ENVIRONMENTAL BALANCE IN DESIGN AND CONSTRUCTION

KNOCKHARLEY LANDFILL LTD.

ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR) FOR THE PROPOSED DEVELOPMENT AT KNOCKHARLEY LANDFILL

VOLUME 2 – MAIN EIAR

CHAPTER 3 – POLICY

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Knockharley Landfill Ltd.
Kentstown, Navan,Co.Meath

FEHILY TIMONEY & COMPANY

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3. POLICY

3.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) examines the general waste management, planning and regional policy and legislative context at European, national and regional levels with relevance to the proposed development at Knockharley Landfill.

3.2 European & National Legislation & Policy Context

3.2.1 European & National Legislation

Council Directive 1999/31/EC on the Landfilling of Waste

The overall objective of this Directive is to tightly define and unify the nature of acceptable landfill usage, by reducing and minimising the potential environmental impacts which may otherwise occur at any point in the life-cycle of a landfill.

As well as technical standards, the Directive also contains binding obligations for an EU-wide reduction of the use of landfill as an option for the disposal of biodegradable municipal waste (BMW). It contains specific reduction targets for biodegradable waste which must be applied nationally. These targets are to be viewed against baseline BMW landfilled in each member state for the year 1995. Ireland applied for derogations for each target years due to an over reliance on landfill. The target years in Ireland are shown in Table 3.1.

Table 3-1: Ireland's current performance versus Landfill Directive obligations

Target Year	Maximum Quantity allowed to be landfilled, tonnes	Corresponding MSW tonnage[1]
2010	916,000	1,696,296
2013	610,000	1,129,629
2020	427,000	790,740
Current Position	**Quantity biodegradable municipal waste landfilled, tonnes**	**Corresponding MSW tonnage**
2010	860,000 (Target achieved)	1,592,592
2011	771,550	1,428,796
2012	589,000	1,090,740
2013	380,800	705,185
2016	390,000	722,222

Note 1: Based on an average BMW content of MSW (municipal solid waste) of 54%, as per Table 9 of NWR 2012

In its 'National Statistics - Progress towards EU waste recycling, recovery and diversion targets'[1], published in November 2017, the EPA reports that Ireland has met its 2010 and 2013 targets and is on track to meet its 2020 obligations.

[1] http://www.epa.ie/pubs/reports/waste/stats/EPA_Progress%20towards%20EU%20targets_Nov17.pdf

Relevance to the Proposed Development

Based on the requirements of the Landfill Directive, the EPA applies limit values to the amount of BMW material that can be accepted at landfill facilities to ensure achievement of the targets identified. However, considering the closure of a significant number of landfill facilities in recent years, the combined capacities of landfills currently operating, and that will continue to operate, will be less than the target values applicable as per Table 3-1, thus ensuring that compliance with the 2020 target is likely to be achieved nationally and maintained (reference Table 4-4 in Chapter 4 – 'Need for the Development & Alternatives Considered').

Continued acceptance of BMW material at Knockharley Landfill, as one of the few remaining operating landfill facilities in 2017 and beyond, will therefore contribute to achievement of our national obligations as per 1999/31/EC. In addition, the proposed treatment of the organic fraction of MSW at the proposed biological treatment facility will contribute to the overall diversion of BMW material from landfill in accordance with the objectives of this Directive.

Council Directive 2008/98/EC on waste (and repealing certain Directives)

A revised Waste Framework Directive (2008/98/EC) (the "New" Waste Framework Directive) was adopted in 2008 which introduces a number of new targets for member states. These revisions include setting new recycling targets to be achieved by EU member states by 2020 i.e. a recycling rate of 50% for household derived paper, metal, plastic and glass, which is on track at 45% in 2014and 70% for construction and demolition waste, which has been achieved (91% based on 2012 data). It also places a binding obligation on member states to develop national waste prevention programs and report on prevention and waste prevention objectives. Ireland established a National Waste Prevention Programme in 2013.

The Waste Framework Directive also clearly defines many important definitions, such as recycling, recovery and waste to resolve previous interpretation problems. It also alters the impression of waste as an unwanted burden to become a valued resource in Europe for example, incineration is considered a recovery operation provided it meets certain energy efficiency standards. The five-stage waste hierarchy has also been more clearly defined and lays down waste operations in prevention, re-use, recycling, recovery and safe disposal in order of preference.

The Waste Framework Directive introduces the concepts of "self-sufficiency and proximity" which requires Member States *"to take appropriate measures, in cooperation with other Member States where this is necessary or advisable, to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including where such collection also covers such waste from other producers, taking into account best available techniques."*

It is envisaged that this network will "*enable waste to be disposed of or waste referred to in paragraph 1 (*i.e. mixed municipal waste collected from private households, including where such collection also covers such waste from other producers*) to be recovered in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health*."

While the Waste Framework Directive does not require each Member States to "*possess the full range of final recovery facilities within that Member State*", its intention is that Member States should, on the whole and excepting for "*certain types of waste*", be in a position to appropriately manage waste generated within their own country.

European Communities (Waste Directive) Regulations 2011

Directive 2008/98/EC has been implemented in Ireland through the European Communities (Waste Directive) Regulations 2011 (S.I. 126 of 2011), as amended. Therefore, the waste hierarchy and the concepts of self-sufficiency and proximity, as previously described, are legislative requirements in Ireland.

Relevance to the Proposed Development

The proposed development will contribute to the implementation of the principles of the Directive through the provision of waste disposal and recovery infrastructure which will facilitate the management of wastes generated within the region and nationally, in an EPA approved facility incorporating the best available techniques to ensure environmental protection, thus supporting the self-sufficiency and proximity tenets of the Directive.

In addition, the proposed development will support other national waste infrastructure that operates on 'higher' tiers in the waste hierarchy, through the provision of management capacity for the outputs produced from these processes e.g., management of IBA from thermal treatment & stabilised residual fines management from recovered fuel production.

Circular Economy Package

In December 2015, the EU adopted the Circular Economy Package. This package included legislative proposals on waste, with long term targets to reduce landfilling and increase recycling and reuse. In order to 'close the loop' of product lifecycles, it also included an Action Plan to support the circular economy in each step of the value chain – from production to consumption, repair and manufacturing, waste management and secondary raw materials that are fed back into the economy. The Circular Economy Action Plan identifies how waste management plays a central role in the circular economy – through determining how the EU waste hierarchy is put into practice. A number of legislative proposals have been made, and adopted, under the Action Plan, including, *inter alia,* a Directive to amend Directive 1999/31/EC.

The new Landfill Directive (EU) 2018/850 [2] outlines several proposals including the implementation of measure by Member States to ensure that by 2035 the amount of municipal waste landfilled is reduced to 10% of the total amount of municipal waste generated (by weight).

