Dorset Council, this assessment describes the physical and human factors which have influenced the County's landscape evolution, as well as outlining information on landscape designations.

12.3.8 The Proposed Development sits within the 'Heath/Farmland Mosaic' Landscape Character Type (LCT), which is found largely on the fringes of the wider 'Poole Basin' and comprises an extensive area of former heathland on acidic and impoverished soils. A summary of the

LCT, including the key characteristics and key land management guidance notes considered relevant to the Study Area are contained within **ES Appendix 12.1** and **ES Appendix 12.1, Figure 12-5**.

12.3.9 TCC2 lies within the 'Lowland Heathland' LCT, a low-lying area enclosed by the chalk to the north, west and south.

Poole Landscape Character Assessment (PLCA)

12.3.10 Produced in November 2017, the PLCA focuses on the 'Fringe' areas of the town, building on the findings of the previous version of the Dorset Landscape Character Assessment (published in 2007). The Proposed Development Boundary is identified as lying within the 'North Poole Heath/Farm Fringe' Landscape Character Area, a summary of the key characteristics are contained within **ES Appendix 12.1**. This area represents the same land parcel as the above 'Heath/Farmland Mosaic'.

12.3.11 TCC2 lies within the 'Canford Heath' Landscape Character Area, an elevated and undulating area of heathland, scrub and woodland which creates a patchwork landscape. This area represents the same land parcel as the above 'Lowland Heathland' LCT.

Key Features

12.3.12 EDP assessed the Proposed Development Boundary's characteristics through site walkovers in August 2021 and December 2022, in clear weather conditions. The aerial photograph provided at **ES Appendix 12.1, Figure 12.2** illustrates the character and features of the landscape across the EfW CHP Facility Site, **ES Appendix 12.1, Figure 12.3** illustrates character of the near context, while **ES Appendix 12.1, Figures 12.6** and **12.7** illustrate the topographic character across the surrounding context and the Proposed Development Boundary respectively.

12.3.13 The EfW CHP Facility Site has been heavily influenced by its current use within CRP; the area itself currently contains the following:

- a Mechanical Biological Treatment (MBT) facility;
- a landfill gas engine generator compound;
- a Materials Recovery Facility (MRF);
- an inert waste recycling facility; and
- an implemented, but not operational, low carbon gasification and pyrolysis energy from waste facility.

12.3.14 The EfW CHP Facility Site finished floor level (FFL) is generally flat in topography at 44.65m Above Ordnance Datum (AOD) but sits lower than the remaining elements of CRP to the east, at around 46m AOD. The EFW CHP Facility Site mostly comprises areas of hardstanding and bare earth, with landscape fabric limited to the western corner and a small strip of the southern boundary which contains semi-natural broadleaved woodland. This forms part of a larger woodland to the south and west of the EfW CHP Facility Site. Although the EfW CHP Facility Site lies within the Canford Heath Open Access Land (OAL), access is restricted due to the nature of the land use, and security fencing surrounds the CRP.

12.3.15 TCC1 lies to the north-east of the EfW CHP Facility Site and sits within an area currently used as Canford Arena. The landform is generally flat and has been identified as 'Poor Semi-improved Grassland' which has a strip of bare earth running through it, which is used as an access track.

12.3.16 TCC2 lies immediately south of the EfW CHP Facility Site and has been identified as 'Semi-improved Neutral Grassland'. This is a triangular parcel of land surrounded by mature woodland and is connected to the EfW CHP Facility Site by an informal access track.

12.3.17 The DNC Compound area lies adjacent to the ongoing development at Canford Paddock, which includes residential and industrial built form. The land slopes gently from the southern edge at the highest point and sits alongside the large high voltage tower route crossing the area.

12.3.18 The CHP Connection runs between the EfW CHP Facility Site and the DNC area, the western half of the route runs along an existing track through woodland, whereas the eastern half runs through existing woodland, with the route avoiding impacts on trees where possible. The corridor is approximately 7m in width between the EfW CHP Facility Site and the DNC area.

Landscape Designations

12.3.19 Landscape-related designations and policy considerations within 3km of the Proposed Development Boundary are shown on **ES Appendix 12.1, Figure 12-4**. As indicated, the Proposed Development Boundary and context does not lie within a nationally or locally designated landscape.

12.3.20 The Cranbourne Chase AONB lies approximately 5km to the north-west of the EfW CHP Facility Site. The Management Plan (2019-2024) describes the importance of the setting of the AONB, which is defined as "*the surroundings in which the influence of the area is experienced*."

Heritage Matters

12.3.21 Heritage assets can influence the visual character of the landscape and enrich its historic value. This LVIA addresses heritage assets only insofar as they are components of the wider contemporary landscape – not in terms of their significance and value as heritage assets, which is a matter addressed by the separate Heritage Assessment (**ES Chapter 10: Historic Environment)**. An overview of features considered relevant to the Proposed Development Boundary and proposals are included within **ES Appendix 12.1**.

Ecology Matters

12.3.22 A separate Ecology Assessment (**ES Chapter 8: Ecology and Nature Conservation**) considers the ecological assets on the Proposed Development Boundary and within the Study Area. An overview of features considered relevant to the Proposed Development are included within **ES Appendix 12.1**.

Arboricultural Matters

12.3.23 A separate Arboricultural Impact Assessment (AIA) (**ES Appendix 8.4**) considers the arboricultural assets on the Proposed Development Boundary and within the Study Area. An overview of features considered relevant to the Proposed Development are included within **ES Appendix 12.1**.

Zone of Theoretical Visibility

12.3.24 To further refine the initial 10km visual Study Area, ZTV assessments were undertaken to help understand the current extent to which the Proposed Development area is visible from, and predict the areas likely to be most affected by the proposal.

12.3.25 This was undertaken using LiDAR data that captures Digital Surface Model (DSM), which accurately measures the height of the terrain and surface objects on the ground. This can provide a greater level of detail as it takes account of the screening effects of intervening buildings, structures, and vegetation. The following outputs have been produced:

- **ES Appendix 12.1, Figure 12-8**: ZTV of the existing chimney at CRP. This chimney lies approximately 35m above existing ground level;
- **ES Appendix 12.1, Figure 12-9**: ZTV of the proposed EfW CHP Facility Site, modelled at 50m above existing ground level; and
- **ES Appendix 12.1, Figure 12-10:** ZTV of the proposed EfW CHP Facility Site chimney, modelled at 110m above existing ground level. This has been split broadly into 10m sections of the chimney, indicating a gradation of visibility where some areas are expected to be able to see the top of the building and the whole of the chimney, whereas others are only likely to see the very top parts of the chimney.

12.3.26 The key element of the above is **Figure 12-10** which shows the model of the proposed chimney. Given the narrow width of the proposed chimney (3.1m) and the ZTV of the existing chimney, it was considered that areas where only the proposed chimney is likely to be visible, outside of the 2km range ring, are likely to experience a 'very low' magnitude effect at worst. Even for the highest sensitivity Receptors, this does not result in a significant effect (refer to **Table 12-5**). As a result, these Receptors are scoped out of the assessment.

12.3.27 The following groups of Receptors have therefore been identified to ensure this LVIA considers a proportionate approach, focusing on Receptor groups likely to experience significant effects.

