



# Residual Waste Site Identification

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Dorset County Council

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## Report for Dorset County Council

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### *Disclaimer*

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# Executive Summary

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Dorset County Council has identified a shortfall in residual waste treatment capacity of approximately 212,000 by 2031. The planning authority has shortlisted the eight sites set out in A.1.0 as potential locations for future treatment facilities. Eunomia has been commissioned to review the eight shortlisted sites for their relative suitability for the placement of a single facility that can process the predicated shortfall.

This report is structured as follows:

- Section 1.0 introduces the report and sets out the scope of the commission;
- Section 2.0 provides a technical overview of a range of thermal and mechanical and biological treatment (MBT) facilities;
- A desk based site assessment is contained in Section 3.0; and
- Section 1.4 draws conclusions from section.

The report identifies three out of the eight sites as being more suitable for a single 212,000tpa thermal or Mechanical Biological Treatment (MBT) facility with site ED02 Blunts Farm being the preferred location based only on the following:

- large enough to accommodate both thermal and MBT facility;
- few sensitive receptors and location next to industrial estate which should help mitigate impact of stack and general building mass for both technology types;
- industrial estate in close proximity so potential for heat off take.

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# 1.0 Introduction

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## 1.1 Scope of Commission

Dorset County Council (DCC) has identified a shortfall in residual waste treatment capacity of approximately 212,000 by 2031. They have already commenced the process of identifying sites within Bournemouth, Dorset and Poole that may be suitable for the installation of a residual waste treatment facility and evaluating these sites against a set of criteria that include landownership, site area, surrounding land uses, access and distances from where the waste will arise.

Enomia was commissioned by DCC to undertake a residual waste technology treatment review and desk based site assessment in relation to a range of technologies. The objective of this work is to identify one or two preferred sites for residual waste treatment in Dorset from the long-list provided, and identify which technologies are likely to be most suited to the sites.

This report does not intend to duplicate the work being carried out by DCC. It focuses on:

- providing a technical overview of a range of waste treatment technologies; and then
- evaluating the suitability of each technology on each of DCC's preferred sites using a range of technical specific criteria.

The residual waste treatment technologies considered in this report include:

- Energy from Waste (EfW)
  - Direct combustion incineration
  - Pyrolysis
  - Gasification
- Mechanical and biological treatment
  - Mechanical treatment only to produce RDF
  - Mechanical biological treatment to produce RDF

## 1.2 An Introduction to Residual Waste Treatment Technologies

### 1.2.1 Thermal processes

Energy from Waste (EfW) technologies transform waste into a useable form of energy using a thermal process. A variety of approaches can be used and different forms of energy can also be produced, including electricity, heat and transport fuel.

EfW technologies have become increasingly prevalent throughout the world as countries seek to limit the amount of waste sent to landfill. The use of such an approach results in a considerable reduction in the volume of solid material left at the end of the process, although there is often still some requirement to send material to landfill. In addition, concerns about energy security and a desire to reduce climate change emissions have also been significant drivers for a switch towards this type of technology.

This type of treatment approach has been used in various forms for many decades. Early thermal treatment facilities did not recover energy, simply burned waste to reduce volume (this is known as incineration without energy recovery). Legislative change in Europe over the last 15-20 years has driven the requirement for plants to benefit the waste by generating energy and utilising the heat produced whilst at the same time meeting strict emissions standards as set out in the Industrial Emissions Directive 2010/75/EC<sup>1</sup> (IED). In order for an EfW facility to be classified as a recovery facility rather than purely a disposal facility under the Waste Framework Directive 2008/98/EC<sup>2</sup> (WFD) and Waste Hierarchy (Waste England and Wales) Regulations 2011<sup>3</sup> it must satisfy the R1 high efficiency test, the formula for which is set out in Annex 11 of the WFD. According to DEFRA, October 2014 there were three operational R1 plants in England and Wales with a further six in the planning or development stage<sup>4</sup>.

EfW's can use untreated or pre-treated waste, in the form of a Refuse Derived Fuel (RDF) as a feed stock.

The health impact of air emissions released from EfW stacks is often raised as a planning objection during public consultation. The WRAP report "EFW Development Guidance" considers the impact of EfW on health and provides the following feedback from the Health Protection Agency (HPA):

*"while it is not possible to rule out adverse health effects from modern, well-regulated municipal waste incinerators with complete certainty, any potential damage to the health of those living close-by is likely to be very small, if detectable"*<sup>5</sup>.

WRAP states in the same report that modern EfW plants have a negligible impact on ambient air quality, and operate to environmental standards that significantly reduce potential risks to health.

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<sup>1</sup> (2010) Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on Industrial Emissions (Integrated Pollution Prevention and Control) (Recast)

<sup>2</sup> European Commission (2008) Directive 2008/98/EC on Waste (Waste Framework Directive)

<sup>3</sup> UK Government The Waste (England and Wales) Regulations 2011

<sup>4</sup> DEFRA (2014) *R1 Plants October 2014*, accessed 21 January 2016, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/390392/RF17028\\_R1\\_Plants\\_October\\_2014.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/390392/RF17028_R1_Plants_October_2014.pdf)

<sup>5</sup> WRAP (2012) *EfW Development Guidance*, September 2012, [http://www.wrap.org.uk/sites/files/wrap/O\\_And\\_EFW\\_Guidance\\_FULL.pdf](http://www.wrap.org.uk/sites/files/wrap/O_And_EFW_Guidance_FULL.pdf)

All EfW's require an environmental permit to operate. In order for the permit to be issued the operator will be required to clearly set out how the facility will be managed and monitored to ensure compliance with the air emissions limits set out in the IED.

### 1.2.2 Mechanical and biological processes

Mechanical treatment can occur alongside biological treatment (MBT) or in isolation (mechanical treatment only). Mechanical biological treatment (MBT) first mechanically treats residual waste to remove or process individual components of the mixed waste stream. Materials that can be recovered for recycling often include metals, glass and some plastics, although the precise range of materials varies from plant to plant. This leaves a significant fraction of the waste to be further treated. In most cases, this material is biologically processed by either anaerobic digestion, composting or bio drying. Depending on the processing technique employed and the composition of the output, the elements of the output material can be used as SRF/RDF, landfilled, used as landfill cover or used for land remediation.

Currently there is demand for RDF in northern European EfW facilities (Sweden and the Netherlands), as a capacity gap has occurred within these countries due to increased focus on waste diversion. Because these EfW facilities supply local heat networks, municipalities have a clear preference for importing waste to meet the local shortfall rather than close down facilities. Indeed, new incinerators are coming on stream in some areas. Eunomia's research indicates that the market is likely to remain stable at or above its current level.<sup>6</sup>

Any facility that uses SRF/RDF derived from an MBT facility as a feed stock must comply with the Annex IV of the IED because RDF is classified as a waste.

Compost like outputs from MBT cannot be spread to land used for or intended for agricultural purposes as they do not qualify as BSI PAS 100 (requires compost products must be derived solely from source-separated material).<sup>7</sup>

The 2013 DEFRA report "Mechanical Biological Treatment of Municipal Solid Waste"<sup>8</sup> considers the potential health effects of MTB facilities. No studies specifically looking at the health effect of MBT facility have been carried out however the health effects might be expected to be comparable to those of In-Vessel Composting facilities, which primarily relate to bio-aerosols.

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<sup>6</sup> See Eunomia (2014) Residual Waste Infrastructure Review (Issue 7), <http://www.eunomia.co.uk/reports-tools/residual-waste-infrastructure-review-7th-issue/> and Cullen, C (2013) "Continental drift – how much might UK waste exports grow?" Isonomia, <http://www.isonomia.co.uk/?p=1894>

<sup>7</sup> Environment Agency(2009) *The use and application to land of MBT compost-like output - review of current European practice in relation to environmental protection*, Bristol: Environmental Agency

<sup>8</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/221039/pb13890-treatment-solid-waste.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221039/pb13890-treatment-solid-waste.pdf)

Bio-aerosols are airborne micro-organisms or their constituent parts. We are exposed to them every day and most people built up an immunity to them. The levels of bio-aerosols are found in higher concentrations at facilities where large amounts of organic matter are processed. Composting is one such process that is likely to result in the release of bio-aerosols. There is limited data on the effect of bio-aerosols on people working at composting or similar sites however the data that is available indicates that workers at composting sites in particular experience exposure to bio-aerosols 10 – 100 times greater in concentration than may be expected normally in ambient air. There does not appear however to any evidence that this exposure leads to significantly higher levels of respiratory infection and indeed in waste handling, as in other industries where workers may be exposed to large concentrations of organic dust, there is reported evidence of raised levels of antibodies and inflammatory mediators in workers<sup>9</sup>.

Reports that have considered the level of impact on community exposure from bio-aerosols emanating from open air composting facilities show numbers have declined to 'background' within 200m - 250m with some in rare circumstances distances up to 0.5km<sup>10</sup>. There have been no studies that conclude that bio-aerosols associated with the operation of composting or similar process pose any unique engagement to health and welfare of the general public or the environment.

If a MBT facility is going to have external maturation area for the organic fraction and the facility is located closer than 250m to the nearest receptor a bespoke environmental permit will need to be applied for through the Environment Agency, which will include a specific report on how the operator will manage, monitor and mitigate the impacts of bio-aerosols.

Measures to mitigate bio-aerosol impact on workers and local communities including:

- Ensuring all activities even maturation takes place within a building or tunnels;
- Avoid locating composting/MBT facilities closer than 250m from sensitive receptors
- Regular bio-aerosol monitoring;
- Ensuring workers do not work in areas of high bio-aerosol levels for long periods of time, if workers are turning waste shovel or windrow turner their exposure will be reduced.

### 1.3 Waste Infrastructure Planning Policy

At the national level, the following national planning policy and strategies are relevant to planning waste infrastructure:

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<sup>9</sup> <http://www.hse.gov.uk/research/rrpdf/rr130.pdf>

<sup>10</sup> Exposure-response relationships for bio-aerosol emissions from waste treatment processes', WR0606, Defra, 2008.

- The National Planning Policy Framework (2012)<sup>11</sup>
- Waste Management Plan for England (2013)<sup>12</sup>
- National Planning Policy for Waste (2014)<sup>13</sup>

Overarching government economic, environmental and social planning policies are set out in the National Planning Policy Framework (NPPF). The NPPF covers a wide range of topics, including, housing, business and economic development, transport and the natural environment. The NPPF and national planning guidance essentially direct the Council in the approach and choices it can make in developing a plan for the authority area.

The Waste Management Plan for England's objectives with respect to planning are to direct planning through:

- *delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste management up the waste hierarchy;*
- *ensuring that waste management is considered alongside other spatial planning concerns, such as housing and transport, recognising the positive contribution that waste management can make to the development of sustainable communities;*
- *providing a framework in which communities and businesses are engaged with and take more responsibility for their own waste, including by enabling waste to be disposed of or, in the case of mixed municipal waste from households, recovered, in line with the proximity principle;*
- *helping to secure the re-use, recovery or disposal of waste without endangering human health and without harming the environment; and*
- *ensuring the design and layout of new residential and commercial development and other infrastructure (such as safe and reliable transport links) complements sustainable waste management, including the provision of appropriate storage and segregation facilities to facilitate high quality collections of waste.*

The National Planning Policy for Waste sets out planning policies:

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<sup>11</sup> Department for Communities and Local Government(2012) *National Planning Policy Framework*, London: Department for Communities and Local Government

<sup>12</sup> DEFRA (2013) *Waste Management Plan for England*, December 2013, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/265810/pb14100-waste-management-plan-20131213.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265810/pb14100-waste-management-plan-20131213.pdf)

<sup>13</sup> Department for Communities and Local Government (2014) *National Planning Policy for Waste*, October 2014, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/364759/141015\\_National\\_Planning\\_Policy\\_for\\_Waste.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364759/141015_National_Planning_Policy_for_Waste.pdf)

- Using a proportionate evidence base. This requires a robust analysis of available data in terms of capacity required and spatial distribution;
- Identifying the need for waste management facilities. Waste planning authorities are called upon to identify tonnages of waste to be managed, making efforts to drive management up the waste hierarchy, and consider the extent to which existing facilities would satisfy the need;
- Identifying suitable sites and areas. Waste planning authorities should identify the types of waste management facilities that are appropriate to sites, and give priority to previously-developed and employment land; and
- Determining planning applications. Waste planning authorities should ensure justification for proposals that are not in line with the local plan, ensure that facilities are well designed, and ensure that planning strategy is implemented.

## 1.4 Waste Strategy

The Waste Plan is a joint plan between Bournemouth Borough Council (unitary authority) Borough of Poole (unitary authority) and Dorset County Council. Each of these areas have their own waste management strategies.

### 1.4.1 Joint Municipal Waste Management Strategy for Dorset 2008 - 2033

In 2008 the seven boroughs and districts within Dorset produced a joint waste management strategy for Dorset<sup>14</sup> which covers the period 2008 to 2033. The strategy sets out ten policy objectives which are based on national, regional and local policy framework. Appendix A.2.0. Summarises the objectives. The policies make a commitment to preventing waste growth and managing waste in line with the waste hierarchy. Policy 6 sets out to ensure that residual waste treatment complements activities higher up the waste hierarchy and maximises the value recovered from waste in terms of resources and energy. A full evaluation of treatment technologies was carried out as part of the strategy with direct combustion energy from waste ranked the highest.

The strategy also makes reference to the proximity principal noting that original principals have evolved alongside the challenges of modern society and the development of global markets. The strategy embraces the principal by the need to address climate change and the carbon agenda with reference to regional self-sufficiency, with a preference for the majority of waste to be managed within county and if necessary within the South West region.

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<sup>14</sup> [http://www.dorsetforyou.com/media/pdf/9/m/Municipal\\_Waste\\_Strategy.pdf](http://www.dorsetforyou.com/media/pdf/9/m/Municipal_Waste_Strategy.pdf)

### **1.4.2 Bournemouth Borough Council Municipal Waste Management Strategy 2011 – 2025**

The Bournemouth Borough Council Municipal Waste Management Strategy<sup>15</sup> sets out seven aims and ten objectives in respect to the management of waste (Appendix A.3.0). The aims and objectives make a commitment to managing waste in accordance with the waste hierarchy, following the proximity principal, maximising opportunities to convert waste to a resource and reducing the carbon burden of waste management activities all of which support the development of an energy from waste facility within the proposed development area. The strategy also recognises the potential cost effectiveness of generating renewable energy from residual waste.

### **1.4.3 Borough of Poole – Waste Strategy Review 2008 - 2018**

Poole's waste strategy review<sup>16</sup> was completed in 2008. The strategy is based around four key principals:-

- to minimise Poole's Carbon Foot print;
- to minimise waste production;
- to maximise recycling;
- to maximise self-sufficiency.

It sets out short, medium and long term actions that aim to ensure the authority's targets are met in line with the waste hierarchy.

### **1.4.4 Residual Waste Infrastructure Review**

In December 2015 Eunomia issued the latest update to the Residual Waste Infrastructure Review (9<sup>th</sup> Issue)<sup>17</sup>. This review concludes that the UK is on course to exceed the waste infrastructure it will need in the future. The capacity of facilities either currently operation, being built or having reached financial close and expected to be operational by 2020/21, combined with anticipated waste exports, will total 23.1million tpa. Fully utilised, this will exceed the 22.7mtpa of residual waste expected to be produced in the same year.

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<sup>15</sup> <http://www.bournemouth.gov.uk/BinsRecycling/GoGreen/BournemouthsWasteStrategy.aspx>

<sup>16</sup> <http://www.poole.gov.uk/environment/recycling-rubbish-waste/waste-strategy-review>

<sup>17</sup> <http://www.eunomia.co.uk/reports-tools/residual-waste-infrastructure-review-9th-issue/>

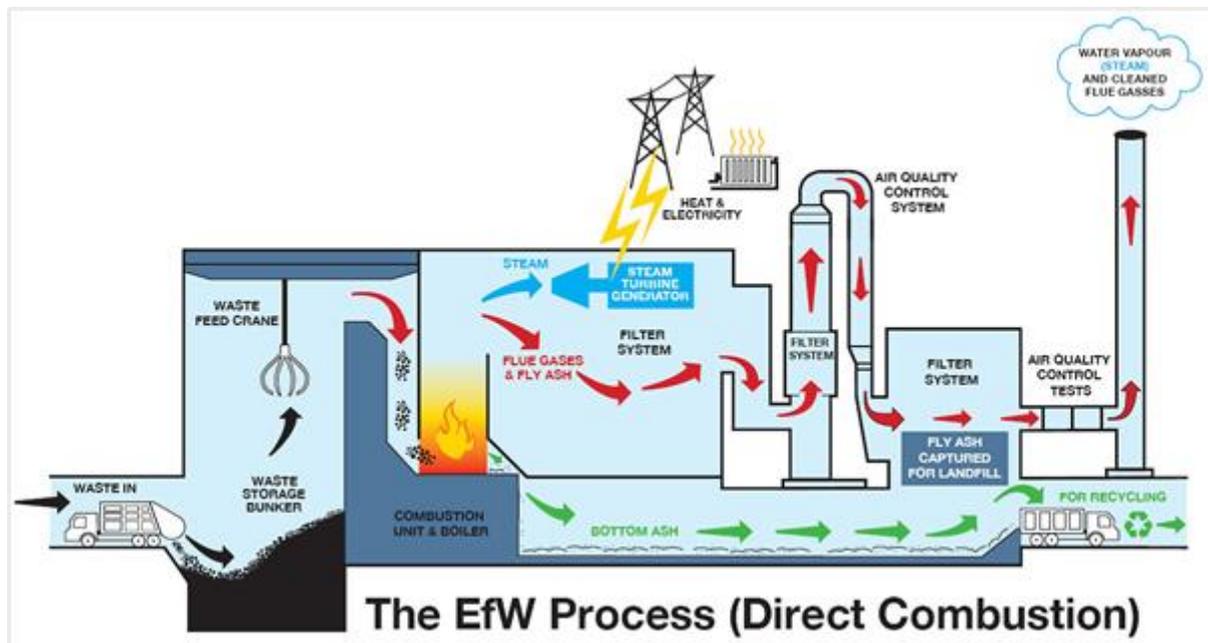
## 2.0 Overview of Technology Options

This section provides an overview of each residual waste treatment option reviewed in this report.

### 2.1 Thermal Technology Options

#### 2.1.1 Option 1 Direct Combustion Incineration – Energy Generation using Steam Boiler and Turbine or Combined Cycle Gas Turbine

Figure 2-1 provides an overview in diagrammatic terms of a typical waste incineration process where the feed stock is un-treated residual waste and energy is generated using a steam boiler and turbine.



**Figure 2-1: Incineration Process using a Steam Boiler and Turbine**

The process can be described as follows:

- Waste is discharged directly from trucks into the storage bunker. It is then mixed before being fed by a crane into the incinerator;
- Waste is heated to high temperatures (up to 1,100 °C) in the combustion unit. The process requires oxygen, which comes from air extracted from the bunker;
- The heat generated through the combustion process is used to convert water running through pipes in the walls of the boiler into steam;
- The steam turbine generator converts the energy from the pressurised steam into mechanical energy and this, in turn, is frequently used to generate electricity, which can be exported to the national grid (heat can also be produced);

- The combustion process also produces flue gases which typically must be cleaned prior to being released into the atmosphere in order to meet emissions limits. Gas cleaning takes place in the filter system and air quality control system;
- The process produces fly ash which is toxic and is usually disposed of to hazardous landfill. Bottom ash is produced from the “bottom” of the grate; this is usually inert and can be recycled and used as an alternative to sand and gravel in foundation materials.

Table 1 summarises the outputs from the process, including detail on the approximate quantity by weigh of the original waste input and also potential uses for the output.

**Table 2-1: Output from Incineration Technologies<sup>18</sup>**

Outputs	State	Quantity by Weight of Original Waste	Comment
<b>Incinerator Bottom Ash (IBA)</b>	Solid residue	20-30%	Potential use as aggregate replacement or non-biodegradable, non-hazardous waste for disposal
<b>Metal (ferrous and non-ferrous)</b>	Required separation from MSW or IBA	2-5%	Sold for re-smelting
<b>Air Pollution Control (APC) residues (including fly ash, reagents and waste water)</b>	Solid residue / liquid	2-6%	Hazardous waste for disposal
<b>Emissions to atmosphere</b>	Gaseous	Represents ~70%-75%	Cleaned combustion products

The process can also be configured to produce heat instead of, or alongside, electricity. Standard efficiency outputs are shown in Table 2-2-2.

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<sup>18</sup> Department for Environment Food and Rural Affairs (2013) *Incineration of Municipal Solid Waste*, February 2013, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/221036/pb13889-incineration-municipal-waste.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221036/pb13889-incineration-municipal-waste.pdf)

**Table 2-2: Examples of Energy Efficiency for Incineration<sup>19</sup>**

Outputs	Efficiency	Use
<b>Heat Only</b>	Up to 80-90% thermal efficiency	Local district heating for buildings (residential, commercial) and or for industrial processes.
<b>Electricity</b>	14-27%*	Can be supplied to national grid for sale and distribution.
<b>Heat and Power</b>	Dependent of specific demand for heat and power.	Combination of above

\*The lower efficiency performance is more typical of older facilities and it is possible that in the future the efficiency of electricity generation using incineration will increase.

The direct combustion EfW process has become well established in recent decades and there are many reference facilities in operation throughout the world; for example, more than 300 such facilities are operating in Europe alone<sup>20</sup>, whilst Japan has over 1,000 (these are typically smaller plants in comparison to those operating in Europe)<sup>21</sup>.

How a combined cycle gas turbine differs to a steam boiler and turbine is that the turbine is fuelled by natural gas. The natural gas is used to heat the steam produced by the waste incineration process to higher temperatures than would normally be the case, thereby increasing the overall efficiency of the electrical generation process. Using this type of system, electrical generation efficiencies can exceed 36% (with the possibility of some heat being additionally recovered).

Although some reference facilities for combined cycle gas turbines have been in operation for close to 20 years, the total number of plants is far fewer than is the case with conventional steam boiler incinerators. Emissions to air are likely to be similar to that from conventional incineration, as is the land take for such a facility.<sup>22</sup>

<sup>19</sup> Department for Environment Food and Rural Affairs (2013) *Incineration of Municipal Solid Waste*, February 2013, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/221036/pb13889-incineration-municipal-waste.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221036/pb13889-incineration-municipal-waste.pdf)

<sup>20</sup> CEWEP (2012) Results of Specific Data for Energy, R1 Plant Efficiency Factor and NCV of 314 European Waste-to-Energy Plants

<sup>21</sup> See <http://www.seas.columbia.edu/earth/wtert/sofos/nawtec/nawtec05/nawtec05-17.pdf>

<sup>22</sup> North London Waste Authority *Waste Treatment Facilities - Your Guide to Waste Disposal*, <http://www.nlwa.gov.uk/docs/waste-recycling-guides/yourguidetowastedisposal.pdf>

The land take required for an EfW incinerator processing 200 000tpa would be approximately 4 hectares<sup>23</sup>. A 200,000tpa direct combustion incinerator would typically have a building size of 140m x 57m<sup>24</sup>. Stack heights are determined as a result of the atmospheric dispersion modelling which is carried out as part of the air quality assessment submitted within the planning application. The required stack height is determined by baseline concentrations of SO<sub>2</sub>, stack diameter, SO<sub>2</sub> emissions rate and the volumetric flow rate of the plant,<sup>25</sup> as well as the prevailing winds and the profile of the surrounding areas. The first task in calculating the height is to minimise any impact of the EfW plant on the environment in terms of air quality and noise. WRAP guidance<sup>26</sup> suggests that EfW's should ideally not be located within:

- An area liable to flooding;
- An Air Quality Management Area (AQMA);
- A Ground Water South Protection Zone (SPZ).

Careful consideration should also be given to the following:

- the impact of the development on aerodrome safeguarding areas depending on the stack height of the facility;
- the potential of the site to support protected species (ecology) and any implications that may have for the development; and
- the potential impact of the proposed EfW on Special Protection Areas (SPA) and Special Areas of Conservation (SAC) located near the site. There would need to be a compelling case in the public interest if the proposed EfW is likely to harm the SPA or SAC through emissions to air and other impacts.

The Environment Agency will review all air emissions modelling from an EfW on sensitive receptors including human health and ecology in any SAC. Although emission limits for compounds like nitrogen are set out in the WID the EA will set higher limits if there is likely to be an impact on neighbouring SAC's. This will be part of the environmental permitting process as well as the planning process.

EfW facilities with the throughput in the range of 175,000 to 225,000 tpa have a range of stack heights between 65m to 76m although can exceed 100m in areas where specific sensitive receptors are present such as SAC's.<sup>27</sup>

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<sup>23</sup> <http://www.cornwall.gov.uk/media/3626646/EfW-Guidance-V4-Jul-2012.pdf>

<sup>24</sup> <http://laqm.defra.gov.uk/review-and-assessment/tools/modelling.html>

<sup>25</sup> <http://laqm.defra.gov.uk/review-and-assessment/tools/modelling.html>

<sup>26</sup> [http://www.wrap.org.uk/sites/files/wrap/O\\_And\\_EFW\\_Guidance\\_FULL.pdf](http://www.wrap.org.uk/sites/files/wrap/O_And_EFW_Guidance_FULL.pdf)

<sup>27</sup> Environment Agency, Database of Incineration facilities that accepted waste or were non-operational in England during 2014.

### 2.1.2 Option 2 Pyrolysis

In contrast to direct combustion incineration, pyrolysis is the thermal degradation of a substance in the absence of oxygen. An external heat source is required to maintain the temperature of between 300°C and 850°C<sup>28</sup>. Raw municipal solid waste (MSW) is usually not appropriate for pyrolysis and as such typically the feedstock would be mechanically treated to remove glass, metals and inert material such as rubble. The process prefers a consist feedstock and as such there is very limited track record of pyrolysis being used for the treatment of MSW.