Relevance to the Proposed Development

The measures outlined in the Directive on Landfill (EU 2018/850 are likely to be of relevance to the proposed development, to some extent in future years, when their implementation on a national basis is clearer. It is noted that the proposals centre on municipal waste landfilling by 2035 – as identified in Chapter 2 – 'Description of the Development', the expected lifespan on the proposed landfill development is up to 2025/6, dependent on rates of filling. In addition, the limitations apply only to municipal wastes, and not IBA, C&D materials, non-hazardous contaminated soils and stabilised residual fines, all of which would not be considered as municipal waste. Furthermore, the application of the 10% limitation would likely to be applied on a national basis, such that this quantity would be 'allocated' across whatever facilities are operational at that time. Further consideration of this point is given in Chapter 4 – 'Need for the Development and Alternatives Considered'.

[2] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015PC0594&from=EN

3.2.2 National Planning Policy

Project Ireland 2040: The National Planning Framework

Project Ireland 2040: The National Planning Framework (NPF) published in February 2018, sets out the preliminary high-level, strategic planning and development for the country over the next 20+ years, to ensure that growth is economically, socially and environmentally sustainable in line with population growth.

Section 9.2: Resource Efficiency and Transition to a Low Carbon Economy: Sustainable Land Management and Resource Efficiency, provides details regarding the plan's objective to move towards a circular, bio economy:

> *"Ireland is advancing its development as a circular economy and bio economy where the value of all products, materials and resources is maintained for as long as possible and waste is significantly reduced or even eliminated. Further developing the circular economy will require greater efficiency with raw materials, energy, water, space and food by constantly reusing natural resources wherever possible and where smartly-designed products based on alternative plastic feedstock and recyclable materials will form the basis of smart material cycles, in order to create less waste and reduce resource consumption. A recycling rate of 65% has been proposed by the European Commission for 2030 for the Circular Economy Package."*

In managing our waste needs, the NPF supports circular economy principles that minimise waste going to landfill and maximise waste as a resource. This means that prevention, preparation for reuse, recycling and recovery are prioritised in that order, over the disposal of waste.

National Policy Objective 56 of the NPF provides to:

> *"Sustainably manage waste generation, invest in different types of waste treatment and support circular economy principles, prioritising prevention, reuse, recycling and recovery, to support a healthy environment, economy and society."*

Furthermore, the NPF reaffirms the role of waste management and capacity under Section 9.1: Environmental and Sustainability Goals:

> *"Adequate capacity and systems to manage waste, including municipal and construction and demolition waste in an environmentally safe and sustainable manner and remediation of waste sites to mitigate appropriately the risk to environmental and human health."*

Relevance to the Proposed Development

The NPF is the relevant national planning framework policy document for Ireland. The NPF provides a context for which national waste management policy should be considered, highlighting the need to develop sustainable means of managing waste. The development proposed at Knockharley can be considered supportive of and consistent with the aims of the NPF through the provision of the necessary waste management infrastructure to support industry and enterprise and the overall balanced development nationally.

Project Ireland 2040: National Development Plan 2018-2027

The National Development Plan 2018-2027 (NDP) published in February 2018, in tandem with the National Planning Framework (NPF), seeks to drive Ireland's long term economic, environmental and social progress over the next decade, in accordance with the spatial planning context of the NPF.

The NDP recognises the role of waste management and resource efficiency under Chapter 5 National Strategic Outcomes and Public Investment Priorities: National Strategic Outcome 9. Sustainable Management of Water and other Environmental Resources:

> *"Investment in waste management infrastructure is critical to our environmental and economic well-being for a growing population and to achieving circular economy and climate objectives."*

Furthermore, under National Strategic Outcome 9, the NDP addresses concerns regarding capacity:

> *"Capacity will continue to be built in waste facilities, including anaerobic digestion, hazardous waste treatment, plastics processing, recycling, waste to energy, and landfill and landfill remediation, to meet future waste objectives. The infrastructure to deliver waste management policy has been, to date, largely delivered through private investment with some public-sector investment. Significant infrastructure capacity development will be required to separate and process various waste streams at municipal and national levels to achieve new EU legally-binding targets and the additional investment may include a potential role for public investment."*

Relevance to the Proposed Development

Knockharley Landfill, as a fully engineered landfill facility licensed by the EPA, for which full provision is made in relation to future remediation and aftercare, can be considered as a facility that operates in keeping with the requirements of the NDP.

3.2.3 National Waste Management Policy

National waste management policy over the years has been outlined in a number of documents which are described sequentially in the following.

Waste Management: Changing Our Ways – 1998

Government policy in relation to waste management was set out in the policy statement entitled *Waste Management: Changing Our Ways* published by the Department of the Environment and Local Government (DoELG) in September 1998. The policy statement incorporated the EU Waste Management hierarchy of waste prevention/minimisation/reuse/recycling/recovery/disposal, as well as earlier policy statements including Government strategy documents such as *Recycling for Ireland* (July 1994) and *Sustainable Development: A Strategy for Ireland* (April 1997).

It outlined a clear commitment to reduce dependency on landfill as a primary waste disposal route. It encouraged the development of a smaller number of well-designed and managed landfills for the receipt of *residual* waste - residual waste being waste which has undergone some form of treatment to remove recyclable material or to further process the waste in order to achieve a volumetric reduction.

Essentially, that is the situation that has developed over the past number of years to the current situation – with the closure of a significant number of landfill facilities since 2010 with only Knockharley, Drehid, East Galway and Ballynagran Landfills remaining operational at the time of writing.

Waste Management: Changing Our Ways outlined ambitious targets for waste management as follows:

- a diversion of 50% of overall household waste away from landfill
- a minimum 65% reduction in biodegradable wastes consigned to landfill
- the development of waste recovery facilities employing environmentally beneficial technologies as an alternative to landfill, including the development of composting and other feasible biological treatment facilities capable of treating up to 300,000 tonnes of biodegradable waste per annum nationally
- recycling of 35% of municipal waste

- recycling at least 50% of construction and demolition (C & D) waste within a five-year period, with a progressive increase to at least 85% over fifteen years
- rationalisation of municipal waste landfills, with progressive and sustained reductions in numbers, leading to an integrated network of some 20 state-of-the-art facilities incorporating energy recovery and high standards of environmental protection
- an 80% reduction in methane emissions from landfill, which will make a useful contribution to meeting Ireland's international obligations.

Preventing and Recycling Waste – Delivering Change – a Policy Statement - 2002

A second policy statement was issued by the Minister for the Environment and Local Government in 2002. In this policy statement entitled 'Preventing and Recycling Waste - Delivering Change', the Government set out objectives for developing recycling and recovery facilities.

