Urbaser / Balfour Beatty
Courtauld Road Mechanical Biological Treatment Facility,
Basildon, Essex

Environmental Statement

March 2012

Notice
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Document History

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Introduction

The Consortium consisting of Balfour Beatty Urbaser SA and Balfour Beatty is proposing to develop a Mechanical Biological Treatment (MBT) facility on land at Courtauld Way, Basildon, Essex. The proposed facility will have the capacity to treat 417,000 tonnes per annum (tpa) of residual waste, trade waste, bulky waste, street sweepings and waste from Household Waste Recycling Centres as well as a smaller proportion of locally derived Commercial and Industrial (C&I) wastes, through a combination of sorting, segregating and composting processes.

The Facility will provide a waste management solution for Essex County Council and Southend-on-Sea Borough Council and once operational it will reduce the amount of waste being disposed of via landfill in the area. Figure 1 shows the location of the application site – bounded by a red line.

It is anticipated that construction will commence in February 2012 and will take approximately 17 months.

This Non Technical Summary accompanies the Environmental Statement and Planning Application for the Facility. It summarises the findings of the environmental assessments carried out to identify the potential environmental impacts of the proposed development during construction and operation.

Background and the need for the scheme

Currently, residual waste generated by households in Essex and Southend-on-Sea, is disposed of in landfill sites. Residual waste is what is left once residents have sorted their recyclables and green waste for collection, it is also sometimes called black bag/wheelie bin waste.

European and National legislation and financial drivers aim to reduce the amount of waste that councils send to landfill with a focus on waste being managed more sustainably. Ideally, the amount of waste produced will be reduced; following which any waste that is produced should then be reused, recycled or composted. Finally, waste treatment should be used to recover energy or materials with disposal to landfill the least preferred option.

Disposing of waste in landfill sites not only produces methane gas, which is believed to contribute to climate change but also means valuable resources are buried and the energy and value which could be taken from them is not used. Targets have been set for reducing the amount of biodegradable waste such as food, paper and textiles disposed of in landfill.

Essex County Council and Southend-on-Sea Borough Council have carried out a series of public consultations, dating from 2002, asking residents what they think are the best alternatives to landfill and how they would like to see the residual waste treated. Mechanical Biological Treatment (MBT) has been identified as the preferred treatment method for some time and this was the scheme that the councils are currently planning for and the technology which has been assessed through the Environmental Statement (ES).

The site and its setting

The application site approximately 8.5 hectares and is located on Courtauld Road off the A132 between the A127 and A13 within a predominantly industrial area north east of Basildon, Essex. Other businesses on the industrial estate include waste facilities such as transfer stations and breakers yards with light industrial uses such as vehicle distribution centres, storage facilities The site is framed by the A127 to the north and Courtauld Road to the south. Industrial units and Hovefields Caravan Park (a permanent Gypsy and Traveller site) are situated immediately to the east of the site. The plot of land immediately to the west of the site is currently vacant. Basildon sewage treatment works is situated beyond the vacant plot of land to the west. To the north of the application site, beyond the A127, the land is designated Green Belt.
Existing planning permission

The application site already has planning permission for a waste management facility.

This permission was granted in 2008 and is a much larger site. Figure 1 shows the extent of the boundary of this existing permission marked by a blue dotted line.

As part of the existing planning permission the level of the application site had to be raised to minimise the risk of flooding and also provide a new home for the species of ecological interest such as grassland and habitat for invertebrates, reptiles and Great Crested newts which lived on the site. This compensation area is provided to the north of the A127 and is located within the blue line shown on Figure 1.

The proposed development

The MBT facility will be able to treat up to 416,955 tonnes of waste per year. This will include residual waste, business waste, bulky waste (collected from householders e.g. sofas, beds) street sweepings and waste from Household Waste Recycling Centres.

Figure 2 is an artist's impression of how the facility will look once built.

Figure 1: Location plan showing current application boundary (red) and existing permission boundary (blue)

Figure 2: Artist’s impression of the Facility
The waste will be treated in three stages. Figure 3 shows the process used:

**Pre-processing**
Waste is tipped into bunkers in the reception halls; the bags of waste are then split open and pass through a series of conveyor belts. The waste is then hand-sorted to remove recyclable materials before it passes through automatic processes which use magnets and air blowers to remove the recyclables. The recyclable materials such as cardboard, metals, and plastics will be removed from the site for recycling by reprocessors.