The products from the pyrolysis process include a solid residue referred to as 'char' and a synthetic gas (syngas). Char is a combination of non-combustible material and carbon, syngas is a mixture of gases, combustible constituents include carbon monoxide, hydrogen, methane and a range of other volatile organic compounds. A proportion of these can be condensed to produce oils. The syngas can then be used to generate steam in the boiler, and this in turn used to generate electrical energy in the same way as is done in the incineration process. One key issue for the use of syngas in energy recovery is related to tarring which cause blockages which have caused a significant problems on pilot plants.

It is difficult to estimate the land take that would be required for a pyrolysis plant because there are not reference facilities processing 200,000tpa of MSW.

Similarly to direct combustion incineration, when designing the plant it may be necessary to consider the stack appearance to mitigate against the visual impacts of the development. Moreover the flue emissions can be mitigated against via following the requirements set out in legislation and are monitored and breaches enforced by the Environment Agency.

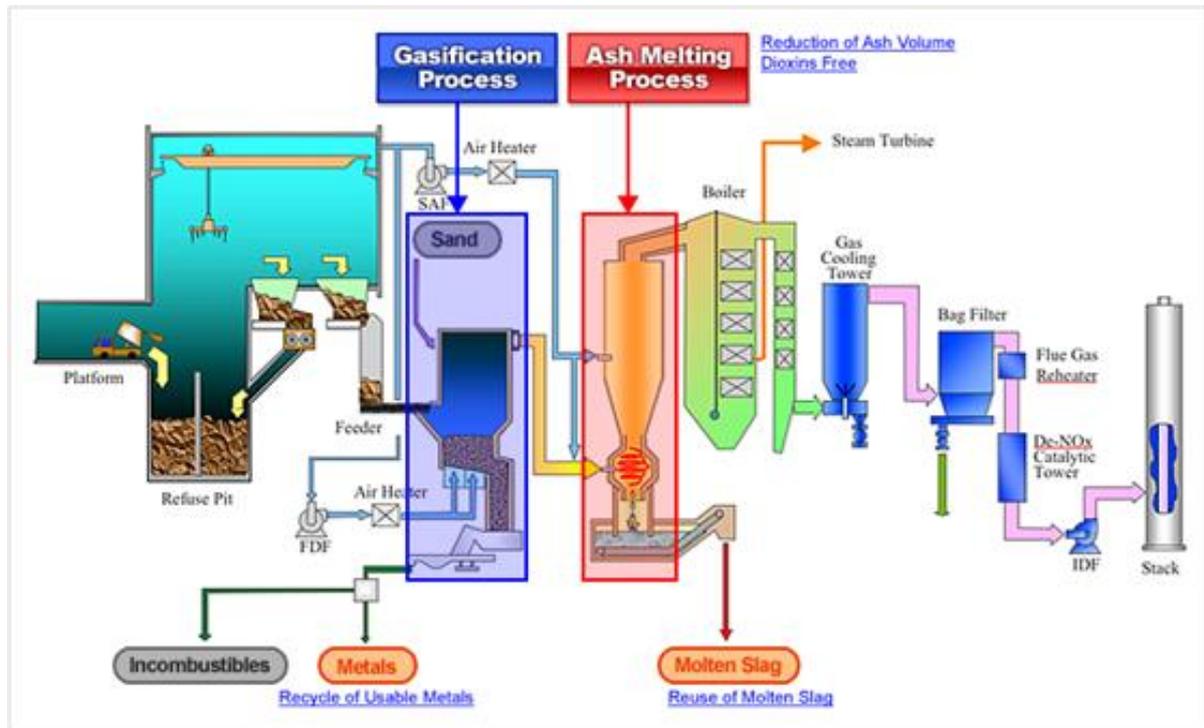
### 2.1.3 Option 3a Gasification – Energy Generation using Steam Turbine

Gasification is considered a process between pyrolysis and direct combustion incineration. Figure 2-2 shows the main steps in a typical waste gasification process where the energy is generated using a steam boiler and turbine.

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<sup>28</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/221035/pb13888-thermal-treatment-waste.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221035/pb13888-thermal-treatment-waste.pdf)

**Figure 2-2: Waste Gasification – Energy Generation using Steam Turbine**



A comparison between Figure 2-1 and Figure 2-2 shows that many of the same steps occur in both processes. However, energy generation in the gasification process occurs in an environment that is relatively low in oxygen. Under such circumstances, combustion cannot occur. Instead, when heat is applied in the gasifier, the waste goes through a chemical conversion process producing a syngas, and it is this syngas that contains the energy from the process. As with pyrolysis the tar in the syngas can cause problems. The application of a higher temperature secondary processing phase may be used to ‘crack’ the tars and clean up the syngas prior to application in energy recovery systems. This process is sometimes referred to as ‘syngas clean up’ or ‘polishing’ and could enable higher efficiency energy recovery than applicable through other waste thermal treatment processes.

Again gasifiers prefer a consistent feed stock and as such will normally process an RDF material rather than raw MSW.

A variety of gasification systems are currently available on the market. Some of these combine gasification with combustion in a two stage process. Others combine gasification with a pyrolysis step.

The chemical conversion process typically results in greater energy losses in comparison to the direct combustion incineration process, and as such the maximum electrical generation efficiency for this type of system is likely to be in the order of 28% (as with incineration processes, typical generation efficiencies are likely to be less than this particularly for smaller facilities).

The process produces a solid output (referred to in the diagram as “slag”) which is typically inert. Depending on the type of process, there may not be any fly ash generated. Some systems also produce less flue gas than incineration processes, but some treatment of the gases is still likely to be required before these can be released into the atmosphere. Manufacturers of gasification plants claim the emissions of pollutants are lower than those from a direct combustion incineration technology. This is due to flue gases being maintained at high temperatures for a specified minimum time, prior to being rapidly cooled, minimising potential harmful substances being formed. Flue gases are then treated and the air passed through a filter to remove particulate matter.<sup>29</sup>

In comparison to incineration processes there are relatively few plants operating globally, although some of those currently in operation have been successfully operating for more than 20 years. As with an incineration plant, reference facilities exist in Europe as well as Japan and the United States.

Depending on the design and layout of the site, the land take for a gasification plant would be between half and three hectares, slightly smaller than that required for incineration.<sup>30</sup>

Generally gasifiers are smaller than direct combustion incinerators and have the advantage of being modular in design.

It may be feasible to place a gasification plant adjacent to an existing power plant and allow the transfer of syngas for combustion, this could increase efficiency when compared to a standalone unit. However, it may require the power plant to be upgraded to meet the IED standards.

Similarly to direct combustion incineration, when designing the plant it may be necessary to consider the stack appearance to mitigate against the visual impacts of the development. Moreover the flue emissions can be mitigated against via following the requirements set out in legislation and are monitored and breaches enforced by the Environment Agency.

#### **2.1.4 Option 3b Plasma Gasification – Energy Generation using Gas Engine or Turbine**

Plasma gasification uses very high temperatures, sometimes in excess of 10,000 °C to vaporise the waste. Chemical bonds are broken, so that the complex molecules contained within the waste steam are separated into simple ones. The result is a much cleaner syngas than is produced with the more conventional gasification processes.

The generation of these very high temperatures consumes energy. However, the ultimate goal is to use the resulting syngas in either a gas engine or gas turbine. If the syngas is used in the latter, high electrical generation efficiencies are possible. A consideration of the

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<sup>29</sup> DEFRA (2013) *Advanced Thermal Treatment of Municipal Solid Waste*, February 2013

<sup>30</sup> North London Waste Authority *Waste Treatment Facilities - Your Guide to Waste Disposal*, <http://www.nlwa.gov.uk/docs/waste-recycling-guides/yourguidetowastedisposal.pdf>

overall efficiency requires the energy used within the plasma generation process to be taken into account; when this is done, the overall electrical generation efficiency is likely to be in the order of 36%. In addition to the electricity, significant quantities of heat can also be recovered.

Plasma technology and gasification technology have each been used at commercial scale in other industries and with other feedstock. However, the combination of the two technologies together to treat waste remains a relatively novel one. Although a number of pilot plant exist, there are only a handful of commercial-scale facilities in operation throughout the world, of which the best established are two in Japan which use Westinghouse technology in operation since 1999 and 2002 respectively<sup>31</sup>. However, a number of other facilities are currently being built including two large projects now underway in the UK (Air Products' Tyne Tees project, which is planned to have two 350,000 tonne per annum facilities). In addition, Advanced Plasma Power has a demonstration-sized project in Swindon, but has not developed a full-sized facility.

Emissions from the facility and solid outputs from the process are likely to be similar to that of conventional gasification processes, as is the land take.<sup>32</sup> Therefore the same mitigation in terms of following regulations, any breaches in acceptable levels of emissions should be captured and enforced by the Environment Agency. Similarly to other EfW facilities the visual impacts of the stack of a plasma gasification plant should be considered at the design stage to mitigate against potential objections.

## 2.2 Mechanical and biological treatment options

### 2.2.1 Option 4: Mechanical Pre-Treatment for Subsequent Energy Recovery

Mechanically treating waste to remove recyclable materials as well as those which are non-combustible (e.g. glass) results in the production of a RDF. SRF is a subset of RDF, having been processed to a higher extent than RDF. RDF is suitable as a replacement to fossil fuels in coal power plants and cement kilns if it meets specific European standards, for instance CEN/343/ANAS is the standard that applies to RDF that can be used in cement kilns.<sup>33</sup> It can

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<sup>31</sup> Fabry A, Rehmet C, Rohani V and Fulcheri L (2013) Waste Gasification by Thermal Plasma: A Review, Waste Biomass Valor, 4, pp421-439

<sup>32</sup> North London Waste Authority *Waste Treatment Facilities - Your Guide to Waste Disposal*, <http://www.nlwa.gov.uk/docs/waste-recycling-guides/yourguidetowastedisposal.pdf>

<sup>33</sup> DEFRA (2014) *Refuse derived fuel market in England: Call for evidence*, March 2014, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/288836/rdf-consult-evidence-201403.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/288836/rdf-consult-evidence-201403.pdf)

also replace conventional feedstock to gasification models of pyrolysis plants or in purpose built CHP incinerators.

The method of producing RDF can vary depending on the material input and what the RDF will be used for, CEN/343/ANAS includes a classification for RDF based on four properties, net calorific value, chlorine, mercury (mean value) and mercury (the 80<sup>th</sup> percentile).

Mechanical pre-treatment to produce an RDF can include:

- shredding to reduce the material size to a consistent grade;
- over band magnets to remove steel;
- eddy current separators to remove aluminium; and
- bulking and baling.

RDF has a higher energy content than MSW, as a result of material being dried, as well as the extraction of non-combustible materials. However if RDF is to be used as an energy source, then a high efficiency process needs to be used or the RDF needs to replace combustion of fossil fuels to produce environmental benefit over residual waste incineration.<sup>34</sup> So far there has been limited development of dedicated conventional combustion plants in the UK that use RDF as fuel to generate electricity. This is partly as result of the financial viability of export of RDF for energy recovery in R1 compliant facilities in Northern Europe.

This demonstrates that there may be significant annual savings compared to landfilling the material. An example RDF processing and storage plant in Pembrokeshire treats approximately 70,000tpa and requires 6,885m<sup>2</sup> for treatment (warehouse 3,000m<sup>2</sup>) and storage of approximately 3,750 m<sup>2</sup>.

Potential impacts of such a facility include noise and odour from the processing of waste and water runoff from RDF bale stores. Processing odours can be mitigated through the use of filters and restrictions on operating hours should reduce noise disturbance. Through ensure bales are stored on a sealed surface with a sealed drainage system, contaminated runoff into the surround area would be contained. It is a permitting requirement that bales are stored on a sealed surface with sealed drainage.

### 2.2.2 Option 5: MBT Pre-Treatment

Mechanical Biological Treatment (MBT) is the combination of both biological and mechanical processes, which can be arranged in a number of different set-ups. It is an established waste treatment technology in European countries such as Germany and Austria. MBT plants can be developed to fulfil a range of objectives, and help to achieve recycling targets, municipal waste diversion performance, including:<sup>35</sup>

- pre-treatment of waste going to landfill;

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<sup>34</sup> DEFRA (2013) *Advanced Thermal Treatment of Municipal Solid Waste*, February 2013

<sup>35</sup> DEFRA (2013) *Mechanical Biological Treatment of Municipal Solid Waste*, February 2013



- the waste is then mechanically sorted. There are many approaches which can be used in the mechanical sorting process: manual, magnetic, eddy current, wet, ballistic and optical separation as well as air classification, trommels and screens.
- the separated material streams (biodegradable material, dry recyclables, residues and solid recovered fuel (SRF)) are then treated accordingly:
  - SRF is sent for heat recover to replace fossil fuels;
  - dry recyclables are sent for reprocessing;
  - biodegradable waste is composted and refined to produce compost like outputs (CLO) and residues. Biological treatment can include in-vessel composting, anaerobic digestion and bio-drying (the partial composting of whole waste). Finally;
  - The residues from the mechanical and composting treatment are processed into RDF. This RDF then undergoes either gasification or pyrolysis as described in Sections 2.1.2, 2.1.3 and 2.1.4.

If anaerobic digestion is used to treat the organic fraction of the waste, biogas will be produced. Biogas can be used as a natural gas substitute or converted in for fuel for vehicle and engines. Common uses include combined heat and power (CHP) application or to fuel boilers to produce hot water or steam. Dependant on the feedstock composition, biogas production rates and electrical generation equipment biogas electricity production can be from 75 to 225 kWh per tonne of waste.<sup>36</sup>

Uptake of MBT in Europe has been highest in Germany, Austria, Italy, Switzerland and the Netherlands. Growth in the market since the early 1990s has led to numerous different configurations of plant, provided by a variety of suppliers. Within England in 2010 the average annual permitted capacity of MBT facilities is 150,000tpa and ranges up to 417,000tpa (the Urbaser Balfour Beatty facility in Essex).

A plant with a treatment capacity of 200,000tpa would need approximately four to five hectares.<sup>37</sup>

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<sup>36</sup> DEFRA (2013) *Mechanical Biological Treatment of Municipal Solid Waste*, February 2013

<sup>37</sup> North London Waste Authority *Waste Treatment Facilities - Your Guide to Waste Disposal*, <http://www.nlwa.gov.uk/docs/waste-recycling-guides/yourguidetowastedisposal.pdf>

## 3.0 Site Assessment

The following section looks at each site shortlisted by DCC and considers which technology type (thermal or mechanical and biological), may be most appropriate for each location based on a number of assessment criteria.

### 3.1 Assessment Criteria

Each site has been reviewed against the criteria set out in table 3-1 and consideration is given to the two technology types. This then feeds in to an overall site analysis using a RAG (red, amber, and green) assessment. Technologies identified as red are those which are unlikely to be favourable on a particular site, amber are those which may have a number of significant considerations and green sites are considered to have manageable considerations which can be factored in to the design, planning and development of the site.

**Table 3-1: Assessment Criteria for Sites**

Evaluation Category	Assessment Criteria
<b>Site Size</b>	<p>Comparing likely facility size with site area for each technology type to see if site is large enough for a standalone 212,000tpa development.</p> <p>Without an up to date Waste Management Strategy, the assumption has been made that one facility that will treat all of Dorset’s residual waste will be developed rather than a network of smaller facilities which would logically require less land. This ensures that an assessment has been made of the ‘worst case scenario’. It may be that a network of smaller facilities is appropriate, this report makes it clear where site area is a crucial factor in the RAG assessment.</p>
<b>Sensitive Receptors</b>	<p>Sensitive receptors include human and ecological/environmental. We comment on the potential visual, noise, odour and air emission impact from MBT and thermal treatment plant.</p>
<b>Stack height</b>	<p>Stack height is modelled on based on a number of factors relating to the process and a number of external factors. The two external factors are impact of air emissions on local</p>

	<p>sensitive receptors and visual impact on local sensitive receptors. Without detailed modelling it is not possible to assess the exact height of the stack for a 212,000 facility or even a smaller facility. In general the closer the facility is to sensitive receptors the higher the stack and as such the greater visual intrusion.</p>
<b>Potential Heat Network</b>	<p>Information provided by Dorset relating to the proximity of the site to areas which could be utilised for heat from a CHP plant was used as a guide. Ideal heat off takers are close to the facility and ideally have 24hr head demand. The closer the off taker is the better and some developers only consider off takers within 5km predominately because the cost of pipework is £1000 per metre<sup>38</sup> Good potential off takers include:</p> <ul style="list-style-type: none"> <li>• high-density residential areas;</li> <li>• schools and further educational facilities;</li> <li>• leisure centres and swimming pools;</li> <li>• hospitals and healthcare facilities;</li> <li>• industrial estates;</li> <li>• shopping centres/supermarkets;</li> <li>• green houses; and</li> <li>• retirement and residential care homes.</li> </ul>
<b>Distance from Grid</b>	<p>Data from SSE<sup>39</sup> to evaluate potential access points to the grid.<sup>40</sup> The further from a connection the greater the cost.</p>

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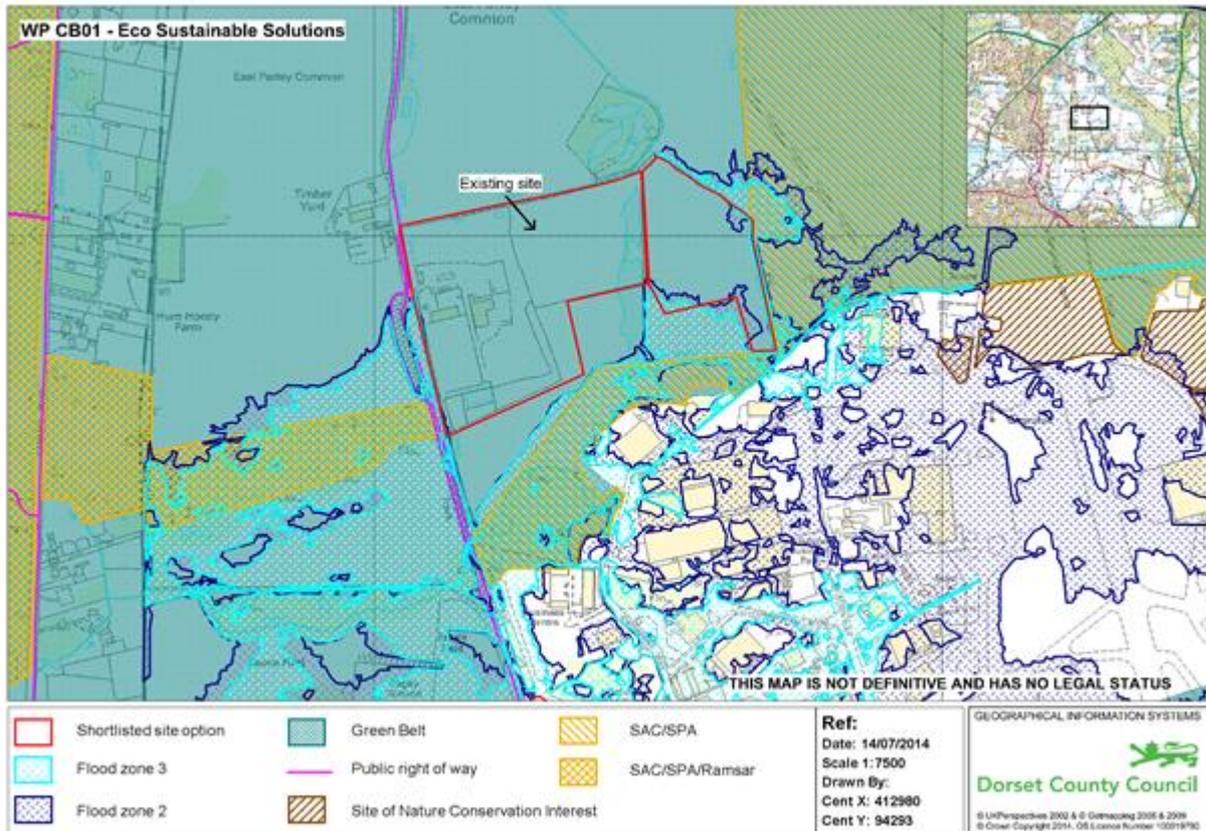
<sup>38</sup> [https://viridor.co.uk/assets/Uploads/Consultation/Oxwellmains/Planning-application/0508\\_Technical\\_Appendices\\_apx\\_04.pdf](https://viridor.co.uk/assets/Uploads/Consultation/Oxwellmains/Planning-application/0508_Technical_Appendices_apx_04.pdf)

<sup>39</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>

<sup>40</sup> Telephone conversation SSE/Eunomia December 2015 – SSE are unable to clarify a definitive access point to the grid for a development prior to an application being submitted with an exact location and expected energy output.

## 3.2 Site CB02 – Eco Composting Parley

Figure 4: Eco Composting Parley Site Area



Source: Dorset County Council

### 3.2.1 Site Size

This 4.5ha site has the potential to accommodate any of the technologies considered within the technology review for a throughput of approximately 212,000 tonnes per annum. The only technology which is likely to require careful design in order for it to be accommodated on the site is MBT as this requires the largest land take per tonne of processed material. If this site was chosen for MBT there would be limited space available to accommodate future growth in residual waste tonnage. DCC Landscape Officer has stated that no development should take place on the eastern fields, the precise area of the eastern fields is not known and as it is difficult to assess the impact on technology suitability. DCC have informed Eunomia that the site is already being used for strategic waste management activities. In order for a residual waste treatment facility of size required to process 212,000tpa the existing facilities would have to be removed which we have been informed by DCC would not be acceptable as the current activities are required in the context of Dorset's overall waste management solution.

Depending on the actual area of land available this site may be more suitable to a small scale mechanical pre-treatment plant production and storage (approximately 150,000 tpa), or MBT (approx. 50,000 tpa) which could be used in conjunction with other sites within the authority.

### 3.2.2 Sensitive Receptors

The site is currently a waste management and recycling facility for inert recycling, in-vessel composting, open windrow composting and wood recycling. It is also permitted for anaerobic digestion and bio-energy facility which suggests that the installation of a mechanical pre-treatment plant or MBT may be most suitable for this site.

The following sensitive receptors have been identified from google maps:

- Sports facilities (330m south of site);
- Portfield Primary School (800m south of site); and
- Bournemouth Airport (1.25km south east of site).
- SPA, DT/A007, Dorset Heathlands, SAC, DT/A012, Dorset Heaths, SSSI, SU10/002, Hurn Common adjacent to eastern boundary and to the south plus RAMSAR, Dorset Heathlands and SSSI, SZ09/005, Parley Common adjacent to western boundary. SSSI, SZ19/002, Moors River System, 600m to north west of site.

DCC shortlisted waste site assessments provided in Appendix A.1.0, states that there is 1 dwelling with 250m and 127,500 residential properties within 5 miles.

The impact of noise, odour and bio-aerosols is likely to be minimal on human receptors as there is only 1 dwelling within 250m. As the site borders the Dorset Heathlands it is likely that EfW air emissions modelling will result in a stack height higher than a site not adjacent to a SAC/SPA/RAMSAR.

### 3.2.3 Stack Height

The land profile surrounding this site is relatively low and as such the impact of the stack could be a concern to sensitive receptors. As the site borders a SAC/SPA/RAMSAR it is likely that the stack height will be greater than indicated in this report and may exceed 100m which will be more visually intrusive. The DCC Landscape Officer states that the site is not visually susceptible because of the limited public access and number of visual receptors so the larger stack height required to mitigate impact from air emissions may not result in increased costs to mitigate visual intrusion,

The site is only 1.2km from Bournemouth Airport, the aviation authority may have specific requirements of in respect to stack height and location on the site that would need further investigation.

### 3.2.4 Potential Heat Network

The site is located adjacent to Aviation Business Park , 1.2km from Bournemouth airport, 4.24km from Castlepoint shopping park and just over 5km (as the crow flies) from Royal

Bournemouth General Hospital that could be potential heat off takers. Further work would be required to understand the heat demand from these areas and the route of supply.

### 3.2.5 Distance from Grid

This site is 3km from a constrained substation and 3km from a constrained bulk supply point as the crow flies<sup>41</sup>. This is relatively close and as such cost for connection will be less than some of the other sites assessed in this report.