This policy statement incorporated the EU waste management hierarchy of waste prevention, minimisation, reuse, recycling, recovery and disposal as outlined in '*Waste Management: Changing our Ways'* as well as earlier policy statements. This policy document:

- highlighted the necessary disciplines that must be imposed within waste management systems to secure real progress on waste prevention, reuse and recovery
- outlined a range of measures that would be undertaken in the interests of minimising waste generation and ensuring a sustained expansion in reuse and recycling performance and
- set out a number of clear objectives which the Government proposed to implement to meet the targets identified in *Changing Our Ways*.

The National Strategy on Biodegradable Waste - 2006

The National Strategy on Biodegradable Waste was launched in April 2006 by the Department of Environment, Heritage and Local Government (DoEHLG), and highlighted the urgent need for waste management facilities with infrastructure to deal with biodegradable waste. It focused on biodegradable waste from municipal sources, such as from domestic dwellings and commerce and sets target in relation to minimisation of same to landfill.

Ireland's performance in terms of these targets is presented in Section 3.2.1 previously.

The means by which the relevant BMW targets are be achieved was augmented in the past number of years by a number of actions taken by the Environmental Protection Agency (EPA) in terms of limitation being placed on landfill with respect to the amount of BMW that can be accepted at these facilities. In addition, clear guidance on the means of calculating and reporting BMW content has also been developed.

A Resource Opportunity – Waste Management Policy in Ireland - 2012

The most recent national waste management policy document was produced in July 2012 and outlines the measures through which Ireland will make "*the further progress necessary to become a recycling society, with a clear focus on resource efficiency and the virtual elimination of landfilling of municipal waste"*.

A range of policy measures are outlined in relation to the elements of the waste hierarchy i.e. prevention, reuse, recycling, recovery and disposal that concentrate on the supporting legislative and market environment in relation to the waste industry. It is acknowledged that "*Ireland requires an adequate network of quality waste treatment facilities*" and that a review of waste infrastructure in Ireland is being undertaken by the EPA that will examine the "*capacity for managing municipal waste in conformity with the principles of proximity and self-sufficiency*".

It is further identified that progress in achieving the various remaining targets in relation to the diversion of biodegradable waste from landfill, in particular, "*is crucially dependent on the development of a network of recycling and recovery infrastructure across a range of technologies to ensure competitive and effective provision."*

Regarding disposal, policy direction is "*towards the virtual elimination of landfilling of municipal waste"* and *"the elimination of landfill within the next decade*" while the intention to consider the banning of certain materials to landfill is mooted within the policy document.

This option is addressed in more detail in a consultation document produced in November 2015 entitled 'Exporting a Resource Opportunity'[3], where response to a discussion point in relation to banning of certain material to landfill, is identified, with feedback requested.

Relevance to the Proposed Development

While acknowledging the policy objectives in relation to "*landfill elimination*", it is important to consider these objectives in relation to the type or nature of material to which it refers – the provision of landfill capacity for inert, stabilised or non MSW wastes, as well as for contingency landfill supply, as proposed as part of the proposed development, will continue to be required and be supported, as exemplified by the non-applicability of the landfill levy to inert wastes and stabilised MSW.

The provision of biological treatment capacity will contribute to addressing the diversion of biodegradable waste from landfill.

In general terms, the policy objectives in relation to '*landfill elimination'* are broadly mirrored by those currently proposed at EU level, i.e. the Proposed Directive on Landfill, as described previously, which proposes limitations on municipal waste to landfill at 10% by 2030. This proposed Directive also proposes the examination of the suitability of applying restrictions on landfilling of other waste types, with this to be considered by the end of 2024.

It is acknowledged that future policy and legislative measures will be applied and implemented which will restrict the type and/or quantity of waste materials to be accepted at landfill facilities – further consideration of these potential measures in relation to timelines, waste types accepted and facility capacity, at the proposed development location and others, on a national scale, is provided in Chapter 4 – 'Need for the Development and Alternatives Considered'.

3.3.1 Regional Planning Policy

Regional Planning Guidelines for the Greater Dublin Area 2010 – 2022

Meath County Council, being part of the Eastern & Midlands Regional Assembly, which was created on the 1st January 2015, contributed to the development of the Regional Planning Guidelines for the Greater Dublin Area 2010 – 2022, which were made in June 2010.

There are number of specific statements and strategic recommendations in relation to waste management outlined in these Guidelines that are directly relevant to the proposed development.

Section 6.7 of the Guidelines identify that "*the RPGs support the waste management hierarchy and increased and coordinated effort should be made in the areas of source reduction and re-use of waste across the industrial, commercial and residential sectors of the GDA*".

Local Authorities should also "*seek to anticipate burgeoning waste streams, identify opportunities to integrate facilities where appropriate and identify current or future opportunities for re-use of waste, for example, the re-use of secondary aggregates as physical infrastructure construction bases or the potential re-use of suitable soil material in amenity projects or landfill restoration. In terms of construction waste, market factors will invariably dictate the extent of the viability of re-use of this waste*".

[3] http://www.housing.gov.ie/sites/default/files/migratedfiles/en/Publications/Environment/Waste/FileDownLoad,43713,en.pdf

Specific strategic recommendations of relevance with the Guidelines include:

PIR36 *The new waste management strategy across the regions of the GDA should seek to facilitate a balanced use of resources and greater adaptability and robustness of services. Integrated waste management should be considered from the perspective of the GDA as one singular functioning economic and spatial unit and to increase economies of scale.*

PIR37 *Encourage the expansion of increased levels of diversion of biodegradable waste from landfill through provision of or support for biological treatment facilities and home composting.*

PIR39 *The reuse of waste should be encouraged and reinforced through encouragement of business clustering across the GDA. Opportunities to facilitate source reduction, the reuse of wastes, by-products and associated energy throughout the GDA should be examined as part of economic policies. Development of these opportunities shall not compromise the integrity of ecologically sensitive areas, in particular infilling with inert materials which can result in loss and fragmentation of wetlands.*

PIR 40 *Waste management facilities should be appropriately managed and monitored according to best practice to maximise efficiencies and to protect human health and the natural environment.*

Relevance to the Proposed Development

Recommendation PIR36 identifies integrated waste management as a single functioning unit, and landfill, while being the lower tier of the waste hierarchy, is nonetheless an important factor in the functioning of a fully integrated waste management system.

PIR37 recognises the need to divert biodegradable waste from landfill – the proposed biological treatment facility will specifically enable this.

PIR 39 encourages the re-use of waste – the proposed development will re-use excavated soil and stone material for construction of berms surrounding the site.

