14 Summary

14.1 Introduction

14.1.1 A comprehensive assessment of the potential significant environmental effects arising from the K3 and WKN Proposed Developments has been undertaken. Where possible, measures have been incorporated into the design of the proposals to avoid / reduce the potential for significant environmental effects to arise known as 'primary mitigation' (see Chapter 2 of this ES).

14.1.2 Measures to help mitigate effects identified during the assessment process have also been proposed for some of the environmental topics ('secondary mitigation').

14.1.3 Construction of K3 began in July 2016 and is expected to be completed with the facility operational by late 2019. The current consent allows K3 to generate up to 49.9MW of electricity and to process up to 550,000 tonnes of waste per annum.

14.1.4 The DCO sought seeks consent for the construction and operation of the K3 Proposed Development comprising a generating station with total generating capacity of 75MW together with proposed tonnage throughput of 657,000 tonnes per annum.

14.1.5 In practical terms this permits K3 as consented to process an additional 107,000 tonnes of waste per annum and, without any change to the external layout or design, generate an additional 25.1MW of electricity.

14.1.6 In practical terms the granting of the DCO would not result in any additional external physical construction works to K3 as consented and the layout and appearance of the facility would remain as per its consented design. Planning conditions were attached to the planning permission for K3 as consented to mitigate any effects that might arise as a result of the construction of the facility. All construction related planning conditions have been discharged. No further mitigation relating to the construction of the K3 Proposed Development is therefore required.

14.1.7 The existing planning permission for K3 as consented also includes conditions relating to the operation of the facility. No significant effects from the K3 Proposed Development have been identified and the effects in practical terms remain as per K3 as consented. On this basis the relevant conditions from the planning permission have been transposed into the DCO as necessary. These are summarised in Table 14.1 below. Mitigation measures proposed for the WKN Proposed Development for the construction, operation and decommissioning of the development at a future date is set out in Table 14.2.

14.1.8 The practical effect of the K3 Proposed Development has been presented in the technical assessments where applicable and is deemed relevant as it will be the effect of the application in real terms if consented.

14.1.9 The assessment of the effects of the K3 Proposed Development and its practical effect has not resulted in the identification of likely significant effects for either scenario. On this basis the summary Tables presented are for the K3 Proposed Development but are reflective of the conclusions of the practical effect of the K3 Proposed Development in this regard.

14.1.10 The residual effects, i.e. those potential significant effects remaining after mitigation, represent the likely significant effects of the K3 Proposed Development, the practical effect of the K3 Proposed Development and WKN Proposed Development and these are summarised in Table 14.3, and 14.4 respectively.

14.1.11 Tables 14.5, 14.6, and 14.7 provide a summary of the likely significant cumulative effects predicted to result from the K3 and WKN Proposed Developments in combination with other committed/proposed developments as set out in Chapter 3 of this ES as follows:

- Table 14.5 - Baseline + K3 Proposed Development + other relevant cumulative developments within the zone of influence of the K3 Proposed Development
- Table 14.6 - Baseline + WKN Proposed Development + other relevant cumulative developments within the zone of influence of the WKN Proposed Developments
- Table 14.7 - Baseline + K3 Proposed Development + WKN Proposed Development + other relevant cumulative developments within the zone of influence of the K3 and WKN Proposed Developments

Table 14.1 Proposed measures to mitigate potentially significant adverse effects from the K3 Proposed Development		
Potential significant adverse effects	**Mitigation measure proposed**	**Mitigation secured through**
Traffic and Transport		
Effects on the local road network (including traffic flows, disruption and driver delay) associated with the K3 Proposed Development	No more than 416 HGVs (832 movements) will be permitted to visit the K3 facility per day.	Requirement 10 of the DCO.
The sustainability of waste delivery to the K3 Site	The feasibility of waste delivery via rail or water is to be periodically reviewed and a report documenting the review issued to KCC.	Requirement 6 requires the K3 facility to be operated in accordance with the K3 Rail and Water Strategy [Document 4.8] which sets out how the use of rail or water as a delivery method is to be encouraged.
Effects on the local road network (including traffic flows, disruption and driver delay) associated with the future decommissioning of K3	A Decommissioning Environmental Management Plan (DEMP) will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Air Quality		
Generation of dust during decommissioning	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO

Climate Change		
Sustainability and green-house emissions	In the event that Kemsley Paper Mill no longer requires heat and/or power from the K3 Proposed Development, the operator of the plant shall submit a scheme to the KCC for approval setting out details of the steps that will be taken to identify alternative users of the heat and/or power generated.	Requirement 13 of the dDCO
Greenhouse gas emissions associated with decommissioning	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Noise and vibration		
Decommissioning noise levels on noise sensitive receptors	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Human Health		
The Human Health assessment has taken into account any proposed mitigation measures which are already part of K3 as well as any additional mitigation outlined within the relevant environmental technical disciplines associated with the K3 Proposed Development, namely Chapter 5: Air Quality and Chapter 4: Traffic and Transport. On this basis, no additional mitigation measures relevant to human health are considered necessary.		