### 3.2.6 Mitigation measures

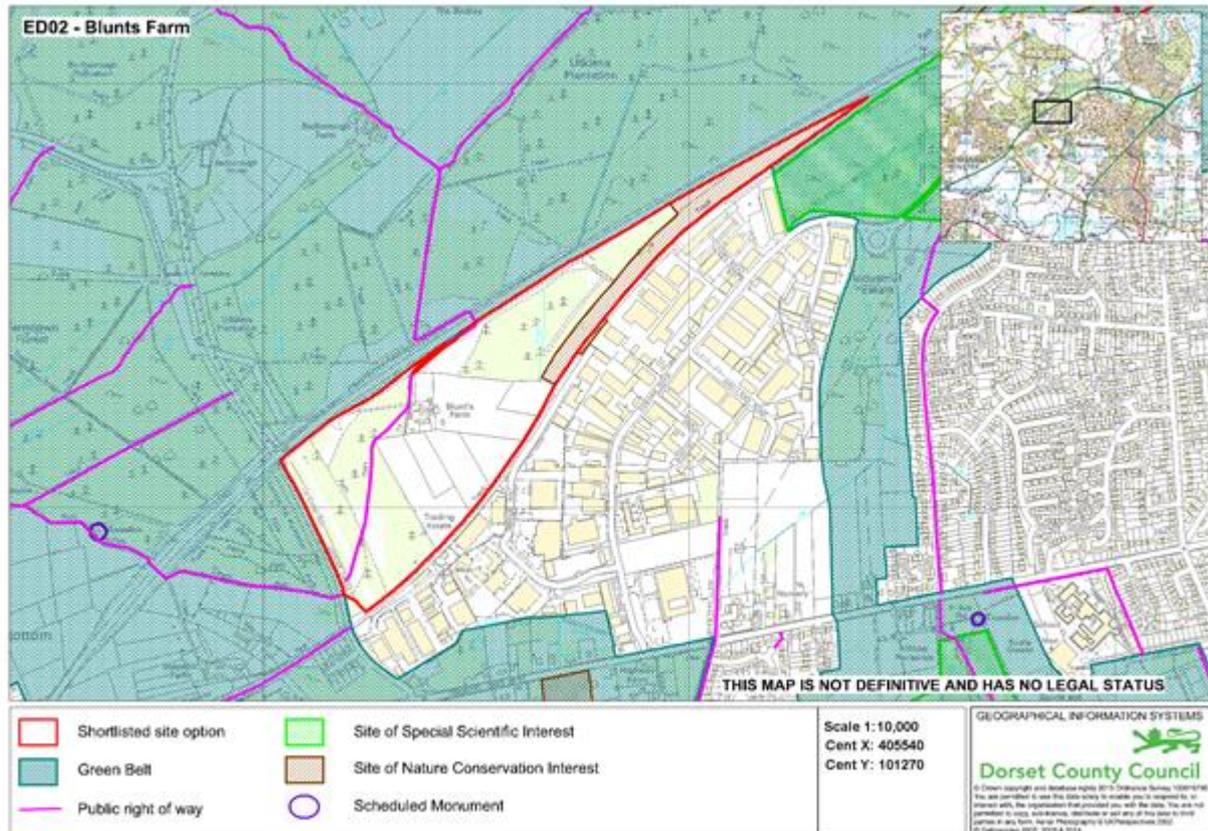
The site already has existing waste activities and as such impacts such as noise and odour are existing. The impact of bio-aerosols has not been highlighted as an issue because there is only 1 household within 250m. The impact of air emissions from an EfW stack on the adjacent SAC/SDP/RAMSAR is likely to require a higher stack in order to mitigate environmental impact.

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<sup>41</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>

### 3.3 Site ED02 – Blunts Farm

Figure 5: Blunts Farm Site Area



Source: Dorset County Council

#### 3.3.1 Site Size

This site, at 30 ha, is large enough to accommodate any of the technologies considered within the technology review with a throughput in the region of 212,000 tonnes per annum. Given the size of this site, the authority could also consider increasing the plant throughput, however if they were to do this, they would need to consider the supply of feedstock to maintain site efficiencies for thermal treatment. The public right of way that cuts across a small section of the site would have to be considered when determining the exact area to be used.

#### 3.3.2 Sensitive Receptors

The site is currently owned by the Forestry Commission and adjacent to Ferndown Industrial Estate.

The following sensitive receptors have been identified through google maps:

- users of existing rights of way (crosses site);
- public house (200m south of site);

- garden centre (340m to south west of site);
- two paint balling sites (450m north of site); and
- secondary school and sports centre (1.23km south east of site).

The location of 15 dwellings which are less than 250m from and 87,500 within 5 miles suggest that some focus would need to be made during the design and planning stages in order to mitigate odour, noise and bio-aerosol impact.

The site is 5km from the site is the Holt Heath National Nature Reserve which will need to be considered as part of an air emissions modelling for an EfW development. According to the EA there is the potential for the site to drain to the SSSI/SAC/RAMSAR this will need to be investigated by the developer and appropriate surface waste drainage system put in place.

### 3.3.3 Stack Height

The site is positioned between the Ferndown and Uddens industrial estates and a large area of heath/forest/paddock mosaic. The relatively small number of human and ecological sensitive receptors near to the site should suggest that the stack height will not exceed the 65m – 74m range.

### 3.3.4 Potential Heat Network

There is potential for CHP as less than 5km from the site there is a large residential area and also industrial estate. Further work would be required to understand the heat demand from these areas.

### 3.3.5 Distance from Grid

This site is approximately 1.2km from an unconstrained substation, 5.8km from constrained bulk supply point, 4km from unconstrained grid supply point as the crow flies.<sup>42</sup> The close proximity to substation will minimise connection costs.

There may also be opportunities for bio-gas injection into the gas grid if anaerobic digestion is part of the MBT process.

### 3.3.6 Mitigation

Given the size of the site, design could play a role in increasing the distance between the plant and sensitive receptors, this would help reduce potential bio-aerosol, noise and odour impact. Section 2.2 states that increased levels of bi-aerosols can be detected up to 250m from a composting or similar type of activity however these increased levels have not been

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<sup>42</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>



### 3.4.2 Sensitive Receptors

The site is currently owned by Ankers & Rawlings Developments and adjacent to Woolsbridge Industrial Estate. The following sensitive receptors have been identified through google maps:

- public house (adjacent to north of site);
- two caravan parks (230m east of site and 800m west of site);
- adjacent former oil depot (150m west of site); and
- garden centre (1.1km north west of site).

According to DCC shortlisted waste site assessment contained in Appendix A.1.0 there are 11 properties within 250m of the site and 36,600 within 5 miles. The site has been identified as being drained to the sensitive Moors River, which is a SSSI. The site is adjacent to the Dorset Heaths SAC/Dorset Heathlands SPA and RAMSAR and Holt and West Moors SSSI.

The location of one of the caravan parks, the pub and 11 dwellings which are less than 250m from the site would mean that some focus would need to be made during the design and planning stages in order to mitigate odour, noise and bio-aerosols impact.

Due to the large number of ecological sensitive receptors it is possible that the air emissions modelling will require the stack to be higher than it might be on a site with less sensitive receptors.

### 3.4.3 Stack Height

The southern area is predominately a brownfield surrounded by an industrial area and as such the land profile of the area is higher than that of a residential area or the north eastern area which is surrounded by open and flat agricultural fields. This could help mitigate visual impact. The eastern area is flat open agricultural land and as such any thermal development would have to be sensitive in its design so as to minimise the visual intrusion of the stack especially if the stack is required to be high due to the proximity to SAC/SPA/RAMSAR.

### 3.4.4 Potential Heat Network

There is potential for CHP as the site is surrounded by industrial units, there is also Saint Leonards Hospital within 3km of the site (as the crow flies). Further work would be required to understand the heat demand from these areas and the feasibility of connecting them to a heat network.

### 3.4.5 Distance from Grid

This site is approximately 5km from an unconstrained substation and 2.3km from an unconstrained grid supply point as the crow flies. <sup>43</sup> The longer distance from the unconstrained substation will add costs to this site compared to some of the others considered in this report.

### 3.4.6 Mitigation

Mitigation measures applicable to this site include:

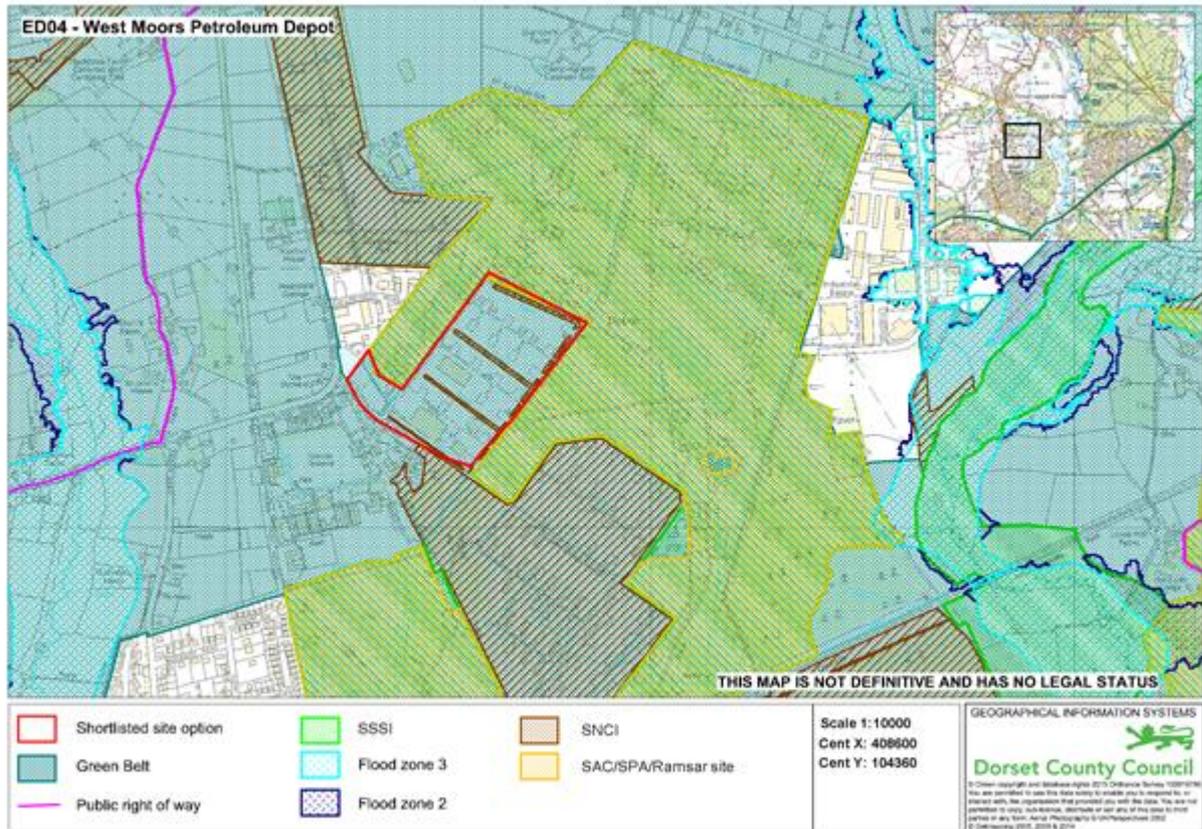
- Increased height stack due to proximity to Dorset Heathland SAD/SPA/RAMSAR and West Moors SSSI;
- Surface water drainage system designed to mitigate impact on Moors River SSSI;
- Design to ensure:
  - waste activities take place in a building;
  - vehicle door could have automatic closing mechanism when not in use;
  - Odour suppressant systems in buildings; and
- Operational management plans to consider directional sound reversing alarms.

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<sup>43</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>

### 3.5 Site ED04 – West Moors

Figure 7: West Moors Site Area



Source: Dorset County Council

#### 3.5.1 Site Size

This site, at 12.02 ha, is large enough to accommodate any of the technologies considered within this review with a throughput of approximately 212,000 tonnes per annum. Given the size of this site, the authority could also consider increasing the plant throughput, however if they were to do this, they would need to consider the supply of feedstock to maintain site efficiencies for thermal treatment.

#### 3.5.2 Sensitive Receptors

The site is currently owned by the MOD and is adjacent to a former oil depot on three sides. Two industrial areas are within close proximity of the site. The following sensitive receptors as well as residential properties are located near the site:

- adjacent former oil depot;
- caravan parks (460m north of site);

- Sturts Community Trust (550m north west of site);
- public house (1.16 km north east of site); and
- garden centre (1.1km north west of site).

Whilst in the main the site is surrounded by the MOD site according to the DCC shortlisted waste site assessment (Appendix A.1.0) there are 64 properties within 250m of the site which is the second largest out of all of the sites. Measures to mitigate odour, noise, bio-aerosols and the visual aspects of a development are likely to be critical during the planning and design stage and during public consultation. The close proximity of relatively large number of residential properties is likely to impact on the air emissions modelling and may result in the stack being higher than may initially be anticipated.

The site is 450m from the Moors River which is SSSI however the site is not referred in the site assessment in Appendix A.1.0 to as draining to the SSSI area.

### 3.5.3 Stack Height

The current nature of the location of this site is relatively low profile as such the impact of the stack is likely to be more prominent than some of the other sites. However, comments from the landscape offer state that there is a lack of visually sensitive receptors and if brownfield land is utilised this would reduce the adverse visual impacts of the stack.

### 3.5.4 Potential Heat Network

There is limited potential for combined heat and power (CHP) as no large heat load available nearby.

### 3.5.5 Distance from Grid

This site is approximately 4km from an unconstrained substation and 1.4km from an unconstrained grid supply point as the crow flies.<sup>44</sup> Distance from unconstrained substation is one of the furthest of all the sites.

### 3.5.6 Mitigation measures

Mitigation measures applicable to this site include:

- Increased height stack due to proximity to relatively large number of residential properties within 250m of the site.
- Design to ensure:
  - waste activities take place in a building to mitigate release of bio-aerosols, noise and odour for MBT specifically;

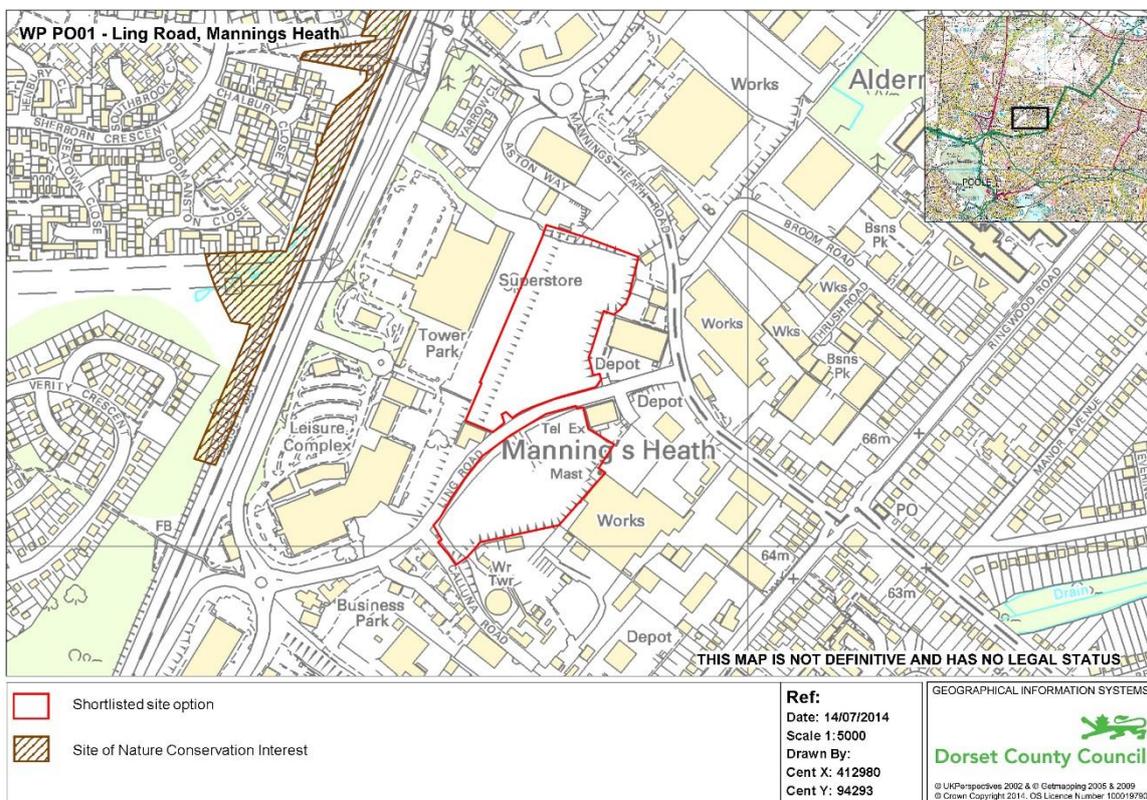
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<sup>44</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>

- automatic closing mechanism on vehicles doors to ensure they remain shut when not use;
- odour suppressant system installed in buildings; and
- Operational management plans to consider directional sound reversing alarms and regular monitoring of bio-aerosols, likely to be a requirement under the Environmental Permit.

### 3.6 PO01 – Area 2 and 3, Ling Road

Figure 8: Area 2 and 3, Ling Road Site Area



Source: Dorset County Council

#### 3.6.1 Site Size

This site consists of two areas of land – Area 2, 2.21 ha and Area 3, 2.76 ha. Both areas are unlikely to be large enough to accommodate a single thermal or MBT plant with a throughput in the region of 212,000tpa. The site may be more suitable to a 100,000tpa thermal treatment process, small 50-75,000 MBT, mechanical pre-treatment plant for RDF production (approximately 1 ha for 200,000tpa) and RDF storage prior to transportation (approximately 1 ha for 200,000tpa).

### 3.6.2 Sensitive Receptors

This option comprises of two sites within the Mannings Heath Industrial Estate. Area 2 has permission for the development of a materials recycling facility (MRF) and area three is currently a permitted lorry park.

The following sensitive receptors located near to the site have been identified through google maps:

- adjacent to Tower Park retail area (includes supermarket, a number of restaurants, gym, swimming pool and cinema);
- Alderney hospital (380m north east of site);
- Alderney Community Centre (530m north east of site);
- Rossmore Leisure Centre and St Aldhelm's Academy (980m south east of site); and
- Winchelsea School (1.03km east of site).

There are also 41 residential properties within 250m of the site according to the DCC shortlisted waste site assessment (Appendix A.1.0). The relatively high levels of sensitive receptors would require rigorous odour, noise and bio-aerosols mitigation measures to be put in place. The built up nature of the area with high number of human sensitive receptors may result in the stack of a thermal treatment process being larger than what might initially be anticipated.

Area 2 has an existing planning permission for a MRF so impacts such as noise will already have been addressed as part of this application.

The site drains to Poole SAC so surface water run off design will be a key consideration during design.

The site is downwind from the Cranfield Heath and Bourne SSSI and as such impact of dust may need to be investigated and mitigation put in place.

### 3.6.3 Stack Height

Due to the proximity to an existing industrial area, the land profile of the area is higher than that of a residential area, this could help mitigate the impact of the stack. Equally the site has been described as having little landscape value. However due to the proximity of large number of local receptors the stack may have to be higher and as such design may play a part in mitigating visual impact.

The site is only 8.35km from Bournemouth Airport, the aviation authority may have specific requirements of in respect to stack height and location on the site that would need further investigation.

### 3.6.4 Potential Heat Network

This site has potential suitable for CHP as there are heat loads available locally including a leisure centre, superstore, housing development and hospital. Further work be required to fully understand their demands and costs of network.

### 3.6.5 Distance from Grid

This site is approximately 1.9km from an unconstrained substation and 3km from a constrained bulk supply point as the crow flies.<sup>45</sup> This relative short distance from the unconstrained substation is a benefit to the site.

### 3.6.6 Mitigation measure

Mitigation measures applicable to this site include:

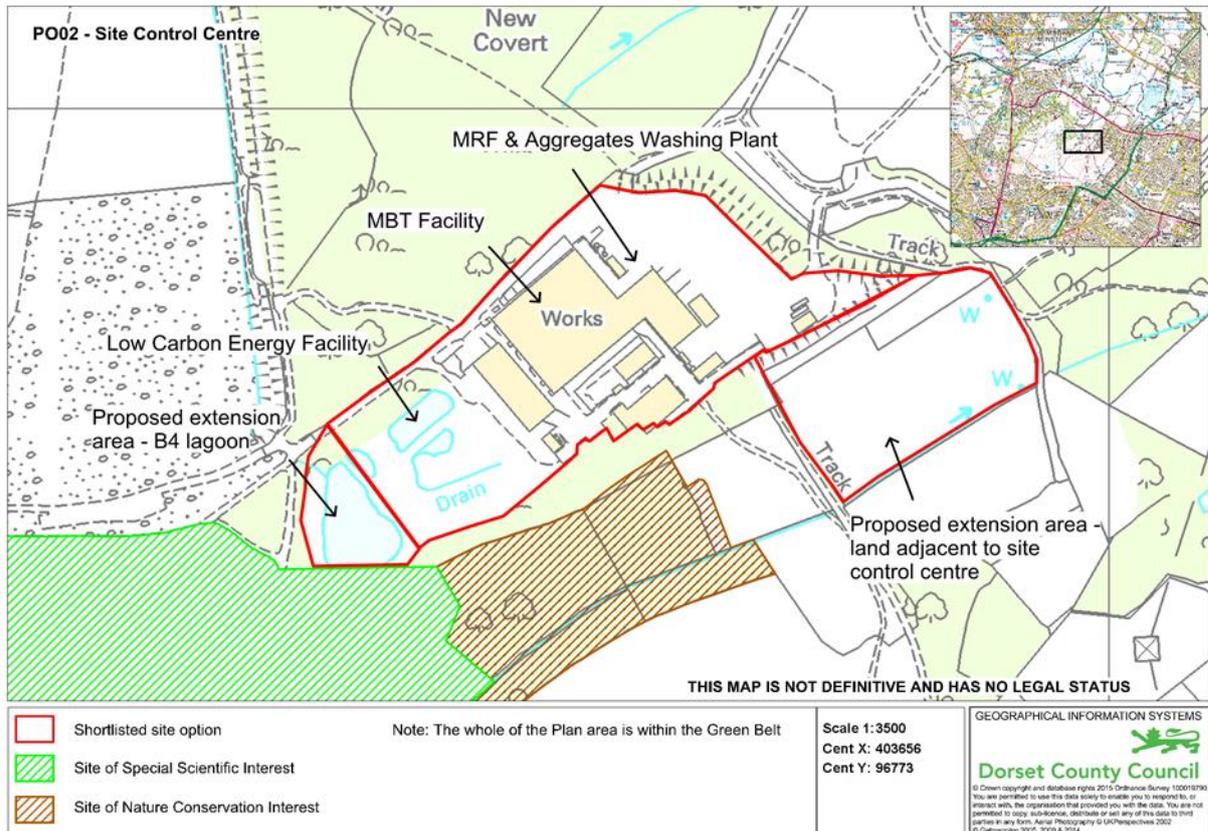
- Increased height stack due to proximity to relatively large number of sensitive human receptors.
- Design to ensure:
  - waste activities take place in a building to mitigate release of bio-aerosols, noise and odour and dust;
  - automatic closing mechanism on vehicles doors to ensure they remain shut when not use;
  - odour suppressant system installed in buildings; and
- Operational management plans to consider directional sound reversing alarms and regular monitoring of bio-aerosols, likely to be a requirement under the Environmental Permit.

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<sup>45</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>

### 3.7 PO02 – Site Control Centre

Figure 9: Site Control Centre Site Area



Source: Dorset County Council

#### 3.7.1 Site Size

This site consists of two areas of land - B4 Lagoon extension, 0.66ha and the south extension 2.55 ha. The B4 Lagoon extension site is not large enough to accommodate any significant treatment or storage of waste, however it could be used in conjunction with the south extension or as part of a reconfiguration of the wider site. The south extension on its own is also unlikely to be large enough to accommodate 212,000tpa thermal or MBT treatment facility. Again, there may be potential for this extension to be developed in conjunction with the existing adjoining waste management facility which comprises, amongst other facilities, an MBT plant to increase existing capacity. The south extension of this site may be more suitable to a mechanical pre-treatment plant for RDF production (approximately 1 ha for 200,000 tpa) and RDF storage prior to transportation (approximately 1 ha for 200,000 tpa).

### 3.7.2 Sensitive Receptors

This site is adjacent to an existing waste treatment (MBT) site operated by New Earth Solutions. With pre-existing waste treatment operations near to the site, providing the correct mitigation is taken to odour and noise control, there is precedence to support further similar development. The following sensitive receptors have been identified through google maps as being close to the site:

- Bearwood Primary School and Nursery (560m east of site);
- conservation areas in adjacent sites;
- football ground (180m east of site); and
- garden centre (630m north of site).

The DCC shortlisted waste site assessment states that there are no residential properties within 250m of the site. The lack of sensitive receptors close to the site and the existing waste uses on surrounding sites would predicate the site for waste use.

### 3.7.3 Stack Height

The stack for 212,000tpa thermal treatment facility is likely to be in the region of 65m – 76m the site is a short distance from a SSSI site and as such this may require the stack to be increased. The DCC Landscape Officer notes that the site is in a slight bowl and that the site has some landscape value as part of the open greenspace on the northern edges of Cranford Heath. They suggest that building height is kept to a minimum, the positioning of the facility takes into consideration the bowl and recessive colours are used. Design and positioning of the stack is therefore likely to be a key consideration during planning and design.

### 3.7.4 Potential Heat Network

This site has potential for CHP but would be dependent on a nearby site, known as Magna Business Park, being developed for employment use, further studies would be required to assess the heat demands from the park.

### 3.7.5 Distance from Grid

This site is approximately 1.9km from an unconstrained substation and 6.3km from a constrained bulk supply point as the crow flies.<sup>46</sup> The relative short distance to and unconstrained substation is a benefit to this site.

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<sup>46</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>



- playing field adjacent to site;
- Canford Heath Junior School (400m south of site);
- Haymoor Junior School and Magna Academy (450m north east of site);
- Ad Astra Infant School (870m north east of site);
- number of restaurants within 1km of site; and
- supermarket (980m north of site).

The closeness of the schools and relatively high number of residential properties (52) would result in significant odour and noise mitigation being required during the planning and design stages.

Existing waste use predicates the use of the site similar activities.

The site drains to the Poole Harbour SAC. There are no SSSI or SAC/SDP/RAMSAR close enough to impact on development.

### 3.8.3 Stack Height

Due to the proximity to an existing industrial area, the land profile of the area is higher than that of a residential area, this could help mitigate the impact of the stack.

### 3.8.4 Potential Heat Network

There is potential for CHP as the site is surrounded by industrial units, further work be required to understand the heat demand from these units

### 3.8.5 Distance from Grid

This site is approximately 1.3km from an unconstrained substation and 3.2km from a constrained bulk supply point as the crow flies.<sup>47</sup> The relative closeness of the unconstrained substation is a benefit to this site.

