FORD ENERGY RECOVERY FACILITY AND WASTE SORTING AND TRANSFER FACILITY, FORD CIRCULAR TECHNOLOGY PARK

16 Summary tables

Introduction

16.1 This chapter summarises the findings of the EIA. A comprehensive assessment has been undertaken of the potential environmental effects arising from the proposed development. Where possible, measures have been incorporated into the development proposals to prevent or reduce the potential for adverse environmental effects. These primary mitigation measures are an integral part of the design and were taken into account in the impact assessments. The primary mitigation measures are summarised in table 16.1.

16.2 Measures to help mitigate adverse effects identified during the assessment process have also been proposed for some of the environmental topics. These secondary mitigation measures are summarised in table 16.2.

16.3 The residual effects, i.e. the significant effects remaining after mitigation, are summarised in table 16.3. The measures envisaged for monitoring adverse effects are set out in table 16.4.

Table 16.1: Primary mitigation measures

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
To reduce visual impact on sensitive receptors to the north of the site (i.e. South Downs National Park, Arundel Castle, etc.) the ERF and WSTF buildings were orientated north – south.	Reduced visual impact
Early studies established that due to the site's shape being slightly more rectangular than square and the access being in the south east corner, that a north – south orientation of the ERF made more efficient use of the site than an east - west orientation. This orientation also enabled the highest parts of the building to be set back from current and potential future receptors lying beyond the site's western boundary.	Reduced visual impact
The location of the administration wing and car parking on the eastern face of the ERF enables the majority of operational vehicle movements to remain in the centre of the site, allowing its eastern face to be developed as a more 'civic' frontage.	Reduced visual impact
Mirroring the north - south alignment such that the waste reception hall was on the south was tested during design evolution, but it required the vehicle access ramp to the waste reception hall to be located on the eastern façade, resulting in HGV's having to circumnavigate the whole site on entering and leaving. It was considered that this would result in increased visual and noise impacts in relation to receptors to the east of the site and therefore maintaining such activities in the centre of the site was considered preferable.	Reduced visual and noise impacts
For performance / operational reasons the air cooled condensers need to be as close as possible to the turbine hall. Alternative locations were considered but deemed unviable due to: noise concerns, the fact that incinerator bottom ash (IBA) handling would have to move to the eastern facade and would therefore require HGV movements to deviate from the centre of the site. There would also be a deterioration in the quality of the eastern facade as a civic frontage.	Reduced visual and noise impact
Establishing a central operational zone, sitting between the ERF and WSTF buildings, offers shielding of HGV related activities from the east and the west by the buildings themselves and within which to include an area to accommodate waste containers and bins, contractors' vehicles and temporary cabins during maintenance periods of the ERF.	Reduced visual and noise impact
Design includes a traffic strategy which optimises the independent operation of the ERF and WSTF and maximises the adoption of one-way traffic systems and the safer right hand down reversing arrangement for HGVs.	Reduced noise, visual and air quality impact
Access doors into the northern component of the main WSTF building and the workshop and their manoeuvring apron for reversing vehicles, are all located on its eastern façade. Facing onto the central operational zone of the site ensures that these activities, including the opening of the 8 m high doors to the unloading bays and vehicle workshop, are visually concealed from receptors to the east and west of the site.	Reduced visual and noise impact

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
Access doors into the central part of the WSTF building and into the internal loading of the northern part are located on the south facade with exit doors on the north and east facades. This arrangement also ensures that there are no HGV access doors located on the western facade and allows that elevation to remain uninterrupted and visually uncluttered.	Reduced visual and noise impact
The location of the WSTF has been set as far back as possible from the western boundary. This reduces the apparent scale of the building when viewed along that boundary, but also leaves sufficient space for the internal perimeter road and vehicle parking areas, all of which are concealed from view beyond the site's 5 m high bunding / wall arrangement.	Reduced visual and noise impact
The administration wing of the ERF building is positioned such that its glazed facades face north and south. This was in order to mitigate its potential night-time lighting impact on nearby receptors. Inclusion of vertical solar shading fins to the glazed facades, to better shield the potential night-time light spill to receptors to the north east and east of the site, was also introduced. Orientating its facade to face the entrance to the site also afforded the opportunity for the architectural design to explore developing a more 'civic' frontage for the administration wing.	Reduced lighting impact
How the overall massing of the buildings might be broken down through the use of varying colours / tones / layering / shapes was explored in detail and tested in a range of viewpoints. When considering the views from the South Downs National Park it was evident that the building would be read mainly against a backdrop of ground and slightly against the seascape, and that while the shape of the building may not be discernible the colour would. Using mid-tone colours instead of very light or very dark would better blend the building with the landscape whilst a light neutral colour would best mitigate the visual impact of the stack. A review of images illustrated that the dark plinth worked well in bedding the building into the foreground and that using mid-tone colours instead of very light or very dark also better blended the building with the landscaped background. The use of silver grey and coppery earthy colours for the different 'wings' proved successful in softening its appearance, but also in breaking up its overall scale, and a light colour for the stack was considered to best blend it with the sky. Overall, the consideration of the proposed design from the range of selected viewpoints showed that the use of inclined and interlocking wings assists in breaking up the size of the ERF and that contrasting silver grey and coppery earthy colours are appropriate in blending the building with its surroundings. At the same time it was considered that the proposed design draws upon the aviation heritage of the site.	Reduced visual impact
During the design process, the profile of the boiler hall and flue gas treatment area was further stepped to more closely follow the height of the internal equipment. This generated a 3-level roof to the boiler hall and the impact of this was explored. Further development of a stepped / layered shape to the building was developed and which further fragmented the overall height of the building and offered further opportunities to vary colour between the horizontal bands. Treating the stepped profile as a single dynamic sloping roof form also offered an efficient fit to the internal process and helped lower the building's profile at its southern end. Treating the upper volume in a contrasting colour also assists in breaking up its scale.	Reduced visual impact