Ground Conditions		
Ground contamination	Details of the storage bunkers into which waste would initially be tipped were submitted to Waste Planning Authority for approval and then subsequently installed/ constructed in accordance with such approved details. The details of the waste storage bunkers are included as an approved plan within the dDCO.	The details of the waste storage bunkers are included as an approved plan within the dDCO Requirement 9 (drawings 16315/A1/P/0220 Rev D, 16315/A1/P/0221 Rev E, 16315/A1/P/0222 Rev C, 16315/A1/P/0223 Rev C).
Decommissioning of K3	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Water Environment		
Flood risk and surface water quality	Construction of K3 as consented was undertaken in accordance with The Flood Risk Assessment (FRA) submitted in May 2017 which includes the following detailed mitigation measures: 1. The Surface Water Management and Foul Drainage Philosophy (including the drainage layout and surface water storage pond as shown on drawing referenced 16315 / A0 / 0301 Rev H and site section referenced 16315 / A0 / 0250 Rev G at Appendix B) which shall be constructed and operational prior to the acceptance of waste by the development; 2. A safe route into and out of the Application Site to an appropriate safe haven shall be identified and provided; and	The Surface Water Management and Foul Drainage Philosophy are included as an approved plan within the dDCO Requirement 9 (JPP1804-MP-001d).

	3. Finished floor levels are set in accordance with the FRA. The Surface Water Management and Foul Drainage Philosophy referred to in the Condition is certified within the DCO.	
Flood risk	All surface water drainage from the K3 is attenuated for a 1:100-year return storm with a limited discharge of 7 litres per second per hectare or the equivalent run off from a Greenfield site for a 1:2 year storm. The Surface Water Management and Foul Drainage Philosophy referred to in the Condition is certified within the DCO.	The Surface Water Management and Foul Drainage Philosophy are included as an approved plan within the dDCO Requirement 9 (dated December 2016). Requirement 12 controls surface water drainage.
Surface water quality	All fuels, oils and other liquids with the potential to result in contamination are to be stored in a secure bunded area in order to prevent any accidental or unauthorized discharge to the ground. The area for storage shall not drain to any surface water system. Where it is proposed to store more than 200 litres of any type of oil it must be stored in accordance with the provisions of the Control of Pollution (Oil Storage) (England) Regulations 2001. Where a drum or barrel has a capacity of less than 200 litres a drip tray capable of retaining 25% of the maximum capacity of the drum or barrel may be used in lieu of storing the drum or barrel in the secure bunded area.	Requirement 5 of the dDCO.
Decommissioning of K3	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO

Ecology		
Impact on protected species	An Ecological Mitigation and Management Plan pursuant to the S106 for the planning permission for K3 as consented was produced and agreed with the KCC. The EMMP is certified within the DCO.	The EMMP is included as an approved plan within the dDCO Requirement 9 (JPP1804-MP-001d).
Lighting impacts on nearby designated sites	Details of an external lighting strategy which follows best practice to reduce the impact of light spillage on the adjacent SPA and Ramsar site shall be submitted to the Waste Planning Authority for approval prior to the installation of external lighting on the site. External lighting shall only be installed on the site in accordance with the approved lighting strategy. A lighting strategy was approved with KCC in June 2019. The approved landscaping scheme is included in the approved drawings certified within the dDCO.	A lighting strategy was approved with KCC in June 2019. The approved lighting strategy is included in the approved drawings certified within the dDCO (ECO00047 Fig1).
Decommissioning of K3	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO

	Landscape and Visual Impact	
Visual impact of the development	Details of a scheme of landscaping and tree planting shall be submitted to the Waste Planning Authority for approval and shall thereafter be implemented as approved. The scheme of landscaping and tree planting approved by the Waste Planning Authority under planning reference SW/10/444/RVAR on 27 June 2017 shall be implemented as approved unless otherwise approved beforehand in writing by the Waste Planning Authority. This condition has not been transferred, but the landscaping and tree planting scheme referred to is included in the dDCO as an approved K3 works plan.	The landscaping and tree planting scheme referred to is included as an approved drawing certified within the dDCO (16315/A1/4.21 Rev M).
Visual impact of the development	All trees and shrubs planted under the scheme as approved under condition 14 above shall be maintained for a period of 5 years. Any trees or shrubs that either die, are lost, damaged or become diseased during this 5-year period shall be replaced with a tree or shrub of the same species within the next available planting season.	Requirement 11 of the dDCO
	Cultural Heritage	
No mitigation proposed or required.		N/A

Table 14.2 Proposed measures to mitigate potentially significant adverse effects from the WKN Proposed Development		
Potential significant adverse effects	**Mitigation measure proposed**	**Mitigation secured through**
Traffic and Transport		
Effects on the local road network (including traffic flows, disruption and driver delay) from construction vehicles including HGV's during construction of the WKN Proposed Development	A Construction Traffic Management Plan (CTMP) has been prepared and submitted in support of the application (Appendix 4.2) The CTMP will be a management tool that contractors will follow to minimise the impact of construction vehicles. It will be regularly monitored and reviewed on an ongoing basis to seek to further reduce impacts where possible. The CTMP includes measures to manage construction vehicles at the WKN Site and, for example, will include details such as: • Programme and total timescale for the project, each major phase of the construction and the anticipated start date; • Days and hours of site construction works; • Vehicular access routes to and from the site; • Details on the number, type, size and weight of vehicles accessing the site; • Details of how contractors, delivery companies and visitors will be made aware of the access route;	Requirement 24 of the dDCO