Public Access and Rights of Way

12.3.28 PRoW within the Study Area are located on **ES Appendix 12.1, Figure 12-10** and are listed below:

- Bridleway 118: This route heads south-east from Brake Hills where it runs through woodland and crosses the access track to CRP, approximately 200m east of the EfW CHP Facility Site. The route then continues in a south-easterly direction, traversing Canford Heath and connects to Francis Avenue adjacent to Knighton Heath Golf Club, approximately 1.7km to the south-east;
- Canford Heath Open Access Land (OAL): The EfW CHP Facility Site and TCC2 lie within the designated area of Canford Heath OAL, a large area of heathland that sits between Bearwood to the east, Canford Heath to the south, Broadstone to the west and Merley to the north. The remaining elements of the Proposed Development lie outside of the OAL boundary;
- Bridleway 129: This forms a small route within the landscape to the south-east of the Proposed Development and sits adjacent to the southern edge of the DNC Compound area. The route runs between Bridleway 118 and Wheelers Lane to the south-east;
- Bridleway 24: This forms a continuation of Wheelers Lane broadly parallel with Bridleway 129 above. As it enters Canford Heath OAL, it heads towards Bridleway 118 and then continues in a south-westerly direction across the heath where it terminates approximately 1.5km south of the EfW CHP Facility Site;
- Bridleway 23: Bridleway 24 terminates as it meets Bridleway 23, a route that stretches approximately 3.4km along the top of the heath, connecting the A349 at Broadstone to the A349 at West Howe. This PRoW is approximately 1.4km south of the EfW CHP Facility Site at its nearest point;

- The Stour Valley Way: This runs broadly along the route of the River Stour, approximately 1.5km to the north-east of the EfW CHP Facility Site at its nearest point. This long-distance route stretches over 100km along the route of the river;
- Footpath E42/2: This route traverses the landscape connecting the hamlets of Hampreston and Longham adjacent to the River Stour. The route lies approximately 2.9km north-east of the EfW CHP Facility Site at its nearest point; and
- The Ferndown, Stour and Forest Trail: This is a small circular route that stretches broadly 16km between the town of Ferndown and the River Stour. This route is approximately 3.5km north-east of the EfW CHP Facility Site.

Primary and Secondary Routes

12.3.29 Given the largely urban context of the road network surrounding the Proposed Development and therefore low sensitivity, only those Receptors within close proximity have been assessed, as **Figures 12-8** to **12-10** of **ES Appendix 12.1** indicate the limited intervisibility:

- The A341 – Magna Road;
- Provence Drive; and
- Knighton Lane.

Residential Groups/Settlements

12.3.30 Within the 10km visual Study Area, the following settlements have been considered as part of the LVIA. **ES Appendix 12.1** gives a description of the Receptors, and their location is illustrated at **ES Appendix 12.1, Figure 12-11** (see below reference points).

- A - Canford Meadows;
- B - Bearwood and Bear Cross;
- C – Knighton;
- D – Hampreston;
- E - Oakley and Merley; and
- F – Broadstone, Corfe Mullen and Canford Heath.

Other Receptors

12.3.31 Within the Study Area, the following areas with public access have been considered as part of the LVIA:

- Canford Park SANG;
- Knighton Heath Golf Club; and
- Dudsbury Golf Club.

Visual Amenity Baseline

12.3.32 Visual amenity considers the number, distribution, and character of views towards, from or within the Proposed Development Boundary. An analysis of visual amenity allows conclusions to be reached about who may experience visual change, from where and to what degree those views will be affected by the Proposed Development.

12.3.33 Following the extensive ZTV work carried out in combination with site visits, a broad overview of the visual amenity of the Proposed Development Boundary can be summarised as follows:

- to the north: the landscape immediately north of the EfW CHP Facility Site is dominated by deciduous woodland at New Covert, which provides good screening to users of Bridleway 118 and residential Receptors on the south-eastern edge of Merley. Users of the A431 heading south-east from Merley also have views heavily filtered and screened by intervening woodland, both adjacent to the EfW CHP Facility Site and at Canford Park Sports Pitches and Arena;
- further north, topography begins to slope towards the River Stour where Canford School and the Stour Valley Way are located, intervening topography and vegetation helps to screen experiences towards the Proposed Development Boundary, however, the existing chimney located within the EfW CHP Facility Site can be identified from sections of the Stour Valley Way. Topography begins to rise again at Colehill and Wimborne Minster, approximately 4km north of the Proposed Development Boundary, however, intervening landform at White's Pit screens potential views;
- to the east: Bridleway 118 crosses through CRP, approximately 300m west of the EfW CHP Facility Site, however, views are well screened by the intervening woodland planting and existing built form within CRP. The A341 lies approximately 950m north-east of the EfW CHP Facility Site, and users of this route and the footpath along its western side can glimpse the existing built form and chimney at the EfW CHP Facility Site, with this visible above the existing intervening dense woodland. TCC1 lies adjacent to this Receptor, however, intervening dense vegetation and an existing landscape bund restricts any visibility;
- the landscape further east of this location is gently undulating towards the River Stour, where users of the Stour Valley Way and Ferndown, Stour and Forest Trail are also able to identify the existing chimney at the EfW CHP Facility Site. New residential built form is currently under construction at Canford Meadow, approximately 500m east of the EfW CHP Facility Site, where it is expected the building and chimney will be identifiable through and above existing intervening vegetation. Further east, residential Receptors at Bearwood are screened by intervening built form and woodland;
- to the south: the landscape immediately south of the EfW CHP Facility Site comprises Canford Heath, which rises steadily in topography from the south-western edge of the EfW CHP Facility Site to a localised ridgeline approximately 1.4km to the south. The heathland itself is designated as OAL, however, intervisibility is restricted by the intervening dense woodland and gently sloping topography. Further south, the topography drops sharply from the ridgeline within the heath, towards the built-up area of Canford Heath, where views are screened by intervening topography. Users of Bridleway 129 are likely to have filtered views through intervening vegetation towards the DNC Compound to the south-east; and
- to the west: White's Pit lies adjacent to the EfW CHP Facility Site, which forms a localised high point within the landscape due to its former use as a landfill site. Although this lies within the OAL, due to the nature of the land use, public access is not permitted. Beyond this, views towards the Proposed Development Boundary are largely screened by intervening topography, with glimpses towards the proposed chimney available at local high points and open areas.

PRoW Users

12.3.34 PRoWs are typically given a high sensitivity due to their use as recreational routes. The following routes have been considered as part of this assessment (Photoviewpoint locations

refer to **ES Appendix 12.1, Figure 12-12**, and Photoviewpoints refer to **ES Appendix 12.1, Appendix EDP 4**):

- Bridleway 118: Views from this 1.7km route are largely screened by the intervening woodland to the north of the EfW CHP Facility Site and the vegetation and topography to the south. As the Bridleway passes the EfW CHP Facility Site, glimpses are afforded towards the area where the chimney and roofs of the existing built form can be identified through the vegetation (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 1**);
- Canford Heath OAL: Although a designated route, Bridleway 118 above runs through the OAL and has very occasional glimpses towards the buildings at the EfW CHP Facility Site (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 1**). Elsewhere within the OAL, views towards the EfW CHP Facility Site are screened by intervening vegetation and topography, with intervisibility only afforded with the top of the existing chimney within the compound (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 10**). This element forms a small component in the available elevated views, White's Pit to the north-west of the EfW CHP Facility Site is a common feature visible across the landscape;
- Bridleway 129: Views are largely screened from this short route between Bridleway 118 and Wheelers Lane, with occasional glimpses afforded through the trees towards the existing chimney at the EfW CHP Facility Site;
- Bridleway 24: Views towards the EfW CHP Facility Site from the eastern extent of this Receptor are screened as the route runs within a well vegetated corridor. As the route continues south-westerly on to the heath and rises in elevation, glimpses are afforded over the existing vegetation towards the chimney within the EfW CHP Facility Site;
- Bridleway 23: Running across the most elevated section of the heath, users of this route are able to identify the top of the chimney on the EfW CHP Facility Site to the north (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 10**), however, this is a small component in panoramic views which contain White's Pit to the north and the urban area of Poole to the south;
- The Stour Valley Way: Views from this long-distance route towards the EfW CHP Facility Site are generally well screened by intervening vegetation and topography (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 3**). Although there is currently no view towards the EfW CHP Facility Site at the Receptors nearest location, it is anticipated that taller elements of the proposals may be identifiable in views from this location above existing vegetation and built form (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 5**);
- Footpath E42/2: Running along the River Stour between Hampreston and Longham, this route has open views towards the landscape to the west. The elevated landform at Canford Heath and White's Pit forms the horizon in the distance, which is seen with large high voltage electricity towers running across the landscape in the foreground (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 7**). Although none of the features currently sited on the EfW CHP Facility Site can be identified within the view, it is anticipated that taller elements of the Proposed Development may be identifiable on the horizon from this location; and
- The Ferndown, Stour and Forest Trail: Located approximately 3.5km to the north-east of the EfW CHP Facility Site at its nearest point, users of this circular have limited intervisibility with the EfW CHP Facility Site. Some open sections of the route to the north of Hampreston have open views across the landscape to the south-west, where Canford Heath forms the horizon, and the existing chimney at the EfW CHP Facility Site

can be identified in the distance (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 6**). This forms a small element of the overall view, which is characterised by large high voltage electricity towers running across the landscape.