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
To conceal vehicles entering / leaving the elevated waste reception hall the access ramp is clad such that it enclosed the upper part of the ramp, including the access door. This was to partly shield moving vehicles and their lights from nearby receptors, particularly on exiting the waste reception hall.	Reduced visual impact
Consideration of the positioning of the air cooled condensers (ACCs) and the ERF building led to: a 90-degree rotation of the ACCs to allow them to blend into the buildings behind and a subsequent change to the access route to the ERF car park – setting it further west and thereby providing additional area for landscape screening along the site's eastern boundary. The potential to visually screen lower areas of the ACCs support structure was reviewed, but due to technical reasons could not be implemented. However, it was decided that cladding would be applied to screen the pipe duct and support structure that would span between the turbine hall and the ACCs.	Reduced visual and noise impact
Having plotted the route of the historic canal a break was introduced in both the western and eastern landscape bund / screening landforms to signify the former path of the canal, which on the eastern side will also be marked by the location of the administration wing and water feature.	Opportunity for recognition of cultural heritage on site
Recent groundwater level monitoring data for the site has demonstrated groundwater levels at 2.45 m below ground level across the site. For that reason the base of the bunker is proposed at -2m to avoid interaction with the underlying chalk and groundwater.	Reduced groundwater / geology impact
Photovoltaics are included on the inclined roof of the ERF and the flat roof of the WSTF workshop. The south facing slope of the ERF roof will be fitted with approximately 1100 m^2 of solar panels and the WSTF roof will be fitted with approximately 400 m^2 of solar panels. Such an array is expected to generate approximately 430 – 470 MWh per annum and will therefore make a further contribution to renewable energy generation at the site.	Renewable energy generation
The WSTF roofscape was developed to incorporate roof lighting that would face away from nearby receptors to minimise the potential for night-time light pollution.	Reduced light pollution
Areas of flint walling have been incorporated within key areas on the ERF and the WSTF to add local character and visual interest and offer a visual contrast to the scale and finish of the metal cladding.	Reduced visual impact
Although a wide range of sustainable drainage system (SuDS) techniques were considered, there are very few methods that would be practically feasible and suitable due to the extensive built footprint within the site boundary and its geological and hydrogeological setting. Specifically, considering the high potential groundwater levels and contamination at the site in conjunction with its location within a high vulnerability zone on a Principal aquifer. Infiltration was therefore not considered to be a viable option. Lined, below ground cellular storage tanks, with an impermeable membrane to avoid potential groundwater ingress, was considered most practical at the site, together with rainwater harvesting. The proposed attenuation storage systems will collect surface water from rainwater pipes and external hardstanding areas. The design of the tanks will ensure that surface water from the site will be attenuated prior to discharge at greenfield runoff rates and will	Avoidance of surface water pollution and avoidance of flooding both on and off site

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
contain the 1-in-30 year critical storm event, including 40% allowance for climate change without causing any flooding to the site. Any exceedance flows beyond the 1-in-30 year critical storm event will be managed on site by allowing shallow ponding (i.e. approximately 150 mm average depth) in particular external hardstanding areas. This will ensure there is no increase in flood risk downstream as a result of the proposed development. The detailed design of the storage tanks will incorporate light-liquid separators to aid in containing oil, diesel, petrol, etc. that may be deposited on the surface of the hard-landscaped areas and that may be mobilised during rainfall events.	
A detailed maintenance regime will be put in place for the drainage system by the site management team, including regular inspections, removal of sediment and debris and repair as necessary.	Avoidance of surface water pollution and avoidance of flooding both on and off site
Rainwater harvesting tanks will be installed in the ERF and WSTF buildings to collect rainwater from building roof areas. This water will be used on site to support site activities / processes where appropriate (e.g. toilets, washing HGVs, etc.).	Sustainable use of water resource
The surface water drainage system has been designed to take the full volume of water generated in the event of a fire and so all fire water will be contained on site. An emergency penstock valve (or similar) will be shut to prevent water leaving the site. The fire water will initially be contained within the three below ground attenuation tanks until it can be collected and tankered off site for appropriate disposal.	Avoid off-site pollution
The 85m stack will be situated at the southern end of the ERF building. The height of the stack was determined following detailed air dispersion modelling designed to determine the safe height for emissions.	Protection of human health and avoidance of deterioration in local air quality
Parking for all ERF and WSTF employees, visitors and maintenance contractors provided on site to avoid off-site parking issues.	Avoid car parking issues off site
All car parking spaces will be provided with electric charging points to encourage the uptake of electric vehicles.	Reduced greenhouse gas emissions and minimising vulnerability to climate change
Seven car parking spaces for mobility impaired users are provided on site (four by the ERF and three by the WSTF).	Ensure site is accessible for mobility impaired users
Sixty-four secure spaces for bicycles will also be provided on site for use by staff and visitors.	Encourage sustainable travel – reduced greenhouse gas emissions and minimising vulnerability to climate change
The steam turbine generator will utilise high pressure steam from water heated by the combustion processes and generate approximately 31 MW of electrical power, of which approximately 28 MW will be exported to the local electrical distribution network (equivalent of powering approximately 68,250 homes over the lifetime of the plant). The generation of low carbon energy can assist in the reduction of greenhouse gas emissions by displacing more carbon-intensive energy sources such as coal and natural gas.	Generation of low carbon energy