The continued regulation of the facility under the IE licence and in keeping with the measures outlined in this EIAR will satisfy the requirements of recommendation PIR 40.

Draft Eastern Midland Regional Assembly: Regional Spatial and Economic Strategy, November 2018

Arising from the Local Government Reform Act 2014, the Eastern and Midland Regional Assembly has assumed a number of new functions. Chief among these responsibilities is the preparation of a Regional Spatial and Economic Strategy (RSES) for the Eastern and Midlands Region. The RSES, once adopted, will replace the function of the Regional Planning Guidelines at this tier in the hierarchy of planning policy. A Draft Regional Spatial and Economic Strategy has been published as of November 2018 for public consultation.

The region covers nine counties containing twelve local authorities namely – Longford, Westmeath, Offaly, Laois, Louth, Meath, Kildare, Wicklow, Fingal, South Dublin and Dún Laoghaire-Rathdown County Councils along with Dublin City Council. The region includes 3 sub regions or Strategic Planning Areas (SPAs), namely the Midland, Eastern and Dublin.

The principal statutory purpose of the RSES is to support the implementation of the National Planning Framework (NPF) - Ireland 2040 Our Plan, and the economic policies and objectives of the Government by providing a long-term strategic planning and economic framework for the development of the regions. The Draft RSES echoes the sentiments of the NPF in its objectives, highlighting the need for a consolidated waste management plan for the region.

Of particular relevance in considering the proposed development, is Section 10.4 Waste Management of the Draft Regional Spatial and Economic Strategy. This section sets out the provisioning of waste management for the region and the overall vision towards rethinking the approach taken towards managing waste.

Regional Policy Objective RPO 10.20 highlights that: *"development Plans shall identify how waste will be reduced, in line with the principles of the circular economy and how remaining quantums of waste will be managed and shall promote the inclusion in developments of adequate and easily accessible storage space that supports the separate collection of dry recyclables and food."*

Relevance to the Proposed Development

The recognition of the need for an integrated, sustainable means of waste management is promoted in the Draft Regional Spatial and Economic Strategy for the Eastern and Midlands area. The Draft RSES recognises the role of the Regional Waste Management Policy document.

3.3.2 Regional Waste Management Policy

The policy document, A Resource Opportunity, recommended that the number of waste management planning regions be reduced from ten to three. Consequently, three Waste Management Plans were made. These are

1. Eastern Midlands Regional Waste Management (EMWR) Plan 2015 – 2021
2. Southern Region Waste Management (SRMWR) Plan 2015 – 2021
3. Connacht - Ulster Region Waste Management (SRMWR) Plan 2015 – 2021

These Plans set out the strategic vision for waste management nationally and the policy objectives outlined in each Plan are complementary. The relevant policy objectives in the Eastern Midlands Regional Waste Management (EMWR) Plan 2015-2021 are set out below.

Eastern Midlands Regional Waste Management (EMWR) Plan 2015 – 2021

A regional waste management plan, for the period 2015 – 2021, was made in April 2015 for the Eastern Midlands Region, which comprises twelve local authorities (Dublin City Council, Dun Laoghaire Rathdown County Council, Fingal County Council, South Dublin County Council, Kildare County Council, Laois County Council, Longford County Council, Louth County Council, Meath County Council, Offaly County Council, Westmeath County Council and Wicklow County Council).

This plan supersedes the 2010 Waste Management Plan for the North East Region, which has been the plan 'of relevance' to the proposed development site location in the past. Two other regional waste management plans, the Southern Region Waste Management Plan and the Connacht-Ulster Waste Management Plan were also made for the same 2015 – 2021 period.

The Plan addresses many topics, with varying degrees of direct relevance to the proposed development, with Section 4.3 'Residual and Biowaste Exports', Section 5.4 'Targets over the Plan Period', Section 11.2 'Construction & Demolition Wastes', Section 13 'Disposal Infrastructure', Section 16 'Market Analysis and Infrastructure Planning' and Section 17.2.8 Roles and Responsibilities – Waste Industry being considered the most relevant in terms of the development proposed at Knockharley Landfill. Section 15 addresses Waste Growth Projections and these are considered in more detail in Chapter 4 – 'Need for the Development and Alternatives Considered''.

A significant degree of comment and a number of policies are outlined in these sections and the following tables outline those comment and policies considered relevant to the proposed development, with discussion on their relevance following:

Section 4.3 Residual and Biowaste Exports

Policy A4.

Aim to improve regional and national self-sufficiency of waste management infrastructure for the re-processing and recovery of particular waste streams, such as mixed municipal waste, in accordance with the proximity principle. The future application of any national economic or policy instrument to achieve this policy shall be supported.

Relevance to the Proposed Development

The Plan identifies that over 300,000 tonnes of residual municipal waste was exported in 2013, with indications being that over 500,000 tonnes of residual waste being exported in 2014[4] (waste data being historically reported), with industry sources suggesting even greater quantities being exported in 2015. Residual waste is being exported to central and northern Europe and utilising excess thermal treatment capacity available in these countries.

The growth in exports is identified within the Plan as being due to a number of factors, mainly the increase in landfill levy to €75 tonne in 2013.

While identifying the future of export of residual waste as being uncertain in terms of the length of time this capacity will be available, as well as the loss to the Irish exchequer of the resource potential (energy) of this material, the benefits of residual waste export are identified as contributing to the achievement of mandatory landfill diversion targets, while also keeping waste management costs to consumers down.

The preferred policy of the region is identified as being to "*support the development of competitive, environmentally and energy efficient thermal recovery facilities in Ireland, including the replacement of fossil fuels by co-combustion in industrial furnaces or cement kilns and ultimately to minimise the exporting of municipal waste resources over the plan period*" and supporting "*self-sufficiency and the development of indigenous infrastructure for the thermal recovery of residual municipal wastes.*"

The Plan identifies the uncertainty of the consistent or long-term availability of the existing thermal capacity in Europe through referencing the anticipated increase in residual waste generation across Europe in coming years, as well as the expected closure of older, less efficient plants that currently provide capacity, with the resultant decrease in capacity. This is identified as a risk to Irish exporters in securing long term and cost-effective outlets for residual waste.

Since the making of the Plan, this risk has manifested itself through the inability of the private waste management operators to secure consistent outlets for exported residual waste on the continent in 2016, which, combined with annual waste acceptance limitations applied at operational waste management facilities, resulted in the application of 'emergency' measures in accordance with Section 56 of the Waste Management Act 1996, as amended, in 2016, 2017 & 2018. This resulted in the acceptance of identified quantities of waste at Drehid, Knockharley and Ballynagran Landfills for defined periods, as initially outlined in the first annual implementation report (2015/2016) for the Eastern Midlands Waste Management Plan 2015 -2021[5].