	• Measures to ensure route compliance; • Site plan showing compound locations where materials, skips and plant will be stored along with loading / unloading / laydown areas; • Demonstration that vehicles can access the site and turn to exit in a forward direction; • Contingency details on where delivery vehicles will wait to load/unload in the event they are unable to access the site; • Details on vehicle wheel wash facilities be provided; • Details on the arrangements for co-ordinating and controlling delivery vehicles; • Details on the arrangements for supervising, controlling and monitoring vehicle movements to/from the site; • Details on the arrangements to ensure that the loading/collection areas are clear of vehicles and materials before the next HGV arrives; • Details on any specific arrangements for contractor car sharing / minibus / collection / drop-off arrangements to and from the site; • Details on the arrangements for contractor parking on site; • Details on monitoring and review;	

	• Details on how complaints from local residents and businesses, etc. will be dealt with, reported and acted upon; • Details on the transport requirements for abnormal indivisible loads; • A detailed swept path analysis of abnormal indivisible loads; • Details of any measures to accommodate abnormal indivisible loads along the access route along with the management measures to be adopted; and • Details of any road condition surveys. The construction of the WKN Proposed Development is to be carried out in accordance with the CTMP.	
Effects on the local road network (including traffic flows, disruption and driver delay) from HGV's and RCV's associated with the operation of the WKN Proposed Development and operational staff movements	Production of an Operational Traffic Routing and Management Plan to be submitted for the approval of KCC in accordance with the draft provided as Appendix 4.3.	Requirements 25 and 26 of the dDCO
Effects on the local road network (including traffic flows, disruption and driver delay) associated with the future decommissioning of the WKN Proposed Development	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO

Air Quality		
Generation of dust during construction	A Construction Environmental Management Plan (CEMP) has been prepared and submitted in support of the application (Appendix 2.1) and includes the following measures: • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible; • Avoid site runoff of water or mud; • Ensure all vehicles switch off engines when stationary – no idling vehicles; • Use enclosed chutes and conveyors and covered skips; • Avoid bonfires and burning of waste materials. • 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; • Display the head or regional office contact information; • 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; • Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book; • Production/implementation of a Dust Management Plan;	Section 5.3 of the draft CEMP.and Requirement 22 of the dDCO

	• Carry out regular site inspections to monitor compliance with a Dust Management Plan, record inspection results, and make an inspection log available to the local authority when asked. The construction of the WKN Proposed Development is to be carried out in accordance with the CEMP.	
Generation of dust during decommissioning	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Climate Change		
Greenhouse gas emissions during construction	Construction-stage effects are not predicted to be material to the total life-cycle effect of the WKN Proposed Development. Nevertheless, in consideration of IEMA guidance that all GHG emissions are potentially significant, and government policy seeking GHG emissions reductions across all economic sectors including construction, in general terms it is recommended that the Applicant considers implementing the following additional mitigation measures during detailed design: • seek a reduction in total materials required and hence embodied carbon through lean/efficient design; • specify materials with low embodied carbon (e.g. based on data in the BRE Green Guide to Specification [Ref. 6.22] or product EPDs; • source materials locally where possible to reduce transport GHG emissions; and	Requirement 22 of the dDCO

	• consider use of an established methodology, such as BREEAM New Infrastructure [Ref. 6.23], PAS2080 [Ref. 6.21] and/or life-cycle analysis to guide low-carbon design and construction, set a feasible reduction target and quantify its achievement.	
Greenhouse gas emissions associated with decommissioning	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Noise and vibration		
Construction noise levels on noise sensitive receptors	The Project is to be constructed during standard working hours except by prior written agreement of SBC. A Construction Environmental Management Plan (CEMP) has been prepared and submitted in support of the application (Appendix 2.1). The CEMP includes the following measures: Examples of appropriate construction mitigation are provided in BS 5228-1:2009+A1:2014. The construction of the WKN Proposed Development is to be carried out in accordance with the CEMP.	Section 5.4 of the OCEMP.and Requirement 22 of the dDCO
Operational noise generated by the WKN Proposed Development	Secured through the detailed design process, any plant noise specification should require that noise emissions as experienced within neighbouring residential areas are relatively free from distinct tone or impulsive character or specified to a lower acoustic emission such that the BS 4142 rating level remains as stated in Table 7.14 of Chapter 7.	Requirement 14 of the dDCO

	Noise level monitoring should be undertaken as part of completion tests and compared against the predicted noise and effect levels in Chapter 7 of the ES, to ensure that the noise emissions committed to within this ES are achieved.	
Decommissioning noise levels on noise sensitive receptors	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Human Health		
The Human Health assessment has taken into account any additional mitigation outlined within the relevant environmental technical disciplines associated with the WKN Proposed Development, namely Chapter 5: Air Quality and Chapter 4: Traffic and Transport. On this basis, no additional mitigation measures relevant to human health are considered necessary.		
Ground Conditions		