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
The proposals will be able to export up to 10 MWth of heat in the form of steam or hot water in the future, should off-site recipients be identified.	Opportunities for CHP
Under normal operations there will not be any liquid process emissions from the ERF. Where practicable, waste waters generated from the process will be re-used / recycled within the facilities. Process effluents and wash down waters collected from internal process areas will be collected in a process effluent system and stored within a dirty water pit ready for re-use.	Reduced need for off-site waste water treatment
The lighting design is based on the use of appropriate lighting to provide safe working conditions in all areas of the development area, whilst minimising light pollution and the visual impact on the local environment using lighting guidance for the external environment and obtrusive light. All lights will produce zero upward light pollution and have low glare reflector systems, which help to minimise the amount of glow, glare and flicker.	Reduced light pollution
Planting and embankments are proposed to assist in breaking up the proposed building mass and provide a degree of screening to the ground level activity. Planting includes scrub planting, conservation grassland, ornamental meadow and trees (including Oaks, pear trees).	Reduced visual impact
The site will include conservation grassland, ornamental meadow, trees, a pond, bat boxes, bird boxes and bug hotels to improve biodiversity at the site. The conservation grassland will be sown on the bunds surrounding the development. Emorsgate EH1 - Hedgerow Mixture will be used. EH1 contains wild flowers and grasses that are tolerant of semi-shade and is suitable for sowing beneath newly planted or established hedges and on woodland edges, rides and glades. In this instance it will be sown below newly created scrubby areas. Scrub will be planted on the bunds surrounding the development. The planting mix will include, 20% hawthorn (Crataegus monogyna), 20% blackthorn (Prunus spinosa), 10% alder buckthorn (Frangula alnus), 10% elder (Sambucus nigra), 10% hazel (Corylus avellana), 5% oak (Quercus robur), 10% silver birch (Betula pendula), 5% holly (Ilex aquifolium) and 10% dog rose (Rosa canina). A native species-rich hedgerow will be planted along the southern boundary of the site consisting of the following native species- 60% blackthorn, 20% hawthorn, 10%, holly 5%, dog rose and 5% wild clematis (Clematis vitalba). Super Pollinator Mix by Pictorial Meadows will be sown for the grassland along the eastern boundary of the site. Gabion walls will be planted up with the following climbers- 25% ivy (*Hedera helix*), 25% honeysuckle (*Lonicera periclymenum*), 25% wild clematis and 25% common hop (*Humulus lupulus*). The following tree species will be planted along the southern boundary and in the eastern end of the site- Callery pear (Pyrus Chanticleer) x10, English oak ‘Koster’ (*Quercus robur* 'Koster') x14 and another 27 standard English oak. The wildlife pond will be installed in the centre of the eastern boundary of the site. This serves dual purpose, paying reference to the canal that used to run through the site and providing a water resource for a variety of species. The pond will be planted with native aquatic vegetation. A total of five bat boxes will be integrated into the flint walls on the eastern elevations of the main building. Schwegler 2FR connected tubes will be the most likely model. A total of fifteen bird boxes will be installed around the site. These will include swift (*Apus apus*) boxes, house sparrow, terraces, wagtail, boxes	Enhanced bio-diversity on site

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
on gabion walls and boxes for a variety of passerines integrated into the buildings and installed on trees. Five bug hotels will be installed on site. These will be installed in sunny locations along the eastern boundary of the site. Under the requirements of the NPPF in relation to development and biodiversity, there should always be a net gain from any new development and under the new Environment Bill, due to be released in late 2020, all developments will be required to seek a minimum 10% net gain from existing levels on site. The proposals above will lead to a 600% net gain in the biodiversity value of habitats at the site post-development and a 200% net gain in the biodiversity value of the hedgerow units post development. These figures do not consider non-habitat creation measures such as the proposed bird, bat and bug boxes.	
The cultural heritage of the site will be celebrated and its awareness increased by the implementation of a number of physical and technological interpretations within the new ERF itself and also in the external landscape spaces. A sense of place is best fostered by a local community if the site's past historic significance is recognised within the design (building or public spaces) and they are encouraged to engage and appreciate a new awareness of its value, but in relation to the new proposals. As such: • The historic route of the Ford to Hunston section of the Portsmouth - Arundel canal (TOR 51) is represented in the design of the proposals with a break present in both the eastern and western screening / security landforms and a water feature near the administration wing of the ERF. • The western facing flint wall will incorporate the historic seal of the Portsmouth - Arundel canal along with a recessed interpretation panel about the canal. • The water feature proposed on the eastern site boundary will have a basic heritage interpretation board equipped with a QR code that allows further information and visualisations about the development and the history of the site to be explored which will be produced in conjunction with any interested local history group(s). • The reception area of the ERF will have educational displays – some of which will reflect the aviation history of the site between 1917 - 1959 along with audio visual presentations. • The ERF building will include facilities to accommodate visitors. Educational resources envisaged will focus a proportion of their resource on the transport history of the canal and aviation importance of the site. Opportunities either with local schools or the local history groups to get them involved in a local community art installation and design project will also be explored.	Recognition and awareness raising of the cultural heritage of the site
The ERF building will include a multi-functional meeting / seminar room with capacity for accommodating up to 50 people. The education facility will provide the opportunity to promote the importance of sustainable waste management to all ages of the community.	Education opportunities – improved awareness and understanding of waste management issues
The facilities will use LED lighting, which will reduce electricity use.	Reduced greenhouse gas emissions and minimising vulnerability to climate change

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
The facilities will be built in accordance with the requirements of the prevailing Building Regulations in relation to target emission rates of CO2 and target fabric energy efficiency rates.	Reduced greenhouse gas emissions and minimising vulnerability to climate change
The ERF will be designed to meet the requirements of the Industrial Emissions Directive (IED). The combustion control system will regulate the combustion conditions, and thereby minimise the levels of pollutants and particulates in the flue gas before flue gas treatment (FGT). Combustion chambers, casings, ducts, and ancillary equipment will be maintained under a negative pressure to prevent the release of gases. During operation, the temperature in the combustion chamber will be continuously monitored and recorded to demonstrate compliance with the requirements of the IED. The combustion control system will be an automated system, including monitoring of the steam flow, oxygen content, temperature conditions of the grate, modification of the waste feed rates and the control of primary and secondary air.	Protection of health and avoidance of deterioration in local air quality
Flue gases generated from the combustion process will be cleaned before being released into the atmosphere to the appropriate standards required to protect human health and the environment. The FGT system will be designed to comply with current legislation, meeting the requirements of the Environment Agency guidance on risk assessments for environmental permits and the Industrial Emissions Directive (IED). In accordance with Article 15, paragraph 2 of the IED, emission limit values must be based on best available techniques (BAT). The BAT-associated emissions levels (BAT-AELs) are included in the BAT Reference document (BREF) on Waste Incineration. A final version of the BREF was published in December 2019 and from there on the recommendations of the BREF have become enforceable through Environmental Permits. The FGT system will therefore be designed to ensure that the facility operates well within the BAT-AELs and IED 30-minute average limits.	Protection of health and avoidance of deterioration in local air quality
Emissions from the stack will be continuously monitored using a continuous emission monitoring system (CEMS) and reported in accordance with the Environment Agency's (EA) requirements for the operation of the facility. Sampling and analysis of all pollutants will be carried out to the European Committee for Standardisation (CEN) or equivalent standards (e.g. the International Organisation for Standardisation (ISO), national or international standards). This will ensure the provision of data of an equivalent scientific quality. The CEMS will provide the information necessary for the ERF's automatic control system to ensure safe and efficient operation, it will warn the operator if any emissions deviate from predefined ranges and it will provide a record of emissions and events for the purposes of demonstrating regulatory compliance.	Protection of health and avoidance of deterioration in local air quality
The ERF process will result in two separate ash streams: IBA and FGT residues. IBA is a recyclable non-hazardous waste. Like other similar facilities (e.g. the Lakeside energy from waste (EfW) plant at Colnbrook, Slough) the IBA will, subject to contract, be transported to a company in Brentford where it will be used to make sustainable aggregates suitable for construction projects and road construction. 100% of the bottom ash from the proposed facility will be used for secondary aggregate production. The FGT residue is classed as a hazardous waste due to its elevated pH and requires either treatment or specialist landfill disposal. The FGT residue generated at the Ford ERF will be sent for treatment by OCO Technology Ltd (Grundon Waste Management Limited is both a major supporter and investor in OCO Technology Ltd) and	Reduced waste, reduced greenhouse gas emissions and minimising vulnerability to climate change