**Maturation**
The remaining waste is then moved to the maturation halls, where it is treated using a compost type process. The waste is deposited in rows to form piles approximately 3.5m high. The compost process takes approximately seven weeks and during this time the waste is kept moist, regularly mixed and air is blown through it. This stabilizes the material, so it is no longer biodegradable, and also reduces the volume of waste due to moisture loss. This results in there being less waste left at the end of the process than was present at the beginning.

**Refining**
The material is then sieved and screened to separate it into different grade sizes.

These are a Stabilised Output Material (SOM) or Solid Recovered Fuel (SRF) both of which have significantly less weight and volume than the waste which was brought to the site. The SOM is likely to go to landfill as a biodegraded stable product while the SRF can be used as a fuel for industrial processes.

**Site Access & Parking**
The proposal includes a purpose built 4-arm roundabout on Courtauld Road and a 305m long spine road to the site entrance. This roundabout and spine road will provide vehicular access to the proposed development site.

The site has two entrances from the spine road, one for staff and visitors and one for waste vehicles which is at the north of the site. The site will have two weighbridges for vehicles coming onto the site to ensure vehicles are not queuing on the spine road and to speed up the entry to the site. Vehicles bringing waste to the site will travel down an onsite access road on the eastern side of the site to the reception halls. Traffic lights will be placed on the access road at this point in order to prevent traffic from queuing opposite the Hovefields Caravan Park.
Proposed Working Hours

The receipt and removal of waste and outputs shall take place between the following hours:

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<tr>
<th>Day</th>
<th>Proposed Hours for HGV Movements</th>
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<tr>
<td>Monday to Friday</td>
<td>7.00am to 8.00pm</td>
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<tr>
<td>Saturday</td>
<td>7.00am to 4.30pm</td>
</tr>
<tr>
<td>Sunday and Public Holidays</td>
<td>8.30am to 4.30pm</td>
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The proposed hours of operation are designed to fit in with the waste collection service provided by the District and Borough Councils.

The proposed hours for operation of the facility are as follows:

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<thead>
<tr>
<th>Day</th>
<th>Proposed Operational Hours</th>
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<tr>
<td>Monday to Friday</td>
<td>7.00am to 11.00pm</td>
</tr>
<tr>
<td>Saturday</td>
<td>7.00am to 11.00pm</td>
</tr>
<tr>
<td>Sunday and Public Holidays</td>
<td>8.30am to 5.30pm</td>
</tr>
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However some of the operations in the buildings such as the air management/treatment system and biostabilisation processes will be in operation 24 hours a day, 365 days a year. The maintenance and cleanliness of the plant requires the wash down of parts of the process on a periodic basis and this may need to be outside of the site operational hours above.

Waste processing will take place inside the buildings and air systems will be used to keep any odours and noise inside the buildings. Roller shutter doors will be used to allow vehicles to gain entry into the buildings.

Environmental design

The Facility has been designed using the best possible environmental methods. While they are industrial buildings they will be partially clad in timber to enhance their visual appeal.

The entrance area of the site around the visitors centre will be an urban park and wildlife area and will be open to the public during the day.

The visitors centre will use:

- Rain water harvesting – rainwater collected from the roofs is reused within the facility and in the visitor centre and site offices for toilet flushing
- Living grass roof – the roof will be planted with a grass, this will reduce the amount of rainwater which needs to be managed on site
- Photo voltaic panels – these panels will be on the roofs of the maturation halls and use sunlight to produce electricity. This will be used on site and will produce enough power to run the visitors centre.
- Ground pumps - boreholes are drilled into the ground and the heat in the ground will be used to heat water used in the building.

The Visitor and Education Centre – Essex and Southend Sustainability Centre will have large viewing areas so that groups can watch the waste treatment process as it happens. The Centre will also allow school children and interest groups can learn about and understand the process and what is happening to their waste. The building will provide a number of uses for the local community, including educational facilities, meeting and conference rooms and exhibition spaces. An artistic impression of the how the centre will look is shown in Figure 4.
Assessment of the potential environmental effects

The MBT facility will operate under an Environmental Permit from the Environment Agency.

