

23.1 INTRODUCTION

23.1.1 This chapter addresses the impacts of the AMEP in relation to waste generated as a result of construction and operation of the AMEP and details how wastes will be managed.

23.1.2 The baseline situation has been reviewed based on the information available about current waste management arrangements and infrastructure in the area of the AMEP. Wastes that will arise during construction have been identified from experience of similar scale construction projects, whilst manufacturing wastes and scrap arising from the production and assembly of marine energy components have been assessed based on experience of current manufacturing technology used in the production of wind turbine components. Additionally, wastes will arise from general office operations on the site. These have been assessed from the scale of the development and its operation.

23.2 LEGISLATION, POLICY AND GUIDANCE

*Overview*

23.2.1 The principal waste legislation, policy and guidance taken into account in this assessment are detailed below.

*Legislation*

*Environmental Protection (Duty of Care) Regulations 1991 (as amended)*

23.2.2 This places a Duty of Care on waste producers to ensure that waste is stored and transported appropriately and securely, and that it is transported and handled by people or businesses that are authorised to do so, and that it is accompanied by a full written description sufficient for each person in the disposal chain to understand what they are handling.

*Hazardous Waste (England & Wales) Regulations 2005 (as amended).*

23.2.3 This defines certain wastes as hazardous and requires producers or holders of hazardous waste to register annually with the Environment Agency (EA), unless the total quantity is less than 500 kg each year.

23.2.4 This defines “waste” throughout the EU and provides the overarching legislative framework for the collection, transport, recovery and disposal of waste. Amongst other things, Article 4 of the Directive requires that the following hierarchy (the “waste hierarchy”) shall apply as a priority order in waste prevention and management legislation and policy:

- Prevention;
- Preparing for re-use;
- Recycling;
- Other recovery, eg energy recovery; and
- Disposal.

23.2.5 Additionally, Article 11(2) of the revised Waste Framework Directive sets targets for Member States to achieve:

- by 2020 a minimum of 50 percent by weight of waste materials “such as at least paper, metal, plastic and glass from households and possibly from other origins as far as these waste streams are similar to waste from households”, shall be prepared for re-use or recycled; and
- also by 2020 a minimum of 70 percent by weight of non-hazardous construction and demolition waste (excluding naturally occurring soils and stones) shall be prepared for re-use, recycled or recovered.

*The Site Waste Management Plans Regulations 2008.*

23.2.6 This requires a plan, a Site Waste Management Plan (SWMP), to be put in place before a development commences. It must record all decisions about the AMEP design, construction methods and materials that will minimise waste produced on site. It should also set realistic targets for, and subsequently record, the quantities of waste reused, recycled and disposed.

*The Environmental Permitting (England and Wales) Regulations 2010.*

23.2.7 This requires prescribed processes be granted an Environmental Permit or Exemption from the EA or local authority regulator that places conditions on the management of wastes in order to prevent harm to the environment or human health. It also requires that waste destined for landfill disposal be treated, in accordance with Article 4 of Directive

1999/31/EC (26 April 1999) on the landfill of waste. Exemptions may be required to include:

- U1 – Use of waste in construction;
- T5 – Screening and blending of waste;
- T15 – Treatment of waste aerosol cans;
- D5 – Deposit of samples of waste for the purposes of testing and analysing them;
- S1 – Storage of waste in secure containers; and
- S2 – Storage of waste in a secure place.

*The Waste (England and Wales) Regulations 2011*

23.2.8 These regulations implement the revised EU Waste Framework Directive and are expected to come into force in October 2011. They revise the requirements for the collection, transport, recovery and disposal of waste, and introduce a requirement on businesses to confirm that they have applied the waste hierarchy when transferring waste. They also exclude some waste categories absolutely from waste controls, including:

- uncontaminated soil and other naturally occurring material excavated in the course of construction activities where it is certain that the material will be used for the purposes of construction in its natural state on the site from which it was excavated; and
- sediments relocated inside surface waters for the purpose of managing waters and waterways or of preventing floods or mitigating the effects of floods and droughts or land reclamation if it is proved that the sediments are non-hazardous.