### 3.8.6 Mitigation measures

Mitigation measures applicable to this site include:

- Increased height stack due to proximity to relatively large number of sensitive human receptors;
- Design to ensure:
  - waste activities take place in a building to mitigate release of bio-aerosols, noise and odour and dust;

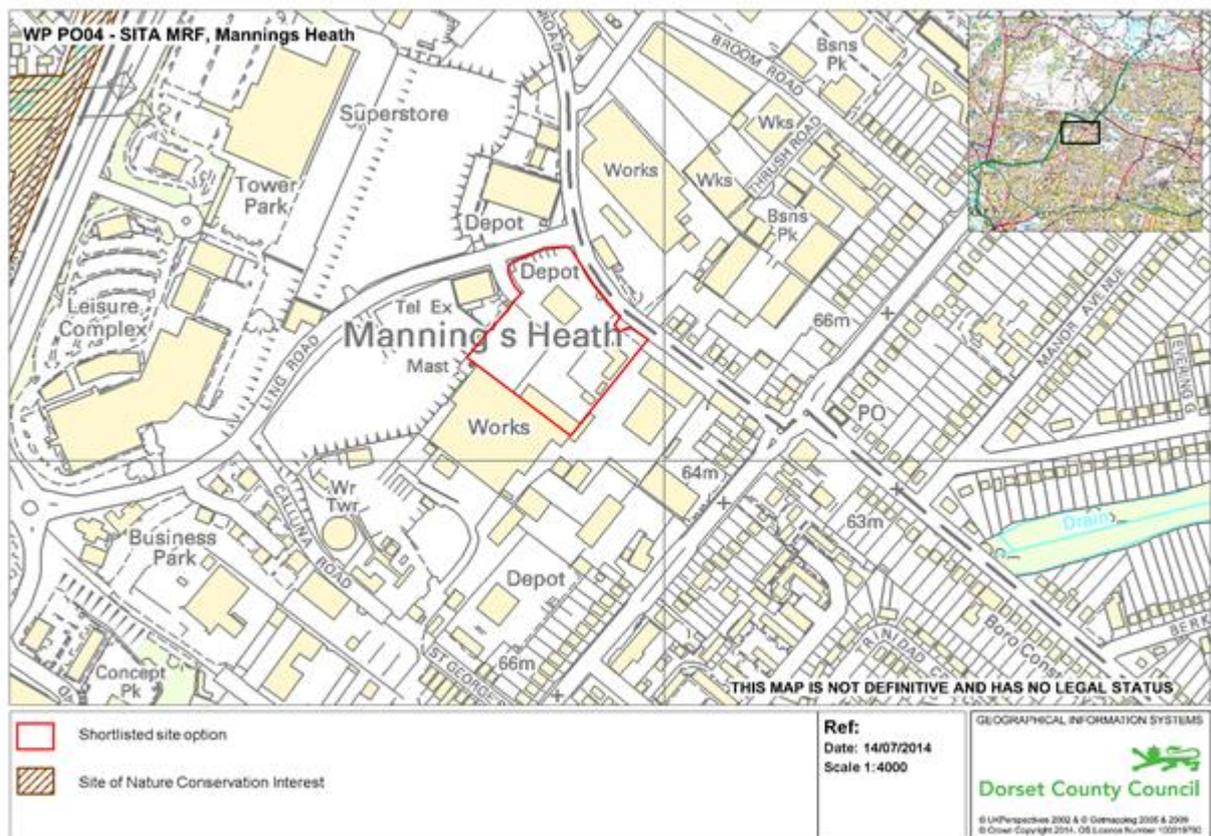
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<sup>47</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>

- automatic closing mechanism on vehicles doors to ensure they remain shut when not use;
- odour suppressant system installed in buildings; and
- Operational management plans to consider directional sound reversing alarms and regular monitoring of bio-aerosols, likely to be a requirement under the Environmental Permit.

### 3.9 PO04 – SITA MRF

Figure 11: SITA MRF Site Area



Source: Dorset County Council

#### 3.9.1 Site Size

This site measures 1.63ha, thus would not be large enough to accommodate a single 212,000tpa thermal or MBT facility. This site may be more suitable to a small scale mechanical pre-treatment plant production and storage (approximately 150,000 tpa), or MBT (approx. 50,000 tpa) which could be used in conjunction with other sites within the authority.

### 3.9.2 Sensitive Receptors

This site is owned and operated by SITA as a commercial waste bulking and transfer facility. It is located within the Mannings Heath Industrial Estate. If the site were to expand to include the pre-treatment plant or MBT for residual municipal waste, potential impacts which may require mitigation would include noise and odour in relation to the residential properties (163 residential properties within 250m and approx. 156,750 within 5 miles) and eateries in close proximity to the site. The following additional sensitive receptors have been identified through google maps:

- Tower Park retail area includes supermarket, a number of restaurants, gym, swimming pool and cinema (220m west of site);
- Alderney hospital (390m north of site);
- Alderney Community Centre (650m north of site);
- Rossmore Leisure Centre and St Aldhelm's Academy (840m east of site); and
- Winchelsea School (940m east of site).

There are no sensitive ecological areas that would need to be considered if a waste facility was developed on this site.

### 3.9.3 Stack Height

Due to the proximity to an existing industrial area, the land profile of the area is higher than that of a residential area, this could mitigate the impact of the stack. However air emissions modelling may determine that, due to the close proximity of a large number of residential properties and sensitive human receptors, the stack height increases to what might usually be expected.

### 3.9.4 Potential Heat Network

This site has potential for CHP as there are heat loads available locally including a leisure centre, superstore and housing, further work would be required to understand the heat demand from these off takers.

### 3.9.5 Distance from Grid

This site is approximately 1km from an unconstrained substation and 2.8km from a constrained bulk supply point as the crow flies.<sup>48</sup> The closeness to an unconstrained substation is a benefit to this site.

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<sup>48</sup> SSE *Generation Availability Map*, accessed 7 December 2015, <https://www.ssepd.co.uk/GenerationAvailabilityMap/?mapareaid=1>

### 3.9.6 Mitigation measures

Mitigation measures applicable to this site include:

- Increased height stack due to proximity to relatively large number of sensitive human receptors.
- Design to ensure:
  - waste activities take place in a building to mitigate release of bio-aerosols, noise and odour and dust;
  - automatic closing mechanism on vehicles doors to ensure they remain shut when not use;
  - odour suppressant system installed in buildings; and
- Operational management plans to consider directional sound reversing alarms and regular monitoring of bio-aerosols, likely to be a requirement under the Environmental Permit.

### 3.10 Site Assessment Analysis

The RAG site assessment considers the two main categories of treatment technologies, thermal and mechanical and biological for a single 212,000tpa. Where we believe a site can be used for a smaller sized facility or post treatment activity we have included this the column marked alternative waste use.

**Table 3-2: Site Scoring**

No.	Site	Location	Thermal Treatment	Mechanical Biological Treatment	Rational for RAG rating	Alternative waste use
CB02	Eco Composting	Chapel Lane, Parley			<p>Thermal treatment</p> <p>The site is large enough to accommodate a 212,000tpa thermal treatment plant and there are minimal human sensitive receptors surrounding the site. The site is adjacent to the Dorset Heathlands SAC/SPA/RAMSAR and as such air emissions modelling may result in a stack higher than would usually be required. The DCC Landscape officer has stated that the site is not of significant visual importance.</p> <p>Eunomia has been informed by DCC that this site has existing waste treatment and recycling facilities operating on it and these would not want to be ceased to accommodate to site a single treatment facility. For this reason the site has been given a red rating. If this site could be used the RAG rating would be orange as the only major negative of the site is the close proximity to Bournemouth airport and the relatively longer distance, compared to some of the other sites to nearest unconstrained substation (3km).</p> <p>MBT</p> <p>A 212,000tpa MBT or would require a site in the region of 4- 5 hectares and as such depending on the impact of the eastern fields</p>	<p>Depending on the actual area of land available this site may be more suitable to a small scale mechanical pre-treatment plant production and storage (approximately 150,000 tpa), or MBT (approx. 50,000 tpa) which could be used in conjunction with other</p>

No.	Site	Location	Thermal Treatment	Mechanical Biological Treatment	Rational for RAG rating	Alternative waste use
					<p>exclusion zone the site design will be critical to ensuring the site can accommodate the facility.</p> <p>The fact the site has minimal sensitive human receptors and has been referred to by the DCC landscape officer as not being of significant visual importance is an advantage.</p> <p>As stated above the site has been given a red rating based on advice from DCC which suggests that they would not wish the existing waste activities to be displaced for a single waste treatment facility.</p>	sites within the authority.
ED02	Blunts Farm	Blunts Farm, Ferndown			<p><b>Thermal</b></p> <p>The site is large enough to accommodate a 212,000tpa with related infrastructure. The close proximity to the neighbouring industrial estate helps mitigate visual impact of stack and could be investigated as a potential heat off taker. There are only a small number (15) of residence within 250m of the site. The site benefits from being only 1.2km from unconstrained electrical substation.</p> <p><b>MBT</b></p> <p>The site is large enough to accommodate a 212,000tpa MBT facility with related infrastructure. There a only a small number of sensitive receptors within 250m of the site and the sites position next to an industrial estate will help mitigate visual impact. There is the potential to connect into the gas grid should anaerobic digestion be the chosen biological treatment step.</p>	This site could also be used for smaller waste treatment facilities
ED03	Woolsbridge	Woolsbridge Industrial Estate, Three Legged Cross			<p><b>Thermal</b></p> <p>Either are of land is large enough to accommodate single 212,000tpa thermal treatment facility with related infrastructure. The southern section of the site is more suitable to the development of a thermal treatment process as it is neighbored by an industrial estate which</p>	This site could also be used for smaller waste

No.	Site	Location	Thermal Treatment	Mechanical Biological Treatment	Rational for RAG rating	Alternative waste use
					<p>will help mitigate the impact of the stack and be a potential heat off-taker. The only human sensitive receptors within 250m are 11 residential properties and a caravan park. The 5km distance to the unconstrained substation is the only negative point. As is the proximity of the Dorset Heaths SAC/Dorset Heathlands SPA and RAMSAR and Holt and West Moors SSSI. Stack height may be impacted by the proximity of these sensitive ecological receptors.</p> <p>MBT</p> <p>As stated above either section of land is suitable for a 212,000tpa MBT facility with related infrastructure. The southern section is preferable in respect to its proximity to the existing industrial estate and which would help minimising visual impact.</p>	treatment facilities
ED04	West Moors	off Three Cross Road, Three Legged Cross			<p>Thermal</p> <p>The brown field site is large enough to accommodate a 212,000 thermal treatment facility with related infrastructure. The negatives of the site include the relatively high (64 residential properties) number of sensitive receptors, the lack of easily identifiable heat off takers and the 4km distance (as the crow flies) unconstrained substation connection. The site is low lying and as such the visual impact of the stack is likely to be a key consideration during planning. There are a relatively small number of applications for heat off take.</p> <p>MBT</p> <p>The site is large enough to accommodate a 212,000 MBT facility with related infrastructure. As stated above the 65 residential properties that are within 250m of the site will mean that careful consideration</p>	This site could also be used for smaller waste treatment facilities

No.	Site	Location	Thermal Treatment	Mechanical Biological Treatment	Rational for RAG rating	Alternative waste use
					will be required during the design stage to mitigate impacts from odour, noise and bio-aerosol.	
PO01	Area 2 & 3, Ling Road	off Ling Road, Manning's Heath			<p>Thermal</p> <p>Site not large enough for single 212,000tpa thermal treatment facility, however it could accommodate a smaller 100ktpa. A further negative of the site is the quantity of sensitive receptors which include 41 residential properties a hospital, leisure/retail area and school.</p> <p>The site's positive are its relative closeness (1.9km) from an unconstrained substation and the potential neighbouring leisure and retail to utilise heat from the process.</p> <p>MBT</p> <p>MBT requires the largest land take per tonne of treated waste and as such neither of the sections of land could be used to accommodate a single 212,000tpa facility.</p>	The site may be more suitable to a 100,000tpa thermal treatment process, small 50-75,000tpa MBT,
PO02	Site Control Centre	Magna Road, Canford, Poole			<p>Thermal</p> <p>The site is not large enough to accommodate a single 212,000tpa facility.</p> <p>The advantages of the site are that there are limited sensitive receptors and the contour of land would mitigate visual impact of the stack. The site benefits for have a potential heat off-taker and is 1.9m from an unconstrained substation.</p> <p>MBT</p> <p>The site is not large enough to accommodate a single 212,000tpa MBT facility.</p>	Southern section of the site may be more suitable to a 100,000tpa thermal treatment process, small 50-75,000tpa MBT,

No.	Site	Location	Thermal Treatment	Mechanical Biological Treatment	Rational for RAG rating	Alternative waste use
					The site benefits from being in a bowl which would mitigate visual impact and is close to the county's existing MBT facility so minimal sensitive receptors.	
PO03	Nuffield WMC	Nuffield Industrial Estate, Poole			<p>Thermal</p> <p>The site is not large enough for a single 212,000tpa. There are a large number of sensitive receptors close to the site, two schools within 0.5km and 52 residential properties within 250m.</p> <p>The benefits of the site is that the neighbouring industrial estate has the potential to off-take heat and the site is only 1.3km to unconstrained substation.</p> <p>The site currently accommodates a household waste recycling centre and as such is unlikely to be available for further waste activities.</p> <p>MBT</p> <p>The site is not large enough to accommodate a 212,000tpa facility, The closeness to a large number of sensitive receptors including schools and residential properties would require the design of the facility to put in place robust systems for managing odour, noise and bio-aerosols.</p>	Existing household waste recycling centre prevents potential use.
PO04	Sita MRF	Manning's Heath Road, Poole			<p>Thermal</p> <p>The site is not large enough for a single 212,000tpa facility. The site is surrounded by a large number of sensitive receptors, 163 households within 250m and a hospital, leisure and retail less than 0.5km.</p>	May be possible for a small MBT or thermal treatment plant.

No.	Site	Location	Thermal Treatment	Mechanical Biological Treatment	Rational for RAG rating	Alternative waste use
					<p>MBT</p> <p>The site is not large enough for a 212,000tpa. As stated above the large number of sensitive receptors do not make the site ideal for a waste treatment facility.</p>	

## 4.0 Conclusions

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### 4.1 Conclusions

The eight shortlisted sites (appendix A.1.0) provided by DCC for the development of a 212,000tpa thermal or MBT facility were reviewed against the following set of criteria to establish suitability:

- site size;
- sensitive receptors;
- stack impact;
- potential heat network;
- distance from grid.

Of the eight sites the following four sites were deemed to be potentially suitable for a single thermal or MBT facility capable of treating 212,000tpa of waste:

- ED02 – Blunts Farm
- ED03 – Woolsbridge
- ED04 – West Moors

The two highest ranking sites are Blunts Farm and Woolsbridge for the following reasons:

- large enough to accommodate both thermal and MBT facility;
- few sensitive receptors and location next to industrial estate which should help mitigate impact of stack and general building mass for both technology types;
- industrial estate potential heat off taker from thermal treatment facility;

Blunts Farm has the added benefit of being closer to an unconstrained electrical substation and has the potential for connection to the gas grid should Anaerobic Digestion be part of the MBT solution.

Of the eight sites seven could have the potential to accommodate smaller facilities in the region of 10,000tpa thermal treatment facility or 50-75,000 MBT. The only site that has been discounted for a smaller facility is PO03 Nuffield WMC the main reason being that it currently accommodated a household waste recycling centre.

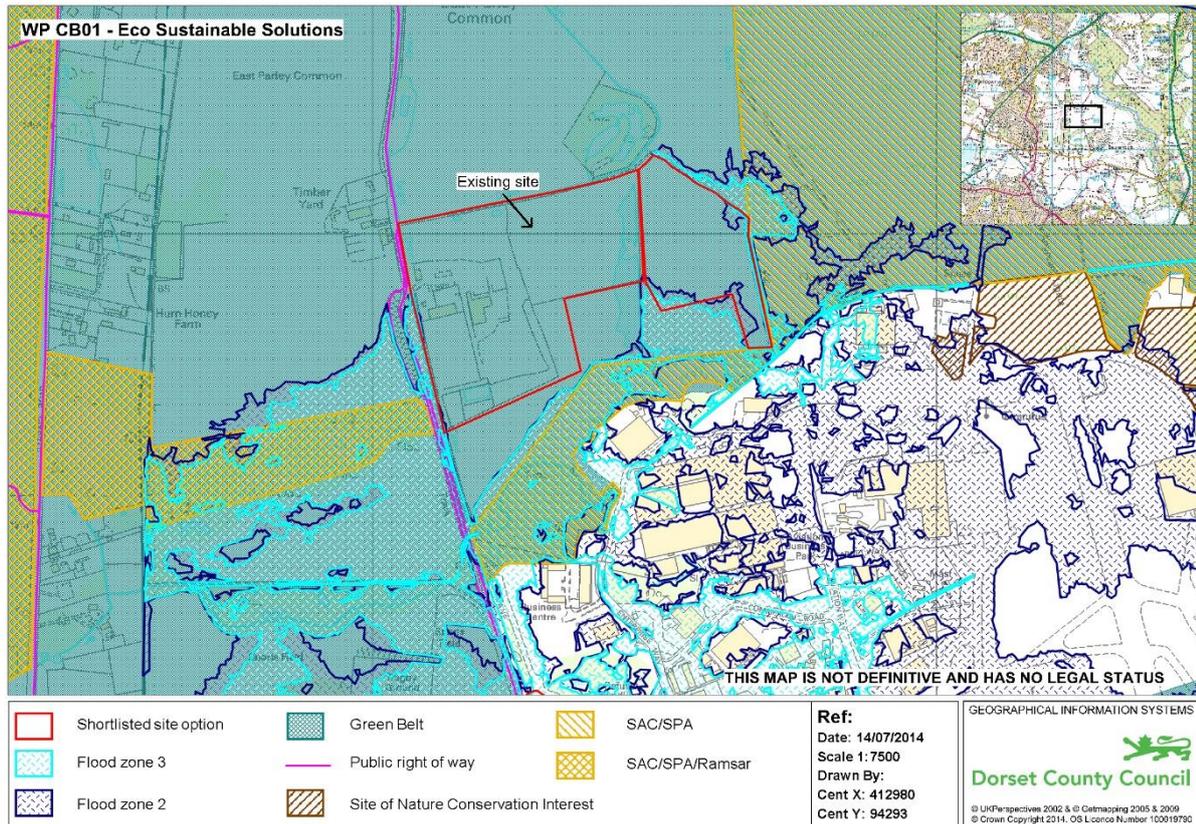
There is nothing in theory preventing a MBT or thermal treatment facility being developed adjacent to a SSSI/SAC/SPA/RAMSAR site. The impact for the developer however is likely to be increased cost associated with visual enhancements, increased stack height to comply with air emission standards, careful design to ensure no impact from surface water drainage and increased development period resulting from a lengthy consultation process.

# APPENDICES

# A.1.0 Appendix 1

## Bournemouth, Dorset and Poole Waste Plan Shortlisted Site Assessment – July 2015

Reference WP CB02 Site Name Eco-Composting, Parley



### Site Information

<b>Site Location Inc. administrative area</b>	Eco-Composting, Chapel Lane, Parley Christchurch Borough Council
<b>Parish/Town Council</b>	Hurn parish
<b>Landowner/Agent</b>	Site being promoted by Eco-Sustainable Solutions
<b>Description of Site</b>	<p>This is an existing waste management and recycling facility incorporating the following waste management activities;</p> <ul style="list-style-type: none"> <li>• Inert recycling facility</li> <li>• In-vessel composting</li> <li>• Open windrow composting</li> </ul>

	<ul style="list-style-type: none"> <li>• Wood recycling</li> <li>• Anaerobic digestion (permitted not yet developed)</li> <li>• Bio-Energy Facility(permitted not yet developed)</li> </ul>
<b>Site area</b>	Existing facility – 12.3ha Proposed Extension – 4.5ha
<b>Range of facilities being considered</b>	The site promoter would like to reconfigure the existing and consented development, including introduction of new processes. Mixed food waste and maize for AD plant, solid recovered fuel, road sweepings waste.
<b>Description of Potential Development</b>	Reconfiguration of existing and consented development, introduction of new plant and processes and an increase in permitted throughput.  New processes and facilities include; <ul style="list-style-type: none"> <li>• a new Solid Recovered Fuel Processing Plant</li> <li>• an increase in the overall waste throughput capacity at the site from the currently permitted 210,000 tpa to 266,000tpa</li> <li>• the provision of a comprehensive landscaping scheme, including landscape screening bunds along the northern and eastern site boundaries, as well as native tree and scrub planting</li> </ul>
<b>Waste proposed to be managed</b>	MSW and Commercial and Industrial Waste

<b>Relevant Local Planning Policy</b>	<p>The site is an existing permitted waste management and recycling facility.</p> <p>Site lies entirely within the Green Belt, further thought needed to consider if existing uses on the site could allow it to remain in the Green Belt. For such previously developed sites, then this would trigger Core Strategy policy KS3</p>
<b>Adjacent land uses</b>	The existing facility is situated in the countryside a short distance north of Bournemouth Airport and an adjacent employment area (Aviation Business Park West).

	<p>A Materials Recycling Facility (MRF) is also situated approximately 800 metres south of the main access to the existing facility.</p> <p>To the north of the existing facility is open land that has been used for turf cultivation. However, planning permission has been granted for the development of a large solar energy farm covering much of this area.</p>
<b>Number of residential properties within 250m of site boundary</b>	1 dwelling within 250m
<b>Number of residential properties within 5 mile radius (relevant where HRC is proposed only)</b>	Approximately 127,500 residential properties within 5 miles
<b>Traffic Generation</b>	TBC – see figures above on possible increased throughput
<b>Access Considerations</b>	Access to the facility is gained from Chapel Lane which connects to the B3073 main distributor at the Chapel Gate roundabout via a collector road (Chapel Gate). Chapel Gate also provides access to Aviation Business Park West and the western (non-public) access to Bournemouth Airport.
<b>Proximity to waste arisings (where is waste managed at this facility likely to derive?)</b>	A strategic facility is being promoted for this site, therefore waste would arise from throughout the plan area.
<b>Approximate Distance from settlements where waste will derive?</b>	<p>Poole – 9.9kms</p> <p>Bournemouth – 5.1kms</p> <p>Wimborne – 10.2kms</p> <p>Blandford – 23.3kms</p> <p>Dorchester – 42.5kms</p> <p>Bridport – 64.8kms</p>

