Lincolnshire County Council

JOINT MUNICIPAL WASTE MANAGEMENT STRATEGY

Strategic Environmental Assessment Environmental Report

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CONTENTS

TABLES

FIGURES

APPENDICES

ABBREVIATIONS

AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
CHP	Combined Heat and Power
CO2	Carbon Dioxide
DCLG	Department for Communities and Local Government
DPD	Development Plan Document
EfW	Energy from Waste
GHG	Greenhouse Gas
GVA	Gross Value Added
ha	Hectare
HRA	Habitats Regulation Assessment
IDP	Infrastructure Development Plans
ILO	International Labour Organisations
IMD	Index of Multiple Deprivation
JMWMS	Joint Municipal Waste Management Strategy
Kt	Kiloton
LCA	Landscape Character Area
LCC	Lincolnshire County Council
LEA	Local Economic Assessment
LIGHT	Lincolnshire Green Heat Scheme
LNR	Local Nature Reserve
LSOAs	Lower Super Output Areas
LTP4	Local Transport Plan
LWP	Lincolnshire Waste Partnership
MCZ	Marine Conservation Zones
MSW	Municipal Solid Waste
Mt	Megaton
NAA	Nitrate Advisory Areas
NAQS	National Air Quality Strategy
NIA	Noise Important Areas
NNR	National Nature Reserve
NO_x	Nitrogen Oxides
NO2	Nitrogen Dioxide
NSA	Nitrate Sensitive Areas
ONS	Office of National Statistics
PM10	Particulate Matter

PPP	Plans, Policies and Programmes
PUA	Principal Urban Area
SA	Sustainability Appraisal
SAC	Special Areas of Conservation
SAM	Scheduled Monument
SEA	Strategic Environmental Assessment
SOAs	Super Output Areas
SPA	Special Protection Areas
SSSIs	Sites of Special Scientific Interest
SUDS	Sustainable Urban Drainage System
UK	United Kingdom

NON-TECHNICAL SUMMARY

INTRODUCTION

Two-tier areas such as Lincolnshire, where waste collection is the responsibility of the district, borough or city council and waste disposal is the responsibility of the county council, are required to have a joint strategy for the management of municipal waste. These waste management strategies are required to be reviewed every 5 years. Lincolnshire County Council (LCC) is a member of the Lincolnshire Waste Partnership (LWP) which is a body formed of LCC, the Environment Agency (EA) and the seven district, borough and city councils within Lincolnshire.

Strategic Environmental Assessment (SEA) is a process of undertaking an environmental assessment of plans and programmes. WSP has been commissioned by Lincolnshire County Council to undertake a SEA of the replacement Joint Municipal Waste Management Strategy (JMWMS).

This Environmental Report (including this non-technical summary) sets out the SEA of the Lincolnshire County Council JMWMS.

SEA METHODOLOGY

The approach adopted for the SEA of the JMWMS follows that set out in the Practical Guide to SEA[1] and the Planning Practice Guidance to SEA[2].

The key stages of the SEA process are the following:

- Stage A: Scoping
- Stage B: Assessment
- Stage C: Reporting
- Stage D: Consultation
- Stage E: Monitoring

SCOPING

Scoping involves the development of an assessment framework comprising a series of SEA Objectives, assessment criteria and indicators. This framework is developed from an understanding of environmental problems and opportunities identified through a review of existing baseline information and a review of other plans, programmes and environmental protection objectives relevant to the plan area (i.e. Lincolnshire and its neighbours) and subject matter (in this case, waste).

[1] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive [online] available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf (Accessed October 2017).

[2] Department for Communities and Local Government (2015) Strategic Environmental Assessment and Sustainability Appraisal [online] available at: https://www.gov.uk/guidance/strategic-environmental-assessment-and-sustainability-appraisal

ENVIRONMENTAL ASSESSMENT

The LWP considers that the retention of the existing JMWMS is unlikely to continue to reflect Lincolnshire's needs into the future since it would not take account of recent changes in national and local government budgets or policies and changes in the way waste services are delivered (such as with new technologies or processes).

In environmental terms, there is likely to be little difference between the two strategic options considered. There is no evidence to indicate that the current JMWMS is having negative environmental effects. That said, the existing JMWMS may not be addressing local environmental issues (which are likely to differ across the county).

The development of a new JMWMS would allow stronger provision for the uptake of new waste management technologies/processes to be made which, in general terms, could lead to an environmental benefit.