*Policy*

*Waste Strategy for England 2007*

23.2.9 This sets the Government's policies and objectives on waste (including construction waste), placing emphasis on reducing waste and using it as a resource in line with the waste hierarchy. These are:

- to provide the drivers for the construction sector to improve its economic efficiency by creating less waste at every stage of the supply chain, from design to demolition;
- to get the sector to treat waste as a resource, closing the loop by re-using and recycling more and asking contractors for greater use of recovered material; and

- to improve the economics of the re-use and recycling sector by increasing sector demand and securing investment in the treatment of waste, including construction.

23.2.10 The Government is undertaking a review of waste policies which is expected to place further emphasis on waste prevention and re-use as part of moves towards a “zero waste” economy. Publication is expected in 2011.

*Draft National Policy Statement for Ports (2009)*

23.2.11 The Draft NPS for Ports (2009) requires applicants to set out the arrangements that are proposed for managing any waste produced in accordance with the waste hierarchy. *Inter alia*, this should include information on the proposed waste recovery and disposal system for all waste generated, and an assessment of the impact of the waste arising on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation.

### ***Guidance***

*The Definition of Waste: Development Industry Code of Practice (CL:AIRE, 2008)*

23.2.12 This sets out current industry best practice relating to earthworks and the generation of waste. It notes that excavated material produced during construction works would not normally be classed as waste providing that the following criteria apply:

- there must be a re-use and the re-use must be certain;
- only the quantity necessary for the specified works can be used; and
- the excavated material is chemically and physically suitable for re-use without treatment.

### ***Local Plans***

*North Lincolnshire Local Plan (2003) and North Lincolnshire Draft Core Strategy (May 2010)*

23.2.13 The 2003 Plan (Chapter 16) sets out policies and principles for managing wastes within the area of the AMEP. These are based on the waste hierarchy and reflect the requirements of extant legislation and national policies, and sets local policies for the development of waste management facilities. Whilst the AMEP will not be a registered Waste Management Facility, the construction and operation of the AMEP will

adhere to the broad principles of the Plan, including Policy W10 – Use of Spoil and W11 – Processing of Waste Materials.

23.2.14 The 2010 draft Core Strategy sets out revised development principles and policies to 2026, with an increased emphasis on Sustainable Resource Use and Climate Change. At CS18, this includes supporting development that minimises the consumption and extraction of minerals by making the greatest possible reuse or recycling of materials in new construction, and by making best use of existing buildings and infrastructure; and supporting development that seeks to minimise waste and facilitates recycling and using waste for energy where appropriate.

23.2.15 In light of the above legislation, policies and guidance both construction and operational wastes will be managed in line with best practice to minimise impacts on human health and the environment. Priority will be given to waste prevention and the efficient use of resources with the overall aim of minimising the quantity of waste requiring disposal both during the construction and operation of the AMEP.

### 23.3 *ASSESSMENT METHODOLOGY AND CRITERIA*

#### *Overview*

23.3.1 There is no specific guidance on EIA methodology for assessing the implications of waste management in the UK. As such, a desk-based assessment has been made of the potential main waste sources arising during construction and operation of the AMEP, and the impacts of these upon the immediate and wider environment. The impact of the arisings on, and the limitations of, the currently available waste management infrastructure accessible to the AMEP is also assessed.

23.3.2 The methodology for the assessment of impacts from waste include identification of:

- the potential for natural resource consumption and waste generation during construction of the AMEP;
- the practical measures to reduce natural resource consumption and the volumes of waste produced during either construction; and
- the impacts of waste arisings during the construction and operation of the AMEP.