The Permit will provide limits on discharges to air, land and water associated with the operation of the facility.

An application for an Environmental Permit will be submitted shortly after the planning application.

The potential environmental impacts during the construction and operation of the MBT facility have been assessed. While several measures to minimise these impacts are incorporated into the design of the facility, the assessments identify any additional mitigation measures required.

Any large developments such as the one proposed for Courtauld Road have the potential to impact on the local environment.

The impacts can be positive or negative and can be minimised through mitigation. For example during construction the amount of traffic will increase but the impact on the local roads can be reduced by only allowing traffic onto site at certain times and making the vehicles use a specific route.

The existing planning permission for the site, was for a larger waste treatment facility that could process a variety of waste streams including food and garden waste – known as biowaste. The proposed development does not contain proposals to deal with this waste stream and so the council will need to find an alternative site for this treatment facility.

There is a potential site on the vacant land to the west of this facility and given the two sites are closely located the assessments have considered this development as well. This is particularly true of the traffic assessment.

Consultation

The environmental assessments have been informed through consultation with the following stakeholders:

- Basildon Borough Council - Environmental Health Officer
Essex County Council - Highways Department, Landscape officer, Built Environment Officer

Environment Agency

The exhibitions have been held at a number of local venues enabling maximum attendance by all sections of the community. Specific consultation was also held in February 2012 with the residents of Hovefields Caravan Park site in particular, regarding the proposals and to discuss the most appropriate perimeter treatment on the eastern boundary in terms of landscape planting.

Assessment

A summary of the results of the assessments is given below;

Traffic

An assessment has been made of both the Heavy Goods Vehicles (HGV) and total traffic impacts of the MBT using traffic data on local roads and traffic forecasts for the development.

During the construction phase it is anticipated that there will be a nine week period of intensive construction. During this period it is estimated that there will be 50 deliveries per day (assumed HGV) i.e. 100 two-way HGV movements per day (each of the 50 vehicles moves on and off site). It is assumed that these will be spread through the day, assuming a ten hour day it is anticipated that on average there will therefore be 10 HGV movements per hour.

Calculations of anticipated traffic generation from the Facility have been compared with the traffic levels accepted under the existing permission to determine their acceptability and impact.

The operational phase assessments for a typical day show that a total of 748 two way traffic movements will be generated by the two facilities over a 12 hour period (7am – 7pm). Of this total 500 two-way movements will be HGVs. This equates to one HGV accessing or departing the site every one to two minutes.

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<tr>
<th>AM PEAK (8am to 9am)</th>
<th>PM PEAK (5pm to 6pm)</th>
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<tr>
<td>2-Way Movements (In and Out)</td>
<td>2-Way Movements (In and Out)</td>
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<td>Previous Application Site (2024)</td>
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<td>Proposed MBT Facility (Typical Day)</td>
<td>80</td>
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<td>Proposed MBT Facility and Biowaste facility (Typical Day)</td>
<td>94</td>
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<tr>
<td>Difference between previous application and MBT Facility (Typical Day)</td>
<td>-46</td>
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<td>Difference between previous application and MBT and biowaste Facility (Typical Day)</td>
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The effects on traffic, around the site, during construction are for a limited time and so their impact will be temporary. Operational effects will be long term and despite the mitigation measures such as restricting vehicle routes, there will still be minor effects in the local area. The levels of traffic are below those accepted under the existing permission.

Landscape and visual impact

This assessment includes any impacts the development will have on the existing landscape character of the area and also the visual impacts of the site on the surrounding area.
Those most likely to be affected “the main sensitive receptors” are the residents at Hovefields Caravan Park, together with staff of local businesses and the users of local roads. The construction of the site will be visible by the main sensitive receptors and from the wider area. Once operational, the facility will be visible from the immediate surrounding visual receptors including Hovefields Caravan Park.

However the design includes landscaping bunds and tree planting and as the trees and shrubs mature on the boundaries of the site it will help reduce and limit views of the proposed development. Also as the area is predominantly industrial in nature the site will be comparable to the existing conditions. Therefore impacts will be minor negative to negligible.