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
used to create a lightweight, high quality, sustainable carbon-negative aggregate which is used to make carbon negative building blocks as well as in other construction material products. The FGT residue will be removed from site in enclosed tankers thereby minimising the chance of spillage and dust emissions.	
Oversize and ferrous material will also be separated from the IBA stream on site and collected separately. It may be possible to achieve some degree of metal recovery and / or use as aggregate from the oversize material through off-site processing. The ferrous material will be recycled off-site.	Reduced waste / good waste management
Raw materials required for ERF process operations (including hydrated lime, PAC, ammonia, water treatment chemicals and fuel oil as well as others) will be stored appropriately in sealed silos / bunded tanks in order to minimise the risks of contamination to process and surface water. Bunded tanks / bunded controlled areas will have a volume of 110% of stored capacity.	Avoidance of water and ground pollution
Due to the proposed nature of operations at the site there is potential for a range of spillages involving significantly different materials. A number of spill procedures will be produced for each potential spillage event identified, including spillage of raw material inputs to the ERF, ready use consumables and waste material outputs. Suitable and sufficient equipment will be maintained at both the ERF and WSTF (such as spill kits) in order to deal with the predicted scale of possible spillages of material. Staff will receive training in the use of the spill kits and will regularly practise as part of the normal operation of the facility. Under all circumstances, priority will be given to the potential environmental and health and safety impacts of spillages. Engineering controls will be employed where these would reduce the potential for spillage (or minimise the impact of spillage) e.g. bunded areas for fuel storage above ground.	Avoidance of water and ground pollution
Procedures and training will be put in place for dealing with abnormal operating conditions at the ERF (e.g. failure of an auxiliary burner, FGT bag, CEMS or electricity supply). The ERF will be designed to avoid the need for regular shutdowns but if any incident is likely to endanger personnel, or there is a risk of serious damage to the facilities, or a complete power failure, an emergency shutdown will be instigated.	Efficient emergency shutdowns will avoid the potential for water, ground and air pollution. High standards of health and safety will be maintained for staff and visitors.
The ERF and WSTF will be equipped with comprehensive fire protection and detection systems which will comply with the requirements of the National Fire Protection Association's recommended practice for fire protection for electricity generating plants and high voltage direct current converter stations (NFPA 850) and also in accordance with Fire Prevention Plan guidance as set out by the Environment Agency. Any fire water generated will be retained on site until it can be collected and taken for treatment at a suitable facility.	Avoidance of water and ground pollution
The ERF and WSTF will include the following odour and dust controls: • Combustion air from the ERF will be drawn from above the waste pit so that odours and airborne dust are drawn from the bunker into the primary air system of the incineration line thus creating negative pressure and preventing their escape to atmosphere. Odour will also be controlled by keeping the entry and exit door to the tipping hall closed when there are no waste deliveries occurring.	Protection of air quality and avoidance of odour and dust nuisance issues

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
• Waste feed hoppers will be designed to ensure that emissions of dust and odours are minimised. By ensuring that the hopper dimensions exceed those of the grab, the potential for stray items of waste to accumulate on the floor and for dust and waste to be blown from the hoppers will be minimised. • In the event of a plant shutdown, which might result in waste being held in the ERF bunker for a period of time, the doors to the bunker will be kept shut. If necessary fresh waste will be used to cap older waste in order to minimise odours. An odour abatement system will also be utilised, which will draw air from the tipping hall and bunker area through the primary air ductwork, but will instead divert it through a carbon filter system, removing odour particles before exhausting clean air to atmosphere via a small stack. • There will be a first in–first out approach applied to waste delivered to the WSTF. Therefore, potentially odorous waste will not be permitted to deteriorate on site. When not in operation, all doors to the WSTF will be shut. • Daily olfactory checks will be carried out around the perimeter of the site to check for odours. • Potential emissions of dust and fumes from the ERF bottom ash discharger will be minimised by the quenching process and storage systems proposed. As part of ongoing occupational health protection dust level checks will be carried out on a regular basis in operational areas of the ERF where high dust levels may be present. This will provide an early warning of increasing dust levels, at which point action will be taken to reduce dust levels. • Dust emissions from the WSTF will be minimal as all waste materials will be contained within the building. Doors to the WSTF will be shut when the facility is not open and the movement of waste throughout the building will be minimised where possible. As a precaution, however, a rotary atomiser will be installed within the WSTF to provide dust suppression. This system will be fed from a mains water supply and will be in use during normal working hours. • The site access road will be properly maintained and regular checks will be carried out on road conditions. Cleaning will be carried out as necessary. Vehicles will also be checked to ensure that they are clear of loose waste and that their loads are secure.	
Noise control measures included at the proposed site include: • The majority of plant equipment with potential to create noise will be housed inside the main ERF and WSTF buildings and will include measures to contain noise from the noisiest elements. Within the ERF high levels of acoustic insulation will be installed around the turbines and generator sets. Other potentially noisy equipment such as fans and motors will also be insulated. • The site has been designed to provide sufficient distance between the low speed fans on the ERF's ACCs and surrounding noise receptors. The ACCs are also proposed in a location that takes advantage of the barrier effects of the ERF and WSTF buildings in relation to noise sensitive receptors located (or potentially located) to the north and west of the site.	Prevention / avoidance of excessive noise emissions