The assessment has determined that there is the following potential for environmental effects:

- The introduction of a common set of recycling materials is likely to have a significant positive effect in relation to the sustainable use of resource through effective waste management;
- Exploring the use of waste as a resource via the waste hierarchy is likely to have a significant positive effect in relation to the circular economy and the sustainable use of resource through effective waste management;
- Contributing to the UK's recycling target is likely to have a significant positive effect in relation to the circular economy; and
- Seeking to reduce carbon emissions from energy use is likely to have a significant positive effect in relation to carbon emissions.

There are also some unknown effects relating to:

- The effect of separate food waste collections on biodiversity, opportunities for recycling within residential developments, the historic environment and the Lincolnshire countryside; and
- Innovative solutions in the delivery of waste management services.

MITIGATION

There is some potential for adverse effects resulting from the JMWMS. For this reason, a set of precautionary mitigation measures are proposed. These are set out in Section 5 of the report.

MONITORING

A programme of monitoring is proposed so that unforeseen significant effects of implementation can be identified and remedial action taken. Monitoring also measures the performance of the JMWMS against environmental objectives and targets. A set of proposed monitoring indicators is set out in Chapter 5 of the report.

1 INTRODUCTION

1.1 BACKGROUND TO THE JOINT MUNICIPAL WASTE MANAGEMENT STRATEGY

1.1.1. Lincolnshire County Council (LCC) is a member of the Lincolnshire Waste Partnership (LWP) which is a body formed of LCC, the Environment Agency (EA) and the seven districts, borough and city councils within Lincolnshire:

- Boston Borough Council;
- City of Lincoln Council;
- East Lindsey District Council;
- North Kesteven District Council;
- South Holland District Council;
- South Kesteven District Council; and
- West Lindsey District Council.

1.1.2. The Waste and Emissions Trading Act 2003 requires two-tier areas such as Lincolnshire to have a joint strategy for the management of municipal waste in place. Waste Management Strategies require a review every 5 years to ensure that they remain current[3].

1.1.3. The current JMWMS for Lincolnshire was published by the LWP in June 2008 with the aim of providing information on the following:

- The current and future legal obligations that the LWP needs to meet;
- The waste management services that are currently provided;
- How the LWP plans to meet the targets by reducing the amount of waste that is produced, increasing the amount of waste that is recycled and recovered, and minimising the amount of residual waste that is landfilled; and
- How the LWP plans to implement this strategy.

1.1.4. Since 2008, Lincolnshire has made significant progress towards achieving these aims through securing a 25 year contract with FCC Environment in March 2011. This contract is for the disposal of residual Municipal Solid Waste (MSW) and constructing a 150,000 tonne per annum Energy from Waste (EfW) facility at North Hykeham in Lincoln. The EfW facility became fully operational in 2014 and waste going to landfill has dropped from 168,000 tonnes in 2009 to less than 15,000 tonnes after the site became fully operational[4].

1.1.5. The review of the current JMWMS was put on hold when it appeared that legislation would itself be reviewed. The legislative review has not yet happened but a revised waste strategy is now necessary to address the present waste management challenges in Lincolnshire and to address its future needs. The latest Joint Municipal Waste Management Strategy (JMWMS) is currently in preparation by the LWP, led by LCC.

1.1.6. This Environmental Report summarises the results of the Strategic Environmental Assessment (SEA) for the JMWMS.

1.2 THE JOINT MUNICIPAL WASTE MANAGEMENT STRATEGY

1.2.1. The JMWMS seeks to provide a mechanism by which joint working by the districts, borough and city councils and LCC, as well as the EA, can be achieved to deliver sustainable waste management services and establish best value waste management practices. The framework provided by the JMWMS allows the LWP to continually improve the waste services offered, minimise costs and meet challenging recycling and landfill diversion targets.

1.2.2. The LWP has the vision:

[3] Defra, Guidance on Municipal Waste Management Strategies, July 2005
[4] Lincolnshire's Energy from Waste Facility. Available at: https://www.lincolnshire.gov.uk/recycle-for-lincolnshire/energy-from-waste/ (Accessed July 2017)

'To seek the best environmental option to provide innovative, customer-friendly waste management solutions that give value for money to Lincolnshire'.

1.2.3. In order to work towards this vision, the LWP has also developed and agreed a set of high-level objectives which are listed in Table 1. These objectives are key drivers for the delivery of this strategy. In line with the vision, each of these objectives is to be considered in light of the LWPs shared value that:

'All objectives should ensure that services provided under the JMWMS represent the best possible environmental option which gives value for money for Lincolnshire residents.'