Under the revised Waste Framework Directive, materials are only considered to be waste if they are discarded, intended to be discarded or are required to be discarded by the holder. As set out in the CL:AIRE guidance, excavation materials which are suitable for reuse on site are unlikely to be regarded as waste. Such reuse may include engineered restoration, landscaping, creation of bunds and embankments.

23.3.3 Where treatment is required to render excavation material suitable for onsite reuse then an Environmental Permit or Waste Exemption may be required. Given the volume of material that is likely to be excavated during the works, an Exemption is unlikely to be available.

23.3.4 With certain exceptions, if the works create surplus excavation material requiring disposal then this will be classed as waste. Disposal to landfill is expensive and unsustainable and will be considered to be a last resort. Other disposal options include disposal to a site with a waste exemption or sites with a licence for recycling or reprocessing. Such options are summarised here and will be developed in detail within the SWMPs as appropriate.

23.3.5 Waste and residues from construction and operation of the AMEP, including office wastes, will be classed as Controlled Wastes, and will require management in line with the waste hierarchy and the Duty of Care.

### *Sensitive Receptors*

23.3.6 The sensitive receptors in relation to waste are the receiving environment and natural resources. This includes impact on landfill void space where significant quantities of surplus excavation materials require landfill disposal, and estuarine water impacted through the disposal of dredgings. Water impacts are discussed in *Chapter 8* and *Chapter 9*.

23.3.7 The potential for impact on sensitive receptors adjacent to the site is considered greatest during the construction phase of the development. Details of mitigation will be set out in the SWMP in line with the general provisions set out here. In particular, consideration will be given to the appropriate disposal of dredging materials. These are set out in the Dredging Strategy.

23.3.8 Operations on wastes removed from the site, either for off-site reuse, recycling or disposal, will impact on different receptors. These may be impacted as a consequence of additional transport movements and

transport emissions, and/or the operation of the waste treatment facilities themselves. Potential waste types and control processes for their management, transport and disposal are identified and described here. Overall impacts will be minimised by maximising the recycling and reuse of materials on-site such that only residual materials will require off-site treatment.

- 23.3.9 Whilst it is not possible at this time to identify sensitive receptors impacted by off-site operations, it should be noted that all wastes leaving the site will be subject to Duty of Care and be dispatched via licensed operators to permitted facilities.

### *Significance Criteria*

- 23.3.10 The significance of impacts on sensitive receptors is defined in *Table 23.1*. Impacts which are graded major or moderate are usually those which breach relevant norms enshrined in the SWMPs, Environmental Permits, Exemptions or are required under the Duty of Care. All waste impacts are required to be mitigated through application of the waste hierarchy and by way of storage, treatment and disposal such that impacts are minor or of no significance. The significance and magnitude of potential impacts during construction and operation of the AMEP in the absence of such mitigation are summarised in *Table 23.2* and *Table 23.3* respectively.

**Table 23.1** *Significance Criteria*

<b>Significance</b>	<b>Description</b>
Major Significance	The effect on the sensitive receptor is unacceptable (either because it breaches relevant standards or norms relating to environmental protection and human health, or causes irreversible damage to a valuable asset or resource).
Moderate Significance	The effect on the sensitive receptor must be mitigated (either because it breaches relevant standards, norms, guidelines or policy, or causes long term damage to a valuable asset or resource).
Minor Significance	Some effect on a sensitive receptor may be discernable, the effect is either transient or mainly within currently accepted standards etc, but should be mitigated where cost effective measures are available.
No Significance	The effect is temporary, of low magnitude, within accepted standards etc, and is of little concern to stakeholders.