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
• Surplus spoil following construction will be used to create bunds for noise and visual screening around the site's perimeter. The western boundary of the site is proposed to include a 2 m high bund (gabion supported) with a 3 m high acoustic timber fence on top. The bund / fence is replaced with a 5 m high flint faced concrete wall in the central area, just south of the fuelling station. A 3 m high acoustic timber fence is proposed along the entire length of the southern boundary. The southern half of the eastern boundary will have a 5m high concrete wall, flint faced on both sides and the northern half will have a 2 m high bund with a 3 m high acoustic timber fence on top. The northern boundary of the site will principally have a 2 m high bund and 3 m high acoustic fence on top, with the exception of the gated area, towards the north west corner, which will have 5 m high acoustic timber fence. • All unloading and loading of vehicles will be undertaken inside the ERF and WSTF buildings and vehicle access for delivery of waste or collection of ash or recyclable materials will be restricted to normal working hours. Both the ERF and WSTF have been designed to include one-way vehicle circulation systems, which also reduces the need for reversing vehicles and reversing alarms. • Mobile plant for the site will comply with the most up-to-date standards, including noise emissions. All mobile plant will be operated and maintained in accordance with the manufacturer's instructions. Mobile plant that does not comply with the agreed operating noise limits will be taken out of service until compliance is achieved. Mobile plant movements at night will also be limited. • Noise level checks will be carried out on a regular basis in operational areas of the ERF where high noise levels may be present. Early warning of increasing noise levels will result in a noise reduction or mitigation programme. • Continuous on-site monitoring is not proposed during the operational phase of the facility. However, commissioning measurements will be completed to demonstrate compliance with the predicted plant and activity noise emission levels.	
Pest control measures to be implemented at the site include: • Waste delivered for disposal will only be stored in designated areas and any spillage of waste will be recovered in accordance with specific, time limited procedures. This will reduce the potential for feeding patterns to be established by vermin and therefore discourages infestation. The design of the waste bunker for the ERF will ensure that the bunker is watertight and this will prevent access to the contained waste by burrowing pests such as rats or squirrels. The bunker will be enclosed and under cover thereby reducing access to waste for birds and the tipping hall have been designed so as to eliminate roosting points for birds. • Routine cleaning and good housekeeping at both the ERF and the WSTF will reduce the potential for the facilities to provide an attractive environment for vermin and this will be implemented through the maintenance programmes. In the event that pests are identified, an action plan will be developed to eliminate or reduce the potential for nuisance to neighbours.	Avoidance of health / hygiene issues and general nuisance

Design description / detail / operational measure	Environmental issue addressed / avoided / reduced or environmental benefit
• Daily visual checks will be undertaken of the WSTF waste storage areas and ERF tipping hall / waste bunker area, as well as the access road and the site generally. If pests are reported appropriate measures will be taken and pest control specialists utilised where necessary. In addition to these measures, the ERF tipping hall and the WSTF tipping bays will be washed periodically and standard pest control methods will be implemented.	
Litter control measures: • All vehicles carrying waste into or out of the ERF and WSTF will be covered or sheeted, thereby ensuring the potential for litter to escape is minimised. • The delivery and storage of all waste within buildings on site further minimises the potential for wind-blown litter to occur. • A daily check will also be made to key areas of the site (e.g. the tipping hall) to identify any build-up of waste.	Avoidance of nuisance
The ERF will operate 24 hours a day, seven days a week, though there will be periods of annual maintenance when waste processing is reduced. The majority of deliveries and collections will be received / made between 06:00 and 20:00 hours Mondays to Fridays and 08:00 and 18:00 hours on Saturdays. The WSTF will also operate from 06:00 to 20:00 Mondays to Fridays, 08:00 to 18:00 on Saturdays.	Prevention of noisy activities during quieter periods of the night
All vehicles will access the proposed ERF and WSTF from Ford Road. No HGV vehicles will be permitted to leave or access the site to / from the northern stretch of Ford Road. This will apply during operation and construction.	Restrict HGV movements to the south of Ford Road
Ford EfW Limited and Grundon Waste Management Limited have already established a Local Liaison Committee and will continue to meet on a regular basis to discuss the proposed development. It is intended that the group will meet during all stages of the proposed development, including: construction, commissioning and the start of operations and continue for as long as there is an interest. The liaison committee will provide the opportunity for those in the local community to raise any potential issues or queries. It will also provide a forum for community stakeholders to be informed and consulted regarding site operations and procedures. Liaison group members will include local parish councils, locally elected representatives of the community, as well as representatives of the Environment Agency, WSCC, Arun District Council and other stakeholders as appropriate.	Building good community relations with neighbours and good avenues of communication.
The existing WTS is currently certified to ISO50001 Energy Management System and also has a Competence Management System in place. It is intended that the proposed WSTF will also be certified to those standards and in addition be certified to ISO14001 Environmental Management System, ISO9001 Quality Management System and ISO45001 Health and Safety Management. The ERF will also be accredited to ISO14001 Environmental Management System, ISO9001 Quality Management System and ISO45001 Health and Safety Management, thus indicating Ford EfW Limited's aim to achieve the highest practical standards of quality, safety, occupational health, environmental control and performance at the proposed site.	Demonstrates commitment to protecting all facets of the local environment (air quality, noise, water, ground conditions, traffic, etc.).

Table 16.2: Secondary mitigation measures

Potential effect	Mitigation
	Air quality, odour and dust
Dust generation during construction	A range of measures will be implemented through the construction environmental management plan (CEMP). Appropriate measures for a site of this size include the following: • Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager • Develop and implement a dust management plan (DMP) which may include measures to control other emissions, approved by the local authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner and record the measures taken • Make the complaints log available to the local authority when asked • Carry out regular site inspections to monitor compliance with the DMP, record inspection results and make an inspection log available to the local authority when asked • Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period • Avoid site runoff of water or mud • Cover, seed or fence stockpiles to prevent wind whipping • Ensure all vehicles switch off engines when stationary - no idling vehicles • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate • Avoid bonfires and burning of waste materials • Avoid scabbling (roughening of concrete surfaces) if possible • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place • Ensure effective water suppression is used during demolition operations. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground • Avoid explosive blasting, using appropriate manual or mechanical alternatives