Road Users

A341 – Magna Road

12.3.35 Providing a connection between Oakley to the north-west and Bear Cross to the east, Magna Road forms a busy route through the landscape which accommodates pedestrian and cycle routes. Generally, the EfW CHP Facility Site is well screened from users of the route by intervening vegetation, however, gaps allow the occasional view through where the existing buildings and chimney at CRP can be identified above the canopy level (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 2**), as the road passes the EfW CHP Facility Site at its nearest point (approximately 950m). Given the urban nature of this road, it is considered to be of low sensitivity.

Provence Drive

12.3.36 Providing the main spur road from Magna Road into Canford Meadow, views towards the EfW CHP Facility Site are screened by intervening vegetation, where views towards the proposed chimney and building are expected to be glimpsed through and above existing vegetation. Given the urban nature of this road, it is considered to be of low sensitivity.

Knighton Lane

12.3.37 Knighton Lane heads north from Magna Road at the junction to Provence Drive and provides access to the hamlet of Knighton and Canford Park Suitable Alternative Natural Greenspace (SANG) car park. Views towards the EfW CHP Facility Site from this Receptor are screened by intervening vegetation. It is anticipated that users of this lane will have glimpses towards the proposed chimney through and above intervening vegetation. This lane is currently undergoing works for urban extension development to the east, as such, it is given a low sensitivity.

Residential Groups/Settlements

12.3.38 Views from private residential properties, although likely to be of high to very high sensitivity to changes in the view, are not protected by national planning guidance or local planning policy. Accordingly, changes to the character, 'quality' and nature of private views are not a material planning consideration in the determination of a planning application. However, they remain relevant to this review of the predicted extent and nature of visual change, so are reviewed briefly below (refer to **ES Appendix 12.1, Figure 12.11** for locations):

- A - Canford Meadows: A large group of recently constructed properties approximately 580m to the east of the EfW CHP Facility Site at their nearest point. It is possible that the upper storeys of these properties will have glimpses towards the EfW CHP Facility Site, where the existing chimney is identifiable above the tree canopy. It is also likely that the taller elements at the DNC Compound will be glimpsed through intervening vegetation and built form at Magna Business Park;
- B - Bearwood and Bear Cross: Views towards the EfW CHP Facility Site from these two settlement areas are well screened by the intervening vegetation and topography. It is anticipated that the top of the chimney may be identifiable in limited areas within these Receptor groups;

- C - Knighton: A small cluster of residential properties and a farmstead. Views between this area and the EfW CHP Facility Site are generally well screened by intervening vegetation and built form. Similar to **ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 5**, Receptors within this group may be able to identify taller elements of the proposed scheme;
- D - Hampreston: Located approximately 2.6km to the north-east of the EfW CHP Facility Site, this linear hamlet running along Stapehill Road does not currently have any intervisibility with the EfW CHP Facility Site due to intervening vegetation and topography. Similar to **ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 7**, taller elements of the proposals may be identifiable in the distance from this Receptor;
- E - Oakley and Merley: Views towards the EfW CHP Facility Site from these two settlements are principally screened by intervening topography; and
- F - Broadstone, Corfe Mullen and Canford Heath: Views towards the EfW CHP Facility Site from these two settlements are principally screened by intervening topography.

Other Receptors

12.3.39 Canford Park SANG: A recently opened large Public Open Space (POS) at the former Canford Magna Golf Club provides walking routes for nearby residents. Set within a well-wooded landscape, views towards the EfW CHP Facility Site are restricted to areas at the SANG's south-western extent, where the existing chimney and tops of the existing buildings can be glimpsed in the distance (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 5**). The SANG is considered to be high sensitivity due to its recreational use.

12.3.40 Knighton Heath Golf Club: Located approximately 925m to the south-east of the EfW CHP Facility Site, users of the golf club are generally well screened from the EfW CHP Facility Site. It is anticipated that open, elevated sections of the course will have limited intervisibility with the proposed building and chimney through intervening vegetation. This Receptor is considered to be of medium sensitivity.

12.3.41 Dudsbury Golf Club: Views towards the EfW CHP Facility Site are generally well screened by intervening vegetation, built form and topography (**ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 8**). It is anticipated that users of the course may be able to identify the top of the proposed chimney, but this will form a minor component in the view approximately 3.15km to the west. This Receptor is considered to be of medium sensitivity.

Table 12-7: Receptor Sensitivity

Receptor	Representative Photoviewpoint (PVP)	Sensitivity
Landscape		
The EfW CHP Facility Site	N/A	Low
TCC1	N/A	Low
TCC2	N/A	Medium
DNC Compound	N/A	Low
CHP Connection	N/A	Medium

Heath/Farmland Mosaic LCT and North Poole Heath/Farm Fringe LCA	N/A	Medium
Visual		
Local PRoW	1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13 and 14	High
Promoted and Long-Distance Routes	5, 6 and 13	Very High
Road Users	2 and 9	Low
Residential Groups/Settlements	N/A	Very High
Canford Park SANG	5	High
Knighton Heath and Dudsbury Golf Clubs	8	Medium

Future Baseline

12.3.42 In the absence of development, it is predicted that the existing land use within the Proposed Development would continue, as would the management of existing vegetation such as hedgerows and trees. The current management is not undertaken with the objective of maintaining or enhancing the landscape and biodiversity value within the Proposed Development Boundary and does not, for example, include repairing or replanting of trees to replace those which have died. Therefore, in the long-term, it is considered that the landscape value would broadly remain the same with a potential to gradually decline in the absence of any significant intervention, which would include landscape enhancement and restoration. The only exception to this is where a small section of the DNC Connection area within a Heathland Support Area (HSA), where the land is managed as part of a Section 106 agreement through Natural England.

12.4 Inherent Design Mitigation

12.4.1 The Proposed Development includes embedded mitigation, as described in **ES Chapter 3: Description of the Proposed Development**, to reduce the likely impacts and effects and landscape and visual Receptors.

12.4.2 Those elements considered relevant in landscape and visual terms include the following:

- Development of an architecturally interesting built form, combining feature finishes with a varied roofscape and material palette;
- The built form also makes best use of the available space, ensuring the scale and massing of the structures reflects the technical requirements of the facility, and the building takes the most compact form achievable;
- The chimney and silos are to include a vertical fade of colour from Merlin to Goosewing Grey to ensure the taller elements of the proposal are able to appear inconspicuous from the surrounding context when seen against the horizon;

- The DNC Compound has been sited in a well-enclosed area adjacent to existing woodland and tower structures in keeping with the existing shape and form of the vertical elements; and
- A native hedgerow and landscape bund is also proposed around the DNC Compound to help assimilate the lower elements of the proposals into the receiving landscape. Planting has been selected to match the existing species specified within the adjacent HSA.

12.5 Potential Environmental Impacts and Effects

12.5.1 This section describes the landscape and visual effects during the construction stage and after completion (operational phase), at years 1 and 15, once building materials have weathered.

12.5.2 The Proposed Development has been designed to consider the sensitivity of the landscape and views within and around the Proposed Development. Given the scale of the proposals and the desire to make the best use of the space on the ground, no further landscape mitigation is proposed subsequent to the delivery of the Proposed Development. The effects of the Proposed Development are considered to be those that persist once the effects of embedded mitigation have become established. In planning terms, these are the effects to which most 'weight' should be attached, since they represent the long-term effect on the Landscape and Visual Baseline Appraisal.

Construction Phase

12.5.3 This section assesses effects of the Proposed Development during construction, up to completion.

Landscape Character

12.5.4 As a consequence of the change in land use of the developed land, construction activities will result in adverse landscape effects on the fabric and character of the landscape within the 3km Study Area. Construction activities introduce direct and indirect disturbance to both the fabric of the landscape and the perceptual influences of the surrounding area. These effects could potentially be perceived by people living, working, or travelling through the area, while these effects are temporary in nature, and can be partially mitigated.