### Initial Site Assessment including Input from Specialist Consultees

<p><b>Traffic/Access</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Highways officers</b></li> <li>• <b>Highways England</b></li> </ul>	<p><u>Local Highway Authority (DCC) Initial Response</u></p> <p>No in principle objection providing that the appellant mitigates their impact along the B3073 corridor where there is significant traffic congestion. DCC have received money through the LEP for significant improvements along this route that will be implemented over several years. This money is to be combined with developer and county contributions to deliver a range of schemes designed to unlock development potential at the airport and surrounding area and to deal with traffic on the B3073. Mitigation is likely to be in the form of a contribution towards the corridor improvements.</p> <p><u>Highways England Initial Response</u></p> <p>We note that there is an existing facility at this site and there is potential for an extension to it increasing the waste levels from 210,000tpa 260,000tpa which is approximately a 24% increase, so we can assume that trips to and from the site will increase by this percentage, although we acknowledge that this is a simplistic calculation. There are no figures available in the documentation relating to the current trip rates. We would need a greater understanding of this before commenting specifically on the acceptability to the Agency of an extension on this site. Possible locations on the SRN that may be impacted are the A31/A347 and A31/A338 junctions. The Agency would welcome pre application discussions to discuss impacts on the SRN if this site looks likely to come forward.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Impact on Sensitive Human Receptors</b></p> <ul style="list-style-type: none"> <li>• <b>Waste Planning Team</b></li> </ul>	<p>The nearest dwelling (Whitemere House) is situated a short distance (60m) north of the existing main access and a further three residential dwellings (Church House, Chapel Gatehouse and Barnabas Lodge) are situated to the south of the MRF, the nearest being approximately 900 metres from the main site entrance.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Public Rights of Way</b></p> <ul style="list-style-type: none"> <li>• <b>DCC RofW officers</b></li> </ul>	<p>Chapel Lane, the access to the existing facility, is a bridleway (E62/4). A further bridleway (Route E62/29) runs in parallel to Chapel Lane along its western side.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Protection of Water Resources (Hydrology/groundwater/ surface water and flooding)</b></p> <ul style="list-style-type: none"> <li>• <b>EA</b></li> </ul>	<p><u>Environment Agency Initial Response</u></p> <p><b>Flood Risk</b></p> <p>Small part of site FZ2 and FZ3. Some flooding shown on our surface water maps.</p> <p>There are 5 small ponds on site and an unidentified body of water on the existing site, there is also a large pond adjacent to the northern boundary of the site. A drain to the Moors River runs along the west, north and east boundary.</p> <p>If there is an Ordinary watercourse on site – Land Drainage Consent from the Lead Local Flood Authority (LLFA) may be required. LLFA should be consulted on the proposed waste site.</p> <p><b>Water quality</b></p> <p>Moors River SSSI catchment</p> <p>Numerous incidents at site including odour issues and Cat 1 pollution of watercourse. Site boundaries border SSSI / near RAMSAR / SAC / SPA.</p> <p>Site borders very close to watercourse leading to Moors River SSSI.</p> <p><b>Groundwater</b></p>	<p><b>Are further studies recommended?</b></p> <p><b>Flood Risk</b></p> <p>FZ2 &amp; 3 so Sequential Test may be required by the LPA.</p> <p>Sequential Approach required.</p> <p>Detailed FRA required to assess fluvial flood risk, and other sources of flood risk. FRA also to include surface water management. There may be</p>
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	<p>This site is on a minor aquifer of Secondary or Unproductive designation. We would have no objection subject to standard conditions for the protection of land and groundwater from contamination and oil storage. Any existing contaminated land will require Site Investigation, Risk Assessment and Remedial Options appraisal in accordance with CLR11.</p> <p><b>Waste</b></p> <p>We have been involved with pre EPR permit application discussions with Eco. Once an application arrives the surface water flood risk and other risks will be assessed as part of the permit application.</p> <p>As the strategic waste planning authority (DCC), should the site need to close for any reason then due to the size of the site alternative contingencies need to be considered to deal with the volumes of waste that would need to be diverted from the site.</p> <p>Majority of the land is now a solar park – so the national grid ought to have sufficient capacity in order to fully utilise the benefit of any energy that is recovered.</p> <p>As with all sites that handle biowastes, whilst we permit sites and appropriate measures are applied this does not necessarily mean that odours and dust will not be present off site at some level.</p> <p><b>Waste/ Environmental permitting</b></p> <p>Contingency should exist in the exception the site’s ability to operate is affected due to the large total throughput. Amenity impacts should be mitigated and managed in terms of the effect on local residents and business. The waste hierarchy should be applied. Contingency for any flood risk and loss of operation should be considered,</p>	<p>restrictions on use of soakaways, depending on the nature of the site (e.g. contaminated / high groundwater levels).</p> <p><b>Groundwater and Contaminated land</b></p> <p>May require Site Investigation, Risk Assessment and Remedial Options Appraisal at planning application stage.</p>
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<b>Land Instability</b>	No issues identified	<b>Are further studies recommended?</b>
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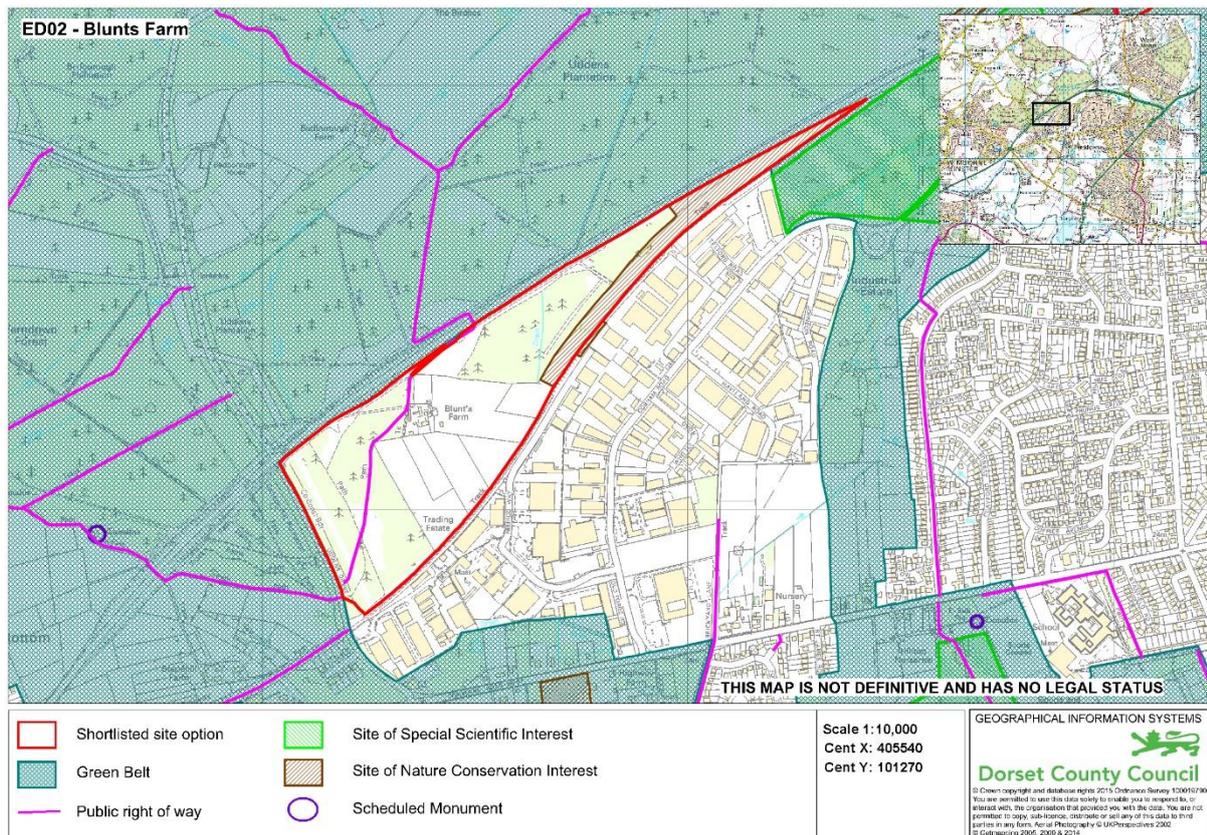
<p><b>Visual Intrusion</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Landscape Officer</b></li> </ul>	<p>Site is 9.8kms east of Cranborne Chase and West Wiltshire AONB, 12.4kms north of Dorset AONB and 4.3kms west of New Forest National Park.</p> <p><b>Context</b></p> <p>Within the Moors River Terrace landscape character area just north of the Bournemouth airport complex.</p> <p><b>Key Characteristics</b></p> <ul style="list-style-type: none"> <li>○ Infrastructure associated with the existing development on the site dominates.</li> <li>○ Some open areas of land to the east are being managed for nature conservation reasons.</li> <li>○ Large area to the north being developed as a solar farm.</li> <li>○ One public right of way runs up the western boundary of the existing site.</li> <li>○ There are no other publicly accessible view points or sensitive visual receptors.</li> </ul> <p><b>Landscape Value</b></p> <p>The landscape for the existing operation has little landscape value but the far eastern land bordered by the red line has a very high landscape value in that has been managed for nature conservation reasons.</p> <p><b>Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement</b></p> <p>The existing site is not susceptible to the development in question, partly due to its limited public access and the number of visual receptors. However, the far eastern fields are very susceptible and should not be pursued with any built development.</p> <p>There are significant mitigation enhancement opportunities, for example, for the eastern site, to produce a comprehensive landscape scheme for the site and also to reinforce the long term</p>	<p><b>Are further studies recommended?</b></p>
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	<p>landscape and ecological management objectives for the whole area, including the eastern part of the site. This would include heathland and other habitat restoration and creation measures to help link up areas of heathland to the east (Merritown Heath) and to the west (Parley Common).</p> <p><b>Conclusion</b></p> <p>Subject to agreement of the landscape and ecological plans for the site there are no significant landscape and visual issues on this site apart from those mentioned for the eastern allocation.</p>	
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Reference  
Ferndown

WP ED02

Site Name Blunts Farm,



**Site Information**

<b>Site Location</b> Inc. administrative area	Blunts Farm, Ferndown East Dorset District Council
<b>Parish/Town Council</b>	Ferndown Town Council, western boundary borders Colehill Parish
<b>Landowner/Agent</b>	Land owned by the Forestry Commission
<b>Description of Site</b>	This site is very well related to the wider Ferndown and Uddens Industrial Estates, which forms the largest area of employment in Dorset. It is situated close to the strategic highway network, although this part of it suffers from congestion.
<b>Site area</b>	30ha
<b>Range of facilities being considered</b>	Waste Vehicle Depot - 0.3 to 0.5 ha land required Household Recycling Facility (HRC) – up to 1 ha land required Bulky Waste transfer /treatment and/or residual waste treatment Facility – up to 3 ha land required
<b>Description of Potential Development</b>	<p>A number of potential facilities are being considered.</p> <p>A depot would have the least impact and would comprise a hard standing for the storage of waste vehicles and staff cars. Office accommodation, wash down facilities, fuelling facilities and possibly a vehicle workshop could also be accommodated. There would be no requirement for waste to be stored on site.</p> <p>A HRC would be preferable where there is scope for a split level type building, provision of circulation and parking areas is essential. Much of the material storage would be undertaken within a building.</p> <p>For a HRC or bulky Waste transfer /treatment and/or residual waste treatment Facility the minimum building height would be 8m.</p> <p>Any residual waste treatment facility would deal with waste that cannot be recovered for recycling and/or composting. The treatment process can be typically housed in an</p>

	<p>industrial type. A range of treatment methods could be considered.</p> <p>Treatment facilities vary in scale depending on the tonnage of waste they are designed to manage. In any case, all waste would be stored and treated within a large building, up to about 8m in height. The facility may also have a chimney to discharge exhaust gases, this could be at a height of 35 to 40 m.</p>
<b>Waste proposed to be managed</b>	MSW, possibly an element of commercial waste
<b>Energy from Waste Opportunities</b>	There is potential for CHP as the site is surrounded by industrial units. There may also be opportunities for bio-gas injection into the gas grid.

<b>Relevant Local Planning Policy</b>	Formerly Green Belt, Land at Blunts Farm is now allocated as Employment Land within the Christchurch and East Dorset Local Plan and covered by Policy FWP8
<b>Adjacent land uses</b>	Adjacent to the existing industrial area at Ferndown and boarded by the A31 to the northwest.
<b>Number of residential properties within 250m of site boundary</b>	15 properties within 250m
<b>Number of residential properties within 5 mile radius (relevant where HRC is proposed only)</b>	Approximately 87,700 properties within 5 miles.
<b>Traffic Generation</b>	<p>Waste Vehicle Depot - 24 HGV one way movements per day (inc trucks and street sweepers) plus maximum of 40 cars per day (staff cars one-way movements)</p> <p>Household Recycling Centre – As a guide the existing Brook Road HRC had 100,000 visitors in 2012/13 (one way) plus around 150 HGV movements.</p> <p>Bulky Waste treatment – a 30,000tpa facility would generate 4 -10 HGV's per day (one way) and a small number of staff cars.</p>

	<p>Residual Waste Treatment facility – a typical facility dealing with 100,000tpa would generate 20-40 HGV's per day (one way) and a small number of staff cars</p> <p>It should be noted that this option is large enough to accommodate a range of waste related activities and therefore the cumulative impact of different activities and their associated vehicle movements should be considered.</p>
<b>Access Considerations</b>	Options to be considered include access through the industrial estate or the development of a new access via Uddens Drive(cost might be prohibitive).
<b>Where is waste managed at this facility likely to derive?</b>	<p>Residents accessing this facility are likely to come from the Ferndown, Wimborne, Corfe Mullen and Colehill areas</p> <p>Bulky Waste transfer/ treatment would be a strategic facility drawing waste from throughout Dorset, via more localised transfer facilities.</p>
<b>Approximate distance from settlements where waste will derive?</b>	<p>Ferndown – 2.9kms</p> <p>Wimborne – 4.2kms</p> <p>Corfe Mullen – 8.1kms</p> <p>Colehill areas – 2.0kms</p>

#### Initial Site Assessment including Input from Specialist Consultees

<p><b>Traffic/Access</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Highways officers</b></li> <li>• <b>Highways England</b></li> </ul>	<p><u>Local Highway Authority (DCC) Initial Response</u></p> <p>No in principle objection although the impact of this site, especially as an HRC, on the local network would need to be considered with a TA. Specific points of access to the allocated site have yet to be finalised.</p> <p><u>Highways England Initial Response</u></p> <p>The site is on the south side of the A31 and its close proximity to the A31 raises the potential for impacts. I'd hope that we'd be able to support the principle of waste development at this location, particularly in comparison to</p>	<p><b>Are further studies recommended?</b></p> <p>Transport Assessment</p>
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	sites to the north of the A31. A robust transport evidence base will be needed to accompany an application to demonstrate the impacts and any mitigation as necessary	
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<b>Economic Development</b> <ul style="list-style-type: none"> <li>• EDDC&amp;CBC</li> </ul>	There are concerns about having enough sites available in the District / Borough to satisfy identified demand for B-use employment. There is also the issue of the aspirations that the Council and Members for the site to bring forward a sufficient amount of skilled employment opportunities (more so than Woolsbridge – see ED04).	
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<b>Impact on Sensitive Human Receptors</b> <ul style="list-style-type: none"> <li>• Waste Planning Team</li> </ul>	Blunts Farm is situated on the site. There are residential properties 300m to the NE, there is a burial ground and Stapehill Abbey Gardens 250-500m to the S. A nursery 450m to SW and numerous paths running through Uddens Plantation and Ferndown Forest adjacent to the N boundary.	<b>Are further studies recommended?</b>
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<b>Public Rights of Way</b> <ul style="list-style-type: none"> <li>• DCC RofW officers</li> </ul>	A public footpath, E42/28 runs N-S through the site. Bridleway E36/11 terminates at the western boundary.	<b>Are further studies recommended?</b>
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<b>Protection of Water Resources (Hydrology/groundwater/ surface water and flooding)</b> <ul style="list-style-type: none"> <li>• EA</li> </ul>	<u>Environment Agency Initial Response</u> <p>FZ1. Some flooding is shown on our surface water maps. NE tip of site is 220m from Floodzone 2 and 3.</p> <p>There is an Ordinary watercourse running through the site, drain, possibly to Uddens Water. Land Drainage Consent from the Lead Local Flood Authority (LLFA) may be required.</p>	<b>Are further studies recommended?</b>  <b>Flood Risk</b> <p>Other flood risks may be present and should be assessed. Detailed Flood Risk Assessment</p>
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	<p>LLFA should be consulted on the proposed waste site.</p> <p><b>Water quality</b></p> <p>Drains in and near site may drain to SSSI / SAC/ RAMSAR.</p> <p><b>Groundwater</b></p> <p>This site is on a minor aquifer of Secondary or Unproductive designation. We would have no objection subject to standard conditions for the protection of land and groundwater from contamination and oil storage. Any existing contaminated land will require Site Investigation, Risk Assessment and Remedial Options appraisal in accordance with CLR11.</p> <p><b>Waste/Environmental Permitting</b></p> <p>Other considerations for the planning application/ environmental permit stage (if required) –</p> <ul style="list-style-type: none"> <li>• Drainage</li> </ul> <p>The waste hierarchy should be considered for outputs and processes</p>	<p>(FRA) required at planning application stage. This should also include surface water management. There may be restrictions on use of soakaways, depending on the nature of the site (e.g. contaminated/ high groundwater levels).</p> <p><b>Groundwater and Contaminated land</b></p> <p>May require Site Investigation, Risk Assessment and Remedial Options Appraisal at planning application stage</p>
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<b>Land Instability</b>	No issues identified	<b>Are further studies recommended?</b>
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<p><b>Visual Intrusion</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Landscape Officer</b></li> </ul>	<p><b>Context</b></p> <p>Part of the wider Heath/Forest Mosaic landscape character type.</p> <p>4.5kms east of Cranborne Chase and West Wiltshire AONB</p> <p>12.8kms north east of Dorset AONB</p> <p>7.6kms west of New Forest National Park</p> <p><b>Key Characteristics</b></p> <ul style="list-style-type: none"> <li>• A large area of heath/forest/paddock mosaic with a hard southern boundary edge created by Uddens Industrial Estate.</li> <li>• Large proportion of plantation forestry surrounding marginal agricultural land used as paddocks.</li> <li>• Bounded in the north by the busy A31.</li> <li>• An SSSI forms a path at the eastern end of the site.</li> <li>• A public right of way cuts across the western side of the site and access is available around the site fringes.</li> <li>• Fringing vegetation on the southern edge is an important feature.</li> </ul> <p><b>Landscape Value</b></p> <p>The area has a strategic landscape value as part of the wider heath/forest mosaic, as an area of undeveloped green space, as potential heathland habitat after forestry felling and for visual amenity reasons.</p> <p><b>Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement</b></p> <p>The area is moderately susceptible to develop in question due to its landscape value.</p>	<p><b>Are further studies recommended?</b></p>
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	<p>However, this very much depends where on the site development takes place. It is recommended that if development does take place it should occur in the open paddocks. Ideally if development takes place in the open paddocks part of the site this would greatly reduce the site's susceptibility to the development. If this also includes appropriate management and access enhancements of the surrounding forest/heath this would provide ideal mitigation and/or enhancement for the development.</p> <p><b>Conclusion</b></p> <p>Subject to agreement of an approved landscape and ecological design and management plan for the site there are no significant landscape and visual reasons not to progress with this location.</p>	
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<p><b>Nature Conservation</b></p> <ul style="list-style-type: none"> <li>• <b>DCC County Ecologist</b></li> </ul>	<p>Phase 1 &amp; 2 habitat survey required now plus a botanical survey in the spring to determine the ecological value of the paddocks. Review site suitability after these surveys. Reptile surveys may also be required dependant on the grazing regime.</p> <p>SNCI's</p> <p>SU00/060, Ferndown Bypass, on NE part of site.</p> <p>SU00/054, Ameysford, 250m to NE</p> <p>SU00/096, Leeson Drive Heath, 450m to E</p> <p>SU00/072, Stapehill Meadow, 450m to S</p> <p>SPA - DTA007, Dorset Heathlands, SAC - DT/A012, Dorset Heaths, Ramsar – DT/A003, Dorset Heathlands, SSI – SU00/003, Slop Bog and Uddens Heath all adjacent to NE boundary.</p>	<p><b>Are further studies recommended?</b></p> <p>Phase 1 &amp; 2 habitat survey required plus a botanical survey in the spring</p> <p>Reptile Survey</p>
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<p><b>Historic Environment</b></p> <ul style="list-style-type: none"> <li><b>DCC Historic Env. Team</b></li> </ul>	<p>No Scheduled Monuments within 250m although there are several Bowl Barrows approximately 450m to the west.</p> <p>No Conservation areas within 250m.</p> <p>If a large proportion of this site were to be developed, then a pre-determination archaeological assessment and perhaps evaluation may be appropriate. The potential for industrial archaeological features associated with the adjacent disused railway should be considered in an assessment.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Airport Safety</b></p>	<p>6.6kms to north east of Bournemouth Airport</p>	<p><b>Are further studies recommended?</b></p>
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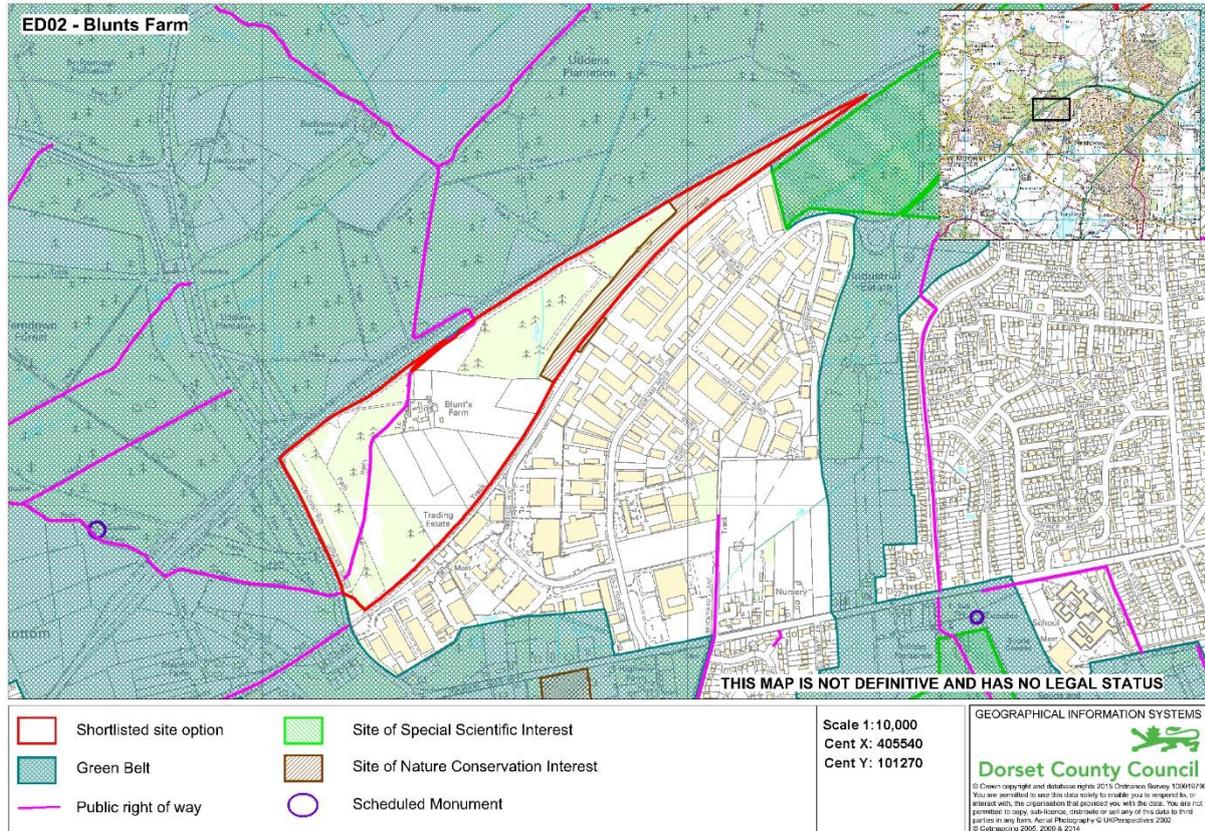
<p><b>Air Quality Inc. Dust</b></p>	<p>No AQMA within 500m</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Agricultural Land Classification</b></p>	<p>Grade 4</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Deliverability</b></p>	<p>The land is owned by the Forestry Commission, although they have their own aspirations for the development of the site they have not ruled out the development of a waste facility. Further consideration needs to be given into how much land might be made available for a waste usage.</p>
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Reference WP ED02  
 Ferndown

Site Name Blunts Farm,



**Site Information**

<b>Site Location Inc. administrative area</b>	Blunts Farm, Ferndown East Dorset District Council
<b>Parish/Town Council</b>	Ferndown Town Council, western boundary borders Colehill Parish
<b>Landowner/Agent</b>	Land owned by the Forestry Commission
<b>Description of Site</b>	This site is very well related to the wider Ferndown and Uddens Industrial Estates, which forms the largest area of employment in Dorset. It is situated close to the strategic highway network, although this part of it suffers from congestion.
<b>Site area</b>	30ha
<b>Range of facilities being considered</b>	Waste Vehicle Depot - 0.3 to 0.5 ha land required Household Recycling Facility (HRC) – up to 1 ha land required

	Bulky Waste transfer /treatment and/or residual waste treatment Facility – up to 3 ha land required
<b>Description of Potential Development</b>	<p>A number of potential facilities are being considered.</p> <p>A depot would have the least impact and would comprise a hard standing for the storage of waste vehicles and staff cars. Office accommodation, wash down facilities, fuelling facilities and possibly a vehicle workshop could also be accommodated. There would be no requirement for waste to be stored on site.</p> <p>A HRC would be preferable where there is scope for a split level type building, provision of circulation and parking areas is essential. Much of the material storage would be undertaken within a building.</p> <p>For a HRC or bulky Waste transfer /treatment and/or residual waste treatment Facility the minimum building height would be 8m.</p> <p>Any residual waste treatment facility would deal with waste that cannot be recovered for recycling and/or composting. The treatment process can be typically housed in an industrial type. A range of treatment methods could be considered.</p> <p>Treatment facilities vary in scale depending on the tonnage of waste they are designed to manage. In any case, all waste would be stored and treated within a large building, up to about 8m in height. The facility may also have a chimney to discharge exhaust gases, this could be at a height of 35 to 40 m.</p>
<b>Waste proposed to be managed</b>	MSW, possibly an element of commercial waste
<b>Energy from Waste Opportunities</b>	There is potential for CHP as the site is surrounded by industrial units. There may also be opportunities for bio-gas injection into the gas grid.