Potential effect	Mitigation
	• Bag and remove any biological debris or damp down such materials before demolition
Carbon and greenhouse gas emissions	
No secondary mitigation measures required	
Health	
No secondary mitigation measures required	
Community and social effects	
No secondary mitigation measures required	
Cultural heritage	
Impact on archaeology / geo-archaeology during construction	A programme of investigation is proposed (preservation by record is a sufficient and policy-recognised form of mitigation). The geoarchaeological desk based assessment and deposit model produced by Archaeology South-East (Technical Appendix F) has shown several metres of possible geo-archaeologically significant deposits present at depth across the site. The report recommends that a series of geoarchaeological test pits are undertaken to properly evaluate the nature of these deposits, assess the extent of preservation and to map them in detail across the site. Test pitting will allow deposits to be assessed for the potential to contain artefacts, ecofacts, and palaeoenvironmental material and inform whether further work will be required before development. The construction phasing programme and sequencing will allow for any further requirement such as any geotechnical engineering investigation. If deemed necessary, such targeted work could be the subject of a geoarchaeological method statement, or written scheme of investigation (WSI) in consultation with WSCC Archaeology, to ensure that borehole samples and the location of test pits produce soil samples and information for archaeological and geoarchaeology interest, as well as for engineering or hydrological purposes. Should geoarchaeological remains be present and assuming that they are of low (local) significance and a design solution cannot be implemented to ensure their preservation in situ, further mitigation works such as a programme of archaeological excavation and recording, along with post-excavation paleoenvironmental assessment and dating, may be required to ensure the preservation by record of any threatened remains. Any agreed archaeological investigation at the site will be, by its very nature, a destructive process, but the benefit to the current body of knowledge for this site will be effectively filled through the material and artefact assemblage uncovered. This approach is in line with best practice and the code of practice as set out by the Chartered Institute of Archaeologists. It will ensure that the archaeological resource at the site will be properly safeguarded and preserved by record a proportionate response to its likely significance.
Ground conditions and the water environment	
Effects on ground conditions and the water environment during construction	The construction of the proposed development will be carried out in line with a construction environmental management plan (CEMP) which will include best practice measures to manage potential effects associated with ground conditions and the water environment. An outline CEMP is provided in technical appendix L. The measures will include the preparation of a pollutants, water and sediment management protocol to inform construction works, which will set out measures such as the following:

Potential effect	Mitigation
	• Minimise storage of hazardous chemicals on site and, where storage is necessary, use anti-pollution measures such as bunded trays or leak-proof containers • Use designated refuelling sites, located away from open water • Any cleaning materials or chemicals used during the construction phase are not to be hazardous to the water environment • No storage of potentially contaminating materials in areas liable to water inundation • Use of electrical power, rather than diesel, where possible • Design of construction methods to minimise disturbance to, and mobilisation of, sediment • Controlled washing down of plant while on site • Implementation of piling design with tight quality assurance / quality controls • Oil spill kits to be kept on site, and site staff trained in their use • Minimisation of dewatering requirements by programming excavation works to be as short as possible. The need for an environmental permit to undertake dewatering will be established and the necessary applications made as required • Development of a waste soils management strategy • Development of a materials management strategy • Development of an asbestos management and health and safety plan (if necessary) Based on current knowledge of the site's level of contamination, it is anticipated that standard personal protective equipment will be sufficient to provide protection to ground workers, although asbestos may need a specific protocol and equipment, should it be found on site. Construction works will be carried out in accordance with the Environment Agency's (2007) *Pollution Prevention Guideline 5: Works and Maintenance on or Near Water.* While this document is no longer officially supported by the EA, it is still considered to be representative of good practice within the UK. Detailed procedures for the temporary storage, handling and haulage of demolition and construction waste will be developed once further design and survey work has been completed, the nature of the waste material is fully understood and routes for recycling and disposal of waste material are established. All procedures will adopt best practice and ensure that materials are safely handled whilst fully mitigating any risk of pollution to the environment or any contamination, which may jeopardise effective reuse or recycling. The outline CEMP covers waste management and is based on a number of key concepts that aim to manage and reduce construction waste.
Effects on ground conditions and the water environment – construction and post-construction	In addition to the CEMP referred to above, further work and monitoring will be undertaken pre, during and post-construction in order to ensure that no residual risks associated with ground conditions remain once the proposed development is constructed. This work includes: • An intrusive ground investigation (including a contaminated land interpretative report) to determine the presence and composition of any on-site contamination and the potential for off-site sources to have affected the site. Any significant contamination identified through appropriate risk assessment will be remediated where needed to mitigate the impacts on identified receptors. Design and completion of intrusive investigation and assessment will be in accordance with appropriate Eurocodes, British Standards and current UK guidance • A separate UXO desk study / risk assessment for the site by a UXO specialist, in advance of intrusive works being undertaken at the site

Potential effect	Mitigation
	• A remediation strategy report, depending upon the results of the intrusive ground investigation • Completion of a foundation works risk assessment, in accordance with EA standards, prior to construction to inform the potential risks associated with foundation types under consideration or to identify mitigation measures that may be needed • A Materials Management Plan (MMP) (where site won materials are sought for reuse) in accordance with the provisions of the CL:AIRE document, *The Definition of Waste: Development Code of Practice, Version 2,* March 2011 • A programme of long-term groundwater monitoring in line with any foundation works programme, including excavation and construction of the waste bunker. The long-term water monitoring will also include surface water monitoring of the nearest ditch and the River Arun, due to site discharge into these features • Standard design measures for below ground structures constructed in groundwater such as piles, for example, by the provision of granular conveyance routes and drainage blankets where necessary to maintain groundwater flow rates to be approximately equivalent to that pre-development (although unlikely to be required) • Compliance with environmental permits where needed to undertake the dewatering works • Following groundworks and construction at the site, a verification report will be prepared to document the successful completion of the development and will include a detailed audit trail to ensure that the implementation of any required remedial measures was in accordance with the remediation strategy.
Landscape and visual effects	
No secondary mitigation measures possible	
Natural heritage	
Effects on ecology off-site	There are no predicted impacts on off site ecological receptors during the construction phase, however, following a standard safe working plan for the works is good general practice. This prevents any impacts on adjacent and nearby receptors, even if of low value. The following methods will be employed as good working practice: • Cover, seed or fence stockpiles to prevent wind whipping • Erect solid screens or barriers around dusty activities or the site boundary at least as high as any stockpile on site • Avoid site run-off of water or mud • Ensure an adequate supply of water on site for dust suppression • Ensure the use of quiet working methods, the most suitable plant and reasonable hours of working for noisy operations, where reasonably practicable • Screen plant to reduce noise by increasing the distance between the source and the receiver • Close acoustic covers to engines when they are in use or idling • Protect storage areas and vehicle refuelling / maintenance areas with an impervious base and provide impermeable bunds of an adequate capacity around tanks containing potential pollutants

