Purpose of this exhibition

Reduce – Reuse – Recycle – Recover energy

We are all recycling and composting much more of our waste than ever before, but there is still some waste left over called “residual waste”. Traditionally, residual waste has been buried in landfill which means that the value of the material is lost. There are environmental, financial and legal reasons why we now need to find different solutions for residual waste.

Our proposal involves recovering value from waste that would otherwise go to landfill.

Gloucestershire County Council has selected Urbaser Balfour Beatty as one of the two remaining bidders to manage the county’s residual waste. We are proposing to develop a facility at Javelin Park that will recover value from residual waste through the generation of energy. We are here today to talk to you about our proposal and how we will ensure that the environment and amenity value of Gloucestershire is protected.

Importantly, we are here today to listen, and do our best to accommodate your views.

An important part of our proposal is the involvement of the local community. We are seeking your feedback on our outline proposals and would like to invite you to join our contact list. Please take your time here today to find out more about our proposal and how you can get involved. The team will be happy to discuss and answer your questions. Please provide your comments on a Feedback Form.

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About us

urbaser

Urbaser owns and runs more than 60 waste management facilities worldwide, processing more than 7 million tonnes of waste every year. This includes the type of facility proposed for Javelin Park. Urbaser provides services to more than 50 million people on four continents.

Madrid, Spain (Urbaser)

EnviroSort, Norton, Worcester (Urbaser)

Balfour Beatty

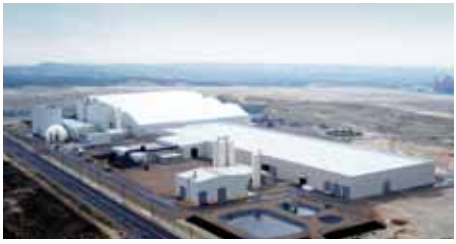
Balfour Beatty is a world class infrastructure services business operating across the infrastructure lifecycle providing: roads, power, renewables, schools and hospitals, and are involved in 41 privately financed initiatives around the country.

Islington School, London (Balfour Beatty)

INVESTORS IN PEOPLE | Gold

Balfour Beatty Apprenticeships

TOP 100 APPRENTICESHIP EMPLOYER 2011



Zaragoza, Spain (Urbaser)

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Understanding the local environment

We understand that the local environment matters and we propose to design a facility that fits in with the local history and characteristics of the area.

In order to design a facility that fits with this local environment, we first need to understand the history and characteristics of the area.

Javelin Park is located in the Severn Vale, a flat and low-lying landscape. The site is a derelict former airfield that has now been cleared of buildings and structures. The proposed development would be constructed on the southern half of the Javelin Park site.

The wider landscape includes transport corridors such as the M5, agricultural fields, woodlands, residential settlements, industrial developments and business parks.

The site and the surrounding area carry a number of constraints that will be taken into account in the design of the facility, these include (amongst others):

- Cotswold Area of Outstanding Natural Beauty (AONB).
- Nearby residential properties.
- Residential settlements in the wider landscape including Haresfield, Moreton Valence, Standish, Quedgeley and Hardwicke.
- Scheduled Monuments including The Mount at Haresfield and the Iron Age Hill Fort on Haresfield Hill.
- Site ecology including the watercourse around the site boundary.
- European Protected Conservation sites including Cotswold Beechwoods Special Area of Conservation (SAC).

Designing a waste management facility


York Incinerator c1890s


Teesside EfW Plant c1998


Colnbrook EfW Facility c2009


Tyseley EfW Plant c1996


Isle of Man EfW Facility c2004


Suffolk EfW Facility due 2014

The evolution of Energy from Waste (EfW) facilities demonstrates a changing approach to design, with increasing sensitivity to the local environment.

Our proposal will reflect the characteristics of Javelin Park in terms of environmental and visual impacts on the local area.

The design concept focuses on stealth, camouflage and deconstructivist themes.

The former airfield was a dominant feature in the historic landscape with a rich history of technological development.

The associated developments specifically suited the operational requirements of the aviation industry.

Our detailed design for Javelin Park will be displayed at the next public exhibition to enable the community to view the proposal and provide comment on our proposed site design.

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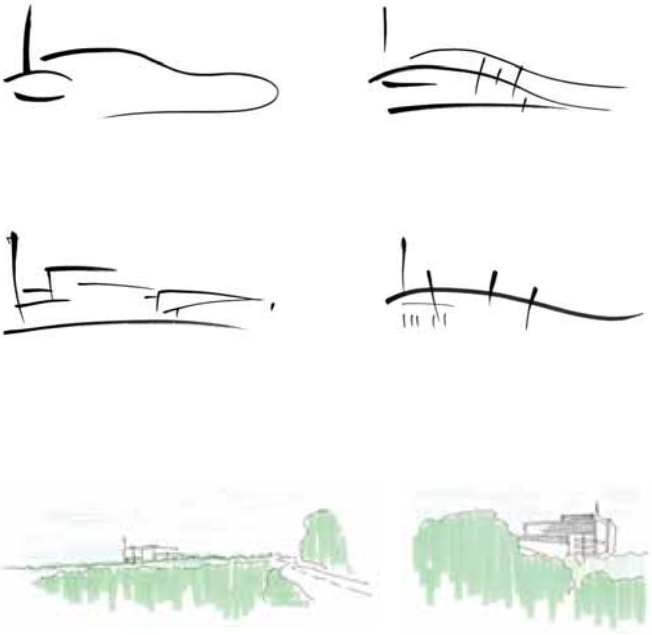
Design ideas for Javelin Park