12.5.5 Construction Methods are outlined within **ES Chapter 3: Description of the Proposed Development**. The main elements of the construction operations considered being of importance to the LVIA are described below:

- Construction-related traffic: This includes vehicle movements associated with the import of building materials, machinery, and labour. Construction traffic will access the Proposed Development from the A341 – Magna Road, whereas the DNC Compound will be accessed via Provence Drive. Transportation issues are discussed fully in **ES Chapter 15: Traffic and Transport**;
- Earthworks: Noise effects (discussed in **ES Chapter 13: Noise and Vibration**) have the potential to affect landscape character and residential amenity as audible detractors;
- Construction Activities: These are described in detail within **ES Chapter 3: Description of the Proposed Development**. The relevant features, from a landscape and visual perspective, are considered to be the use of up to ten 75m cranes, used to construct the building, and one single crane, approximately 115m in height used to construct the final section of the chimney; and

- Construction related effects: temporary on-site lighting for illumination outside of daylight or in poor weather conditions, noise, dust, and vibration from the movement of plant and vehicles.

12.5.6 The construction programme is referred to in **ES Chapter 3: Description of the Proposed Development**, which includes a number of primary mitigation measures, recognising best practice in modern construction techniques, including an Outline Construction Environmental Management Plan (CEMP) (**ES Appendix 3.2**).

12.5.7 Given the enclosed nature of the EfW CHP Facility Site and the limited visual Receptors in close proximity, it has been considered relevant to the landscape chapter that the mitigation considered for the construction phase has been limited to those embedded within the building design. Measures included within the Outline CEMP, such as construction hoarding and tree/shrub protection, will provide limited mitigation when compared to the scale and massing of the Proposed Development.

12.5.8 Landscape and visual amenity effects resulting from the construction stages are considered to be consistently adverse. However, these effects would be temporary, short-term and not long-lasting.

12.5.9 **Assessments of Effects Table 1: Landscape, 2: Photoviewpoints and 3: Residential Receptors** within **ES Appendix 12.2** describe the effects of the construction phase of the Proposed Development on landscape character, visual amenity and residential areas with these summarised below. Effects on other recreational routes and public highways are also described below.

Landscape Character of the Proposed Development Boundary

12.5.10 The Baseline Study identified that the Proposed Development Boundary sits within a landscape which contains a number of detracting features, with landscape fabric and habitat restricted to TCC2 which currently comprises grassland surrounded by woodland.

12.5.11 The EfW CHP Facility Site is generally devoid of landscape fabric and habitats. Most of the land is currently hardstanding, bare earth or contains structures associated with the existing CRP. The activities related to the construction phase within the EfW CHP Facility Site will not be uncommon in nature given its context within the CRP and will be temporary in nature, with the construction stage anticipated to last 36-months. It is therefore considered that the construction phase of the EfW CHP Facility Site will have a low magnitude of change, which, when combined with the overall low sensitivity, gives a Minor/Negligible level of adverse effect which is not significant.

12.5.12 The construction activities within the DNC (including the DNC Compound and connection) relate to the creation of a 4m wide access track from Provence Drive and the DNC itself. The works are limited when compared to the overall size of the identified area, and the activities required for construction will not be uncommon in nature given its context within the ongoing works associated with Canford Paddock and Magna Business Park nearby. Effects will be temporary in nature, with the construction stage anticipated to last a maximum of 36-months for the Proposed Development. It is therefore considered that the construction phase of the DNC Connection will have a medium magnitude of change, which, when combined with the overall medium sensitivity, gives a Moderate/Minor adverse level of adverse effect which is not significant.

12.5.13 Construction of the CHP Connection largely relates to below-ground works, an approximate 2.2m wide channel within a 7m wide corridor containing a network of pipes including water, data/telemetry cables and electricity. This route runs between the EfW CHP Facility Site to the north-west and the DNC Connection to the south-east. The channel is to be approximately 1m deep. The construction of this route will be across a small geographical

extent when compared to the Proposed Development as a whole and temporary in nature. This results in a medium magnitude of change. When combined with the medium sensitivity of the Receptor, this results in a Moderate adverse level of effect which is not significant.

12.5.14 Only one of the TCCs will be utilised. TCC1 is situated within Canford Arena adjacent to where the access road to CRP meets the A341. By nature, the use is temporary, only being in use during the construction phase, and for a limited period post first operation of the EfW CHP Facility. The addition of features such as car parking, site offices and storage areas will not be an uncommon feature in relation to the nearby CRP, and given the visually contained nature of the area, this will be experienced across a small geographical extent, if at all. The magnitude of change is considered to be high. When combined with the overall low sensitivity of the area this results in a Moderate/Minor adverse level of effect which is not significant.

12.5.15 TCC2 is situated to the south of the EfW CHP Facility Site and comprises grassland surrounded by woodland to the north and east. By nature, the use is temporary and will only be in use during the construction phase and for a limited period post first operation of the EfW CHP Facility Site. The addition of features such as car parking, site offices and storage areas will not be an uncommon feature in relation to the nearby CRP, and given the visually contained nature of the area, this will be experienced across a small geographical extent, if at all. The magnitude of change is considered to be high. When combined with the overall medium sensitivity of the area this results in a Moderate adverse level of effect which is significant.

Surrounding Context and Landscape Character

12.5.16 Elements within the construction phase of the Proposed Development are likely to be experienced by the wider Heath/Farmland Mosaic; this includes noise, light, vibrations, and traffic movement. Given the enclosed nature of the EfW CHP Facility Site, it is likely that visually only the taller elements of the construction phase will be perceived across the character area. Given the access road to the EfW CHP Facility Site, the DNC Compound area, the CHP Connection route and TCC1 stretches across the length of the Heath/Farmland Mosaic, and extensive earthworks are required as part of the construction phase, it is considered that there will be a medium magnitude of change, albeit over a short period, to the host LCA. When combined with the medium sensitivity of the Heath/Farmland Mosaic, this will result in a Moderate/Minor adverse effect which is not significant.

12.5.17 Although there may be a general acceptance of the Proposed Development over a 15-year period, it is not expected that this will reduce the overall magnitude of change to the character area. The effects therefore remain the same as above.

12.5.18 TCC2 lies within the ‘Lowland Heathland’ LCT (DLCA) and the ‘Canford Heath’ Landscape Character Area (PLCA), however, this represents a small, well-enclosed land parcel on the fringe of the character areas. As indicated by the names, most of this area is heathland, however, this particular land parcel appears to be semi-neutral grassland and has little physical or visual relationship with the wider areas. It is therefore considered that the use of the area as a TCC will have a very low magnitude of change on the medium sensitivity Receptor, resulting in a Minor/Negligible adverse level of effect, which is not significant.

Public Access and Rights of Way

12.5.19 Bridleway 118 forms the nearest route to the EfW CHP Facility Site, however, users of the route are generally well-enclosed by the woodland belts it runs through. **ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 1** represents a single glimpse through vegetation where the route opens out slightly. Within the existing view, the 35m chimney at the EfW CHP Facility Site can be identified alongside the roof of a structure within the adjacent CRP.

The Proposed Development will form a new and recognisable element within the view which is likely to be experienced by the Receptor. This is likely to give rise to a medium magnitude of change, which, when combined with the high sensitivity of the route, gives an overall worst-case moderate adverse effect which is significant.

12.5.20 Although there may be a general acceptance of the Proposed Development over a 15-year period, it is not expected that this will reduce the overall magnitude of change from this Receptor. Users of the route further south are likely to have heavily filtered views through the woodland towards the construction of the DNC Compound, however, this will be seen within the context of the ongoing construction of Canford Paddock and Magna Business Park. This area is located adjacent to an existing tower, so tall, vertical structures are not an uncommon feature in available views. It is considered that the magnitude of change from this location is likely to be medium, as it will be temporary and across a medium geographic extent. When combined with the high sensitivity of the route, this results in a Moderate adverse level of effect which is significant.