Effects on human health and the environment during construction	The impact assessment has not identified any potential significant effects to human health and the environment as a consequence of the construction phase of the WKN Proposed Development. However, there are a number of standard measures that shall be implemented during construction to minimise potential impacts associated with the WKN Proposed Development. These measures are standard in construction projects and are in line with current industry good practice for construction on brownfield sites. A Construction Environmental Management Plan (CEMP) has been prepared and submitted in support of the application (Appendix 2.1). The CEMP includes the following measures: • Stockpiling of contaminated materials should be avoided where practicable. Where it is necessary, stockpiles would be located on areas of hard-standing or plastic sheeting to prevent contaminants infiltrating into the underlying ground; • The implementation of dust suppression measures during construction to minimise nuisance dust emissions during the works; • Any necessary licences would be obtained for the storage, treatment and disposal of waste; • Where significant unforeseen contamination is identified e.g. hydrocarbons, fibrous asbestos, during the course of the work, work would stop and further investigation would be undertaken to establish the nature and level of contamination and the risks posed to human health and controlled waters. Where remediation is required, on-site treatment, including	Section 5.5 of the draft CEMP.and Requirement 22 of the dDCO

	bioremediation would be carried out wherever practicable; • Suitable management and control of shallow groundwater during excavation works to minimise the potential for the spread of contamination contained within the water; • The disposal of solid waste, including surplus spoil, would be managed to maximise the environmental and developmental benefits from the use of surplus material and to minimise any adverse effects of disposal. In general, the principles of the waste management hierarchy, reduce-reuse-recycle would be applied; • Prior to commencement of construction works, a Site Waste Management Plan would be produced. This would predict all waste streams to be produced including volumes expected and to identify the waste management action proposed for each different waste type in line with the waste hierarchy; • Potential waste arising from excavation would be sampled and analysed to determine the waste classification required to establish relevant waste streams, suitability for reuse/recycle and disposal/storage requirements; • Excavation works would be carried out in such a way to enable effective segregation of clean materials for reuse on site wherever practicable. It is anticipated that 'clean' concreate and masonry would be crushed for reuse for backfilling and other purposes, or would be sent offsite for recycling or recovery with disposal only as a final resort. Material would only be re-used	

	on site in accordance with the Environmental Permitting Regulations or appropriate approved Code of Practice e.g. Contaminated Land: Application in Real Environments (CL:AIRE) or Waste Resource Action Plan (WRAP); • Storage of hazardous materials, including fuel, during the construction phase should utilise industry best practice e.g. storage in bunded areas, to minimise the potential for spills / leakages to impact soil and groundwater; • The implementation of suitable measures in line with the Construction Design Management Regulations (2015) would manage any risks posed to human health, particularly with regard to asbestos. These measures should include the provision of suitable Personal Protective Equipment (PPE) and welfare facilities. Other measures to manage risks to human health from the presence of asbestos should be implemented and should include dust suppression measures and air monitoring. The construction of the WKN Proposed Development is to be carried out in accordance with the CEMP.	

Contamination of aquifer through piling during construction	A piling risk assessment is to be produced to determine the most suitable piling technique to be implemented, to minimise the potential for the downward migration of contamination within the Made Ground into the Secondary A aquifers (Lambeth Group and Thanet Formation).	Requirement 28 of the dDCO
Effects on human health from the presence of potential ground gas post construction	To mitigate completed development effects to human health from the presence of ground gas, ground gas protection measures will be implemented within new structures to minimise the potential for the migration into and accumulation of ground gas within these structures. The design of ground gas protection measures will be undertaken in accordance with CIRIA C665 and BS8485 (see Chapter 8).	Requirement 28 of the dDCO.
The risk of potential exposure of future site users through the potential presence of residual contaminants in underlying soils	In areas of proposed landscaping, a capping layer should be installed to minimise potential exposure of future site users from the presence of contaminants within the underlying soils. The capping layer should comprise the importation of clean soils and be constructed of a suitable thickness to form an effective and robust barrier and to ensure establishment of vegetation.	Requirement 19 of the dDCO
Decommissioning of the WKN Proposed Development	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO

	Water Environment	
Water quality and flood risk impacts during construction	A Construction Environmental Management Plan (CEMP) has been prepared and submitted in support of the application (Appendix 2.1). The CEMP includes the following measures: <u>Best practice measures</u> • CIRIA – SuDS Manual [Ref 10.34]; • Prevent surface water being affected during earthwork operations. No discharge to surface watercourses will occur without permission from the EA (SuDS Manual) [Ref 10.34]; • Environment Agency, Pollution Prevention Guidance Note 6 (PPG6): Pollution Prevention Guidelines – Working at Construction and Demolition Sites [Ref 10.37]; • Environment Agency, Pollution Prevention Guidance Note 5 (PPG5):– Working in, near or liable to affect watercourses [Ref 10.38]; • CIRIA (C741) Environmental good practice on site guide [Ref 10.35]; • Prevent surface water being affected during earthwork operations. No discharge to surface watercourses will occur without permission from the EA (SuDS Manual); • Wheel washers and dust suppression measures to be used as appropriate to prevent the migration of pollutants (SuDS Manual); • Regular cleaning of roads of any construction waste and dirt to be carried out (SuDS Manual); and • A construction method statement to be submitted for approval by the responsible authority (SuDS Manual).	Section 5.6 of the draft CEMP.and Requirement 22 of the dDCO