By understanding the history of the site, we are confident that our proposal for a three dimensional form on Javelin Park will respond effectively and appropriately to the surrounding landscape and environmental setting of the site.



Integration with the landscape is a key driver of our design process. Our final design proposal will incorporate dynamic topographic undulation as the building rises up from the surrounding landscape.

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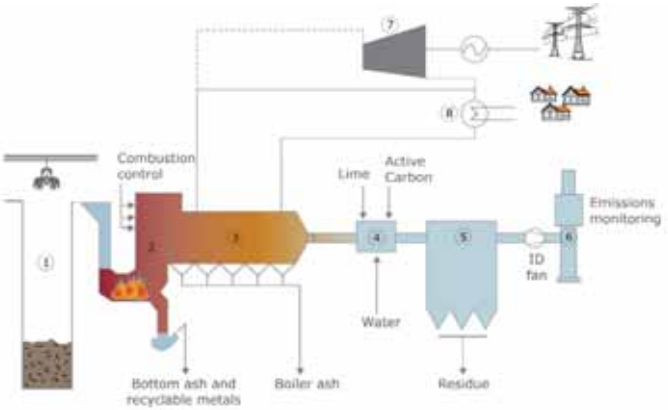
How does the technology work?

1. Waste reception: Waste collection vehicles arrive at the facility and are checked and weighed. The waste is then tipped indoors in a sealed bunker and then fed into the combustion chamber.

2. Combustion process: The waste moves along a grate where it combusts under closely controlled conditions. All of the hot gases are passed to the energy recovery stage.

1. Waste bunker
2. Furnace
3. Boiler
4. Cooling tower/Reactor
5. Bag filter
6. Stack
7. Turbine
8. Local heating



3. Ash recovery: The remaining ash moves to the end of the grate where it is removed. Using modern systems metal is removed for recycling and the ash treated for reuse as an aggregate material.

4. Energy recovery: Heat released in the combustion process passes through a boiler and turns water into steam, which drives a turbine to produce electricity. A small amount of this electricity is used to power the plant, and the remainder is transmitted to the National Grid. The process is also designed for Combined Heat and Power (CHP) to provide heat for local use.

5. Emissions control: To ensure that the combustion gases meet the stringent requirements of the Environment Agency's operating permit, gases are cleaned and continuously monitored before being released from the chimney. Solid residue from the gas cleaning operation is collected in the air pollution control system for subsequent treatment or disposal at a suitably permitted facility.

Understanding the site

The planning application for the facility will be accompanied by a full Environmental Impact Assessment (EIA) that will consider (amongst other issues):

Traffic and transportation

- Assessment of impact on highways operation and road safety.

Landscape and visual

- Landscape and visual assessment from 30 locations across the County.
- Production of photomontages from selected locations.

Ecology and nature conservation

- Surveys of habitats and wildlife at the site.
- Assessment of air quality impacts on European Protected Sites.

Surface waters and flood risk

- Design of attenuation ponds to reduce flood risk from the development.
- Control of surface water pollution during construction and operation.

Geology and hydrogeology

- Site remediation from previous ground contamination.

Noise and vibration

- Noise surveys undertaken to understand background noise levels.
- Modelling of noise produced by the facility.

Air quality and human health

- Air quality monitoring undertaken at the site and in the surrounding area.
- A detailed air quality model developed for the proposed development.

Archaeology and cultural heritage

- Assessment of heritage potential on the site and in the surrounding landscape.

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Managing potential impacts

The facility will be operated under an environmental permit issued and controlled by the Environment Agency. The environmental permit will ensure that the facility is operated to standards that protect the environment and human health.

The design of the facility will include a number of measures to mitigate potential environmental impacts, including:

- Routing of traffic to minimise impact on local communities.
- Building design and orientation to reduce the visual impact from key receptors e.g. Cotswolds Area of Outstanding Natural Beauty (AONB).
- Colour and texture of building materials appropriate for the surrounding landscape.
- Introduction of mitigation to reduce noise impacts e.g. enclosing noisy plant, use of noise insulation in the building structure.
- Landscape and acoustic earth bunding to reduce impacts on sensitive receptors.
- Provision of visitor facilities to improve education on waste and sustainability e.g. encouraging recycling.
- Air pollution control systems to reduce air quality impacts.
- Landscape planting to reduce visual impacts and enhance ecological value.
- Retaining and enhancing the stream corridor around the site.
- Lighting designed to reduce landscape and ecological impacts.
- Provision of surface water storage areas to manage flood risk in the surrounding area.