12.5.21 Bridleway 23 runs east to west across the most elevated section of the Canford Heath OAL. It is likely that all lower elements of the construction stage such as vehicle traffic and the movement of machinery will be screened from view due to the intervening vegetation and topography. The taller elements, such as cranes, will be visible in the middle-distance in the short-term and experienced across a medium geographical extent. It is therefore considered that the magnitude of change is likely to be medium, resulting in a Moderate adverse level of effect which is significant.

12.5.22 The remaining routes/areas assessed within the refined Study Area are expected to be subject to a worst-case Moderate/Minor adverse level of effect, which is not significant. A summary of these can be found at **ES Appendix 12.2**.

Primary and Secondary Routes

12.5.23 There are no significant effects expected during the construction phase on the surrounding primary and secondary routes. This is largely related to the enclosed location of all elements of the Proposed Development, accessed via a private road to the A341 Magna Road approximately 960m to the north-east combined with the identified low sensitivity of the Receptors. The exception to this is the DNC Compound which is accessed via Provence Drive to the north, however, the route provides access to new residential built form and light industrial built form at Magna Business Park. Construction activities are not expected to create a significant level of effect due to the urbanised nature of the road.

Residential Groups/Settlements

12.5.24 There are no significant effects expected during the construction phase on the surrounding identified residential Receptor groups (See **ES Appendix 12.1, Figure 12.11** for locations and **ES Appendix 12.2, Table 3** for full details). This is largely related to the enclosed nature of the Proposed Development and distance from residential groups.

- A - Canford Meadows: During the construction phase it is assessed that visibility to low-level construction activity would be screened by intervening vegetation. There would be visibility to high-level activity above, from properties along the western edge, however, the main core of the built form is likely to be screened from view. The available views would be short-term and across a small geographical extent. The magnitude of change is considered to be low. When combined with the high sensitivity of the Receptor, this results in a Moderate/Minor adverse level of effect which is not significant;
- B - Bearwood and Bear Cross: During the construction phase it is assessed that visibility to low-level construction activity would be screened by intervening vegetation and

topography. There would be limited visibility to high-level activity above, from properties at the elevated section of the settlement, however, the main core of the built form is likely to be screened from view. The available views would be short-term and across a small geographical extent. The magnitude of change is considered to be very low. When combined with the high sensitivity of the Receptor this results in a minor adverse level of effect, which is not significant;

- C - Knighton: Due to the orientation of the majority of dwellings within the hamlet of Knighton, views towards the construction activities are limited to those on the southern edge with gable end views. It is likely that the taller elements of the construction phase relating to cranes may be glimpsed in the distance, however, this will form a minor component in the view and will be temporary in nature. The magnitude of change is therefore considered to be very low. When combined with the high sensitivity of the Receptor, this results in a Minor adverse level of effect which is not significant;
- D - Hampreston: The majority of construction activities will be screened from view, however, the taller elements relating to cranes may be identifiable in the distance as they break above the treeline on the horizon. This will be short-term and over a small geographical extent, the magnitude of change is therefore considered to be very low. When combined with the high sensitivity of the Receptor, this results in a minor adverse level of effect, which is not significant; and
- E - Oakley and Merley and F - Broadstone, Corfe Mullen and Canford Heath: Due to intervening vegetation, topography, built form and distance, the construction of the Proposed Development would not be visible from these Receptors.

Others

12.5.25 Additional Receptors considered as part of the assessment include:

- Canford Park SANG;
- Knighton Heath Golf Club; and
- Didsbury Golf Club.

12.5.26 Of these Receptors, the assessment found that the users of Canford SANG are likely to experience the worst-case magnitude of change of very low during the construction phase, which, when combined with the high sensitivity, results in a Minor adverse effect, which is not significant.

Operational Phase

12.5.27 This section details the anticipated effects of the Proposed Development from year 1 to year 15 to demonstrate the likely effect of the Proposed Development over the short to medium term.

12.5.28 In practical terms, the 'operational lifetime' of the Proposed Development is measured in decades, as it will result in a permanent change to the character of the Proposed Development.

12.5.29 The assessment of operational effects for specific areas and views will consider the effects at two distinct points in time:

- At the completion of the Proposed Development (referred to here as year 1); and
- At 15 years after completion of the Proposed Development (such that mitigation planting may have matured, and materials weathered).

Landscape Character of the Proposed Development Boundary

12.5.30 During operation, the EfW CHP Facility Site will have replaced all bare earth/hardstanding/built form with a large building and associated infrastructure and parking etc. The scale of the proposed built form will create the addition of elements that are evident, but do not necessarily conflict with the characteristics of the existing landscape setting. Following completion, the magnitude of change will likely rise to medium given the built form will be complete and the tallest elements achieving full height, as well as the permanent nature of the proposals compared to the temporary construction phase. When combined with the overall low sensitivity, this will result in a minor adverse level of effect, which is not significant.

12.5.31 Once completed, the DNC Compound will comprise two masts at 26m in height which connect to, and reflect the height of, the existing tower, alongside a control/storeroom, surrounded by a 2.4m high palisade security fence. Given the access track and built form within the palisade fencing forms the only component within the DNC Compound, the change to the landscape fabric will be across a medium geographic extent. When combined with the limited vertical structures within the proposals, the magnitude is considered to remain at medium at year 1, which results in a Moderate/Minor adverse level of effect which is not significant. In the longer-term, it is anticipated that there will be a general acceptance of the Proposed Development in this location, reducing the overall magnitude of change to low, which results in a Minor adverse level of effect, which is not significant.

12.5.32 Once completed, it is anticipated that the route of the CHP Connection will be infilled with material and returned to all former land uses. The route has been chosen to limit impacts on the surrounding landscape fabric. It is anticipated that at year 1 the magnitude of effect will reduce slightly to low, resulting in a Minor adverse level of effect. In the longer term, once the vegetation has established and returned to the form before construction started, the magnitude of change will be imperceptible, resulting in a negligible level of effect, which is not significant.

12.5.33 If utilised, the area used as TCC1 will be returned to its former use as a car park within Canford Arena after a period of five years. Therefore, at Year 1, the level of effect is likely to remain as Moderate/Minor adverse in the short-term which is not significant. In the long-term, this is likely to have reverted to its former state, whereby the magnitude of change will be imperceptible, which results in Negligible level of effect, which is not significant.

12.5.34 If utilised, the area used as TCC2 will be returned to its former land use as a grassland after a period of five years. Therefore, at year 1, the level of effect is likely to remain as moderate adverse in the short-term which is significant. In the longer-term, it is anticipated the grassland will have established and returned to the form before construction started. The magnitude of change will be imperceptible, resulting in a negligible level of effect, which is not significant.

Surrounding Context and Landscape Character

12.5.35 At year 1, the Proposed Development will have replaced all pre-existing land uses with the EfW CHP Facility Site and associated parking. Although construction traffic will have ceased moving between the EfW CHP Facility Site and the A341 to the east, the route will continue to be used during operation, as well as the permanent structures within the DNC Compound being present. The built form will create the addition of elements that are evident but do not necessarily conflict with the characteristics of the existing landscape within the context of CRP and Magna Business Park. This will result in an overall magnitude of change to medium locally, but quickly dissipating as distance from the Proposed Development increases. When combined with the medium sensitivity of the Heath/Farmland Mosaic, this results in an overall Moderate/Minor adverse level of effect, which is not significant.

12.5.36 Although there may be a general acceptance of the Proposed Development, and the surrounding landscape further matures over time, it is not anticipated that the perceived scale and massing of the structures will reduce the overall magnitude of change over a 15-year period. The effects therefore remain the same as above.

Public Access and Rights of Way

12.5.37 Bridleway 118 forms the nearest route to the EfW CHP Facility Site, however, users of the route are generally well enclosed by the woodland belts it runs through. **ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 1** represents a single glimpse through vegetation where the route opens out slightly. Within the existing view, the 35m chimney on the EfW CHP Facility Site can be identified alongside the roof of a structure within the adjacent CRP. The Proposed Development will form a new and recognisable element within the view which is likely to be experienced by the Receptor. This is likely to give rise to a medium magnitude of change, which, when combined with the high sensitivity of the route, gives an overall worse-case moderate adverse effect, which is significant.