**Table 23.2** *Potential Impacts of Waste from the Construction Phase*

Waste type	Potential Impacts		
	Nature	Significance	Magnitude
Inert wastes eg dredgings, soils and excavation wastes	Need for significant treatment and/or disposal capacity (estuary and landfill sites) with attendant transport impacts if unsuitable for on-site reuse.	Moderate	Low
Hazardous wastes eg used oils, paints, contaminated soils	Pollution of groundwater and/or surface waters. Health and environmental impacts in treatment and disposal.	Moderate	High
General construction wastes eg concrete rubble, metal scrap, wood waste	Environmental burdens through inefficient resource use. Transport impacts of off-site treatment and/or disposal.	Minor	Low, cumulative

**Table 23.3** *Potential Impacts of Wastes from the Operational Phase*

Waste type	Potential impacts		
	Nature	Significance	Magnitude
Hazardous wastes eg used oils, paints, resin-impregnated production scrap	Pollution of groundwater and/or surface waters. Health and environmental impacts in treatment and disposal.	Moderate	High
General industrial wastes, eg packaging and transport frames, uncontaminated production scrap and offcuts, site maintenance wastes	Environmental burdens through inefficient resource use. Transport impacts of off-site treatment and/or disposal.	Minor	Low, cumulative
General commercial and office wastes eg paper, plastic, catering waste	Environmental burdens through inefficient resource use. Transport impacts of off-site treatment and/or disposal. Health and environmental impacts in treatment and disposal.	Minor	Low, cumulative



## 23.4 CONSULTATION

- 23.4.1 Responses from consultees addressing the issue of waste have been received within the IPC Scoping Opinion Report and from the subsequent consultation on the PEIR. These are summarised in *Annex 2.4*, with a response on how each comment is addressed.

## 23.5 BASELINE

- 23.5.1 The site and its environs are detailed in *Chapter 4* of this report. This site is currently partly in agricultural use (producing and receiving no waste), and partly in use as a vehicle import facility producing relatively small volumes of waste from offices and vehicle finishing. In addition, the proposed marine development extends to 50.90 ha, which will require the reclamation of approximately 33 ha intertidal and approximately 18 ha subtidal areas from within the Humber Estuary. This area currently has no waste implications.

## 23.6 IMPACTS

### *Construction Phase*

- 23.6.1 The construction phase will generate substantial quantities of dredgings, spoil and soils from site preparation, formwork wastes and general mixed wastes from the erection of site infrastructure. If not controlled properly, these could have moderate impacts on the environment, requiring mitigation.
- 23.6.2 The major material streams arising during the construction phase, options for their management and significance of consequent impacts are identified in *Table 23.4*. It is estimated that construction phase waste arisings will be approximately 120 tonnes per month, consisting of mixed construction waste, metals, wood, etc and general office waste.
- 23.6.3 Impacts on public health may arise primarily through the handling and management of the waste arisings and through associated road traffic.
- 23.6.4 With regard to the waste arisings, the main elements of the wastes are readily recycled, and will be segregated at source to facilitate recycling and recovery wherever practicable. The processing of these wastes will be undertaken in waste management facilities used for the processing of wastes arising from a range of sources. The emissions arising from municipal recycling facilities are typically minimal as the materials handled are biologically and chemically inert and are not associated

with any particular emissions. For the processing of construction and demolition wastes, typically these facilities are not associated with significant impacts on air quality (for example resulting in exceedances of air quality standards), and in the UK as a whole there are only a very few cases (for example in Bexley in London) where particulate matter emissions, added to considerable baseline arising from other sources, have been identified as being associated with air quality, and therefore public health issues.