This annual implementation report 2016/2016 also identifies that "*a National Capacity Oversight Committee, will continue to monitor the situation on an ongoing basis to ensure sufficient capacity for 2016 and beyond*". Further discussion on this issue is presented in Chapter 4 – 'Need for the Development and Alternatives Considered'.

[4]Appendix 1 of 'Exporting & Resource Opportunity – Consultation Document'
http://www.housing.gov.ie/sites/default/files/migrated-files/en/Publications/Environment/Waste/FileDownLoad%2C43707%2Cen.pdf
[5] http://emwr.ie/wp-content/uploads/2016/12/19115_DCCo_EastMidlandsWaste_V5%E2%80%A2.pdf

While the preferred policy of the Plan, as per Section 4.3 and A.4, is to support management of residual waste by thermal treatment, the proposed development supports this policy objective through:

- Provision of an outlet for the management of IBA material produced through thermal treatment
- Provision of contingency capacity during the periods of EfW facility planned or unplanned shutdown.
- Potential to provide emergency contingency in consultation with and approval of relevant stakeholders
- Provision of disposal and recovery capacity for residual non-hazardous waste and non-hazardous soils which are not suitable for thermal treatment, e.g. bulky waste, street sweepings, stabilised fines from recovery activities and non-hazardous soils.
- Provision of disposal capacity for repatriated waste which is not suitable for thermal treatment.

Further discussion on the means by which the proposed development supports this, and other policy objectives, is provided in Chapter 4 – 'Need for the Development and Alternatives Considered''.

Section 5.4 Targets over the Plan Period

Plan Targets

- 1% reduction per annum in the quantity of household waste generated per capita over the period of the Plan
- Achieve a recycling rate of 50% of managed municipal waste by 2020
- Reducing to 0% the direct disposal of unprocessed[6] residual municipal waste to landfill (from 2016 onwards) in favour of high value pre-treatment processes and indigenous recovery practices.

Relevance to the Proposed Development

Of the 3 headline Plan targets identified, the reduction in the direct disposal of unprocessed residual municipal waste to landfill from 2016 onwards, is of most direct relevance to the proposed development. In fact, a similar requirement is placed on landfill sites by the EPA, through conditional application of the requirements of the guidance document "Municipal Solid Waste – Pre-treatment and Residuals Management", which requires from January 2016, the mechanical pre-treatment of residual wastes prior to landfilling.

The existing EPA licence that applies to Knockharley Landfill, W0146-02, requires compliance with these requirements through Condition 1.6, and therefore, Knockharley Landfill can be considered to operate in accordance with the requirements of the Plan policy objective identified.

[6] Where unprocessed residual waste means residual municipal waste collected at kerbside or deposited at landfills/CA sites/transfer stations that has not undergone appropriate treatment through physical, biological, chemical or thermal processes, including sorting.

Section 11.2 Construction & Demolition Wastes

The Plan identifies historic trends in C&D waste generation, going from a peak in 2007, reflective of national economic activity, to a trough in 2011-2012. Since 2012, C&D waste generation has increased, and continued to increase in the intervening years, as identified in the "Construction & Demolition Waste – Soil and Stone Recovery/Disposal Capacity"[7] report, recently published by the combined regional authorities, which identifies a 75% increase in C&D generation between 2013 and 2015, identified as being due to "*the strong construction growth in the residential and commercial sectors particularly in the Greater Dublin Area*". This report also identifies Knockharley Landfill as an existing licenced facility that accepts relevant C&D materials.

The Plan identifies that "*the sharp decrease in the number of operational landfill nationally*" which were significant outlets for C&D waste in the past, requires the consideration of the other recovery options to be developed. It also identifies that C&D fines, produced from C&D screening or trommelling, may be suitable for landfill cover, subject to EPA agreement, with ongoing testing and verification of same, being required.

The 'Construction & Demolition Waste – Soil and Stone Recovery/Disposal Capacity' report outlines a very significant anticipated shortfall in capacity for soil and stones in the Greater Dublin Area, in excess of 2.6 million tonnes of capacity per annum, from 2019 onwards. In terms of options in relation to capacity provision for this shortfall, it is identified in the report that "*existing licenced facilities with capacity to expand, or with a readiness to increase their annual limit, could choose to apply for an extension to their existing licenced capacity*".

The provision of C&D waste capacity in relation to the proposed development is addressed in further detail in Chapter 4 – 'Need for the Development and Alternatives Considered''.

Section 13 Disposal Infrastructure

Section 13 of the Plan identifies the remaining disposal capacity at landfills accepting MSW in the EMR in 2014, in Table 13-1.

Further discussion in respect of landfill capacity is provided in Chapter 4 – 'Need for the Development and Alternatives Considered'.

The Plan also identifies the increasing quantities of bio-stabilised residual fines accepted at landfills between 2012 and 2014 and identifies that the "*decreasing availability of landfill as an option for this stabilised waste requires the region to research alternative options for bio-stabilised residual waste".* It is considered that the proposed development can provide a realistic and appropriate outlet for residual fines management and this is discussed in more detail in Chapter 4.

The issue of repatriated waste from Northern Ireland is identified in Section 13 of the Plan, whereby the Irish government is obligated to accept illegally disposed of waste in Northern Ireland.

The framework for landfills to accept this waste (as it is only acceptable for landfilling, given its nature), which the Knockharley Landfill is a part of, is referenced and in reality, any landfill which is operational and has the ability to accept such waste will likely be considered to accept this material in the coming years. Knockharley Landfill, being located in Co. Meath, is the closest of the landfills located with the Eastern Midlands region to the source of waste coming from Northern Ireland. It is identified in the Plan that there is an estimated 120,000 tonnes of mixed municipal waste to be repatriated in the coming years.

The Brexit decision in the UK has the potential to impact on the timeline under which this waste must be repatriated, given that, post Brexit (be that March 2019 or a 2 year transition period thereafter), the UK may be operating under a different regulatory framework and regime that would make the cross border repatriation much more difficult – this fact is noted in the Northern Ireland Assembly Briefing paper (November 2016)[8] *Background Paper on Waste Management in Northern Ireland* where it is stated:

"…. the co-ordinated approach to waste management both sides of the border is essential in controlling the movement and disposal of legal and illegal waste.

[7] http://southernwasteregion.ie/sites/default/files/National-C-D-Capacity-Report.pdf
[8] http://www.niassembly.gov.uk/globalassets/documents/raise/publications/2016-2021/2017/aera/1017.pdf

Given that post- Brexit the RoI will continue to work to EU requirements and regulation, it may be of interest to find out what discussion there has been in relation to the impact, either side of the border, given that NI could potentially work to a different framework with fundamental differences in levies, controls and levels of regulation."