12.5.38 The Stour Valley Way runs through the landscape to the north-east of the EfW CHP Facility Site. **ES Appendix 12.1, Appendix EDP 4: Photoviewpoint EDP 5** indicates the worst-case scenario of views from this Receptor towards the built form. The very high sensitivity of the long-distance route, combined with the overall low magnitude of change expected from this location gives a worst case Moderate adverse level of effect, which is significant. This will quickly reduce as users move through the landscape and the route runs through dense woodland, restricting any intervisibility towards the south-west. It is expected that the general acceptance of the Proposed Development will reduce over time and with the magnitude of change reducing to very low, resulting in a Moderate/Minor adverse effect, which is not significant.

12.5.39 Bridleway 23 within the Canford Heath OAL is also afforded views towards the EfW CHP Facility Site. During operation, in views northwards from the heath, the Proposed Development is identifiable in the middle distance (1.5km). Users of this route along the most elevated section of the OAL will be able to see the top of the proposed building alongside the chimney. The existing chimney can be identified in existing views; however, the Proposed Development forms a new element in the view which would be identifiable to users. Given this location affords panoramic views, the Proposed Development is experienced across a moderate geographical extent and is therefore considered to result in a high magnitude of change. When combined with the high sensitivity of the Receptor, this results in a Major/Moderate adverse level of effect, which is significant. Although over time there will be a general acceptance of the built form, this will not reduce the magnitude of change, meaning the above level of effect is likely to remain over the 15-year period.

12.5.40 The remaining routes/areas assessed within the refined Study Area are expected to be subject to a worst-case Moderate/Minor adverse level of effect, which is not significant. A summary of these can be found within **ES Appendix 12.2**.

Primary and Secondary Routes

12.5.41 There are no significant effects expected during the operational phase on the surrounding primary and secondary routes. This is largely related to the enclosed location of the EfW CHP Facility Site, accessed via a private road to the A341 Magna Road, approximately 960m to the north-east and the DNC Compound off Provence Drive to the north-east. The addition of the Proposed Development to the identified road users is not expected to create a significant level of effect due to the urbanised nature of the roads and their identified low sensitivity.

Residential Groups/Settlements

12.5.42 At year 1, it is likely that properties along the western edge of Canford Paddock will be able to identify the top of the proposed building alongside the chimney, viewed above the existing tree canopy. This will form a recognisable element in available views; however, this will be experienced across a small geographic extent and will result in a medium magnitude of change. This, when combined with the overall high sensitivity, results in a Moderate adverse level of effect, which is significant.

12.5.43 There are no significant effects expected during the operational phase on the surrounding identified residential Receptor groups (See **ES Appendix 12.1, Figure 12.11**). This is largely related to the EfW CHP Facility Site's enclosed location and distance from residential groups.

Others

12.5.44 Additional Receptors considered as part of the assessment include:

- Canford Park SANG;
- Knighton Heath Golf Club; and
- Didsbury Golf Club.

12.5.45 Of these Receptors, the assessment found that the users of Canford SANG are likely to experience the worst-case magnitude of change of low during the operational phase, which, when combined with the high sensitivity, results in a Moderate/Minor adverse effect, which is not significant.

Decommissioning Phase

12.5.1 For the purpose of the assessment, a working assumption has been made that the Proposed Development has an operational lifespan of approximately 40-years. However, it should be noted that it is common for such developments to be operational for longer periods. It is anticipated that the process of decommissioning would involve the termination of operational activity, following which there would be electrical and process isolation and demolition activities. The EfW CHP Facility Site (including the CHP Connection) and the DNC would be left in a clear and secure condition in accordance with a Decommissioning Plan (to be secured by a planning condition). The decommissioning process is anticipated to last for one year.

12.5.2 For the purposes of this assessment, the environmental effects associated with the decommissioning phase would be of a similar level to those reported for the construction phase works, albeit with a lesser duration of one year.

12.6 Additional Mitigation

12.6.1 The Proposed Development includes embedded mitigation, as described in **ES Chapter 3: Description of the Proposed Development**, to reduce the likely impacts and effects on landscape and visual Receptors. No additional mitigation is considered necessary in this case, due to the scale and massing of the main components of the Proposed Development. The EfW CHP Facility Site already sits within an enclosed landscape which comprises mature landscape features which are to be retained.

12.7 Residual Effects

12.7.1 As no additional mitigation measures are proposed, the residual effects remain as reported in **Section 12.5** and presented in **Table 12-8**.

12.8 Implications of Climate Change

12.8.1 The impact of climate change on the landscape and visual resource is assessed through consideration of a potential future baseline scenario, and considers how potential climate change may alter the predicted landscape and visual effects contained within this chapter. Whilst it is unlikely that completely new direct impacts would arise from climate change based on the current conditions, the geographic spread or scale of potential impacts might be changed when considered against the future baseline conditions.

12.8.2 The changes to temperature and precipitation predicted would be likely, in time, to change the landscape around us. However, it is unlikely that the subtle changes would lead to wholescale change to the future landscape baseline within the lifetime of the Proposed Development. Changes might include certain tree species or grasslands becoming more dominant/prevalent, but, given the character of the surrounding landscape, which contains mature woodland, these changes would not have a prominent impact. Changes to the landscape effects predicted is considered appropriate.

12.8.3 For visual effects, the future baseline under a climate change scenario would not lead to any greater, or different, effects to those predicted.

12.9 Cumulative Effects

12.9.1 Cumulative effects can arise from the intervisibility of operational or consented developments and/or from the combined effects of individual components of the Proposed Development occurring in different locations or over time. The separate effect of such individual components or developments may not be significant, but in-combination they may create a degree of adverse effect on the landscape resource or visual Receptors within their combined visual envelopes, such that cumulative effects may be significant.

12.9.2 In this cumulative assessment, the focus is on the additional effects of the Proposed Development. Existing and/or approved developments may have significant effects in their own right, but significant cumulative effects do not automatically arise on a single Receptor following the addition of the Proposed Development; the significance is determined by the degree of change that the Proposed Development would introduce into the theoretical cumulative baseline.

12.9.3 Cumulative effects arise in two principal ways – in combination and sequentially. Combined effects occur when: 1) two or more schemes appear simultaneously in the same arc of view without the need for an observer to turn; and 2) in succession, where it is necessary for the observer to turn the head to see the multiple schemes. Sequential effects occur where the observer has to move from one location to another to be able to see the different developments, and typically arise when the observer is travelling through a landscape, for example, on a road or footpath.

12.9.4 Through consultation with the co-ordinating planning consultant for the Proposed Development, cumulative schemes have been considered for the assessment of potential significant cumulative effects in relation to landscape resource and visual Receptors. The cumulative schemes are provided in **ES Chapter 5: Approach to Assessment** and locations are shown on **Figure 5-1**.

12.9.5 Based upon the distribution of landscape and visual Receptors for the Proposed Development, and the likely extent of landscape and visual effects presented within this chapter, it is only in combination with the following schemes that any cumulative landscape and visual effects are likely to occur:

- 1. APP/21/01186/F: Magna Business Park – Three Industrial units;
- 3. APP/21/00400/F: Arena Way – Solar Farm;
- 7. 3/21/1566/RM: Station Terrace – 101 Dwellings; and
- 8. 3/21/0840/FUL: Leigh Road – 75 Dwellings.

12.9.6 The remaining schemes (2, 4-6 and 9-15), are considered either too distant or well-screened from the Proposed Development, obscured by existing intervening development, topography and vegetation, and any cumulative landscape and visual effect would be minimal, if experienced at all.