	Water Quality monitoring Water quality monitoring will be carried out throughout the construction phase to ensure no discharge of pollutants or increase in suspended sediments occurs in accordance with the existing licence EPR BJ7468IC-V009. . Pollution prevention measures • Management of construction works to comply with the necessary standards and consent conditions as identified by the EA; • A briefing highlighting the importance of water quality, the location of watercourses and pollution prevention included within the site induction; • Areas with prevalent run-off to be identified and drainage actively managed, e.g. through bunding and/or temporary drainage; • Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) to be bunded and carefully sited to minimise the risk of hazardous substances entering the drainage system or the local watercourses. Additionally the bunded areas will have impermeable bases to limit the potential for migration of contaminants into groundwater following any leakage/spillage. Bunds used to store fuel, oil etc. to have a 110% capacity; • Disturbance to areas close to watercourses reduced to the minimum necessary for the work; • Excavated material to be placed in such a way as to avoid any disturbance of areas near to the banks of watercourses and any spillage into the watercourses; • Construction materials to be managed in such a way as to effectively minimise the risk posed to the aquatic environment;	

	• All plant machinery and vehicles to be maintained in a good condition to reduce the risk of fuel leaks; • Drainage works to be constructed to relevant statutory guidance and approved via the LLFA prior to the commencement of construction; and • Consultation with the EA to be ongoing throughout the construction period to promote best practice and to implement proposed mitigation measures. <u>Surface water management strategy</u> A surface water management plan would be present which will ensure that any increase in surface water run-off would be handled on-site and a run-off rate to the surrounding water environment (Swale Estuary) is maintained at the agreed upon rate. This would highlight potential contaminants and suspended sediment originating from the WKN Site, which may affect the receiving watercourse. Monitoring would be carried out during the construction phase and continue throughout the lifetime of the development WKN Proposed Development. <u>Flood management plan</u> A flood management plan will be produced and adhered to throughout the construction phase and will include flood-warning measures for safe site evacuation. The construction of the WKN Proposed Development is to be carried out in accordance with the CEMP.	
Water quality and flood risk impacts during operation of the WKN Proposed Development	<u>Surface water drainage strategy</u> An outline drainage strategy forms part of the application and the detailed drainage strategy will be finalised by the contractor and agreed with the EA and LLFA. The strategy will	Requirement 18 of the dDCO

	incorporate the use of appropriate SuDS techniques, interceptors and separators as required, treating surface water run-off generated from the WKN Proposed Development, prior to either infiltrating into the underlying geology, where appropriate, or discharging into the Swale Estuary at an agreed rate. Drainage maintenance plan This plan is applicable throughout the lifetime of the development for the drainage within the WKN Proposed Development, and any connections to the surface water, or foul sewer and trade waste networks. Flood management plan This plan is applicable throughout the lifetime of the development and should include flood-warning measures. This plan applies to the WKN Site on a regional basis. Emergency spillage management plan This plan is applicable throughout the lifetime of the development and should include emergency measures. This plan applies to the WKN Site on a regional basis. Water quality monitoring strategy Ongoing water quality monitoring should be undertaken throughout the lifetime of the development. This will apply to the drainage ditches within and surrounding the WKN Site. Flood Evacuation Plan	

	A flood evacuation plan will be developed for the construction and operational phases of the WKN Proposed Development, with staff training provided, to ensure in the event of the plan be activated staff are aware of the procedures upon receipt of the flood warning, together with evacuation routes. The flood evacuation plan should be practiced regularly.	
Decommissioning of the WKN Proposed Development	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Ecology		
Dust impacts on designated sites during construction	Subject to the implementation of the dust mitigation measures set out above under 'Air quality' no further mitigation measures are required.	Section 5.7 of the draft CEMP.and Requirement 22 of the dDCO
Visual disturbance impacts on breeding marsh harrier and the Swale SPA and Ramsar site during construction	A Construction Environmental Management Plan (CEMP) has been prepared and submitted in support of the application (Appendix 2.1). The CEMP includes the following measures: • Retention of the existing 2.4m closed board fence along the northern boundary of the WKN site • Erection of a new 2.4m closed board fence around the WKN laydown area • A lighting scheme for the construction phase to follow best practice to minimise light impacts such that lighting levels at the site boundary will be no more than 1 lux. The construction of the WKN Proposed Development is to be carried out in accordance with the CEMP.	Section 5.7 of the draft CEMP.and Requirement 22 of the dDCO