The repatriation of waste from Northern Ireland is considered in more detail the following sections and in Chapter 4 – 'Need for the Development and Alternatives Considered'.

A specific policy measure in relation to the need to address legacy, historic and closed licenced landfills in the region in presented in Section 13 of the Plan, as follows:

Policy G.2.

Roll - out the plan for remediating historic closed landfills prioritising actions to those sites which are the highest risk to the environment and human health.

Relevance to the Proposed Development

The Plan addresses the road map outlined in Circular WP15/12, which outlined deliverables relating to the remediation of historic legacy landfill facilities, which were difficult to achieve within the timeline initially envisaged. The policy objective outlined in the Plan is to prioritise those sites considered the highest risk to the environment and human health such that these sites are appropriately remediated.

Appendix 4 of the Plan identifies a number of high risk (Class A) historic and legacy sites are identified in the Eastern and Midlands region, with the above policy supporting the remediation of these sites. It is likely that for a significant proportion of these sites, the removal of waste material will be the only preferable remediation option, with appropriate landfill capacity then being required for this material, as landfilling will be the only viable option for its management. The following table presents the Class A sites in the Eastern Midlands region.

Kildare Co. Co	Carrigeen	South Dublin Co. Co.	Friarstown
Kildare Co. Co	Knocknagarm	South Dublin Co. Co.	Waterstown
Kildare Co. Co.	Greenhills	South Dublin Co. Co.	Cruagh
Kildare Co. Co	Prusselstown	South Dublin Co. Co.	Lucan Demense
Kildare Co. Co.	Pollardstown	South Dublin Co. Co.	Corbally Sagart
Kildare Co. Co.	Wolfestown	South Dublin Co. Co.	Clondalkin Paper Mill
Longford Co. Co.	Ballymaurice	South Dublin Co. Co.	Woodtown
Longford Co. Co.	Cartron Big	Westmeath Co. Co.	Moate
Longford Co. Co.	Longford Town No. 1	Westmeath Co. Co	Marlinstown
Louth Co. Co.	Carlingford	Westmeath Co. Co.	Lickbla
Meath Co. Co.	Fletcherstown Bog	Wicklow Co. Co.	Fassaroe No. 3A
		Wicklow Co. Co.	Fassaroe No. 3C

The Plan identifies that a roadmap will be prepared for the remediation of the high-risk sites over the lifetime of the Plan.

In addition to these, landfill capacity will be required to manage other sources of inappropriately disposed waste material, with 2 no. unauthorised landfills alone having identified in 2016 in Co. Meath and Co. Donegal and Whitestown unauthorised landfill having been identified as requiring significant remediation activity in Co. Wicklow in 2017.

The proposed development at Knockharley will be in a position to provide capacity for the appropriate management of this material and other future sources of similar material.

Section 16 Market Analysis and Infrastructure Planning

Section 16.4.3 of the Plan identifies that "*the local authorities anticipate that there will be an ongoing need for landfill capacity during the plan period for processed residual wastes. There is also a need to maintain a contingency supply, in response to potential situations which pose a risk to the health and well-being of citizens, livestock and the environment".*

This section of the Plan also addressed the issue of repatriation of waste from Northern Ireland in the context of disposal and identifies that "*all waste repatriated must go for disposal*" and that this Plan "*supports the repatriation of this waste to landfills in the region*."

In terms of the proposed development, which seeks to intensify the existing landfill operation within the existing permitted footprint and to develop an IBA acceptance capacity, with ancillary infrastructure, the following policy objectives of the plan are relevant:

Policy E8

The waste plan supports the development of disposal capacity for the treatment of hazardous and non-hazardous wastes at existing landfill facilities in the region subject to the appropriate statutory approvals being granted in line with the appropriate environmental protection criteria.

Relevance to the Proposed Development

The proposed development will provide additional disposal capacity for the treatment of non-hazardous household, commercial and industrial waste, C&D wastes, non-hazardous contaminated soils and IBA at an existing landfill. The application seeks to increase the rate of acceptance at the facility capacity, with IBA being managed within dedicated cells and the other wastes being managed within the existing permitted footprint.

This EIAR relates to applications for approval in accordance with the appropriate statutory processes i.e. planning approval through the strategic infrastructure development (SID) process to An Bord Pleanála (ABP) and industrial emission (IE) licence application to the EPA, with both bodies subjecting the application to environmental impact assessment (EIA).

Policy E9a

The on-going availability of disposal facilities for non-hazardous municipal residual wastes in the region will be required during the plan period. The local authorities consider there is no need to provide additional disposal facilities for residual wastes over and above the existing authorised (i.e. operational, inactive or uncommenced) facilities in place.

Relevance to the Proposed Development

The Plan identifies the requirement for landfill capacity to be available for the duration of the Plan period for municipal waste disposal. As an existing facility, the Knockharley Landfill will continue to provide disposal capacity as required.

It is identified that there is no need for additional provision of disposal facilities over and above the existing authorised facilities in place. This is taken to refer to there being no requirement to develop any new landfill facility i.e. a new landfill on a new site requiring planning and EPA licence approvals that have not been in place before.

The proposed development, while proposing an amendment to existing waste acceptance rates, and development of dedicated IBA cells, does not contravene Policy E9a in that it is not considered a new or an additional facility, as the development is proposed at an existing, authorised facility.

Policy E10

The waste plan recognises the need for on-going disposal capacity to be available in response to events which pose a risk to the environment and/or and health of humans & livestock. The local authorities of each region shall monitor available contingency capacity annually.

Relevance to the Proposed Development

The proposed development will support this policy objective through the provision of usable disposal void as contingency landfill in the event of such an occurrence. The acceptance of waste materials in such an event would only be carried out in consultation with and approval of relevant stakeholders and is exemplified by the application of the Section 56 measures in 2016 -2018, with such capacity being provided by Knockharley Landfill and others, in order to prevent a situation of uncollected waste.

The provision of such capacity is discussed in more detail in Chapter 4 – 'Need for the Development and Alternatives Considered''.

Policy E12

The waste plan supports the repatriation of residual waste illegally disposed in Northern Ireland to licensed disposal facilities appointed to a framework set up on behalf of the State by the National Trans Frontier Shipment Office.

Relevance to the Proposed Development

Knockharley Landfill is appointed to the framework of disposal facilities to provide disposal capacity in relation to repatriated waste from Northern Ireland.
As the landfill located in closest proximity to the source of the material repatriated from Northern Ireland, the Knockharley Landfill is ideally situated to provide disposal capacity for this material, through its management in a fully engineered landfill, where landfilling is the only technical option for managing this material.