- 23.6.5 The small quantity of remaining wastes that are not readily recycled will be disposed of to normal municipal waste streams and therefore may be processed by incineration, landfill or other locally preferred method. Planning guidance for waste management facilities (PPS10) notes that modern, appropriately located, well-run and well-regulated, waste management facilities operated in line with current pollution control techniques and standards should pose little risk to human health. The quantities of these wastes arising are likely to be a small fraction of the 120 tonnes per month generated and are likely to be a small fraction of the total wastes processed at the waste facility. On this basis, the handling of these wastes is considered to have negligible impact on public health.
- 23.6.6 In terms of additional traffic associated with these arisings, there will be minimal additional vehicles due to collection of these wastes. At most, and based upon a conservative estimate of the weight of a typical waste load (4-5 tonnes), there will be between one and two additional HGV movements per day. The UK Highways Agency Design Manual for Roads and Bridges (DMRB) guidance document states that for schemes that are generating less than 200 additional HGV movements per day, the impacts on air quality are likely to be negligible. In this case, the number of vehicles movements is very much less than 200 and therefore impacts on air quality and therefore health associated with movement of wastes are likely to be imperceptible and have no significant impact on health.
- 23.6.7 On this basis, it is therefore concluded that the handling and transport of waste arisings will result in negligible impacts on public health.

### *Operational Phase*

- 23.6.8 Wastes requiring management during the operational phase of the development will include facilities maintenance wastes, production wastes and scrap and general office, catering and commercial wastes.

- 23.6.9 The major waste streams, options for their management and significance of consequent impacts are identified in *Table 23.5*. Overall arisings have been estimated based on the potential scale of operations at the site, and are estimated at 580 tonnes per month. Additionally, there may be small quantities of flotsam at the quayside and site litter to be recovered, which will contribute to the general (mixed) waste. Again taking a conservative estimate of the weight of a typical waste load (4-5 tonnes), the management of the operational wastes will result in between five and six additional HGV movements per day. Waste transport will therefore not be significant either in terms of environmental or health impact.
- 23.6.10 The majority of the wastes are production wastes arising from turbine tower, foundation, blade and nacelle production. These comprise principally steel scrap, shot blast grit from surface preparation, uncured resins and chemicals from tower manufacture, and resin-contaminated vacuum bagging materials (polythene sheeting, mesh and blanket materials) from blade manufacture. Additionally, there will be significant arisings of packaging materials associated with inbound goods, principally paper, card, plastic wrap and wood.
- 23.6.11 All wastes will all be classed as controlled wastes for the purposes of regulation and will require to be stored, managed and disposed of in accordance with the waste hierarchy and the Duty of Care. Additionally, annual registration under the Hazardous Waste Regulations will be required with the EA if hazardous wastes in excess of 500 kg each year is produced as a result of site operations.
- 23.6.12 Over 70 percent of the process waste is recyclable. However, the manufacturing processes will generate diverse contaminated and non-recyclable wastes, including used personal protection equipment (overalls, gloves etc), consumable tools (brushes, buckets, mixing tools), cured resins, trimmings and off-cuts, weld residues and general non-hazardous wastes. These have limited potential for further recycling and will require disposal either by landfill or, preferably, incineration with energy recovery. Suitable incineration capacity is available within North Lincolnshire and the immediate region.
- 23.6.13 Landfill disposal may be required for some 2 500 tonnes per year of waste. This will not impact significantly on the landfill capacity available with the region. This requirement may be reduced to 250 tonnes if alternatives to landfill are maximised.

**Table 23.4 Construction phase major material arisings, management and impacts**

Waste stream	Quantity	Disposal route	Reuse potential	Alternative	Waste to landfill	Potential impact
Dredged material	1.6 million m <sup>3</sup>	Estuary, in accordance with the Dredging Strategy	Sediment will be redistributed in the Humber estuary	None needed	None	No significance
Hardcore and spoil	80 tonnes per month	Reuse on site	100% in site construction	None needed	None	No significance
General mixed construction waste	100 tonnes per month	Local waste contractor with MRF	Waste will be segregated on site so this fraction will have no reuse potential. Will go through a recycling facility	None needed	25 tonnes per month	No significance
Wood waste from formwork and hoardings	1800m hoarding, 3000m <sup>2</sup> formwork	Specialist contractor for recycling	Reuse formwork from one section to the next	Ecosheet™ recycled back into formwork	None	No significance
Metal waste	18m <sup>3</sup> per month	Specialist contractor for recycling	Limited	None needed	None	No significance
Aerosol cans	1m <sup>3</sup> per year	Hazardous processing facility	None	Could puncture and recycle with metals under	None	No significance