<b>Relevant Local Planning Policy</b>	Formerly Green Belt, Land at Blunts Farm is now allocated as Employment Land within the Christchurch and East Dorset Local Plan and covered by Policy FWP8
<b>Adjacent land uses</b>	Adjacent to the existing industrial area at Ferndown and boarded by the A31 to the northwest.
<b>Number of residential properties within 250m of site boundary</b>	15 properties within 250m
<b>Number of residential properties within 5 mile radius (relevant where HRC is proposed only)</b>	Approximately 87,700 properties within 5 miles.
<b>Traffic Generation</b>	<p>Waste Vehicle Depot - 24 HGV one way movements per day (inc trucks and street sweepers) plus maximum of 40 cars per day (staff cars one-way movements)</p> <p>Household Recycling Centre – As a guide the existing Brook Road HRC had 100,000 visitors in 2012/13 (one way) plus around 150 HGV movements.</p> <p>Bulky Waste treatment – a 30,000tpa facility would generate 4 -10 HGV's per day (one way) and a small number of staff cars.</p> <p>Residual Waste Treatment facility – a typical facility dealing with 100,000tpa would generate 20-40 HGV's per day (one way) and a small number of staff cars</p> <p>It should be noted that this option is large enough to accommodate a range of waste related activities and therefore the cumulative impact of different activities and their associated vehicle movements should be considered.</p>
<b>Access Considerations</b>	Options to be considered include access through the industrial estate or the development of a new access via Uddens Drive(cost might be prohibitive).
<b>Where is waste managed at this</b>	Residents accessing this facility are likely to come from the Ferndown, Wimborne, Corfe Mullen and Colehill areas

<b>facility likely to derive?</b>	Bulky Waste transfer/ treatment would be a strategic facility drawing waste from throughout Dorset, via more localised transfer facilities.
<b>Approximate distance from settlements where waste will derive?</b>	Ferndown – 2.9kms Wimborne – 4.2kms Corfe Mullen – 8.1kms Colehill areas – 2.0kms

### Initial Site Assessment including Input from Specialist Consultees

<p><b>Traffic/Access</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Highways officers</b></li> <li>• <b>Highways England</b></li> </ul>	<p><u>Local Highway Authority (DCC) Initial Response</u></p> <p>No in principle objection although the impact of this site, especially as an HRC, on the local network would need to be considered with a TA. Specific points of access to the allocated site have yet to be finalised.</p> <p><u>Highways England Initial Response</u></p> <p>The site is on the south side of the A31 and its close proximity to the A31 raises the potential for impacts. I'd hope that we'd be able to support the principle of waste development at this location, particularly in comparison to sites to the north of the A31. A robust transport evidence base will be needed to accompany an application to demonstrate the impacts and any mitigation as necessary</p>	<p><b>Are further studies recommended?</b></p> <p>Transport Assessment</p>
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<p><b>Economic Development</b></p> <ul style="list-style-type: none"> <li>• <b>EDDC&amp;CBC</b></li> </ul>	<p>There are concerns about having enough sites available in the District / Borough to satisfy identified demand for B-use employment. There is also the issue of the aspirations that the Council and Members for the site to bring forward a sufficient amount of skilled employment opportunities (more so than Woolsbridge - see ED04).</p>	
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<p><b>Impact on Sensitive Human Receptors</b></p> <ul style="list-style-type: none"> <li>• <b>Waste Planning Team</b></li> </ul>	<p>Blunts Farm is situated on the site. There are residential properties 300m to the NE, there is a burial ground and Stapehill Abbey Gardens 250-500m to the S. A nursery 450m to SW and numerous paths running through Uddens Plantation and Ferndown Forest adjacent to the N boundary.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Public Rights of Way</b></p> <ul style="list-style-type: none"> <li>• <b>DCC RofW officers</b></li> </ul>	<p>A public footpath, E42/28 runs N-S through the site. Bridleway E36/11 terminates at the western boundary.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Protection of Water Resources (Hydrology/groundwater/ surface water and flooding)</b></p> <ul style="list-style-type: none"> <li>• <b>EA</b></li> </ul>	<p><u>Environment Agency Initial Response</u></p> <p>FZ1. Some flooding is shown on our surface water maps. NE tip of site is 220m from Floodzone 2 and 3.</p> <p>There is an Ordinary watercourse running through the site, drain, possibly to Uddens Water. Land Drainage Consent from the Lead Local Flood Authority (LLFA) may be required. LLFA should be consulted on the proposed waste site.</p> <p><b>Water quality</b></p> <p>Drains in and near site may drain to SSSI / SAC/ RAMSAR.</p> <p><b>Groundwater</b></p> <p>This site is on a minor aquifer of Secondary or Unproductive designation. We would have no objection subject to standard conditions for the protection of land and groundwater from contamination and oil storage. Any existing contaminated land will require Site Investigation, Risk Assessment</p>	<p><b>Are further studies recommended?</b></p> <p><b>Flood Risk</b></p> <p>Other flood risks may be present and should be assessed. Detailed Flood Risk Assessment (FRA) required at planning application stage. This should also include surface water management. There may be restrictions on use of soakaways, depending on the nature of the site (e.g. contaminated/</p>
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	<p>and Remedial Options appraisal in accordance with CLR11.</p> <p><b>Waste/Environmental Permitting</b></p> <p>Other considerations for the planning application/ environmental permit stage (if required) –</p> <ul style="list-style-type: none"> <li>• Drainage</li> </ul> <p>The waste hierarchy should be considered for outputs and processes</p>	<p>high groundwater levels).</p> <p><b>Groundwater and Contaminated land</b></p> <p>May require Site Investigation, Risk Assessment and Remedial Options Appraisal at planning application stage</p>
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<b>Land Instability</b>	No issues identified	<b>Are further studies recommended?</b>
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<p><b>Visual Intrusion</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Landscape Officer</b></li> </ul>	<p><b>Context</b></p> <p>Part of the wider Heath/Forest Mosaic landscape character type.</p> <p>4.5kms east of Cranborne Chase and West Wiltshire AONB</p> <p>12.8kms north east of Dorset AONB</p> <p>7.6kms west of New Forest National Park</p> <p><b>Key Characteristics</b></p> <ul style="list-style-type: none"> <li>• A large area of heath/forest/paddock mosaic with a hard southern boundary edge created by Uddens Industrial Estate.</li> <li>• Large proportion of plantation forestry surrounding marginal agricultural land used as paddocks.</li> <li>• Bounded in the north by the busy A31.</li> </ul>	<b>Are further studies recommended?</b>
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	<ul style="list-style-type: none"> <li>• An SSCI forms a path at the eastern end of the site.</li> <li>• A public right of way cuts across the western side of the site and access is available around the site fringes.</li> <li>• Fringing vegetation on the southern edge is an important feature.</li> </ul> <p><b>Landscape Value</b></p> <p>The area has a strategic landscape value as part of the wider heath/forest mosaic, as an area of undeveloped green space, as potential heathland habitat after forestry felling and for visual amenity reasons.</p> <p><b>Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement</b></p> <p>The area is moderately susceptible to develop in question due to its landscape value. However, this very much depends where on the site development takes place. It is recommended that if development does take place it should occur in the open paddocks. Ideally if development takes place in the open paddocks part of the site this would greatly reduce the site's susceptibility to the development. If this also includes appropriate management and access enhancements of the surrounding forest/heath this would provide ideal mitigation and/or enhancement for the development.</p> <p><b>Conclusion</b></p> <p>Subject to agreement of an approved landscape and ecological design and management plan for the site there are no significant landscape and visual reasons not to progress with this location.</p>	
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<p><b>Nature Conservation</b></p> <ul style="list-style-type: none"> <li><b>DCC County Ecologist</b></li> </ul>	<p>Phase 1 &amp; 2 habitat survey required now plus a botanical survey in the spring to determine the ecological value of the paddocks. Review site suitability after these surveys. Reptile surveys may also be required dependant on the grazing regime.</p> <p>SNCI's</p> <p>SU00/060, Ferndown Bypass, on NE part of site.</p> <p>SU00/054, Ameysford, 250m to NE</p> <p>SU00/096, Leeson Drive Heath, 450m to E</p> <p>SU00/072, Stapehill Meadow, 450m to S</p> <p>SPA - DTA007, Dorset Heathlands, SAC - DT/A012, Dorset Heaths, Ramsar – DT/A003, Dorset Heathlands, SSI – SU00/003, Slop Bog and Uddens Heath all adjacent to NE boundary.</p>	<p><b>Are further studies recommended?</b></p> <p>Phase 1 &amp; 2 habitat survey required plus a botanical survey in the spring</p> <p>Reptile Survey</p>
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<p><b>Historic Environment</b></p> <ul style="list-style-type: none"> <li><b>DCC Historic Env. Team</b></li> </ul>	<p>No Scheduled Monuments within 250m although there are several Bowl Barrows approximately 450m to the west.</p> <p>No Conservation areas within 250m.</p> <p>If a large proportion of this site were to be developed, then a pre-determination archaeological assessment and perhaps evaluation may be appropriate. The potential for industrial archaeological features associated with the adjacent disused railway should be considered in an assessment.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Airport Safety</b></p>	<p>6.6kms to north east of Bournemouth Airport</p>	<p><b>Are further studies recommended?</b></p>
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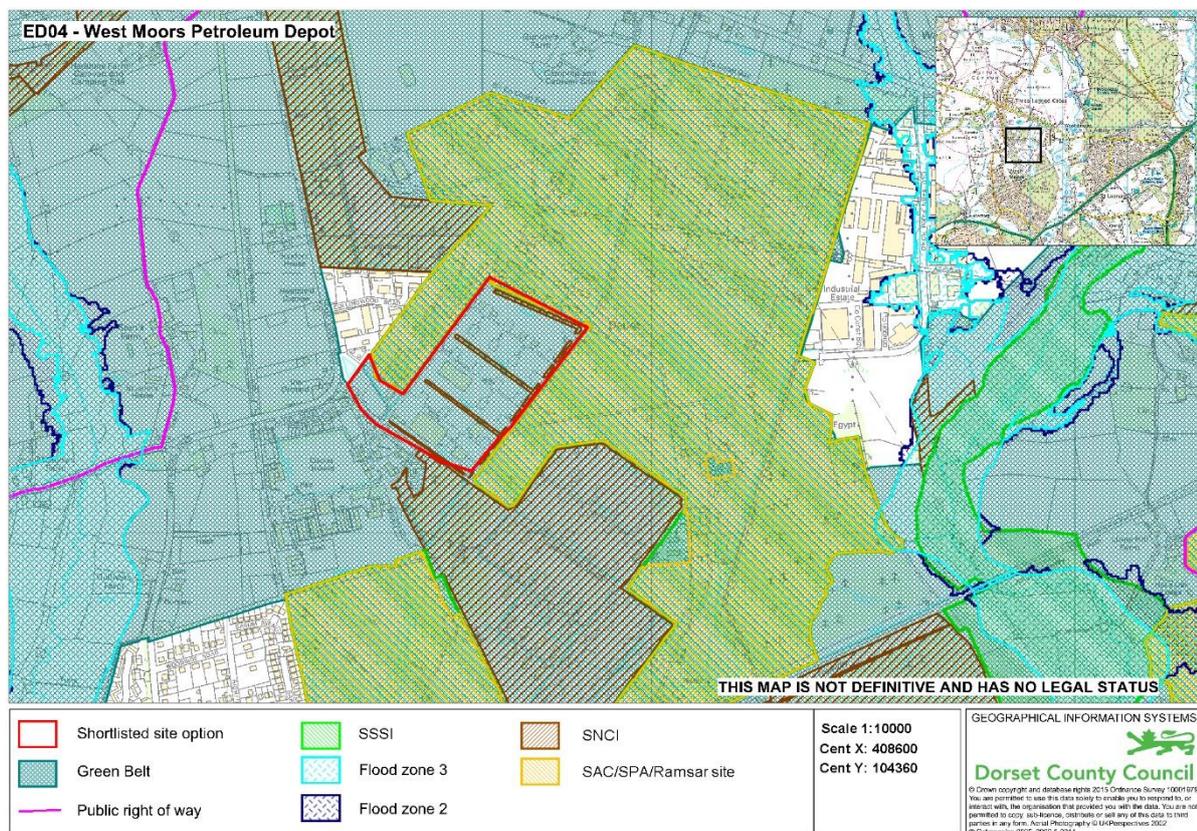
<b>Air Quality Inc. Dust</b>	No AQMA within 500m	<b>Are further studies recommended?</b>
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<b>Agricultural Land Classification</b>	Grade 4	<b>Are further studies recommended?</b>
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<b>Deliverability</b>	The land is owned by the Forestry Commission, although they have their own aspirations for the development of the site they have not ruled out the development of a waste facility. Further consideration needs to be given into how much land might be made available for a waste usage.	
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**Reference** WP ED04

**Site Name** West Moors Petroleum Depot



## Site Information

<b>Site Location</b> Inc. administrative area	West Moors Petroleum Depot (land between Gundrymor and Woolsbridge) East Dorset District Council
<b>Parish/Town Council</b>	Site lies in West Moors parish, but the northern boundary borders Verwood parish.
<b>Landowner/Agent</b>	Site owned by the MOD
<b>Description of Site</b>	This is an area of land within the Green Belt, west of the existing Woolsbridge Industrial Estate. Formerly a military base and petrol depot it is an area consisting of existing employment and large areas of hard standing.
<b>Site area</b>	12.02ha
<b>Range of facilities being considered</b>	Waste Vehicle Depot - 0.3 to 0.5 ha land required Household Recycling Centre (HRC) up to 1 ha land required Bulky Waste transfer /treatment and/or residual waste treatment Facility – up to 3 ha land required
<b>Description of Potential Development</b>	<p>A number of potential facilities are being considered, the site is large enough to accommodate all of the facilities being considered, subject to a full assessment of impacts.</p> <p>A depot would have the least impact and would comprise a hard standing for the storage of waste vehicles and staff cars. Office accommodation, wash down facilities, fuelling facilities and possibly a vehicle workshop could also be accommodated. There would be no requirement for waste to be stored on site.</p> <p>A HRC would be preferable where there is scope for a split level type building, provision of circulation and parking areas is essential. Much of the material storage would be undertaken within a building. If a HRC was developed in this location it would serve a much wider area than the existing HRC in Wimborne.</p> <p>For a HRC the minimum building height would be 8m</p>

	<p>Any residual waste treatment facility would deal with waste that cannot be recovered for recycling and/or composting. The treatment process can be typically housed in an industrial type. A range of treatment methods could be considered.</p> <p>Treatment facilities vary in scale depending on the tonnage of waste they are designed to manage. In any case, all waste would be stored and treated within a large building, up to about 8m in height. The facility may also have a chimney to discharge exhaust gases, this could be at a height of 35 to 40 m.</p>
<b>Waste proposed to be managed</b>	MSW, possibly an element of commercial waste
<b>Energy from Waste Opportunities</b>	There is limited potential for combined heat and power (CHP) as no large heat load available nearby.

<b>Relevant Local Planning Policy</b>	<p>The site is wholly within the Green Belt</p> <p>With the site being wholly in the Green Belt, further thought will be needed to consider if existing uses on the site could allow it to remain in the Green Belt. For previously developed sites would trigger East Dorset and Christchurch Core Strategy policy KS3.</p>
<b>Adjacent land uses</b>	The site is adjacent to the existing Woolsbridge Industrial Estate to the east and Gundrymor Industrial Estate to the west.
<b>Number of residential properties within 250m of site boundary</b>	64 residential properties within 250m
<b>Number of residential properties within 5 mile radius (relevant where HRC is proposed only)</b>	Approximately 40,000 residential properties within 5 miles.
<b>Traffic Generation</b>	Waste Vehicle Depot - 24 HGV one way movements per day (inc trucks and street sweepers) plus maximum of 40 cars per day (staff cars one-way movements)

	<p>Household Recycling Centre – As a guide the existing Brook Road HRC had 100,000 visitors in 2012/13 (one way) plus around 150 HGV movements.</p> <p>Bulky Waste treatment – a 30,000tpa facility would generate 4 -10 HGV's per day (one way) and a small number of staff cars.</p> <p>Residual Waste Treatment facility – a typical facility dealing with 100,000tpa would generate 20-40 HGV's per day (one way) and a small number of staff cars</p> <p>It should be noted that this option is large enough to accommodate a range of waste related activities and therefore the cumulative impact of different activities and their associated vehicle movements should be considered.</p>
<b>Access Considerations</b>	Onto the B3072 Ringwood Road
<b>Where is waste managed at this facility likely to derive?</b>	<p>If a household recycling centre were to be developed on this site it would serve a wider catchment area than sites further south as it would also serve Verwood and Three legged Cross, areas currently served by a facility in Hampshire.</p> <p>Bulky Waste transfer/ treatment would be a strategic facility drawing waste from throughout Dorset.</p>
<b>Approximate distance from settlements where waste will drive?</b>	<p>Ferndown – 3.9kms</p> <p>Wimborne – 8.7kms</p> <p>Corfe Mullen – 13.0kms</p> <p>Colehill – 6.7kms</p> <p>Verwood – 3.8kms</p> <p>Three Legged Cross – 1.5kms</p> <p>West Moors – 2.0kms</p> <p>St. Leonards and St. Ives – 2.7kms</p>

**Initial Site Assessment including Input from Specialist Consultees**

<p><b>Traffic/Access</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Highways officers</b></li> <li>• <b>Highways England</b></li> </ul>	<p><u>Local Highway Authority (DCC) Initial Response</u></p> <p>As with the Woolsbridge Industrial Estate, this site is more remote from the principle origin of trips in Wimborne and Ferndown and therefore less desirable than other options due to the likely increase in overall vehicle miles. The existing access onto Ringwood Road is unsuitable for the number and type of vehicles for the proposed uses and it would either be necessary to provide a new, dedicated, access to Ringwood Road or a route to the Three Cross Road access at the southern end of the site. A TA would need to assess the suitability of any access against the final mix of development proposed. For high trip generating options, junction improvements would be necessary.</p> <p><u>Transport Modeling Exercise</u></p> <p>Dorset Highways Transportation Modelling Team have undertaken an assessment of the effects on the A31 trunk Road and surrounding roads of a number of proposed <u>HRC's</u> in the East Dorset area. The modelling results were analysed to understand the effects of relocating the Brook Road HRC in Wimborne and to ascertain traffic movements using the proposed sites.</p> <p>The West Moors Petroleum Depot – shows a slight reduction (-2) in circulating traffic but an increase in through traffic (+16). Additional traffic 50-60 pcu in each direction can also be seen on West Moors Road. The difference plots indicate the A31 East of Canford Bottom Roundabout increases in both directions by around 30 pcu.</p>	<p><b>Are further studies recommended?</b></p> <p>Transport Assessment</p>
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Traffic distribution to and from this site is expected to differ somewhat to Blunts Farm and Little Canford due its location, potentially attracting users of the site from the North e.g. Verwood and the east. It is expected that users previously using the Brook Road site coming from the south and west may choose an alternate HRC site, possibly Millhams (Longham) or Nuffield in Poole. However no data is available to confirm this. It is expected that this site could reduce the traffic slightly on the Canford Bottom Roundabout and the A31, due to users switching sites.

The full transport modelling report is available on request.

Highways England Initial Response

The Agency has concerns about the impact that development, particularly that a HRC facility would have on the SRN.

The development of this site has the potential to impact the SRN, as the site is located on the north side and close to the A31 accessed via the Horton Road. All of the potential facilities being considered may have an adverse impact, although the Agency is mainly concerned with the prospect of a HRC facility. It could potentially generate significant movements of private cars and HGVs on and across the SRN. The HA considers that sites which are prima facia likely to have more impact on the SRN than sites better related to the community they serve should not be favoured before sites such as this are brought forward. The HA therefore considers that it should lodge a holding objection to this allocation whilst other more preferable sites are considered.

<p><b>Impact on Sensitive Human Receptors</b></p> <ul style="list-style-type: none"> <li>• Waste Planning Team</li> </ul>	<p>Numerous residential properties within 500m to the NW. Camp site adjacent to NW site boundary, garden centre and church, 250m to NW. Cricket ground to SW.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Public Rights of Way</b></p> <ul style="list-style-type: none"> <li>• DCC RofW officers</li> </ul>	<p>No public rights of way cross the site</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Protection of Water Resources (Hydrology/groundwater/ surface water and flooding)</b></p> <ul style="list-style-type: none"> <li>• EA</li> </ul>	<p><b><u>Environment Agency Initial Response</u></b></p> <p><b>Flood Risk</b></p> <p>FZ1. Some flooding is shown on our surface water maps.</p> <p>FZ2 and FZ3 adjacent to NE site boundary.</p> <p>There are Ordinary watercourses running through the site. Land Drainage Consent from the Lead Local Flood Authority (LLFA) may be required. LLFA should be consulted on the proposed waste site.</p> <p><b>Water quality</b></p> <p>Site within Moors River catchment. Shallow groundwater.</p> <p>Site is 450m from the Moors River, which is a SSSI. Numerous ponds within the site.</p> <p><b>Groundwater</b></p> <p>This site is on a minor aquifer of Secondary or Unproductive designation. We would have no objection subject to standard conditions for the protection of land and groundwater from contamination and oil storage. Any existing contaminated land will require Site Investigation,</p>	<p><b>Are further studies recommended?</b></p> <p><b>Flood Risk</b></p> <p>Other flood risks may be present and should be assessed. Detailed Flood Risk Assessment (FRA) required at planning application stage. This should also include surface water management</p>
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	<p>Risk Assessment and Remedial Options appraisal in accordance with CLR11.</p> <p><b>Waste</b></p> <p>There are records of contamination from incidents involving spills in and near this site.</p> <p><b>Waste/ Environmental permitting</b></p> <p>The application of the waste hierarchy should be considered.</p>	<p>t. There may be restrictions on use of soakaways, depending on the nature of the site (e.g. contaminated/ high groundwater levels).</p> <p><b>Groundwater and Contaminated land</b></p> <p>Part of site known to be contaminated. The site will require contaminated land assessment at the planning application stage.</p>
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<b>Land Instability</b>	No issues identified	<b>Are further studies recommended?</b>
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<p><b>Visual Intrusion</b></p> <ul style="list-style-type: none"> <li><b>DCC Landscape Officer</b></li> </ul>	<p>(NB: these comments were made based on a larger area of land)</p> <p><b>Context</b></p> <p>Within the heath farmland landscape character type but its main context is the largely urban environs of West Moors.</p>	<b>Are further studies recommended?</b>
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	<p>Cranborne and West Wilts AONB – 6.4kms  Dorset AONB – 16.6kms  New Forest National Park – 7.0kms</p> <p><b>Key Characteristics</b></p> <ul style="list-style-type: none"> <li>○ A huge expanse of existing employment use dominated by buildings and hard standings.</li> <li>○ Some large areas of trees, scrub and remnant heathland.</li> <li>○ No significant overlooking or public access.</li> <li>○ A flat and open site with wide access point off the main road.</li> <li>○ Important SNCI ditches with reptile interest</li> </ul> <p><b>Landscape Value</b></p> <p>The site has a high landscape value in the ecologically important areas but elsewhere, on the existing employment area, it has a low landscape value.</p> <p><b>Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement</b></p> <p>The designated parts of the site (RAMSAR, SPA, SAC and SSSI) are very susceptible to the development in question but the rest of the area is not. This is due to the lack of any visually sensitive receptors, it is a flat site with good access and if brownfield land is used this reduces any adverse landscape and visual impacts. The SNCI area and ecological interest needs to be taken in the site layout noting this can be moved if required.</p> <p><b>Conclusion</b></p> <p>There are no landscape and/or visual reasons why the brownfield parts of the site should</p>	
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	not be brought forward as an option provided a comprehensive landscape design and ecological management plan can be agreed	
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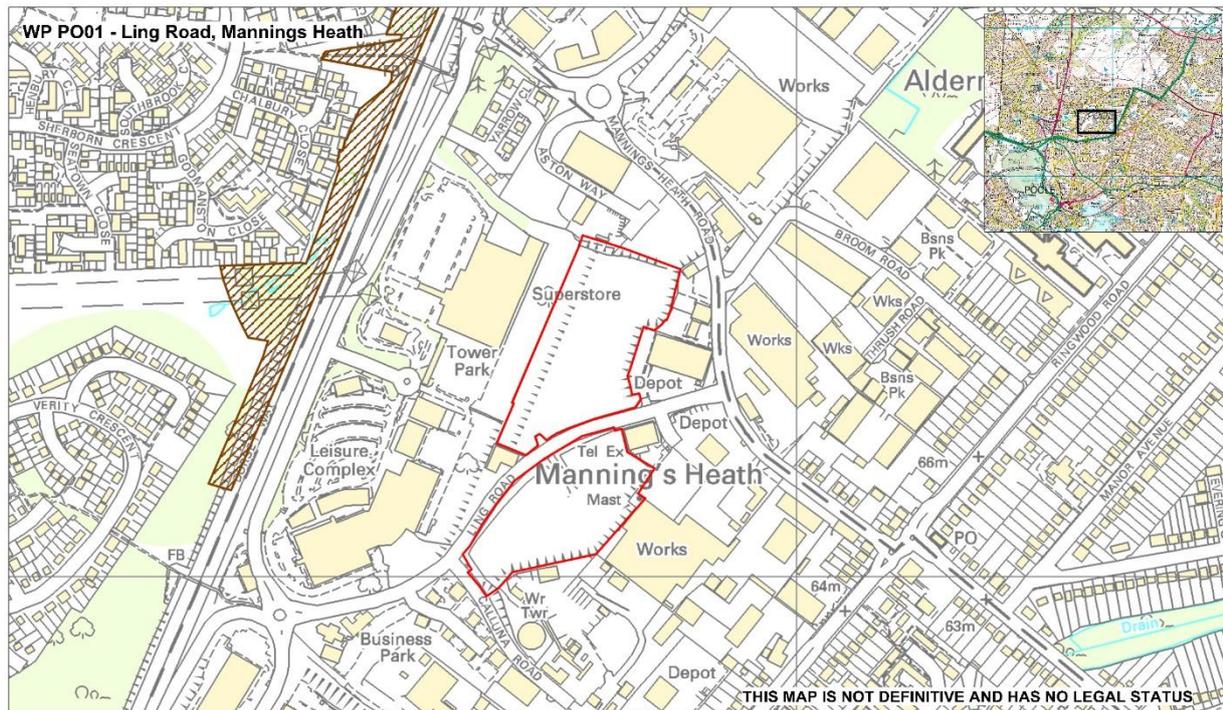
<p><b>Nature Conservation</b></p> <p>Proximity to RAMSAR/SAC/SPA/SSSI</p> <ul style="list-style-type: none"> <li><b>DCC County Ecologist</b></li> </ul>	<p>Phase 1 habitat survey required now plus a botanical and reptile survey of the SNCI areas to determine the ecological value of the areas.</p> <p>Designations in close proximity;</p> <p>SPA, DT/A007 – Dorset Heathlands  SAC, DT/A012 – Dorset Heaths  Ramsar, DT/A003 – Dorset Heathlands  SSSI, SU00/001 – Holt and West Moors Heaths  SNCI  SU00/083 – West Moors Petroleum Depot, on site and beyond  SU00/101 – The Nursery, adjacent to W border.  SU00/053 – Woolsbridge Farm Carr, 250m to E.</p>	<p><b>Are further studies recommended?</b></p> <p>Phase 1 habitat survey  Botanical  Reptile survey</p>
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<p><b>Historic Environment</b></p> <ul style="list-style-type: none"> <li><b>DCC Historic Env. Team</b></li> </ul>	<p>Considering the previous use of the site, a pre-determination assessment of whether any features of military and/or industrial archaeological interest are present would be appropriate.</p> <p>No scheduled monuments or conservation areas within close proximity (at least 1km)</p>	<p><b>Are further studies recommended?</b></p>
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<b>Airport Safety</b>	6.6kms from Bournemouth Airport	<b>Are further studies recommended?</b>
<ul style="list-style-type: none"> <li><b>Manchester Airport Group</b></li> </ul>		
<b>Air Quality Inc. Dust</b>	No AQMA within 500m	<b>Are further studies recommended?</b>
<b>Agricultural Land Classification</b>	Grade 4	<b>Are further studies recommended?</b>
<b>Deliverability</b>	The site owned by the MOD and its future use is currently unclear. Future plans will be closely monitored to identify issues with deliverability.	