As previously identified, there may be potential for the repatriation programme to be accelerated in light of Brexit, given the potential significant complications arising from both jurisdictions operating under different legislative frameworks past March 2019.

Policy E15a

The waste plan supports the development of up to 300,000 tonnes of additional thermal recovery capacity for the treatment of non-hazardous wastes nationally to ensure there is adequate and competitive treatment in the market and the State's self-sufficiency requirements for the recovery of municipal waste are met. This capacity is a national treatment need and is not specific to the region. The extent of capacity determined reflects the predicted need of the residual waste market to 2030 at the time of preparing the waste plan. Authorisations above this threshold will only be granted if the applicant justifies and verifies the need for the capacity and the authorities are satisfied it complies with national and regional waste policies and does not pose a risk to future recycling rates. All proposed sites for thermal recovery must comply with the environmental protection criteria set out in the plan.

Relevance to the Proposed Development
While related directly to the provision of a further 300,000 tonnes of thermal treatment capacity on a national basis, this policy measure is relevant to the proposed development in the event of this capacity being provided, given that capacity of this scale could generate up to approximately 75,000 tonnes of IBA that will require management. Potential future IBA management capacity is discussed in more detail in Chapter 4 – 'Need for the Development and Alternatives Considered'

Section 16.5 of the Waste Plan outlines environmental protection criteria for facilities requiring consent and identifies several specific policy objectives relating to same. A number of these criteria relate specifically to the siting of new waste infrastructure, which is not applicable in the case of the existing Knockharley site.

The Plan recommends that consultation be undertaken with the regional waste offices, as well as relevant planning and regulatory authorities, prior to submitting development applications. The applicant has undertaken such consultations, as described in Chapter 5 – 'EIAR Scoping, Consultation & Key Issues'.

The Plan also references the intention to develop facility specific siting guidelines and such guidelines were provided for public consultation in November 2016. The draft guidelines specifically stated that landfill siting was outside of their scope, as it was considered that landfill siting is adequately addressed in the EPA 2006 publication on the matter[9].

Policy G3. Ensure there is a consistent approach to the protection of the environment and communities through the authorisation of locations for the treatment of wastes. **Policy G5.** Ensure that the implementation of the regional waste management plan does not prevent achievement of the conservation objectives of sites afforded protection under the EU Habitats and Birds Directives.
In respect of Policies G3 and G5, these objectives are related to the consent processes to be undertaken by relevant authorities, in consideration of the environmental criteria outlined in the Plan. The environmental criteria set out was considered in the development of the EIAR/EIS.

Section 17 – Roles and Responsibilities and Other Relevant Plan Sections

Section 17.2.8 of the Plan outlines the role of the waste industry in the achievement of the objectives, policies, actions and targets contained in the plan.

Those which are applicable to the applicant are included below, with indication of their applicability/relevance to the proposed development presented.

Cooperate with the designated lead authorities and local authorities to implement the objectives, policies, actions and targets contained in the plan.	As discussed previously, the proposed development supports, is relevant to and/or is in adherence with the following policy objectives: Policy A4, Policy E8, Policy E9a, Policy E10, Policy E12, Policy E15a, Policy G2, Policy G3 and Policy G5.

[9] EPA Landfill Manual on Site Selection, Draft for Consultation, December 2006

Provide sustainable waste management infrastructure /technology in keeping with the waste hierarchy and the principle of self-sufficiency.	The preferred policy of the Plan supports self-sufficiency and the development of indigenous infrastructure for the thermal recovery of residual municipal waste. Its preference is to minimise the exporting of residual municipal waste resources. The proposed development will provide support to this policy objective, through: • Provision of an outlet for the management of IBA material produced through thermal treatment • Provision of contingency capacity during the periods of EfW facility planned or unplanned shutdown. • Potential to provide emergency contingency in consultation with and approval of relevant stakeholders. • Provision of disposal and recovery capacity for other non-hazardous wastes and non-hazardous soils which are not suitable for thermal treatment. • Provision of disposal capacity for repatriated waste which is not suitable for thermal treatment.
Comply with licence conditions as prescribed by the EPA.	The existing facility is licensed by the EPA and is operated in accordance with the conditions of that licence. A new licence application will be sought for the proposed development, and it will be operated in accordance with the conditions set out.
Promote high standards of health and safety in the industry.	The existing facility has an excellent record in health and safety and the applicant will continue to promote high standards of health and safety during the construction and operation of the proposed development.

3.4 Local Policy Context

3.4.1 Local Planning Policy

Meath County Development Plan 2013 - 2019

The Meath County Development Plan 2013 – 2019 contains a number of specific policies across a number of topic areas considered applicable to the proposed development, outlined as follows:

WS SO 3 *To secure the provision of water, wastewater treatment and **waste management initiatives** to accommodate the future sustainable economic and residential growth of the County in accordance with the Core Strategy and Settlement Strategy and in consultation with statutory agencies and adjoining Local Authorities.*

WM POL 1 *To adopt the **provisions of the waste management hierarchy** and implement policy in relation to the county's requirements under the current or any subsequent waste management plan**.** All prospective developments in the county will be expected to take account of the provisions of the regional waste management plan and adhere to the requirements of the Plan. Account shall also be taken of the **proximity principle** and the inter-regional movement of waste as provided for under appropriate Minister Directives from time to time.*

WM POL 3 *To seek the provision of **quality cost effective waste infrastructure** and services, which reflect and meet the needs of the community.*

WM POL 4 *To seek in the Council's dealings with private companies that all waste shall be undertaken **in compliance with the requirement of the EPA and relevant waste management** legislation and policy.*

WM POL 6 *To encourage the **development of waste infrastructure** and associated developments **in appropriate locations**, as deemed necessary in accordance with the requirements of the Regional Waste Management Plan.*

WM POL 7 *To encourage the recycling of construction and demolition waste and the **reuse of aggregate and other materials** in future construction projects.*

Relevant objectives outlined include:

WM OBJ 1 ***To facilitate the provision of appropriate waste recovery and disposal facilities** in accordance with the principles set out in the appropriate Waste Management Plan applicable from time to time made in accordance with the Waste Management Act 1996.*

WM OBJ 8 *To facilitate **the implementation of national legislation and national and regional waste management policy**.*

WM OBJ 18 *To seek to ensure in cooperation with relevant authorities that **waste management facilities are appropriately managed** and monitored according to best practice to maximise efficiencies and to protect human health and the natural environment.*

EC POL 3 *To encourage the production of **energy from renewable sources**, such as from biomass, **waste material**, solar, wave, hydro, geothermal and wind energy, subject to normal proper planning considerations, including in particular the potential impact on areas of environmental or landscape sensitivity and Natura 2000 sites.*

Relevance to the Proposed Development

The proposed development is considered as strongly adhering to the policies and objectives of the Meath County Development Plan 2013 to 2019, which defers to the requirements of national legislation, policy and the regional waste management plan in most instances. The potential recycling / recovery of IBA as part of the proposed development as described in Chapter 2 'Description of the Proposed Development' specifically relates to WM POL7, while the utilisation of landfill gas in renewable electricity generation which will continue as the development site, is supported by EC POL3.