Waste stream	Quantity	Disposal route	Reuse potential	Alternative	Waste to landfill	Potential impact
Paint tins	10m <sup>3</sup> per year	Hazardous waste processing facility	None	EA exemption. Could be recycled with metals if drained and dry	None	No significance
Waste oil	2m <sup>3</sup> per year	Specialist contractor for recycling	None	Hazardous waste incineration	None	No significance
Oil/water mix	5m <sup>3</sup> per year	Hazardous processing facility	None	Use plant nappies to minimise oil/water waste	None	No significance
Oily rags	4m <sup>3</sup> per year	Hazardous waste landfill	None	None	4m <sup>3</sup> per year	No significance
Fluorescent tubes	1m <sup>3</sup>	Specialist contractor for recycling	None	None	Minimal	No significance
WEEE	2m <sup>3</sup> per year	Specialist contractor for recycling	Some potential reuse	None	Minimal	No significance

**Table 23.5**    *Operation phase waste arisings, management and impacts*

Waste stream	Quantity tonnes per year	Disposal route	Recycling potential	Alternative	Waste to landfill	Potential impact
Metals (steel)	3050	Specialist contractor for recycling	100%	None needed	None	No significance
Paper/card packaging	465	Specialist contractor for recycling	100%	None needed	None	No significance
Wood packaging	185	Specialist contractor for recycling	100%	None needed	None	No significance
Uncontaminated plastic film	180	Specialist contractor for recycling	None	None needed	None	No significance
Resin-contaminated plastic film and mesh	1600	Incineration (with energy recovery)	None	Landfill	Potentially 1600 tonnes	Non-hazardous No significance
Shot blast grit	160	Specialist contractor for recycling	50%	Landfill	80 tonnes	Non-hazardous No significance
Uncured paint, spraying materials and containers	90	Hazardous waste processing facility	Containers could be recycled with metals if drained and dry	Hazardous waste landfill	Potentially 90 tonnes	Minor significance
Uncured resins, paints and pre-	400	Returned to supplier	100%	Hazardous waste processing facility	None	No significance

Waste stream	Quantity tonnes per year	Disposal route	Recycling potential	Alternative	Waste to landfill	Potential impact
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Non-recyclable process wastes*	300	55% landfill, 45% incineration	<5%	100% landfill or incineration	Potentially 300 tonnes	Non-hazardous No significance
General office & grounds waste	540	Recycling (incl composting)	80%	Landfill or incineration	Potentially 110 tonnes	No significance

*Construction Phase*

- 23.7.1 The overall goal during the construction phase, consistent with the waste hierarchy, is to reduce the amount of waste produced to a minimum by the appropriate specification of materials brought to site, the utilisation of site won materials wherever possible and the separation of materials to facilitate recycling. This will be set out in detail, along with targets for reuse, recycling and disposal in the SWMP and in accordance with the CL:AIRE Code of Practice. The SWMP will be a working document and will be updated at regular intervals throughout the construction phase. It will identify and prioritise options for minimisation, reuse and recycling of construction wastes where practicable, and allow any unforeseen changes to the construction of the AMEP to be taken into account.
- 23.7.2 Spoil and hardcore generated on site will be stockpiled for use in the construction works, thereby reducing the need for imported aggregate. As such, these materials will not be classed as wastes, although an exemption from Environmental Permitting may be required if these materials require processing prior to use. Stockpiles may impact the environment through wind-blown dust and rain run-off, and therefore will be managed to avoid consequent nuisance and environmental impact.
- 23.7.3 Construction wastes and materials unsuitable for on-site use will require disposal as controlled waste in line with the Duty of Care. This includes general construction wastes, waste wood metals, waste electrical and electronic equipment wastes (WEEE), paints and aerosols, oils and oily rags. It is anticipated that these arisings will average 120 tonnes per month. Assuming an average payload of 4-5 tonnes, this implies between one and two additional HGV movements per day. This additional traffic will not add materially to the traffic impacts of the development.
- 23.7.4 All construction waste will be segregated on site before being removed. Segregation will include skips for at least general construction wastes, wood, metal, plastic, paper/cardboard and glass to facilitate their recycling. Contracts will also be placed for the separate collection using specialist containers of hazardous wastes such as oils, fluorescent tubes, WEEE, aerosols and paint cans, which also may be recycled or sent on for specialist treatment. All skips and containers will be labelled with the range of materials suitable for each and placed on designated hard