Landscape Character

12.9.7 Views of the Proposed Development, including the cumulative sites listed above, would be possible from within the host LCA. It is not the view that defines the landscape effect, however, rather it is changes to the physical and wider perceptual qualities (including visual) that lead to the level of effect. The areas of built development, such as the sites listed above, would clearly have a notable effect on landscape character. However, the overall extent of the cumulative schemes within the LCA (cumulative sites 1 and 2), which cover a small portion of the Heath/Farmland Mosaic (medium sensitivity) and are sited on the periphery of the area within the context of existing built form. This would result in a medium magnitude of change to the host LCA, giving rise to a Moderate/Minor cumulative effect, which is not significant. Although key landscape features which provide clear value to the local landscape context, such as woodland blocks and well-treed field boundaries, would be retained, there would be an adverse alteration to a number of key characteristics.

Visual Amenity

12.9.8 The cumulative assessment identified that there are not predicted to be any significant cumulative impacts on visual Receptors. The number and distribution of the cumulative sites means that the Proposed Development is rarely seen in combination with the identified sites, and when views are available, they are generally from low sensitivity Receptors in largely urban areas.

12.9.9 A detailed assessment of the visual resource in relation to the cumulative sites is included within **ES Appendix 12.2**.

12.10 Plume Visibility

12.10.1 As part of the combustion processes within the operational period of the EfW CHP Facility Site, an emissions plume is produced, which is composed primarily of water vapour and emitted via the chimney stack. The visibility of the plume can vary greatly and is determined by the air temperature and humidity of the plume in relation to that of the surrounding air environment.

12.10.2 When visible, emission plumes vary greatly in their visual characteristics in response to weather conditions. At the point at which the flue gases leave the stack, the water is in vapour form. On entering and mixing with the atmosphere, the gases begin to cool. The water will remain in vapour form if the prevailing temperature and relative humidity in the

surrounding atmosphere is such that it can support the additional water. However, if the atmosphere is closer to the point at which saturation would occur, then the water vapour will condense into liquid droplets. This condensation process is more likely to occur in cold and/or humid conditions, as more commonly experienced at night and in winter. It is the same atmospheric process as fog formation.

12.10.3 Plume visibility has been modelled by Gair Consulting, using approved methodology. Broadly this involves using the Atmospheric Dispersion Modelling System (ADMS) 5.2 for making predictions of plume visibility, using meteorological data from the nearest Met Office recognised observation station, which in this case is Bournemouth Airport, across the five-year period of 2016-2020.

12.10.4 **Table 12-8** summarises the findings across daylight hours, including hours per year (HPY) and days per year (DPY).

Table 12-8: Plume Visibility Across Daylight Hours

Parameter	2016	2017	2018	2019	2020	5-year Average
Occurrence of no visible plume	76.9%	79.8%	78.2%	78.7%	80.4%	78.8% 3541 HPY 288 DPY
Occurrence of a visible plume of any length	23.1%	20.2%	21.8%	21.3%	19.6%	21.2% 929 HPY 77 DPY
Average length of visible plume	63.2m	62.9m	74.6m	56.3m	61.1m	63.3m

12.10.5 The key outcomes from the above modelling is that a plume would be visible for an average of approximately one-fifth of daylight hours (between 19% and 23% varying from year to year).

12.10.6 **Table 12-9** summarises the findings of the predicted plume length.

Table 12-9: Plume Length Occurrence

Occurrence of Plume Length	2016	2017	2018	2019	2020	5-Year Average
0-50m	13.5%	11.1%	10.4%	13.6%	11.4%	12%
50-100m	5.2%	4.7%	5.6%	4.0%	4.2%	4.7%
100-200m	2.0%	2.4%	2.8%	1.6%	1.9%	2.1%
200-400m	1.1%	1.1%	1.3%	0.8%	0.9%	1%
>400m	1.4%	0.9%	1.7%	1.2%	1.1%	1.3%

12.10.7 The visible plume would generally run horizontally from the chimney and would mostly be between 0-50m long, less than the total height of the chimney. It would broadly exceed the total chimney height between 3.6% and 5.8% of the time.

12.10.8 Based on the above data for previous years, artists impressions have been produced to indicate how a 50m plume may look, based on a prevailing south-westerly wind, identified within the Air Quality Assessment as being the most common wind direction. These artists impressions are included within **ES Appendix 12.1**, **Appendix EDP 6**. It is important to note that the plume has been modelled on top of the Type 4 Verifiable Views, where the form, massing, location, and colours of the EfW CHP Facility Site are accurate. The plume itself has been interpreted based on the data available within the Air Quality Assessment and the maximum extent of the most common plume type (0-50m).

12.10.9 Views have been selected to represent a variety of orientations and distances of Receptors surrounding the site.

12.10.10 The presence of the emissions plume would have potential to accentuate the height of the proposed chimney, but as is demonstrated above this would occur very infrequently, even when the plume is visible, which itself would occur only a small proportion of the time. As such, it is concluded that the emissions plume would not lead to any significant adverse visual effects.

12.11 Night-time Effects

12.11.1 As identified within **ES Appendix 3.1** – Outline Lighting Strategy, once operational, there are two night-time scenarios that have to be considered for the design of the external lighting:

- Scenario 1 – Low light periods when the EfW CHP Facility Site is in normal operation. In this scenario, all external lights around the EfW CHP Facility Site need to be on to provide a safe lighting level for vehicle and personnel movements and other outdoor activities (e.g., regular maintenance). This will occur in certain months during the normal operating hours of the EfW CHP Facility Site, which are between the hours of 07:00 to 20:00; and
- Scenario 2 – Low light periods when the EfW CHP Facility Site is in normal operation but there are no operational traffic movements and the minimum staff occupation. In this scenario, the external lighting levels can be reduced to that necessary for only essential activities. During this time, no traffic or pedestrian movements are expected. Escape routes are still sufficiently illuminated, and the full lighting can be reinstated at any time from the control room if operationally necessary. This will occur outside of the normal opening hours of the Facility.

12.11.2 The chimney is expected to have red aviation safety lights due to its proximity to Bournemouth Airport. Although this will be sited at the top of the chimney, the red lighting has been selected to form an inconspicuous feature at the EfW CHP Facility Site and is not anticipated to give rise to any adverse night-time effects during construction or operation.

12.11.3 Overall, it is not anticipated that the lighting of the Proposed Development would give rise to adverse night-time effects during construction or operation. Some lighting is necessary to ensure the safety of staff and operational areas, however, the use of the two scenarios, when required, would minimise the appearance of light and contain spillage of light beyond the facility boundary. The Outline CEMP (**ES Appendix 3.2**) has been developed to ensure lighting during the construction period is kept to a minimum. The existing lighting within the CRP will continue to illuminate the area and the lighting proposed at the facility would not add materially to the effects of this lighting.

12.12 Summary

12.12.1 An assessment of landscape and visual components of the Proposed Development and the wider area where there is the potential for likely significant environmental effects was undertaken through desktop and field study, and in accordance with accepted guidance. This identified the main landscape and visual Receptors likely to be affected by the Proposed Development and resulted in a baseline appraisal in the context of which landscape and visual effects could be assessed. The main landscape and visual implications of the Proposed Development and the potential impacts were identified, and inherent mitigation incorporated within the design proposals minimise these impacts.

12.12.2 Effects upon the existing landscape fabric of the Proposed Development would not be significant in EIA terms. The Proposed Development would redevelop what is currently an area with little landscape fabric or habitat, and is generally bare-earth, hardstanding, or built form associated with the adjacent CRP. The DNC Compound has been identified as semi-improved grassland. Existing perimeter planting would be retained where possible.

12.12.3 Effects upon the wider landscape character would not be significant in EIA terms. Localised change would occur within the Heath/Farmland, however, this is generally well enclosed by surrounding woodland. The LCA already contains a number of detracting features. Elsewhere, the existing character would be largely unaffected by the presence of the Proposed Development.

12.12.4 Significant visual effects (in EIA terms) would be experienced from 4 of the 14 viewpoints assessed. However, the worst-case level of effect is Moderate adverse. All viewpoints experiencing significant visual effects are within 1.5km of the EfW CHP Facility Site.

12.12.5 The Proposed Development is well-sited by virtue of being set within a landscape which includes a variety of land uses without any strong unifying character. Local change resulting from the development would be set in the context of existing industrial development at CRP. The EfW CHP Facility Site is greater in height and mass than existing features, but would not lead to wide-ranging or fundamental change in the existing landscape character or visual amenity. Wider effects would be limited by the surrounding pattern of vegetation cover, which provides considerable visual screening from the surrounding undulating landscape.