**Reference** WP PO01  
**Road**

**Site Name** Mannings Heath, Area 2 and 3, Ling Road



<ul style="list-style-type: none"> <li> Shortlisted site option</li> <li> Site of Nature Conservation Interest</li> </ul>	<p><b>Ref:</b> Date: 14/07/2014 Scale 1: 5000 Drawn By: Cent X: 412980 Cent Y: 94293</p>	<p>GEOGRAPHICAL INFORMATION SYSTEMS</p> <p><b>Dorset County Council</b></p> <p><small>© UK Perspectives 2002 &amp; © Getmapping 2005 &amp; 2009 © Crown Copyright 2014. OS Licence Number 100019790</small></p>
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## Site Information

<b>Site Location</b> Inc. administrative area	Two parcels of land off Ling Road, Mannings Heath The Borough of Poole
<b>Parish/Town Council</b> (Relevant Residents Association)	Newton Ward, borders Alderney Ward to the east
<b>Landowner/Agent</b>	Site owned by W&S
<b>Description of Site</b>	<p>These two parcels of land are situated on Mannings Heath Industrial Estate one of the largest and strategically important employment areas in Poole. Area 2, Ling Road benefits from permission for the development of a Materials Recycling Facility (MRF). Opportunities within Area 2 will depend on who is awarded the contract to develop a MRF to deal with Dorset's recyclables. If the owners of this site do not win the contract land is likely to be available for the development of alternative waste uses.</p> <p>Area 3, Ling Road forms part of the permitted site for lorry parking. However, there is a further area of land at this site that may be available for additional waste related uses, which could complement the MRF activities.</p>
<b>Site area</b>	Area 2 –2.21 ha Area 3 – 2.76 ha
<b>Range of facilities being considered</b>	Bulky Waste transfer /treatment and/or residual waste treatment Facility – up to 3 ha land required
<b>Description of Potential Development</b>	<p>Any residual waste treatment facility would deal with waste that cannot be recovered for recycling and/or composting. The treatment process can be typically housed in an industrial type. A range of treatment methods could be considered.</p> <p>Treatment facilities vary in scale depending on the tonnage of waste they are designed to manage. In any case, all waste would be stored and treated within a large building, minimum 8m in height. The facility may also have a chimney to discharge exhaust gases, this could be at a height of 35 to 40 m.</p>

<b>Waste proposed to be managed</b>	MSW, possibly an element of commercial waste
<b>Energy from Waste Opportunities</b>	This site has potential suitable for CHP as there are heat loads available locally including a leisure centre, superstore and housing.

<b>Relevant Local Planning Policy</b>	<p>Area 3 Ling Road is within allocated employment land, Area 2 is non-allocated employment land but is within the Mannings Heath Industrial area and as explained above benefits from planning permission.</p> <p>Development would be subject to Core Strategy Policy PCS 2 'Existing Employment Areas'.</p>
<b>Adjacent land uses</b>	A variety of employment uses lie adjacent to this site. There are also a number of waste management uses on the wider industrial estate.
<b>Number of residential properties within 250m of site boundary</b>	41 residential properties within 250m
<b>Traffic Generation</b>	<p>Bulky Waste treatment – a 30,000tpa facility would generate 4 -10 HGV's per day (one way) and a small number of staff cars.</p> <p>Residual Waste Treatment facility – a typical facility dealing with 100,000tpa would generate 20-40 HGV's per day (one way) and a small number of staff cars</p>
<b>Access Considerations</b>	Onto Ling Road
<b>Proximity to waste arisings (where is waste managed at this facility likely to derive?)</b>	A strategic facility is being considered for this site, therefore waste would arise from throughout the plan area.
<b>Approximate distance from settlements where waste will derive?</b>	<p>Christchurch – 14.2 km</p> <p>Wimborne - 7.1 km</p> <p>Blandford – 19.8 km</p> <p>Dorchester – 35.0 km</p>

	Bridport – 57.8 km
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**Initial Site Assessment including Input from Specialist Consultees**

<p><b>Traffic/Access</b></p> <ul style="list-style-type: none"> <li>• <b>Highways Authority</b></li> <li>• <b>Highways England</b></li> </ul>	<p><u>BofP Highway Authority</u></p> <p>This site is located in an area that already has concerns about lorry movements.</p> <p>There is a weight restriction on Ringwood Road to the East of the site. Additional enforcement measures would be needed.</p> <p>Access to be to/from Dorset Way only – Access Route Plan would be needed</p> <p>Improvements would be needed to ensure safe access and egress to the site. Design must provide capacity to ensure there is no potential to queue on the highway.</p> <p><u>Highway England Initial Comments</u></p> <p>We note that part of the site currently has planning consent for a Materials Recycling Facility but there is a possibility that another part of the site could be developed for either a residual waste management facility generating 20-40 HGV movements one way or a bulky waste transfer/treatment facility generating 10 HGV one way movements and 10 one way car movements per day. The Agency considers that given that there are several routes that can be taken onto/off the SRN depending on sources or destinations of vehicles there is unlikely to be a big impact on the SRN from development at this site. However a robust transport evidence base will be required for applications so the Agency can accurately assess any impacts.</p>	<p><b>Are further studies recommended?</b></p>
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<b>Impact on Sensitive Human Receptors</b>	Tower Park entertainment complex and Tesco superstore adjacent to western border of site.	<b>Are further studies recommended?</b>
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<ul style="list-style-type: none"> <li>Waste Planning Team</li> </ul>		
<p><b>Public Rights of Way</b></p> <ul style="list-style-type: none"> <li>DCC RofW officers</li> </ul>	<p>No public rights of way cross the site</p>	<p><b>Are further studies recommended?</b></p>
<p><b>Protection of Water Resources (Hydrology/groundwater/surface water and flooding)</b></p> <ul style="list-style-type: none"> <li>EA</li> </ul>	<p>No FZ2 or FZ3 within vicinity, no water resources on site.</p> <p><u>Environment Agency Initial Response</u></p> <p><b>Flood Risk</b></p> <p>If there is an Ordinary watercourse on site – Land Drainage Consent from the Lead Local Flood Authority (LLFA) may be required. LLFA should be consulted on the proposed waste site.</p> <p><b>Water quality</b></p> <p>Drains to Poole Harbour SAC.</p> <p><b>Groundwater</b></p> <p>This site is on a minor aquifer of Secondary or Unproductive designation. We would have no objection subject to standard conditions for the protection of land and groundwater from contamination and oil storage. Any existing contaminated land will require Site Investigation, Risk Assessment and Remedial Options appraisal in accordance with CLR11.</p> <p><b>Waste/ Environmental permitting</b></p> <p>The requirement for MRF regulation registration should be considered. Impacts upon amenity should be considered bearing in mind the locations of residents and nearby business and control measures put in place to reduce effects from odour, dust etc. The waste</p>	<p><b>Are further studies recommended?</b></p> <p><b>Flood Risk</b></p> <p>Other flood risks may be present and should be assessed. Detailed Flood Risk Assessment (FRA) required at planning application stage. This should also include surface water management. There may be restrictions on use of soakaways, depending on the nature of the site (e.g. contaminated/high groundwater levels).</p> <p><b>Groundwater and Contaminated land</b></p> <p>May require Site Investigation,</p>

	hierarchy should be considered for outputs and processes.	Risk Assessment and Remedial Options Appraisal at planning application stage.
<b>Land Instability</b>	No issues identified	<b>Are further studies recommended?</b>
<b>Visual Intrusion</b> <ul style="list-style-type: none"> <li><b>DCC Landscape Officer</b></li> </ul>	<b>Context</b> Urban Context: set within an existing industrial/commercial area of Poole. <b>Key Characteristics</b> <ul style="list-style-type: none"> <li>Two vacant/partially used sites surrounded by existing industrial/commercial uses in a built up area.</li> <li>Existing bank of vegetation along either sites, south and north sides.</li> <li>No existing or site features of any landscape or visual interest or use.</li> <li>Separated by Ling Road.</li> <li>Previously used for industrial/commercial reasons.</li> </ul> <b>Landscape Value</b> Little landscape value at present due to previous and current use and lack of any existing on site features of any real landscape merit. <b>Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement</b>	<b>Are further studies recommended?</b>

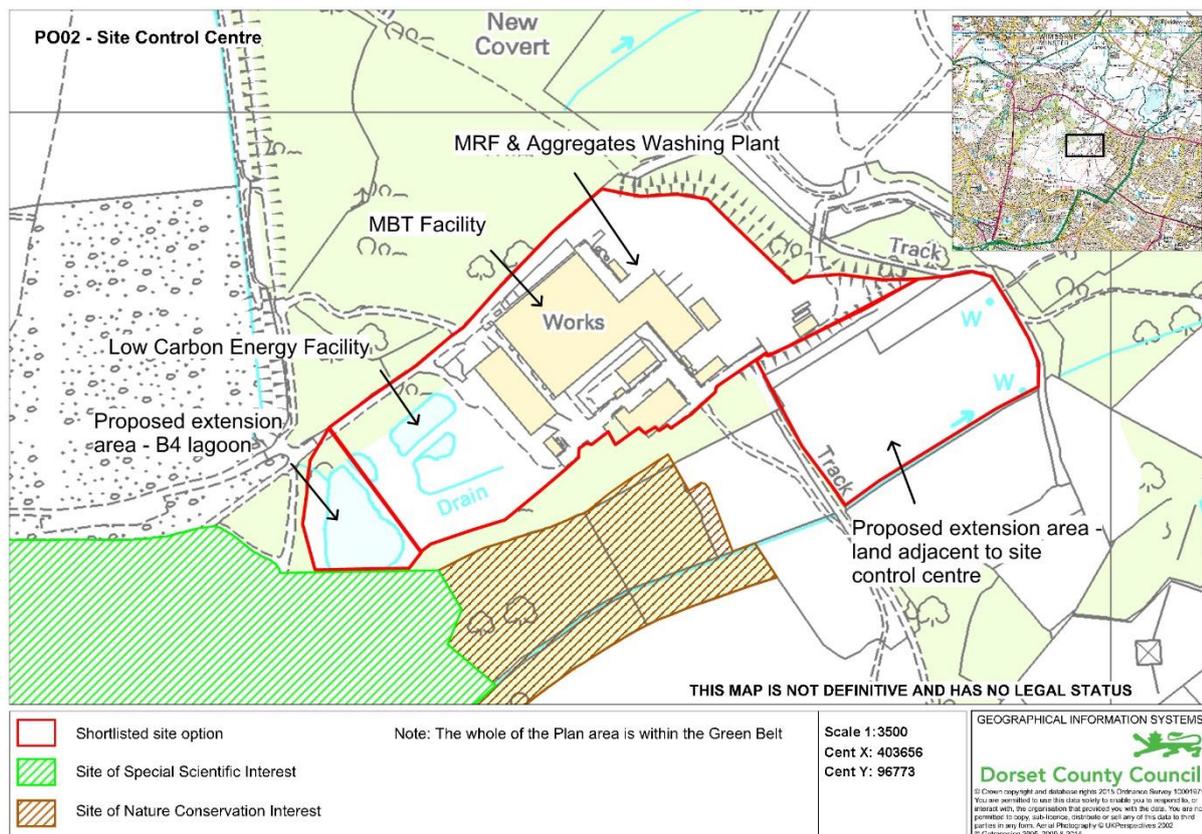
	<p>Low landscape susceptibility as previously used brown field land and surrounded by existing industrial/commercial development. If the site was brought forward and developed there would be significant opportunities to enhance the setting and context, for example, with substantial blocks of structural planting. The banks of vegetation on the site boundaries along Ling Road could be retained and/or enhanced as part of an overall landscape plan for the site.</p> <p><b>Conclusion</b></p> <p>There are no landscape and/or visual reasons why this site should not be brought forward as an option provided a comprehensive landscape design and management plan can be agreed.</p>	
<p><b>Nature Conservation</b></p> <p>Proximity to RAMSAR/SAC/SPA/SSSI</p> <ul style="list-style-type: none"> <li><b>DCC County Ecologist and BofP</b></li> </ul>	<p>Common protected reptiles may be present and possibly sand lizards. Not a major constraint to the development in question.</p> <p>Site is down wind of Canford Heath and Bourne Valley SSSI may require further investigation on level of dust produced from this site and how far it may be carried in case of effect on these two SSSIs. Main prevailing wind being SW, so would be more of an issue to Bourne than Canford.</p>	<p><b>Are further studies recommended?</b></p>

<p><b>Historic Environment</b></p>	<p>No Conservation Areas or SAM's within vicinity.</p>	<p><b>Are further studies recommended?</b></p>
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<ul style="list-style-type: none"> <li><b>DCC Historic Env. Team</b></li> </ul>	No archaeological reasons for concern.	
<b>Airport Safety</b>	Site is 8.35 km from Bournemouth Airport	<b>Are further studies recommended?</b>
<b>Air Quality Inc. Dust</b>	Poole area No.2, Ashley Road, AQMA is 1.9km to south	<b>Are further studies recommended?</b>
<b>Deliverability</b>	The level of opportunity will depend on whether a MRF is developed on the site. This should become known during the preparation of the Waste Plan.	

**Reference** WP PO02

**Site Name** Site Control Centre, Canford Magna



## Site Information

<b>Site Location</b> Inc. administrative area	Site Control Centre, Magna Road, Canford, Poole The Borough of Poole
<b>Parish/Town Council</b> (Relevant residents association)	Merley and Bearwood Ward
<b>Landowner/Agent</b>	Site currently being promoted by New Earth Solutions Group Ltd, W H White Ltd and DCC  The site is owned by W H White Ltd, part leased to New Earth Solutions
<b>Description of Site</b>	<p>Site Control Centre is a complex of waste management facilities adjacent to the former Whites Pit landfill site. The site is in the South East Dorset Green Belt, to the south west of Magna Road and the Canford Park Events Arena.</p> <p>The Site Control Centre consists of a complex of buildings, including an established Mechanical Biological Treatment Plant (MBT) operated by New Earth Solutions Group Limited, a landfill gas compound operated by Canford Renewable Energy, a Materials Recovery Facility (MRF) operated by Commercial Recycling Limited and a Low Carbon Energy Facility (which is currently under construction). All of the existing activities benefit from permanent planning permission. Syngas Products Ltd operates a research and development facility under a temporary planning permission which is due to expire June 2015. It is intended that a commercial proving plant be erected as part of phase 1 of the Low Carbon Energy Facility.</p> <p>The MBT facility operated by New Earth Solutions treats incoming residual municipal waste using a variety of mechanical plant and a carefully controlled composting process. Outputs include metals and plastics for recycling, compost like output for use in land restoration and Refused Derived Fuels (RDF) for use in energy generation.</p> <p>Whites Pit landfill closed in 2008, albeit it is still undergoing restoration and emissions are actively managed. Landfill gas is captured and piped to a compound operated by Canford Renewable Energy, where it is treated and used to generate renewable electricity to power the operations at the site control</p>

	<p>centre, with excess electricity being exported to the local distribution grid.</p> <p>The MRF facility operated by Commercial Recycling Limited treats commercial waste arisings, sorting incoming material into different fractions for re-use and recycling.</p> <p>All the above waste processing activities currently take place within enclosed buildings.</p> <p>A low carbon energy facility is currently under construction. It will harness pyrolysis and gasification processes to produce a synthesis gas from RDF. The synthesis gas will be cleaned up before being used to generate heat and power.</p> <p>Permission has also been granted for the development of:</p> <ul style="list-style-type: none"> <li>• A standalone syn-gas production facility within the established MRF;</li> <li>• An extension to the operational MRF to allow for the recovery, sorting and separation of mixed dry recyclable waste.</li> </ul> <p>Commercial Recycling limited also operate an aggregates recycling facility on the east site of Whites Pit Landfill under a temporary permission.</p> <p>Capacity of existing/consented uses are not restricted by planning condition, instead they are governed by Environmental Permits</p> <p>MBT – permitted to treat up to 110,000tpa</p> <p>MRF – permitted to treat up the 175,000tpa</p> <p>Aggregates Recycling facility – permitted to treat up to 250,000tpa</p>
<b>Site area</b>	<p>Existing site - 6.08ha</p> <p>Proposed extension B4 Lagoon - 0.66ha</p> <p>Proposed extension to the south - 2.55ha</p>
<b>Range of facilities being considered</b>	<p>Intensification of existing uses.</p>

<b>Description of Potential Development</b>	<p>New Earth consider that there may be opportunities to release further residual treatment capacity through transition away from composting activities towards increasing the production of Refuse Derived Fuels to be treated to created energy (heat and / or power). Ancillary food waste transfer is also likely to be required in response to the use of co-collection vehicles by some of the local collection authorities.</p> <p>NOTE: the addition of food waste transfer has not been specifically assessed through this assessment.</p> <p>W H White Ltd consider that there is scope for complementary waste management activities, including an anaerobic digestion plant through the development of land within and adjacent to the site control centre..</p>
<b>Waste proposed to be managed</b>	<p>MSW, Commercial &amp; Industrial and CDE</p>
<b>Energy from Waste Opportunities</b>	<p>This site has potential for CHP but would be dependent on a nearby site, known as Magna Business Park, being developed for employment use.</p>

<b>Relevant Local Planning Policy</b>	<p>The site is identified in Poole's Development Plan as a Major Developed Site in the Green Belt and it is allocated in the Bournemouth, Dorset and Poole Waste Local Plan as an "Identified site".</p> <p>Note: the term 'Major Developed Site in the Green Belt', does not now appear in the NPPF. Any future review of the policy for this site would reflect this change.</p>
<b>Adjacent land uses</b>	<p>The eastern end of the Site Control Centre is occupied by CRL, operating a 'dirty' Materials Recovery Facility (MRF) operation and aggregates recycling plant.</p> <p>Canford Heath to the south is designated as an SSSI, SPA, SAC and Ramsar Site. To the south-east is the Frogmore Wood Site of Nature Conservation Interest and the west Stoats Wood.</p>

	The site control centre is surrounded by woodland covered by a Tree Preservation Area.
<b>Number of residential properties within 250m of the site boundary</b>	No residential properties within 250m
<b>Number of residential properties within 5 mile radius (relevant where HRC is proposed only)</b>	Approximately 151,400 residential properties within 5 miles
<b>Traffic Generation</b>	<p>New Earth estimate that 125,000tpa of capacity is likely to be available by 2016 and potentially 150,000tpa by the end of the Plan period (2030).</p> <p>There are no planning conditions that restrict the throughput capacity of the existing facility or the level of associated HGV movements – The only restrictions are on times of day that deliveries can be taken and dispatched.</p> <p>New Earth consider that the delivery of the consented Low Carbon Energy Facility could reduce the overall level of HGV movements, this would be partially offset by the opportunity to increase the capacity accompanying the transition towards recycling and fuel preparation.</p>
<b>Access Considerations</b>	The site has a 1km dedicated hard surfaced haul road to an established light controlled junction to the A341 Magna Road.
<b>Proximity to waste arisings (where is waste managed at this facility likely to derive?)</b>	This is a strategic facility with waste deriving from throughout the plan area.
<b>Approximate distance from settlements where waste will derive</b>	<p>Christchurch – 14.4 km</p> <p>Wimborne - 5.0 km</p> <p>Blandford – 18.3 km</p> <p>Dorchester – 35.5 km</p> <p>Bridport – 57.9 km</p>

**Initial Site Assessment including Input from Specialist Consultees**

<p><b>Traffic/Access</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Highways officers</b></li> <li>• <b>Highways England</b></li> </ul>	<p><u>BofP Highways Authority</u></p> <p>Access is from an A-Road via Signalised junction and private haul road.</p> <p>Congestion occurs at both Gravel Hill Junctions and Bear Cross Roundabout.</p> <p>Additional LGV traffic would have a disproportionate effect on queuing in peak periods.</p> <p><u>Highways England Initial Response</u></p> <p>We understand that waste management of various types takes place on the site and there is the potential for intensification. We understand that capacity may increase to 120,000 tpa by 2020 and 150,000tpa by 2030. The current permitted level for treatment being 100,000tpa and generating 100 HGV movements one way per day. This would clearly be a 20% and 50% increase on current levels but we understand that this would be offset to some extent by the Low Carbon Energy facility which currently has consent.</p> <p>NOTE: Recent events have changed the increased capacity and the WPA will seek an up to date response from Highways England during consultation on the Draft Waste Plan.</p> <p>Intensification will potentially impact on the SRN at A31/A347 Palmersford Roundabout and the A31/A341 junctions. Before the Agency is able to accurately comment on the suitability of the site we would need to understand how much offset would be from the LCE facility, and to see some information related to likely routes to see if the SRN would</p>	<p><b>Are further studies recommended?</b></p>
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	be utilised. The Agency would not envisage any major issues that could not be overcome.	
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<p><b>Impact on Sensitive Human Receptors</b></p> <ul style="list-style-type: none"> <li>• <b>Waste Planning Team</b></li> </ul>	<p>Canford Park Arena and Sports Ground is adjacent to the northern boundary of the site. Bearwood school is 500m to the east of the site. The closest residential property is located over 500m to the south of the site. The residential area of Bearwood approximately 1km from the site.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Public Rights of Way</b></p> <ul style="list-style-type: none"> <li>• <b>DCC RofW officers</b></li> </ul>	<p>Bridleway BR118 crosses the existing entrance to the site control centre.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Protection of Water Resources (Hydrology/groundwater/ surface water and flooding)</b></p> <ul style="list-style-type: none"> <li>• <b>EA</b></li> </ul>	<p><u>Environment Agency Initial Response</u></p> <p><b>Flood Risk</b></p> <p>Some flooding shown on our surface water maps.</p> <p>If there is an Ordinary watercourse on site – Land Drainage Consent from the Lead Local Flood Authority (LLFA) may be required. LLFA should be consulted on the proposed waste site.</p> <p><b>Water quality</b></p> <p>Site borders SSSI / SAC/ SPA</p> <p>Site close to small watercourse leading to River Stour.</p> <p><b>Groundwater</b></p>	<p><b>Are further studies recommended?</b></p> <p><b>Flood Risk</b></p> <p>Other flood risks may be present and should be assessed. Detailed Flood Risk Assessment (FRA) required at planning application stage. This should also include surface water management. There may be restrictions on use of</p>
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	<p>This site is on a minor aquifer of Secondary or Unproductive designation. We would have no objection subject to standard conditions for the protection of land and groundwater from contamination and oil storage. Any existing contaminated land will require Site Investigation, Risk Assessment and Remedial Options appraisal in accordance with CLR11.</p> <p><b>Groundwater and Contaminated land</b></p> <p>May require Site Investigation, Risk Assessment and Remedial Options Appraisal at planning application stage.</p>	<p>soakaways, depending on the nature of the site (e.g. contaminated/high groundwater levels).</p>
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<p><b>Land Instability</b></p>	<p>No issues identified</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Visual Intrusion</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Landscape Officer</b></li> </ul>	<p><b>Context</b></p> <p>Within the North Poole Heath/Farmland Mosaic landscape character area and adjacent to the Canford Arena event facility.</p> <p><b>Key Characteristics</b></p> <ol style="list-style-type: none"> <li>1. A relatively isolated semi rural perception despite adjacent uses with a public footpath running along its eastern sides.</li> <li>2. An open paddock surrounded by significant woodland and trees.</li> <li>3. In a slight hollow below the level of surrounding land.</li> <li>4. Open to views from the adjacent footpath.</li> <li>5. Some significant mature individual trees around the site.</li> </ol>	<p><b>Are further studies recommended?</b></p>
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	<p><b>Landscape Value</b></p> <p>The site has some landscape value as part of the open greenspace on the northern edges of Canford Heath. The woodland and trees also have a high landscape value. The surrounding industrial/commercial and formal recreational uses and its isolated location do however reduce its overall value.</p> <p><b>Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement</b></p> <p>Due to the combined quality and extent of the wooded tree cover and the overlooking from the footpath, the site is moderately susceptible to the development in question. However if the following mitigation measures can be built in this will reduce its susceptibility and help to minimise any adverse landscape and visual impacts: development includes buildings of a minimal height, uses recessive colours and is developed in the existing 'hollow'; the retention, protection and management of the woodland and important trees; access into the site can avoid all major trees and a comprehensive landscape management plan can be agreed for the whole site.</p> <p><b>Conclusion</b></p> <p>There are no significant landscape and/or visual reasons why this site should not be brought forward as an option provided comprehensive tree/woodland protection and landscape design and management plans can be agreed</p>	
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<p><b>Nature Conservation</b></p>	<p>Phase 1 habitat survey and reptile survey required to demonstrate what ecological interests may be present. Ecology however</p>	<p><b>Are further studies recommended?</b></p>
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<p>Proximity to RAMSAR/SAC/SPA/SSSI</p> <ul style="list-style-type: none"> <li>• <b>DCCCounty Ecologist and BofP</b></li> </ul>	<p>unlikely to present a major constraint to the development in question.</p> <p>There will also be a need to assess how the continued use of existing site may affect any restoration of adjacent White’s Land fill site and potential biodiversity enhancements.</p> <p>The extension B4 would be adjacent to SSSI SPA SAC, depending on what waste were to be deposited in area and how operated, may bring in issue of increase in rats and foxes that may predate on heathland wildlife, so would require information on how this would be managed. This extension would mean total loss of lagoon, in the past it has supported various bats species, so require bat survey and if required mitigation, it may also be a focal point for nightjar feeding, therefore they should be surveyed for as well and mitigated for if required. At present there is still a flow of water from this lagoon to the east, on the boundary of the SSSI, so how will the water that currently goes into the lagoon be managed and enter natural water courses? Majority of site not suitable for badgers, but may be areas on western edge that may require badger survey. May also be areas that require reptile survey. Depending on detail of how area to be used may be issue of light pollution to be addressed/managed re bats, glow worms etc.</p> <p>Extensions to south, trees surrounding this field have a TPO. Probably nothing of major importance but a botanical survey of the field should be carried out. The survey work for the proposed business park to the east of this area showed that there was an appreciable amount of Nightjars flying north off Canford Heath, this may be the same for this area, therefore Nightjar survey required to see how they may be affected or not. With the boundary of trees and a stream on southern edge would suggest that may be an important area for bat foraging, therefore a survey</p>	
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	<p>required. If trees to be felled would need assessment for bats. Require reptile survey, expect only common species. In general area there is badger activity and there is a known sett further to the south, so a badger survey would be required, this probably only in the wooded fringe for setts. Depending on detail of how area to be used may be issue of light pollution to be addressed/managed re bats, glow worms etc. Due to stream on southern boundary, would require detailed information on how contamination of this water course would be prevented.</p> <p>For the proposed extension to the south, I do not know how much of this field has previous recent use, but as some of the adjacent areas have produced archaeological finds in the past, it may require survey work before development</p>	
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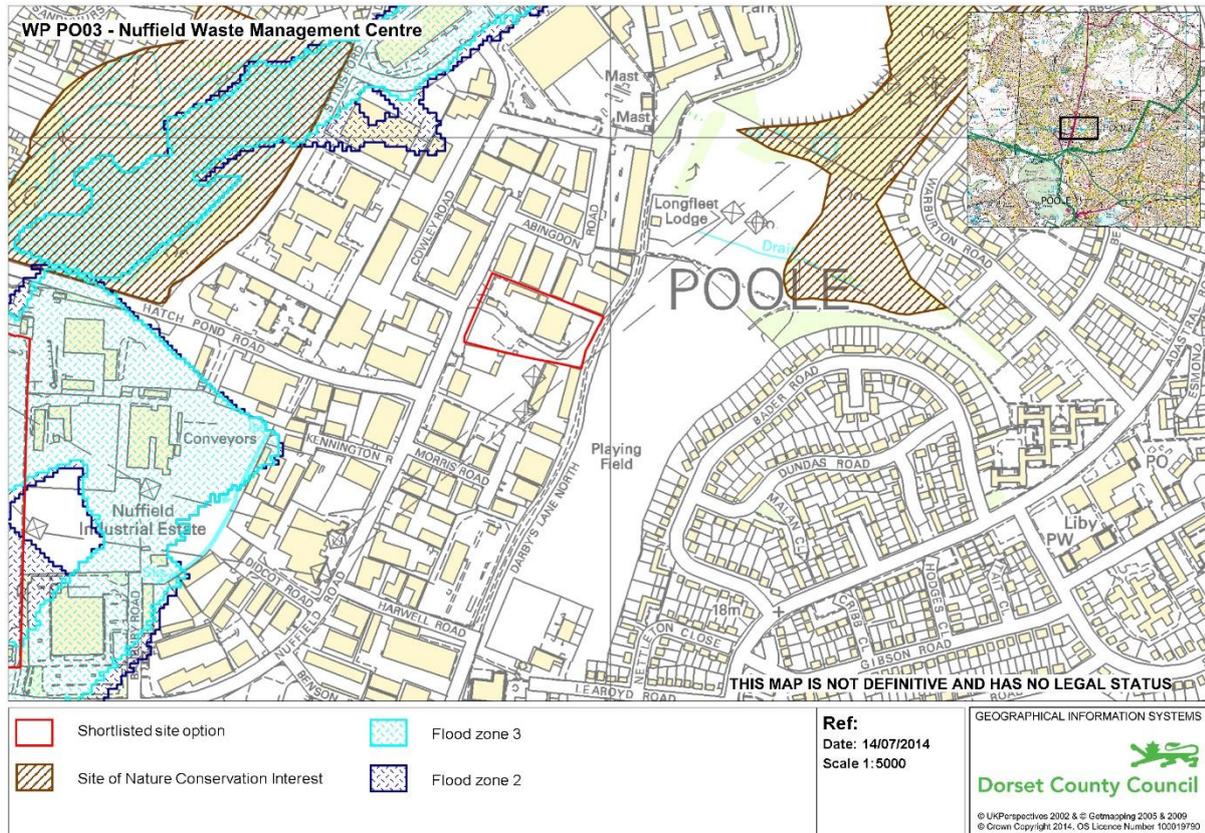
<p><b>Historic Environment</b></p> <ul style="list-style-type: none"> <li>• <b>DCC Historic Env. Team</b></li> </ul>	<p>If this is all restored land, no archaeological concern. However, if not, pre-determination archaeological evaluation of the proposed extension would be appropriate because of the high archaeological potential of this part of the Stour valley.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Airport Safety</b></p>		<p><b>Are further studies recommended?</b></p>
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<p><b>Deliverability</b></p>	<p>The proposal to intensify existing uses on this sites is being promoted by the landowner/operator. Consideration will need to given to the cumulative impacts of expanding the site as proposed. If one or both of these extension areas are unsuitable for future waste development there may be issues in delivering the proposed uses.</p>
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Reference WP PO03