We will be inviting people to join a Community Liaison Group to help inform the management of potential impacts.

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Air quality

Emissions from the facility will be continuously monitored and would be tightly regulated under the European laws enforced by the Environment Agency.

Before approval is given the impact of the emissions on local air quality must be evaluated, using computer modelling and local weather data.

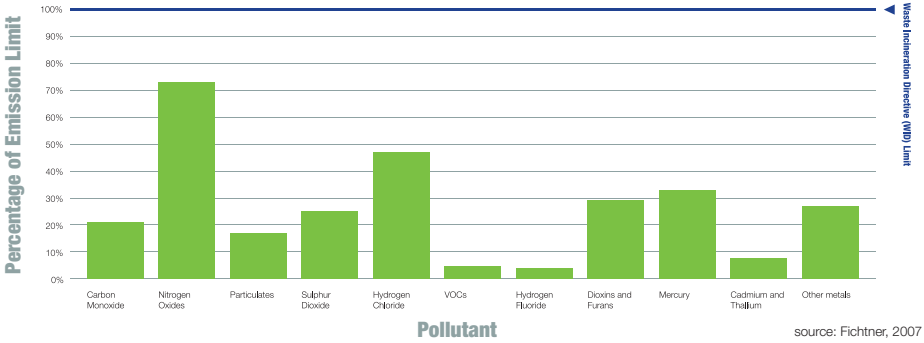
Similar plants around the UK have a very good history of compliance with these limits. The below graph shows how facilities in the UK operate below the Waste Incineration Directive (WID) emissions limits set by European laws.

In 2010, the Health Protection Agency (HPA) concluded that *"Modern, well managed incinerators make only a small contribution to local concentrations of air pollutants. It is possible that such small additions could have an impact on health but such effects, if they exist, are likely to be very small and not detectable."*

Waste will be managed inside the building and air will be extracted back into the combustion plant. This will ensure the facility will not give rise to offensive odours.

The facility will reduce greenhouse gas emissions by displacing the need to rely on fossil fuelled power stations and reducing the release of landfill gas.

Average emissions performance of UK Energy-from-Waste Plants



source: Fichtner, 2007

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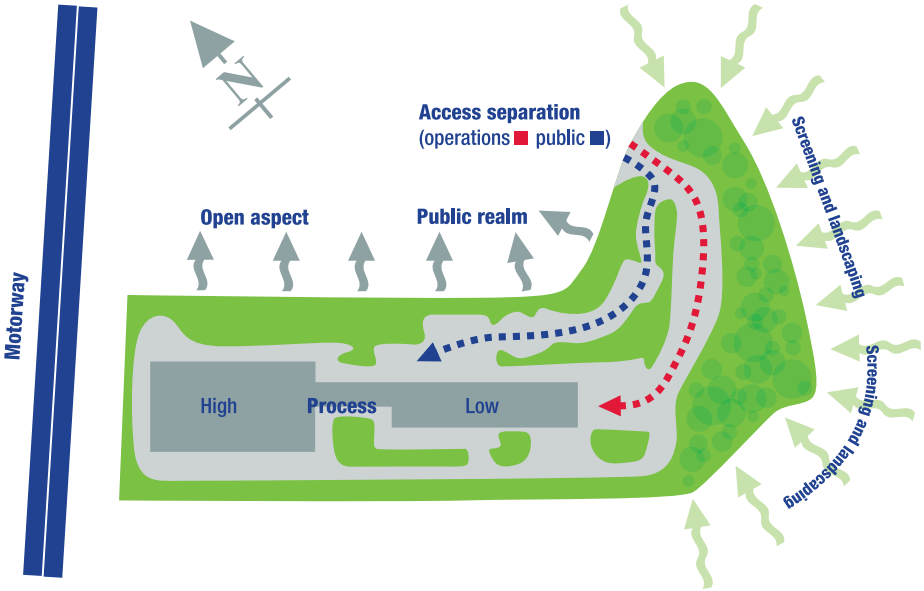
Site layout

With facilities that offer full community engagement on an ongoing basis, Javelin Park's Visitor Centre will allow investigation into the importance and uses of recycling and recovery of energy from residual waste.

Our proposal will include an outdoor visitor experience delivering environmental messages through an interactive landscape. The wildlife gardens will complement the architectural design and showcase best practice in sustainability.



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Benefitting the local community

An important part of our proposal is involving the local community so that people living in the area can benefit from the development.

Community

- Education and awareness programme.
- Visitor Centre.
- Meeting space.
- Outdoor wildlife and amenity area.

Local economy

- Apprenticeships.
- Training.
- Employment.
- Avoidance of landfill tax.

Environment

- Reduction in carbon emissions.
- Reduction in reliance on landfill.
- Increase in recycling.
- Renewable energy generation.