Table 1 – LWP Objectives

1	To improve the quality and therefore commercial value of our recycling stream.
2	To consider moving towards a common set of recycling materials.
3	To consider the introduction of separate food waste collections.
4	To explore new opportunities of using all waste as a resource in accordance with the waste hierarchy.
5	To contribute to the UK recycling target of 50% by 2020.
6	To find the most appropriate ways to measure our environmental performance and set appropriate targets.
7	To seek to reduce our carbon footprint.
8	To make an objective assessment of whether further residual waste recovery/disposal capacity is required and, if necessary, seek to secure appropriate capacity.
9	To regularly review the LWP governance model in order to provide the best opportunity to bring closer integration and the implementation of the objectives set by the strategy.
10	To consider appropriate innovative solutions in the delivery of our waste management services.

1.3 THE SEA PROCESS

1.3.1. Strategic Environmental Assessment (SEA) is the term used to describe the application of environmental assessment to plans and programmes in accordance with European Council Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment' (known as the SEA Directive).[5] The SEA Directive is enacted in England through the "Environmental Assessment of Plans and Programmes Regulations" (SI 2004/1633, known as the SEA Regulations).[6]

These Regulations introduced a requirement for an SEA to be produced for a number of statutory plans and programmes, including Waste Management Plans. Bodies such as the LWP should ensure that the SEA is an integral part of developing, and later delivering, their Local Waste Plan.

1.3.2. The overarching objective of the SEA Directive is:

"To provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans… with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans… which are likely to have significant effects on the environment." (Article 1)

1.3.3. The main requirements introduced by the SEA Regulations are that:

[5]. Directive 2001/42/EC [online] available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32001L0042 (Accessed October, 2017).

[6]. SI 2004 No. 1633, The Environmental Assessment of Plans and Programmes Regulations 2004 [online] available at: http://www.legislation.gov.uk/uksi/2004/1633/pdfs/uksi_20041633_en.pdf (Accessed October, 2017).

- Consultation with statutory bodies is undertaken on the scope of the SEA;
- The findings of the SEA are published in an Environmental Report, which sets out the significant effects of the plan;
- Consultation is undertaken on the plan and the Environmental Report;
- The results of consultation are taken into account in decision-making relating to the adoption of the plan; and
- Information on how the results of the SEA have been taken into account is made available to the public.

1.3.4. SEA extends the evaluation to the broader policy and strategy of regional, county and district level plans. It is a systematic process that identifies and predicts the potential significant environmental effects of plans/programmes, informing the decision making process by testing different alternatives or options against environmental objectives.

1.3.5. This Environmental Report sets out the results of the SEA and development of the Lincolnshire JMWMS. In undertaking this SEA, we provide a systematic appraisal of the potential environmental impacts of the JMWMS and identify measures to prevent, reduce and where possible offset any significant adverse effects of implementing that strategy on the environment.

1.3.6. The structure and content of this report can be seen in Table 2 below.

Table 2 – Structure and Content of the Environmental Report

Section	Description
Introduction	A brief introduction to the JMWMS and the SEA process.
SEA Methodology	A description of the approach to the SEA, including how to assess the significant effects of a number of alternative options against key objectives to help develop the strategy.
Baseline and SEA Objectives	A summary of the plans and programmes relevant to the strategy; and an outline description of the environmental characteristics and issues of the study area. Listing of the SEA Objectives derived from baseline information, issues, and plans and programmes.
Assessment of Alternatives and Effects	The assessment of likely significant effects of the Strategy.
Mitigation and Monitoring Plan	A plan of how the impacts of this strategy will be reduced or removed and how to monitor the implementation of the plan, and the associated environmental implications.

2 SEA METHODOLOGY

2.1 INTRODUCTION

2.1.1. This section provides an overview of the SEA process, the stages undertaken to date and the current stage.

2.2 SEA PROCESS

2.2.1. SEA is an iterative process of gathering data and evidence, assessment of environmental effects, developing mitigation measures and making recommendations to refine plans or programmes in view of the predicted environmental effects. The effects predicted at this stage will be at a strategic level.