Kentstown Written Statement

The Kentstown Written Statement, developed under Variation No. 2 of the Meath County Development Plan 2013 – 2019, has, as its goal, the protection of "*the scale, character and the built and natural heritage of the village by encouraging development which will improve the character and structure of the village core and the social and physical infrastructure in the village*". Cognisance is given to this document given the proximity of the proposed development.

While the Written Statement focuses on the extent of the village boundary only, relevant policies referenced include:

FR POL 1 *To manage flood risk and development in Kentstown in line with policies WS29 – WS36 inclusive in Volume 1 of this County Development Plan*

HER POL 2 *To conserve and enhance the amenity of the River Nanny in Kentstown including the landscape, water environment and wildlife habitats and, where consistent with this, to encourage increased public access and provision of walkways.*

Relevance to the Proposed Development

Based on the issues identified in the Kentstown Written Statement, this EIAR / EIS gives consideration to the water quality and ecological value of the River Nanny and flood risk potential, through assessment of potential impacts resulting from the proposed development in the following sections of this EIAR / EIS.

3.5 The Development & its Compliance with Policy

It is considered that the proposed development at Knockharley is in compliance with the policy objectives listed previously, as indicated in the "relevance boxes". In terms of European and national legislation, the proposed facility will ensure adherence to the principles of self-sufficiency and proximity by providing disposal and recovery infrastructure for the management of waste generated both within the region and nationally.

The provision of continued landfill capacity is likely to arise in a context of national landfill capacity being lower than the 2020 Landfill Directive targets and as such will be in compliance with the Directive targets.

National planning policy, outlined in the National Planning Framework and the National Development Plan, is supported by the proposed development through the provision of effective and efficient waste management facilities, which are identified as essential in the promotion of balanced regional development

Current national waste policy, outlined in A Resource Opportunity, is supported in a number of ways by the proposed development as contributing to the achievement of the self-sufficiency and proximity principles. While the policy of the elimination of landfilling of municipal waste is identified, consideration must be given to the type of material to which this refers, with an ongoing need for disposal capacity for, as well as contingency and repatriation capacity.

The proposed development also displays adherence with the Draft Eastern and Midland Regional Assembly regional planning guidelines and the Regional Planning Guidelines for the Greater Dublin Area 2010 – 2022 through, *inter alia*, its contribution as an important factor in the functioning of a fully integrated waste management system.

The Eastern Midlands Regional Waste Management Plan 2015 – 2021 acknowledges the need for the ongoing provision of landfill capacity in the region, as well as for contingency and repatriation needs. While the preferred policy of the plan for residual waste management refer to thermal treatment, the implementation of policies in this regard, will result in the production of IBA material capacity for which can be provided by the proposed development. The environmental protection criteria specified within the plan are assessed individually in sections of this EIAR where they are relevant. In addition, the Plan highlights the increasing quantities of C&D wastes being generated, in light of decreasing capacity for the management of same. The Plan also outlines policies in relation to the management of repatriated wastes and historic closed landfills. The preceding sections have outlined the means by which the propose development is in a position to strongly contribute to these identified policies.

A range of policies and objectives outlined in the Meath County Development Plan 2013 – 2019 are supported by the proposed development, including the requirement for compliance with EPA authorisations the future potential for re-use of aggregates and the overall adherence with regional and national waste policy.

Furthermore, specific policies identified in relation to Kentstown are considered in the preparation of this EIAR.

3.6 References

Construction & Demolition Waste – Soil and Stone Recovery/Disposal Capacity; http://southernwasteregion.ie/sites/default/files/National-C-D-Capacity-Report.pdf

DoELG; Waste Management: Changing Our Ways – 1998; https://www.epa.ie/pubs/reports/waste/plans/EPA_changing_our_ways_1998.pdf

DOELG; Preventing and Recycling Waste – Delivering Change – a Policy Statement – 2002 http://www.epa.ie/pubs/reports/waste/plans/epadeliveringchange2002pdf.html ;

DoECLG; A Resource Opportunity – Waste Management Policy in Ireland – 2012; http://www.housing.gov.ie/environment/waste/policy-and-legislation/resource-opportunity-waste-management-policy-ireland

DoECLG; 'Exporting a Resource Opportunity' http://www.housing.gov.ie/sites/default/files/migratedfiles/en/Publications/Environment/Waste/FileDownLoad,43713,en.pdf

EMWR; Eastern Midlands Regional Waste Management Plan 2015 – 2021' http://emwr.ie/download-the-eastern-midlands-regional-waste-management-plan

EPA, National Statistics - Progress towards EU waste recycling, recovery and diversion targets'; http://www.epa.ie/pubs/reports/waste/stats/EPA_Progress%20towards%20EU%20targets_Jan17_web.pdf

EPA; Municipal Solid Waste – Pre-treatment and Residuals Management; http://www.epa.ie/pubs/advice/waste/municipalwaste/finalguidancedocument.html

EPA, The National Strategy on Biodegradable Waste – 2006; https://www.epa.ie/pubs/advice/waste/municipalwaste/IRE_National_Strategy_on_Biodegradable_Waste_Final_2006.pdf

EU, Council Directive 2008/98/EC; http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=EN

European Communities (Waste Directive) Regulations 2011; http://www.irishstatutebook.ie/eli/2011/si/126/made/en/pdf

EU, Circular Economy Package Action Plan; http://ec.europa.eu/environment/circular-economy/index_en.htm

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EU, Proposed Directive on Landfill' http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015PC0594&from=EN

Meath County Development Plan 2013 – 2019; https://meathcountydevelopmentplan.files.wordpress.com/2011/01/meath-county-development-plan-2013-2019-consolidated-version-december-2016.pdf

National Development Plan 2007 – 2013; http://www.hea.ie/sites/default/files/ndp_2007-2013.pdf

National Planning Framework Issues and Choices'; http://npf.ie/wp-content/uploads/2017/02/Position-Paper-Issues-and-Choices-Ireland-2040-web.pdf

National Spatial Strategy 2002 – 2020; http://nss.ie/pdfs/Completea.pdf

Regional Planning Guidelines for the Greater Dublin Area 2010 – 2022; http://emra.ie/dubh/wp-content/uploads/2015/02/Greater-Dublin-Area-Regional-Planning-Guidelines-2010-2022-Volume-I.pdf