Potential effect	Mitigation
	• Use drip trays and regular maintenance checks for construction plant • Avoid working at night during the summer months
Effects on nesting birds during construction	To prevent the disturbance of nesting birds, the following methods for site clearance will be employed: • Vegetation will be removed outside of the breeding bird season, between October and February, or • Vegetation can be removed during the breeding bird season if preceded by a nesting bird check by a suitably experienced ecologist. Any nests that are recorded must be left with a 5 m exclusion zone around them until all of the chicks have fledged. For some species this may be up to five weeks
Biodiversity enhancements on-site	All mitigation and enhancement habitat will be included in a landscape and ecological management plan (LEMP) for the site, which will specify the long term management strategy for the proposed habitats, to ensure they reach their target condition and are maintained at that condition. It is anticipated that the LEMP would be secured through condition.
Noise and vibration	
Noise effects during construction	Best Practical Means (BPM) as defined by the Control of Pollution Act 1974, will be implemented as part of the working methodology. This will serve to minimise the noise and vibration effects at receptors nearest to the construction works. The reduction in noise levels provided through the implementation of BPM will vary depending on the nature of the works. Typical BPM measures which will be considered, where reasonably practical, include: • Programming noisy works so that these do not occur during Saturday working hours of 13:00-19:00 • Plan working hours to take account of the effects of noise and vibration upon persons in areas surrounding site operations and upon persons working on-site • Where reasonably practicable, adopt quiet working methods, using plant with lower noise emissions • Where reasonably practicable, adopt working methods that minimise vibration generation • Locate plant away from noise and vibration sensitive receptors, where feasible • Use silenced and well-maintained plant conforming with the relevant EU directives relating to noise and vibration • Avoid unnecessary revving of engines and switch off equipment when not required • Keep internal haul routes well maintained • Start-up plant and vehicles sequentially rather than all together • Carry out regular inspections of noise mitigation measures to ensure integrity is maintained at all times • Provide briefings for all site-based personnel so that noise and vibration issues are understood, and mitigation measures are adhered to • Manage plant movement to take account of surrounding receptors, as far as is reasonably practicable If work is required to extend into periods beyond the agreed hours, separate authorisation will be requested from with the local authority. The construction area will be surrounded by standard site hoarding.

Potential effect	Mitigation
	During Saturday hours of 13:00-19:00, HGV movement numbers will be reduced when lower construction noise thresholds apply, to reduce the potential effect levels experienced by the receptors.
	Traffic and transport
Traffic effects during construction	The outline construction environmental management plan (CEMP) provided in Technical Appendix L seeks to minimise the impact of the construction of the proposed development on the local area. Once a contractor is appointed in due course the outline CEMP will be reviewed and updated in line with the construction programme and include details of the following: • Preferred hours of deliveries and removals (out of peak hours) • Agreed construction traffic routing • Road cleaning facility provisioning • Off-loading and storage areas • Personnel and vehicle segregation • Equipment e.g. temporary fencing, signage etc. • Site inductions Construction workers will be encouraged to use public transport services, where feasible. The detailed CEMP will also consider the safety of other road users, pedestrians and cyclists.

Table 16.3: Significant residual effects

Significant residual effect	Sensitivity of receptor	Magnitude of change	Nature	Duration	Degree of effect	Level of certainty
Air quality, odour and dust						
No residual air quality, odour and dust effects						
Carbon and greenhouse gas emissions						
Net carbon benefit of approximately 74,449 tCO_2e per annum for the ERF when compared to the baseline. Therefore, over the lifetime of the development (assumed to be 25 years) the net carbon benefit of the proposed development will be approximately 1,861,225 tCO_2e compared to the baseline.	-	-	Beneficial	Long term	Significant	Absolute
Health						
No residual health effects						
Community and social effects						
No residual community and social effects						
Cultural heritage						
Place Farm (LB1); changes to the contribution of the setting to the significance of the listed buidling through the presence of construction activity	High	Medium- small	Adverse	Temporary	Moderate	Absolute
St Andrew's Church, Ford (LB3); effects of the presence of construction activity on the wider setting of the listed building	High	Medium- small	Adverse	Temporary	Moderate	Absolute
St. Mary's Church Yapton (LB7); effects of the presence of construction activity on the wider setting of the listed building	High	Small	Adverse	Temporary	Slight-moderate	Absolute
Yapton Church Lane conservation area; changes to the contribution of the setting to the character and appearance of the conservation area through the presence of construction activity	Medium	Small	Adverse	Temporary	Slight-moderate	Absolute
Place Farm (LB1) changes to the contribution of the setting to the significance of the listed buidlings through the presence, scale and character of the development	High	Medium	Adverse	Permanent	Substantial	Absolute

Significant residual effect	Sensitivity of receptor	Magnitude of change	Nature	Duration	Degree of effect	Level of certainty
St Andrew's Church (LB3) effects of the completed development on the setting of the listed building	High	Medium	Adverse	Permanent	Substantial	Absolute
St. Mary's Church Yapton (LB7); effects of the completed development on the setting of the listed building	High	Small-negligible	Adverse	Permanent	Slight-moderate	Absolute
Ground conditions and the water environment						
No residual ground condition and water environment effects						
Landscape and visual effects						
Landscape effects						
L2 North of Yapton Coastal Plain (29) character area	Low-medium	Medium	Adverse	Long term	Moderate	Reasonable
L3 Middle Arun Valley Floor (34) character area	Medium	Medium-large	Adverse	Long term	Moderate-substantial	Reasonable
L4 Climping Lower Coastal Plain (31) character area	Medium	Medium	Adverse	Long term	Moderate	Reasonable
L5 Bilsham Coastal Plain (30) character area	Low-medium	Medium	Adverse	Long term	Slight-Moderate	Reasonable
L7 Tortington Arun Valley Sides (32) character area	Medium-high	Medium-large	Adverse	Long term	Moderate-substantial	Reasonable
L9 Binsted Upper Coastal Plain character area (26) remaining parts of Binsted Park/Wood character area (27) remaining outside the SDNP and Withy Rife (28)	Medium-high	Medium-large	Adverse	Long term	Moderate-substantial	Reasonable
L10 Lyminster Arun Valley Sides (37) character area	Medium	Medium	Adverse	Long term	Moderate	Reasonable
L11 West of Yapton Coastal Plain (21), Ryebank Rife (18) and Flansham/Middleton Fringe Coastal Plain (20) character areas	Medium	Medium	Adverse	Long term	Moderate	Reasonable
L12 Barnham Yapton Coastal Plain (22)	Low-medium	Small-medium	Adverse	Permanent	Slight-moderate	Reasonable
L13 South Downs National Park	High	Small-medium	Adverse	Long term	Moderate-substantial	Reasonable
Visual effects						