Noise disturbance on breeding marsh harrier and the Swale SPA and Ramsar site during construction	In order to avoid impacts to the birds using the intertidal area and marsh harrier, impact piling would be undertaken during the following periods: • No impact piling between April and August, inclusive; • No impact piling between the months January and February inclusive. • Limited impact piling is permissible between the months of November and December provided that any impact piling activity does not accrue to more than a total of 10 days consecutively or otherwise.	Requirement 29 of the dDCO
Surface water drainage during construction	Subject to the implementation of the measures set out above under 'Water environment' no further mitigation measures are required.	Section 5.7 of the draft CEMP.and Requirement 22 of the dDCO
Impacts on reptiles and annual beard grass during and post-construction	An ecological mitigation and management plan (EMMP) has been produced in support of the application (Appendix 11.4) and includes: • Requirement of a two stage strim of areas adjacent to construction access road and laydown area • Destructive search of all appropriate areas to ensure all reptiles have been removed • Installation of drift fencing to prevent reptiles re-entering the site • Sowing of annual beard grass seeds along bare banks of the attenuation pond • Restoration of the laydown area to provide suitable reptile habitat (post construction) • Creation of a grassland/ scrub mosaic in the landscaping area proposed on the WKN Site • Set out a detailed management regime to maintain the habitats created	Requirement 21 of the dDCO

	The WKN Proposed Development is to be carried out in accordance with the EMMP produced.	
External lighting impacts of designated sites and protected species from the completed development	Implementation of a lighting scheme to follow best practice to minimise light impacts such that lighting levels at the site boundary will not be detrimental to protected species.	Requirement 23 of the dDCO
Dust impacts on designated sites during decommissioning	A DEMP will be prepared and approved by the local planning authority prior to decommissioning and the works will be undertaken in accordance with this.	Requirement 4 of the dDCO
Landscape and Visual Impact		
Visual impact of the WKN Proposed development	The provision of landscaping to help integrate the WKN Proposed Development within the landscape of The Swale, and short and long-distance views.	Requirement 15 and 16 of the dDCO.
Cultural Heritage		
Impact on the archaeological resource of the site	Whilst the archaeological resource of the Site is likely to be low and the unmitigated effect of the development on the buried archaeology therefore not significant, in light of the fact the archaeological resource of the Site is technically unknown a programme of archaeological fieldwork in the	Requirement 20 of the dDCO

	form of trial trenching (in the first instance) will be undertaken at a suitable time following consent.	

Table 14.3 Identified significant residual effects from the K3 Proposed Development		
Impact Type	Stage of Development	Significant Residual Effects (beneficial or adverse)
Traffic and Transport	Completed Development	There are no predicted significant traffic and transport effects envisaged as a result of the K3 Proposed Development subsequent to the mitigation measures set out in Table 14.1 above.
	Decommissioning	
Air Quality	Completed Development	There are no predicted significant effects on air quality envisaged as a result of the K3 Proposed Development subsequent to the mitigation measures set out in Table 14.1 above.
	Decommissioning	
Climate Change	Completed Development	The GHG emission reductions predicted due to the K3 Proposed Development associated with the diversion of waste from landfill, is considered to have a significant beneficial effect.
	Decommissioning	
Noise and Vibration	Completed Development	There are no predicted significant effects on the noise environment envisaged as a result of the K3 Proposed Development subsequent to the mitigation measures set out in Table 14.1 above.
	Decommissioning	
Human Health	Completed Development	There are no predicted significant effects on human health envisaged as a result of the K3 Proposed Development subsequent to the mitigation measures set out in Table 14.1 above.
	Decommissioning	
Ground Conditions	Completed Development	There are no predicted significant ground condition related effects envisaged as a result of the K3 Proposed Development post implementation of the mitigation measures set out in Table 14.1 above.
	Decommissioning	
Water Environment	Completed Development	There are no predicted significant effects on the water environment envisaged as a result of the K3 Proposed Development post implementation of the mitigation measures set out in Table 14.1 above.
	Decommissioning	
Ecology	Completed Development	There are no predicted significant effects on ecology envisaged as a result of the K3 Proposed Development post implementation of the mitigation measures set out in Table 14.1 above.
	Decommissioning	

Landscape & Visual Impact	Completed Development Decommissioning	There are no predicted significant landscape and visual effects envisaged as a result of the K3 Proposed Development.
Archaeology & Cultural Heritage	Completed Development Decommissioning	There are no predicted significant archaeology and cultural heritage effects envisaged as a result of the K3 Proposed Development.

Table 14.4 Identified significant residual effects from the WKN Proposed Development		
Impact Type	Stage of Development	Significant Residual Effects (beneficial or adverse)
Traffic and Transport	Demolition and Construction	There are no predicted significant traffic and transport effects envisaged as a result of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
	Completed Development	
	Decommissioning	
Air Quality	Demolition and Construction and	There are no predicted significant air quality effects envisaged as a result of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
	Completed Development	
	Decommissioning	
Climate Change	Demolition and Construction and	There are no predicted significant climate change related effects envisaged as a result of the construction of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
	Completed Development	The GHG emission reductions predicted due to the WKN Proposed Development associated with the diversion of waste from landfill, are considered to have a significant beneficial effect.
	Decommissioning	There are no predicted significant climate change related effects envisaged as a result of the decommissioning of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
Noise and Vibration	Demolition and Construction	There are no predicted significant effects on the noise environment envisaged as a result of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
	Completed Development	
	Decommissioning	
Ground Conditions	Demolition and Construction	There are no predicted significant ground condition related effects envisaged as a result of the WKN Proposed Development post implementation of the mitigation measures set out in Table 14.2 above.