standings, to be identified in the SWMP, designed to minimise potential impacts of wind, rain and run-off.

### *Operational Phase*

23.7.5 The operation of the site will be as a manufacturing unit with ancillary support facilities and offices accommodation. Wastes will be managed in accordance with the waste hierarchy through the adoption of best practice to ensure wastes are minimised through the appropriate specification of goods and services, and adherence to segregation regimes at all levels of operation to maximise the recycling potential of wastes arising. Preference will be given to the disposal of residual waste through incineration with energy recovery, with landfill being the disposal option of last resort.

23.7.6 The achievement of best practice will depend to a significant extent on individual behaviour and adherence to the management system(s) in place. These will be designed in accordance with the international standard ISO 14001 (Environmental Management Systems) and supported through the ISO 14001 audit programme, and include as a minimum:

- identifying waste, highlighting potential for waste minimisation, reuse and recycling at the design stage;
- establishing and communicating targets for material consumption;
- providing clearly labelled, appropriate containers for segregated collection of materials (including in office accommodation);
- providing appropriate collection and storage facilities for segregated materials and wastes;
- ensuring the appropriate labelling of wastes to facilitate recycling and appropriate disposal;
- audit of chosen contractors to ensure the appropriateness of downstream management facilities;
- regular review and updating of the management system; and
- staff training in the above.

23.7.7 Transportation impacts associated with the management of wastes have been shown to be not significant. However, transport requirements will

be minimised by ensuring that skips and containers are optimally sized, that only complete loads are transported from the site and that waste is covered to reduce potential for wind blow dust and debris. On-site compaction and pre-treatment of specific wastes will be considered (eg for cardboard and plastic sheeting) where this can further optimise payloads or reduce potential impacts in downstream handling.

## **23.8**      *RESIDUAL IMPACTS*

23.8.1      Wastes if managed inappropriately have the potential to cause nuisance and have environmental and public health impacts. These will be mitigated in this development by strict adherence to the waste hierarchy and the adoption of best practice such that any residual impacts resulting either in the construction phase or operation phase of the site are of no significance.

23.8.2      The development will place demand on the local waste recycling, incineration and landfill infrastructure. However, this is considered not significant as much of the site won material during the construction phase will be used on site, and much of the wastes during the operational phase will be recyclables, for which there is local and regional demand. The impact of residual wastes on demand for landfill is small and potentially insignificant.

## **23.9**      *CUMULATIVE IMPACTS*

23.9.1      Cumulative impacts accrue where wastes and recyclates from the development and or operation of the AMEP compete for recycling and treatment capacity with other developments in the area.

23.9.2      The principal development identified for consideration with respect to waste arisings is the H&M Estates Business Park proposal (DC/1258/06/IMM) at North Moss Lane. This would entail the greenfield site development of around 20 hectares and include buildings B1 (Light Industrial/Research), B2 (General Industrial) and B8 (Warehousing). The potential waste arisings from this development would be similar in nature to those from AMEP and therefore compete for capacity. However, this development would also be subject to the requirements of the waste hierarchy to minimise impacts and maximise recycling potential. The local recycling infrastructure is adequate to meet these needs and could readily expand to meet further opportunities.