Significant residual effect	Sensitivity of receptor	Magnitude of change	Nature	Duration	Degree of effect	Level of certainty
VR1 Residents in local area north within 1.5km	Medium	Medium-large	Adverse	Long term	Moderate-substantial	Reasonable
VR2 Residents in local area east within 1.5km	Medium	Medium-large	Adverse	Long term	Moderate - substantial	Reasonable
VR3 Residents in local area south within 1.5km	Medium	Medium	Adverse	Long term	Moderate	Reasonable
VR4 Residents in local area west within 1.5km	Medium	Medium-large	Adverse	Long term	Moderate-substantial	Reasonable
VR5 Residents in local area north 1.5-4.5km	High	Medium	Adverse	Long term	Moderate-substantial	Reasonable
VR6 Residents in local area east 1.5-4.5km	Medium-high	Medium	Adverse	Long term	Moderate	Reasonable
VR7 Residents in local area south 1.5-4.5km	Medium	Medium	Adverse	Long term	Moderate	Reasonable
VR8 Residents in local area west 1.5-4.5km	Medium	Medium	Adverse	Long term	Moderate	Reasonable
VR9 People accessing the SDNP	High	Medium	Adverse	Long term	Moderate-substantial	Reasonable
VR10 PROWs In area within 1.5km	Medium	Medium-large	Adverse	Long term	Moderate-substantial	Reasonable
VR11 PROWs In area north 1.5-4.5 km	Medium-high	Medium	Adverse	Long term	Moderate-substantial	Reasonable
VR12 PROWs In area east 1.5-4.5 km	Medium-high	Medium	Adverse	Long term	Moderate	Reasonable
VR13 PROWs In area south 1.5-4.5 km	Medium	Medium	Adverse	Long term	Moderate	Reasonable
VR14 PROWs In area south 1.5-4.5 km	Medium	Medium	Adverse	Long term	Moderate	Reasonable
VR16 Arundel heritage visitors	High	Medium	Adverse	Long term	Moderate-substantial	Reasonable
VR18 Local area heritage visitors	Medium	Medium	Adverse	Long term	Moderate	Reasonable
V19 Transport-railway users	Low	Medium	Adverse	Long term	Slight-Moderate	Reasonable

Significant residual effect	Sensitivity of receptor	Magnitude of change	Nature	Duration	Degree of effect	Level of certainty
V20 Transport users- A27 & A259	Low	Medium	Adverse	Long term	Slight-Moderate	Reasonable
V21 Transport users- local roads	Low	Medium	Adverse	Long term	Slight-Moderate	Reasonable
V22 Workplaces, local	Low	Medium	Adverse	Long term	Slight-Moderate	Reasonable
Natural heritage						
No residual natural heritage effects						
Noise and vibration						
Operational noise at receptor locations R2 during night-time periods	Medium - high	Medium	Adverse	Long term	Moderate	Reasonable
Traffic and transport						
No residual traffic and transport effects						
Cumulative effects						
Cumulative impact of The Landings and the proposed ERF and WSTF proposals on the setting of the listed building - Place Farm (LB1) at completion	High	Medium	Adverse	Long term	Substantial	Absolute
Cumulative impact of the remaining part of the strategic housing allocation SD8 and the proposed ERF and WSTF proposals on the setting of the listed building - Place Farm (LB1) at completion	High	Medium-small	Adverse	Long term	Moderate	Absolute
Cumulative impact of the secondary school (option stage / preferred site) and the proposed ERF and WSTF on the setting of the listed building - St. Mary's Church Yapton (LB7) at completion	High	Small	Adverse	Long term	Moderate	Absolute
Cumulative impact of The Landings (submitted application) and the proposed ERF and WSTF proposals on landscape resources (ADC character area, North of Yapton Coastal Plain (29))	Low-medium	Large	Adverse	Long term	Moderate-substantial	Reasonable
Cumulative impact of The Landings (submitted application) and the proposed ERF and WSTF proposals on visual	Medium	Large	Adverse	Long term	Substantial	Reasonable

Significant residual effect	Sensitivity of receptor	Magnitude of change	Nature	Duration	Degree of effect	Level of certainty
receptors (VR1, VR2, VR3, VR4, VR11, VR17, VR18, VR19, VR21 and VR22).						
Cumulative impact of The Landings (remaining allocation) and the proposed ERF and WSTF proposals on landscape resources (ADC character area, North of Yapton Coastal Plain (29))	Low-medium	Large	Adverse	Long term	Moderate-substantial	Reasonable
Cumulative impact of The Landings (remaining allocation) and the proposed ERF and WSTF proposals on visual receptors (VR1, VR2, VR3, VR4, VR11, VR17, VR18, VR19, VR21 and VR22).	Medium	Large	Adverse	Long term	Substantial	Reasonable
The landscape and visual impact assessment has assessed potential cumulative landscape and visual impacts and concluded that, with the exception of the cumulative effects assessed in relation to The Landings, whilst several of the remaining proposals may have additional effects on landscape resources and visual receptors that would be affected by the proposals, the cumulative effects would not result in a change in the assessed significance of effect, as reported above.						

Table 16.4: Proposed monitoring measures

Adverse effect	Proposed monitoring measure	Responsibility for monitoring
Generation of dust during construction (mitigated through CEMP)	Regular site inspections to monitor compliance with the dust management plan and recording of results	Contractor
Need to meet appropriate standards required to protect human health and the environment	Comprehensive monitoring of emissions will be undertaken at the ERF in line with its environmental permit. No additional operational mitigation or monitoring is required beyond that embedded into the design and required by legislation.	Environment Agency in line with the environmental permits
Potential for ground and water pollution during site preparation / construction activities	A programme of long-term groundwater monitoring to be undertaken in line with any foundation works programme, including excavation and construction of the waste bunker. The long-term water monitoring will also include surface water monitoring of the nearest ditch and the River Arun, due to site discharge into these features.	Environmental specialist appointed by the contractor