	Completed Development Decommissioning	
Water Environment	Demolition and Construction Completed Development Decommissioning	There are no predicted significant effects on the water environment envisaged as a result of the WKN Proposed Development post implementation of the mitigation measures set out in Table 14.2 above.
Ecology	Demolition and Construction Completed Development	There are no predicted significant effects on Ecology envisaged as a result of the WKN Proposed Development post implementation of the mitigation measures set out in Table 14.2 above.
Landscape & Visual Impact	Demolition and Construction Completed Development Decommissioning	There are no predicted significant landscape and visual effects envisaged as a result of the WKN Proposed Development post implementation of the mitigation measures set out in Table 14.2 above.
Archaeology & Cultural Heritage	Demolition and Construction Completed Development Decommissioning	There are no predicted significant archaeological or cultural heritage related effects envisaged as a result of the WKN Proposed Development post implementation of the mitigation measures set out in Table 14.2 above.

Table 14. 5 Identified significant residual cumulative effects from the K3 Proposed Development with other planned or proposed development		
Impact Type	Stage of Development	Significant Residual Effects (beneficial or adverse)
Traffic and Transport	Completed Development	There are no predicted significant cumulative effects on traffic or transport envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.1 above
	Decommissioning	
Air Quality	Completed Development stages	There are no predicted significant cumulative effects on air quality envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.1 above.
	Decommissioning	
Climate Change	Completed Development stages	The K3 Proposed Development is considered to result in a significant beneficial cumulative effect on climate change.
	Decommissioning	There are no predicted significant cumulative climate change related effects envisaged as a result of the decommissioning of the K3 Proposed Development subsequent to the mitigation measures set out in Table 14.1 above.
Noise and Vibration	Completed Development	There are no predicted significant cumulative noise and vibration effects envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.1 above.
	Decommissioning	
Human Health	Completed Development	There are no predicted significant cumulative human health effects envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.1 above.
	Decommissioning	
Ground Conditions	Completed Development	There are no predicted significant cumulative ground condition related effects envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.1 above.
	Decommissioning	
Water Environment	Completed Development	There are no predicted significant cumulative effects on the water environment envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.1 above.
	Decommissioning	
Ecology	Completed Development	There are no predicted significant cumulative effects on ecology envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.1 above
	Decommissioning	

Landscape & Visual Impact	Completed Development Decommissioning	There are no predicted significant cumulative landscape and visual effects envisaged as a result of the K3 Proposed Development.
Archaeology & Cultural Heritage	Completed Development Decommissioning	There are no predicted significant cumulative archaeological or heritage effects envisaged as a result of the K3 Proposed Development.

Table 14. 6 Identified significant residual cumulative effects from the WKN Proposed Development with other planned or proposed development		
Impact Type	Stage of Development	Significant Residual Effects (beneficial or adverse)
Traffic and Transport	Demolition and Construction	There are no predicted significant cumulative effects on traffic or transport envisaged as a result of the WKN Proposed Development post mitigation as set out in Table 14.2 above.
	Completed Development	
	Decommissioning	
Air Quality	Demolition and Construction and	There are no predicted significant cumulative effects on air quality envisaged as a result of the WKN Proposed Development post mitigation as set out in Table 14.2 above.
	Completed Development stages	
	Decommissioning	
Climate Change	Demolition and Construction and	There are no predicted significant cumulative climate change related effects envisaged as a result of the construction of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
	Completed Development stages	The WKN Proposed Development is considered to result in a significant beneficial cumulative effect on climate change.
	Decommissioning	There are no predicted significant cumulative climate change related effects envisaged as a result of the decommissioning of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
Noise and Vibration	Demolition and Construction	There are no predicted significant cumulative noise and vibration effects envisaged as a result of the WKN Proposed Development post mitigation as set out in Table 14.2 above.
	Completed Development	
	Decommissioning	
Human Health	Demolition and Construction	There are no predicted significant cumulative human health effects envisaged as a result of the WKN Proposed Development post mitigation as set out in Table 14.2 above.

	Completed Development	
	Decommissioning	
Ground Conditions	Demolition and Construction	There are no predicted significant cumulative ground condition related effects envisaged as a result of the K3 Proposed Development post mitigation as set out in Table 14.2 above.
	Completed Development	
	Decommissioning	
Water Environment	Demolition and Construction	There are no predicted significant cumulative effects on the water environment envisaged as a result of the WKN Proposed Development post mitigation as set out in Table 14.2 above.
	Completed Development	
	Decommissioning	
Ecology	Demolition and Construction	There are no predicted significant cumulative effects on ecology envisaged as a result of the WKN Proposed Development post mitigation as set out in Table 14.2 above
	Completed Development	
	Decommissioning	
Landscape & Visual Impact	Demolition and Construction	The direct cumulative effects of the cumulative schemes (identified in Chapter 3) and indirect effects of the WKN Proposed Development are predicted to result in a substantial adverse cumulative effect during the day time and at night on the rural character of the Chetney and Greenborough Marshes character area which is significant. However, the WKN Proposed Development would make a negligible contribution to this cumulative effect. The direct effects of the cumulative schemes and the indirect effect of the WKN Proposed Development on the Iwade Arable Farmland character area is predicted to result in a substantial adverse effect during the day and at night, which is significant. However, the WKN Proposed Development would make a negligible contribution to this cumulative effect. Walkers using the Saxon Shore Way/Footpath ZU1 south of the WKN Site and footpath ZU2 at Viewpoint 3 and 7, would experience a substantial adverse cumulative effect during the day and night time on views from the footpaths which is significant. However, the WKN Proposed Development would make a slight or negligible adverse contribution to this cumulative effect.
	Completed Development	