12.12.6 The landscape and visual Receptors that have been identified in this chapter, the potential effects of the Proposed Development on these Receptors, mitigation, and resulting residual impacts are summarised in **Table 12-10**.

Table 02-10: Summary of Effects

Receptor	Sensitivity of Receptor	Magnitude of Change	Proposed Mitigation	Residual Effect	Significant/Not Significant
Construction Phase					
The EfW CHP Facility Site	Low	Low	Measures stated within the Outline CEMP.	Minor/Negligible Adverse	Not Significant
DNC area	Low	Medium	Development of an architecturally interesting built form, combining feature finishes with a varied roofscape and material palette.	Minor Adverse	Not Significant
CHP Connection Route	Medium	Medium		Moderate/Minor Adverse	Not Significant
TCC1	Low	High	The built form also makes best use of the available space, ensuring the scale and massing of the structures reflects the technical requirements of the facility and the building takes the most compact form achievable.	Moderate/Minor Adverse	Not Significant
TCC2	Medium	High		Moderate Adverse	Significant
Heath/Farmland Mosaic LCT	Medium	Medium		Moderate/Minor Adverse	Not Significant
North Poole Heath/Farm Fringe LCA	Medium	Very Low	The chimney and silos are to include a vertical fade of colour from Merlin to Goosewing Grey to ensure the taller elements of the proposal are able to appear inconspicuous from the surrounding context when seen against the horizon.	Minor/Negligible adverse	Not Significant
Photoviewpoint EDP 1 – Bridleway 118	High	Medium		Moderate Adverse	Significant
Photoviewpoint EDP 2 – A341 Magna Road	Low	High	The DNC Compound has been sited in a well enclosed area adjacent to	Moderate/Minor Adverse	Not Significant

Receptor	Sensitivity of Receptor	Magnitude of Change	Proposed Mitigation	Residual Effect	Significant/Not Significant
Photoviewpoint EDP 3 – Stour Valley Way	Very High	Very Low	existing woodland and tower structures in-keeping with the existing shape and form of the vertical elements. A native hedgerow and landscape bund is also proposed around the DNC Compound to help assimilate the lower elements of the proposals into the receiving landscape. Planting has been selected to match the existing species specified within the adjacent HSA.	Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 4 – Footpath 38	High	Very Low		Minor Adverse	Not Significant
Photoviewpoint EDP 5 – Stour Valley Way	Very High	Very Low		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 6 – Ferndown, Stour and Forest Trail	Very High	Very Low		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 7 – Footpath 2	High	Low		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 8 – Footpath 10	High	Low		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 9 – B3073	Low	No Change		No Effect	Not Significant
Photoviewpoint EDP 10 – Bridleway 23/Canford Heath OAL	High	Medium		Moderate Adverse	Significant
Photoviewpoint EDP 11 – Bridleway 16	High	No Change		No Effect	Not Significant
Photoviewpoint EDP 12 – Footpath 5/Corfe Hills OAL	High	Low		Moderate/Minor Adverse	Not Significant

Receptor	Sensitivity of Receptor	Magnitude of Change	Proposed Mitigation	Residual Effect	Significant/Not Significant
Photoviewpoint EDP 13 – Stour Valley Way	Very High	Imperceptible		Negligible Adverse	Not Significant
Photoviewpoint EDP 14 – Bridleway 25/King Down Drove	Very High	Imperceptible		Negligible Adverse	Not Significant
Residential Group A – Canford Meadows	High	Low		Moderate/Minor Adverse	Not Significant
Residential Group B – Bearwood and Bear Cross	High	Very Low		Minor Adverse	Not Significant
Residential Group C - Knighton	High	Very Low		Minor Adverse	Not Significant
Residential Group D – Hampreston	High	Very Low		Minor Adverse	Not Significant
Residential Group E – Oakley and Merley	High	No Change		No Effect	Not Significant
Residential Group F – Broadstone, Corfe Mullen and Canford Heath	High	No Change		No Effect	Not Significant
Canford Park SANG	High	Very Low		Minor Adverse	Not Significant
Knighton Heath and Dudsbury Golf Clubs	Medium	Very Low		Minor/Negligible Adverse	Not Significant
Operation Phase					

Receptor	Sensitivity of Receptor	Magnitude of Change	Proposed Mitigation	Residual Effect	Significant/Not Significant
The EfW CHP Facility Site	Low	Medium	Development of an architecturally interesting built form, combining feature finishes with a varied roofscape and material palette. The built form also makes best use of the available space, ensuring the scale and massing of the structures reflects the technical requirements of the facility and the building takes the most compact form achievable. The chimney and silos are to include a vertical fade of colour from Merlin to Goosewing Grey to ensure the taller elements of the proposal are able to appear inconspicuous from the surrounding context when seen against the horizon. The DNC Compound has been sited in a well enclosed area adjacent to existing woodland and tower structures in-keeping with the existing shape and form of the vertical elements. A native hedgerow and landscape bund is also proposed around the DNC Compound to help assimilate the lower elements of the proposals into the receiving landscape. Planting has been selected to match the existing	Negligible Adverse	Not Significant
DNC area	Low	Medium		Minor Adverse	Not Significant
CHP Connection Route	Medium	Low		Minor Adverse	Not Significant
TCC1	Low	Imperceptible		Negligible	Not Significant
TCC2	Medium	Medium		Moderate/Minor Adverse	Not Significant
Heath/Farmland Mosaic LCT	Medium	Medium		Moderate/Minor Adverse	Not Significant
North Poole Heath/Farm Fringe LCA	Medium	Very Low		Minor/Negligible Adverse	Not Significant
Photoviewpoint EDP 1 – Bridleway 118	High	Medium		Moderate Adverse	Significant
Photoviewpoint EDP 2 – A341 Magna Road	Low	High		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 3 – Stour Valley Way	Very High	Low		Moderate Adverse	Significant
Photoviewpoint EDP 4 – Footpath 38	High	Very Low		Minor Adverse	Not Significant
Photoviewpoint EDP 5 – Stour Valley Way	Very High	Low		Moderate Adverse	Significant

Receptor	Sensitivity of Receptor	Magnitude of Change	Proposed Mitigation	Residual Effect	Significant/Not Significant
Photoviewpoint EDP 6 – Ferndown, Stour and Forest Trail	Very High	Very Low	species specified within the adjacent HSA.	Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 7 – Footpath 2	High	Low		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 8 – Footpath 10	High	Low		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 9 – B3073	Low	No Change		No Effect	Not Significant
Photoviewpoint EDP 10 – Bridleway 23/Canford Heath OAL	High	High		Major/Moderate Adverse	Significant
Photoviewpoint EDP 11 – Bridleway 16	High	No Change		No Effect	Not Significant
Photoviewpoint EDP 12 – Footpath 5/Corfe Hills OAL	High	Low		Moderate/Minor Adverse	Not Significant
Photoviewpoint EDP 13 – Stour Valley Way	Very High	Imperceptible		Negligible Adverse	Not Significant
Photoviewpoint EDP 14 – Bridleway 25/King Down Drove	Very High	Imperceptible		Negligible Adverse	Not Significant
Residential Group A – Canford Meadows	High	Medium		Moderate Adverse	Significant

Receptor	Sensitivity of Receptor	Magnitude of Change	Proposed Mitigation	Residual Effect	Significant/Not Significant
Residential Group B – Bearwood and Bear Cross	High	Very Low		Minor Adverse	Not Significant
Residential Group C - Knighton	High	Very Low		Minor Adverse	Not Significant
Residential Group D – Hampreston	High	Very Low		Minor Adverse	Not Significant
Residential Group E – Oakley and Merley	High	No Change		No Effect	Not Significant
Residential Group F – Broadstone, Corfe Mullen and Canford Heath	High	No Change		No Effect	Not Significant
Canford Park SANG	High	Very Low		Minor Adverse	Not Significant
Knighton Heath and Dudsbury Golf Clubs	Medium	Very Low		Minor/Negligible Adverse	Not Significant