Site Name Nuffield Waste Management Centre



**Site Information**

<p><b>Site Location Inc. administrative area</b></p>	<p>Nuffield Waste Management Centre, Nuffield Industrial Estate Borough of Poole</p>
<p><b>Parish/Town Council</b> (relevant residents association)</p>	
<p><b>Landowner/Agent</b></p>	<p>Site owned by the Borough of Poole</p>
<p><b>Description of Site</b></p>	<p>This is an existing Waste Management Centre (WMC) which was fully refurbished in 2012/2013. The site is located on the Nuffield Industrial Estate, on the east side of Nuffield Road close to the junction with Hatchpond Depot.</p> <p>The site consists a modern split level household recycling centre, a large warehouse style building housing a waste transfer station, offices, gatehouse, weigh bridges and areas</p>

	<p>for parking and hard standing. The two processes are separated.</p> <p>The WTS is currently being utilised by the bulk transfer of recyclables prior to their haulage to Viridors MRF at Crayford, Kent.</p>
<b>Site area</b>	1.9ha
<b>Range of facilities being considered</b>	Bulky Waste treatment/transfer
<b>Description of Potential Development</b>	<p>This site is being considered for potential alternative uses. However opportunities depend of the outcome of the MRF bid. Currently, 30,000tpa of recyclates are bulked up and transferred from Poole and Bournemouth. If both authorities use the new MRF, this will no longer be needed and Nuffield will have some spare capacity.</p> <p>There is unlikely to be space for residual waste treatment but could be used for bulky waste treatment or transfer which is likely to utilised the existing transfer building.</p> <p>In addition, there could be opportunities for Dorset residents to use the site if the Wimborne HRC were to close and no suitable site was found for re-location.</p>
<b>Waste proposed to be managed</b>	MSW, possibly an element of commercial waste.
<b>Energy from Waste Opportunities</b>	There is potential for CHP as the site is surrounded by industrial units.

<b>Relevant Local Planning Policy</b>	Nuffield Industrial Estate is an identified Employment Area.
<b>Adjacent land uses</b>	The surrounding area is a variety of industrial operations s including a scrap metal yard to the south.
<b>Number of residential properties within 250m of site boundary</b>	52 properties within 250m
<b>Number of residential properties within 5 mile radius (relevant</b>	Approx. 133,300 properties within 5 miles.

<b>where HRC proposed only)</b>	
<b>Traffic Generation</b>	<p>The vehicle movements associated with the existing Nuffield Site are approximately;</p> <p>HRC - 600 movements (one way) on weekdays rising to 880 movements (one way) on the weekend.</p> <p>94 movements (one way) HGV movements</p> <p>(These figures came from the Transport Statement that accompanied the application for the refurbishment of the site in 2011)</p> <p>Bulky Waste treatment – a 30,000tpa facility would generate 4 -10 HGV's per day (one way) and a small number of staff cars.</p> <p>It should be noted that these movements would not be in addition to existing movements as the opportunity for bulky waste transfer will only exist if the existing transfer movements are diverted.</p>
<b>Access Considerations</b>	There are two accesses to the site both from Nuffield Road
<b>Proximity to waste arisings (where is waste managed at this facility likely to derive?)</b>	
<b>Approximate distance from settlements where waste will derive?</b>	<p>Bournemouth – 9kms</p> <p>Wimborne – 6.5kms</p> <p>Poole – 0.5kms</p>

#### Initial Site Assessment including Input from Specialist Consultees

<b>Traffic/Access</b>	<u>BofP Highway Authority</u>	<b>Are further studies recommended?</b>
<ul style="list-style-type: none"> <li><b>DCC Highways Authority</b></li> </ul>	Unlikely to be any Highway issues, as these would be replacement trips	

• **Highways  
England**

Highway England Initial Response

The site is currently used for HRC/WTS. As we understand it the waste transfer station is used for prior to the haulage of materials to a Materials Recycling Facility MRF in Kent.

The existing HGV movements are 94 one way per weekend and broadly 4500pa. As HRC HGV movements are expected to be 150-500pa then it is fair to say that the majority are related to the WTS. If as maybe the case there is a local MRF developed then the number of HGVs would reduce.

If this use was replaced by a Bulky Waste Transfer facility then the Agency would have no issues due to the much smaller numbers of trips produced.

If use of the HRC was intensified (due to closure of the HRC facility in Wimborne) then the HGV movements would overall still probably be less than currently. It is likely that car trips would increase from already significant levels (although it is not clear if any relate to the WTS). However if they were coming from the catchment area of the Wimborne area due to its location it unlikely to have a significant effect on the SRN as movements would be north south rather than east west, the direction of the A31.

Any change in circumstances requiring planning consent on the site would need to be supported by a robust transport evidence base so it is clear what impact would be on the SRN.

<p><b>Impact on Sensitive Human Receptors</b></p> <ul style="list-style-type: none"> <li>• Waste Planning Team</li> </ul>	<p>There is a playing field running alongside the eastern boundary of the site on the opposite side of Darby's Lane North. The nearest residential property is 140m to the east.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Public Rights of Way</b></p> <ul style="list-style-type: none"> <li>• DCC RofW officers</li> </ul>	<p>Footpath No. 125 runs north-south along Darby's Lane North adjacent to sites eastern boundary.</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Protection of Water Resources (Hydrology/groundwater/ surface water and flooding)</b></p> <ul style="list-style-type: none"> <li>• EA</li> </ul>	<p><u>Environment Agency Initial Response</u></p> <p><b>Flood Risk</b></p> <p>Some flooding shown on our surface water maps.</p> <p>If there is an Ordinary watercourse on site – Land Drainage Consent from the Lead Local Flood Authority (LLFA) may be required. LLFA should be consulted on the proposed waste site.</p> <p>Flood Zone 2, 160m to north west of site.</p> <p><b>Water quality</b></p> <p>Drains to Poole Harbour SAC</p> <p><b>Groundwater</b></p> <p>This site is on a minor aquifer of Secondary or Unproductive designation. We would have no objection subject to standard conditions for the protection of land and groundwater from contamination and oil storage. Any existing contaminated land will require Site Investigation, Risk Assessment and Remedial Options appraisal in accordance with CLR11.</p>	<p><b>Are further studies recommended?</b></p> <p><b>Flood Risk</b></p> <p>Flood Zone 1. Other flood risks may be present and should be assessed. Detailed Flood Risk Assessment (FRA) required at planning application stage. This should also include surface water management. There may be restrictions on use of soakaways, depending on</p>
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	<p>The site is not known to be in an area subject to flooding. However as a site over 1ha a flood risk assessment was undertaken to accompany the application to refurbish the site. This assessment focused on reducing the risk of surface water flooding in the area.</p> <p><b>Waste/ Environmental permitting</b></p> <p>Fire study and environmental impacts likely to be required. Also adjacent to playing field so possible amenity issues. Site beneath power lines.</p>	<p>the nature of the site (e.g. contaminated/ high groundwater levels).</p> <p><b>Groundwater and Contaminated land</b></p> <p>May require Site Investigation, Risk Assessment and Remedial Options Appraisal at planning application stage.</p>
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<b>Land Instability</b>	No issues identified	<b>Are further studies recommended?</b>
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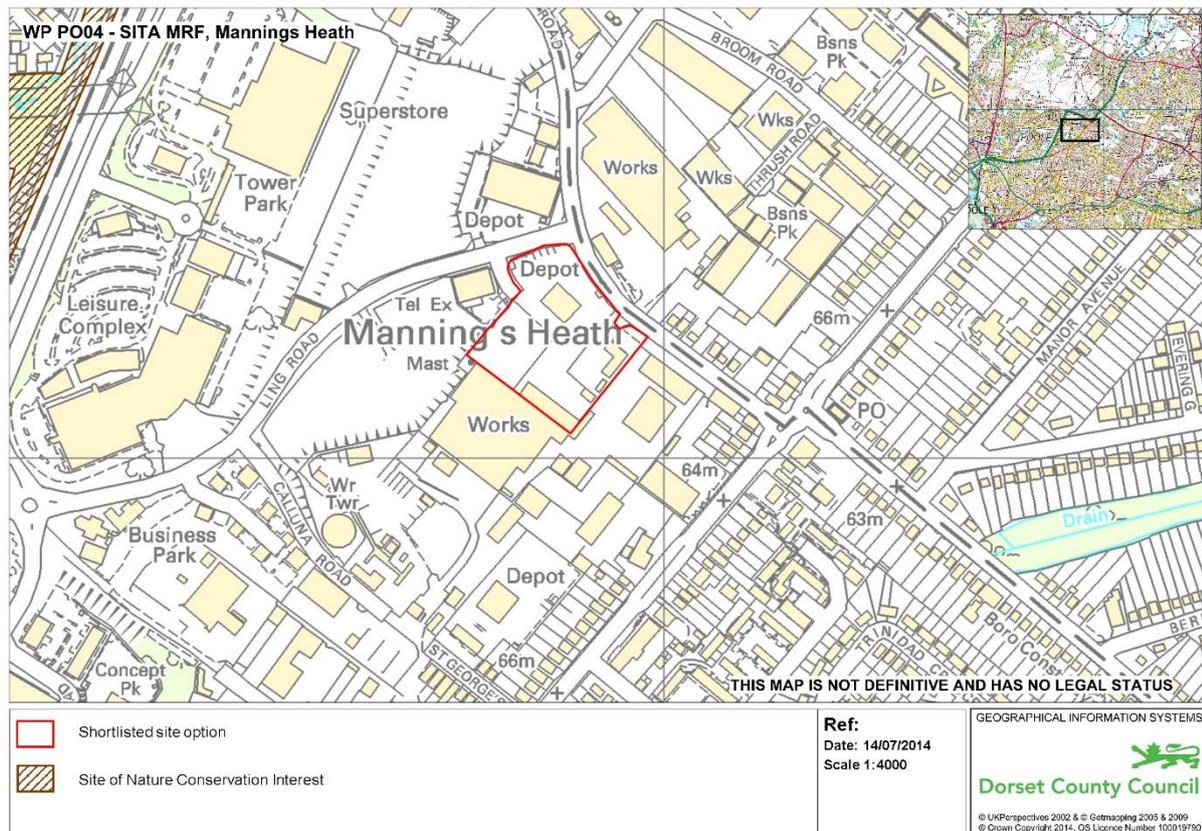
<p><b>Visual Intrusion</b></p> <ul style="list-style-type: none"> <li>• DCC Landscape Officer</li> <li>• AONB Team</li> </ul>	<p><b>Context</b></p> <p>Urban Context: set within an existing industrial/commercial area of Poole.</p> <p><b>Key Characteristics</b></p> <ul style="list-style-type: none"> <li>• No existing site features of any landscape interest or use.</li> <li>• Existing infrastructure for use as household recycling centre dominates the site</li> </ul>	<b>Are further studies recommended?</b>
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	<ul style="list-style-type: none"> <li>Surrounded by roads and other industrial/commercial uses typical of Nuffield Industrial Estate.</li> </ul> <p><b>Landscape Value</b></p> <p>Little landscape value at present due to current use and lack of any on site or adjacent existing site features.</p> <p><b>Landscape Susceptibility to Waste Management Facility Development and Opportunities for Mitigation and/or Enhancement</b></p> <p>Low landscape susceptibility to the type of development proposed as any future use would not be dissimilar to the existing surrounding land use. There would be some limited opportunities for mitigation/enhancement as the site is restricted. However, opportunities for example, selected specimen tree planting, should be explored as a means of enhancing the site.</p> <p><b>Conclusion</b></p> <p>There are no landscape and/or visual reasons why this site should not be brought forward as an option.</p>	
<p><b>Nature Conservation</b></p> <p>Proximity to RAMSAR/SAC/SPA/SSSI</p> <ul style="list-style-type: none"> <li><b>DCCCounty Ecologist</b></li> </ul>	<p>There are no ecological concerns for this site.</p> <p>Warburton Road SNCI – 210m to north east of site.</p> <p>Hatch Pond SNCI – 280m to north west of site</p>	<p><b>Are further studies recommended?</b></p>
<p><b>Historic Environment</b></p>	<p>No archaeological reasons for concern.</p> <p>No conservation areas or Scheduled Ancient Monuments in vicinity.</p>	<p><b>Are further studies recommended?</b></p>

<ul style="list-style-type: none"> <li><b>DCC Historic Env. Team</b></li> </ul>		
<b>Airport Safety</b>	Site is 9.8kms from Bournemouth Airport.	<b>Are further studies recommended?</b>
<b>Air Quality Inc. Dust</b>	No AQMA in vicinity	<b>Are further studies recommended?</b>
<b>Deliverability</b>	This site will only be an option if recyclables from Poole are taken directly to a new MRF.	

**Reference** WP PO04

**Site Name** SITA, MRF, Mannings Heath



## Site Information

<b>Site Location</b> Inc. administrative area	Mannings Heath Transfer Station, Mannings Heath Road, Poole Borough of Poole
<b>Parish/Town Council</b> (relevant residents association)	Poole Borough Council
<b>Landowner/Agent</b>	SITA own and operate the existing facility
<b>Description of Site</b>	The site comprises an existing waste transfer station dealing with the receipt, bulking and transfer of (mainly recyclable) commercial and industrial waste. The site consists of a group of waste processing, workshop, maintenance and office buildings surrounded by open parking and storage.
<b>Site area</b>	1.63ha
<b>Range of facilities being considered</b>	SITA consider there is capacity for the following alternative uses; a) Recovery of energy by thermal treatment (advanced thermal treatment) b) Processing of waste to produce a fuel, this could be either SRF, RDF, or chemical / biological treatment of waste to produce a fuel, c) Recycling, d) Security shredding e) Processing of waste to enable transportation for recycling / recovery elsewhere f) Waste transfer
<b>Description of Potential Development</b>	A range of facilities are being considered to enable this site to react to changing circumstances in the management of waste in Dorset.  For all of the potential facilities listed the storage and/or treatment of waste would take place within an enclosed building (minimum height circa 8m).  Any residual waste treatment facility would deal with waste that cannot be recovered for recycling and/or composting. The treatment process can be typically housed in an industrial type building.  Treatment facilities vary in scale depending on the tonnage of waste they are designed to manage and the type of

	<p>recycling/recover process. In any case, all waste would be stored and treated within a large building, which as a minimum, would be 8m in height. The facility may also have a chimney to discharge exhaust gases, this could be at a height of 35 to 40 m.</p> <p>Sita consider that the facility would be capable of operating 24 hours a day subject to appropriate noise assessments.</p>
<b>Waste proposed to be managed</b>	MSW, Commercial and Industrial Waste
<b>Energy from Waste Opportunities</b>	This site has potential for CHP as there are heat loads available locally including a leisure centre, superstore and housing.

<b>Relevant Local Planning Policy</b>	The site is located within Mannings Heath Industrial Estate
<b>Adjacent land uses</b>	The site is located in an area of general industrial activity with nearby sites including a foundry, a ready mix concrete plant and plant hire.
<b>Number of residential properties within 250m of site boundary</b>	163 residential properties within 250m
<b>Number of residential properties within 5 mile radius (relevant where HRC is proposed only)</b>	Approx. 156750 residential properties within 5 miles.
<b>Traffic Generation</b>	<p>The existing facility generates approximately 30 HGV movements per day (one-way)</p> <p>SITA have estimated that the development of a MRF would generate an additional 15-20 LGVs and 10-12 HGV (one way) movements per day</p> <p>SITA consider activities at the site could in handle around 200,000 - 300,000tpa of waste in total this would equate to around 100 HGV's per day, or 10 per hour</p>

<b>Access Considerations</b>	Access is gained from both Mannings Heath Road and an access shared with an adjacent aggregates site onto Ling Road.
<b>Proximity to waste arisings (where is waste managed at this facility likely to derive?)</b>	Strategic facilities being considered for this site would draw in waste from throughout the plan area.
<b>Approximate distance from settlements where waste will derive?</b>	Christchurch – 16kms Wimborne – 6.7kms Blandford – 20.1kms Dorchester – 35.2kms Bridport – 57.1kms

#### Initial Site Assessment including Input from Specialist Consultees

<b>Traffic/Access</b>	No comments have yet been received	<b>Are further studies recommended?</b>
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<b>Impact on Sensitive Human Receptors</b>	There are residential properties approximately 25m away on the opposite side of Mannings Heath Road.	<b>Are further studies recommended?</b>
<ul style="list-style-type: none"> <li>• Waste Planning Team</li> </ul>		

<b>Public Rights of Way</b>	No rights of way in the vicinity	<b>Are further studies recommended?</b>
<ul style="list-style-type: none"> <li>• DCC RofW officers</li> </ul>		

<p><b>Protection of Water Resources (Hydrology/groundwater/ surface water and flooding)</b></p> <ul style="list-style-type: none"> <li>EA</li> </ul>	<p>No FZ2, FZ3 or water resources in vicinity</p> <p><b>Overall EA position:</b></p> <p>No objection to the proposed allocation, provided required pollution prevention measures are put in place, and any required Environmental Permits obtained.</p> <p><b>Flood Risk</b></p> <p>Given the size of the site (over 1 hectare - 'major' development) a full Flood Risk Assessment (FRA) will need to be submitted in support of any future application in accordance with the National Planning Policy Framework (NPPF). The Lead Local Flood Authority (LLFA) will be the planning consultee in respect of surface water drainage.</p> <p><b>Fisheries and biodiversity</b></p> <p>No comment</p> <p><b>Waste</b></p> <p>Currently there are dust issues in the area from multiple sources. Consideration should be given to ensuring that dust emissions from site are minimised.</p> <p>Regard should also be given to Environment Agency guide for Fire Prevention Plans (version 2, March 2015) for storage of wastes to minimise risk of fire.</p> <p>Any required Environmental Permits will need to be obtained.</p> <p><b>Pollution prevention</b></p> <p>Appropriate pollution prevention measures will need to be put in place at this site.</p>	<p><b>Are further studies recommended?</b></p> <p>Flood Risk Assessment</p>
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<p><b>Land Instability</b></p>	<p>No issues identified</p>	<p><b>Are further studies recommended?</b></p>
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<p><b>Visual Intrusion</b></p> <ul style="list-style-type: none"> <li>DCC Landscape Officer</li> </ul>		<p><b>Are further studies recommended?</b></p>
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<b>Nature Conservation</b>	Haymoor Bottom SNCI, 420 m to west on opposite side of A3049, Dorset Way.	<b>Are further studies recommended?</b>
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<b>Historic Environment</b>	No archaeological reasons for concern.	<b>Are further studies recommended?</b>
<ul style="list-style-type: none"> <li>• <b>DCC Historic Env. Team</b></li> </ul>	No conservation areas or Scheduled Ancient Monuments in vicinity	

<b>Airport Safety</b>	8.2kms from Bournemouth Airport	<b>Are further studies recommended?</b>
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<b>Air Quality Inc. Dust</b>	No AQMA in vicinity	<b>Are further studies recommended?</b>
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<b>Deliverability</b>	The potential facilities being considered are being promoted by SITA, therefore we have no reason to believe that the site could be deliverable in theory. Consideration will need to given to the cumulative impacts of expanding the site as proposed	
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## A.2.0 Dorset Joint Waste Management Strategy – Ten Policy Objectives

Dorset Joint Waste Management Strategy 2008 – 2033, ten policy objectives.

Headline	Policy
<b>Towards zero growth</b>	<b>Policy objective 1:</b> To prevent the further growth in municipal waste per head of population by promoting waste reduction and reuse initiatives, with a long term aim towards reducing waste generated per head.
<b>Underpinning awareness and education</b>	<b>Policy objective 2:</b> To promote waste awareness through coordinated public education and awareness campaigns, and effective community engagement.
<b>High recycling</b>	<b>Policy objective 3:</b> Across Dorset, to achieve 60 per cent recycling and composting by 2015/16.
<b>Optimised recycling services</b>	<b>Policy objective 4:</b> To achieve an optimised recycling and composting service across Dorset that is easy to understand and use.
<b>Reducing the landfill of biodegradable waste</b>	<b>Policy objective 5:</b> To progressively increase the recovered and diversion of biodegradable waste from landfill to meet and eventually exceed the landfill diversion targets under the Landfill Allowance Scheme.
<b>Minimise residual waste and maximise recovery of value</b>	<b>Policy objective 6:</b> To ensure that residual waste treatment complements activities higher up the waste hierarchy and maximises the value recovered from waste in terms of resources and energy.
<b>Cost efficient services</b>	<b>Policy objective 7:</b> To deliver efficient and cost effective waste management services across Dorset that provide value for money.
<b>Encourage sustainable management of commercial waste</b>	<b>Policy objective 8:</b> To further encourage sustainable management of commercial waste and to optimise integration with the management of municipal waste where it is of benefit.

Headline	Policy
<b>Sustainability within the local authority</b>	<b>Policy objective 9:</b> As local councils, to set an example by reducing, recycling, composting and recovering our won waste and using buying power to positively encourage sustainable resource use.
<b>Working with others: listen, collaborate and influence</b>	<b>Policy objective 10:</b> To listen to, work with and influence others to achieve sustainable waste management and meet the policy objectives, making use of national, regional and local frameworks.

## A.3.0 Bournemouth Borough Council Waste Strategy Aims and Objectives

### Aims

Number	Aim
1	To ensure sustainable waste management
2	To propose behavioural change with the Council and amongst residents and visitors alike, with regards to the way in which we/they manage waste
3	To make sure services are fair and accessible to all
4	To maximise opportunities to convert waste into a resource
5	To reduce the impact of waste management activities on the local environmental and human health
6	To be a leader in environmental best practice
7	To provide community leadership

### Objectives

Number	Objective
1	To meet all UK and EU targets
2	To reduce the total household waste arising

Number	Objective
3	To decouple the growth in waste from the growth in the economy
4	To adhere to the waste hierarchy
5	To follow the proximity principal
6	To reduce the carbon burden of waste management activities
7	To make sure the strategy is financially acceptable to the public.