		The direct effects of the cumulative schemes and the indirect effect of the WKN Proposed Development on views from the central high point of the Isle of Sheppey predicted to result in a substantial adverse cumulative effect during the day, which is significant. However, the WKN Proposed Development would make a negligible to slight adverse contribution to this cumulative effect.
	Decommissioning	There are no predicted significant cumulative landscape and visual effects envisaged as a result of decommissioning WKN Proposed Development.
Archaeology & Cultural Heritage	Demolition and Construction	There are no predicted significant cumulative archaeological or heritage effects envisaged as a result of the WKN Proposed Development post mitigation as set out in Table 14.2 above.
	Completed Development	
	Decommissioning	

Table 14. 7 Identified significant residual cumulative effects from the K3 and WKN Proposed Development with other planned or proposed development		
Impact Type	Stage of Development	Significant Residual Effects (beneficial or adverse)
Traffic and Transport	Construction	There are no predicted significant cumulative effects on traffic or transport envisaged as a result of the K3 and WKN Proposed Developments post mitigation as set out in Table 14.1&2 above.
	Completed Development	
	Decommissioning	
Air Quality	Construction	There are no predicted significant cumulative effects on air quality envisaged as a result of the K3 and WKN Proposed Developments post mitigation as set out in Table 14.1&2 above.
	Completed Development	
	Decommissioning	
Climate Change	Construction	There are no predicted significant cumulative climate change related effects envisaged as a result of the construction of the WKN Proposed Development subsequent to the mitigation measures set out in Table 14.2 above.
	Completed Development	The K3 and WKN Proposed Developments are considered to result in a significant beneficial cumulative effect on climate change.
	Decommissioning	There are no predicted significant cumulative climate change related effects envisaged as a result of the decommissioning of the K3 and WKN Proposed Developments subsequent to the mitigation measures set out in Tables 14.1&2 above.
Noise and Vibration	Construction	There are no predicted significant cumulative noise and vibration effects envisaged as a result of the K3 and WKN Proposed Developments post mitigation as set out in Table 14.1&2 above.
	Completed Development	
	Decommissioning	
Human Health	Construction	

	Completed Development	There are no predicted significant cumulative human health effects envisaged as a result of the K3 and WKN Proposed Developments post mitigation as set out in Table 14.1&2 above.
	Decommissioning	
Ground Conditions	Construction	There are no predicted significant cumulative ground condition related effects envisaged as a result of the WKN and K3 Proposed Developments post mitigation as set out in Table 14.1&2 above.
	Completed Development	
	Decommissioning	
Water Environment	Construction	There are no predicted significant cumulative effects on the water environment envisaged as a result of the K3 and WKN Proposed Developments post mitigation as set out in Table 14.1&2 above.
	Completed Development	
	Decommissioning	
Ecology	Construction	There are no predicted significant cumulative effects on ecology envisaged as a result of the K3 and WKN Proposed Developments post mitigation as set out in Table 14.1&2 above.
	Completed Development	
	Decommissioning	
Landscape & Visual Impact	Construction	The direct cumulative effects of the cumulative schemes (identified in Chapter 3) and the K3 and WKN Proposed Developments are predicted to result in a substantial adverse cumulative effect during the daytime and night time on the rural character of the Chetney and Greenborough Marshes character area which is significant. However, the combined K3 and WKN Proposed Developments would make a negligible contribution to this cumulative effect. The direct cumulative effects of the cumulative schemes (identified in Chapter 3) and the K3 and WKN Proposed Developments are predicted to result in a substantial adverse cumulative effect on the Iwade Arable Farmland character during the day and at night, which is significant. However, the combined K3 and WKN Proposed Developments would make a negligible contribution to this cumulative effect. Walkers using the Saxon Shore Way/Footpath ZU1 south of the K3 and WKN Sites and footpath ZU2 at Viewpoint 3 and 7, would experience a substantial adverse cumulative effect during the day and night time on views from the footpaths which is significant. However, the combined K3 and WKN Proposed Developments would make a moderate or slight adverse contribution to this cumulative effect. The direct cumulative effects of the cumulative schemes (identified in Chapter 3) and the K3 and WKN Proposed Developments would result in a substantial adverse cumulative effect during the day from the
	Completed Development	
	Decommissioning	

		central high point of the Isle of Sheppey, which is significant. However, the combined K3 and WKN Proposed Development would make a negligible to slight adverse contribution to this cumulative effect.
Archaeology & Cultural Heritage	Construction	There are no predicted significant cumulative effects on archaeology and built heritage post mitigation as set out in Table 14.1&2 above.
	Completed Development	
	Decommissioning	