Water and Drainage

The level of the site has been raised as a condition of the existing planning permission; this has changed the flood category for the site given by the Environment Agency, who now classify the site as flood zone 1 and therefore at low risk of flooding.

Good working practices will be used during construction to prevent any dust, sediment and spillages from vehicles entering the drainage system. Once the site is operational, any rainwater falling on the site e.g. yard areas will be collected via a drainage system. This will pass through filters to remove any oil (spilt from vehicles) or silt before being drained into the onsite water storage pond located near the visitors centre. This pond will drain into the diverted Nevendon Bushes Brook to the west of the site. The amount of water released into the Brook will be carefully controlled.

Due to the mitigation measures employed, it is likely that the local surface water systems will experience a minor benefit from the Facility due to the new drainage systems used.

Noise and vibration

The site is located next to a busy road, the A127, and is subject to traffic noise throughout the day. Measures are proposed during construction to minimise the duration and amount of significant construction noise effects these include restriction of construction hours, use of noise barriers and silencers on equipment. With mitigation measures in place it is anticipated there would be ‘minor’ residual impacts and these will be temporary.

During normal operational conditions, the facility has been designed such that the noise levels from the site would equal the background noise levels. These levels are in line with the limits agreed with the Basildon District Council’s Environmental Health Officer. Design features include a 4m high landscape bund and 1m high fence on the eastern boundary of the site, this would minimise noise and vibration impacts associated with this facility.

These measures mean that the noise levels will not increase the current background levels around the site.

Air quality

During the construction phase dust may be generated on site due to the vehicles working the ground. Therefore, strict measures will be put in place to minimise the generation of dust especially during periods of dry weather. These will include:

- Damping down piles of material likely to create dust
- Providing hard surfaces for heavily used routes
• Wheel washing the vehicles
• Covering vehicles carrying spoil and waste
• Use of a mechanical road sweeper

All waste will be processed inside the buildings and an air management system will be employed to keep the air within the buildings to reduce odour and emissions. The air from the waste treatment areas will be cleaned by the onsite air treatment plant. Once cleaned, it will be discharged into the atmosphere by a 20.5 metre high stack.

These mitigation measures mean the odours produced on site are below levels advised by the Environment Agency and during normal weather conditions and operations smells and odour should not be detected at the site boundary.

Socio Economic

There are a number of potential economic and social benefits associated with the proposed Facility.

The construction phase is estimated to last approximately 17 months and during this time a total of 306 jobs will be generated. There will be significant local benefits in terms of construction opportunities and involvement of local contractors during this phase.

During the operational phase the site will generate 85 jobs. There will be a local recruitment drive with the aim of maximising jobs for Essex residents.

The proposal will also generate a number of Apprenticeship opportunities during both the Construction and Operational Phases.

Ecology

Following consideration of the environmental impacts associated with the development together with discussion with the key stakeholders, it was considered that ecology, would not be significantly affected by the proposed development and so this was not assessed through the formal EIA process for this application. The reasons for this are that works have been undertaken under the existing planning permission to remove Great Crested Newts and reptiles from the Courtauld Road site to the mitigation land located to the north of the A127.

However all works on site will have due regard to the potential that there could still remain a small population of these species and if found they would also be moved to the site to the north of the A127.

Summary

The scheme has been developed through an iterative process such that many of the environmental mitigation measures are inherent in the scheme design. The following section summarises the potential impacts from the proposed MBT facility;

• The number of HGVs is estimated to increase due to operational vehicles on the highway network; however this is less than the existing permitted levels. It is anticipated this will have a minor impact on the local environment
• Overall impacts on landscape character and visual impact will be negligible due to the location of the site on the edge of an industrial estate together with the mitigation measures proposed.
• It is highly unlikely that there will be any noticeable noise and vibration effects of the Facility outside the site. Noise levels from the Facility will not increase the current background noise levels.
• However, on occasion dust and odour emissions may be noticeable beyond the site boundary during short periods of adverse meteorological conditions. Such residual effects would be minor, short-term and reversible in that they would not occur for very long.
• The impacts on the local water environment will be minor.