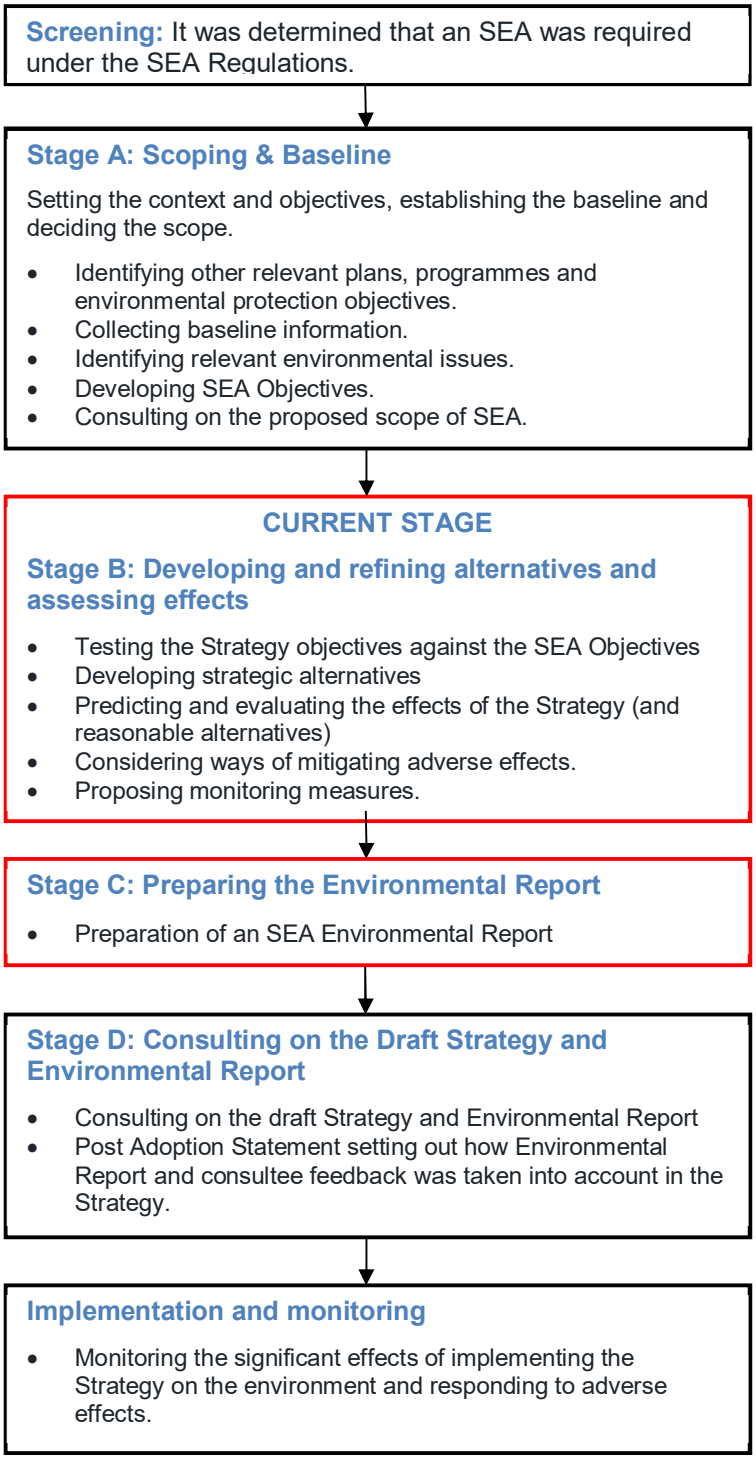
2.2.2. The approach adopted for the SEA of the JMWMS follows that set out in the Practical Guide to SEA[7] and the Planning Practice Guidance to SEA[8]. It involves the development of an assessment framework comprising a series of SEA Objectives, assessment criteria and indicators. This framework is developed from an understanding of environmental problems and opportunities identified through a review of existing baseline information and a review of other plans, programmes and environmental protection objectives relevant to the plan area (i.e. Lincolnshire and its neighbours) and subject matter (waste management).

2.2.3. The SEA process recommended by the Practical Guide is set out in Figure 1 below. The current stage in the process is Stages B and C, which comprise developing and refining strategic alternatives, assessing environmental effects and preparation of the Environmental Report (this report).

[7] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive [online] available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7657/practicalguidesea.pdf (Accessed October 2017).

[8] Department for Communities and Local Government (2015) Strategic Environmental Assessment and Sustainability Appraisal [online] available at: https://www.gov.uk/guidance/strategic-environmental-assessment-and-sustainability-appraisal

Figure 1 SEA Process and Lincolnshire JMWMS



2.3 SEA SCREENING

A 'screening' exercise was not undertaken for the JMWMS as it is mandatory requirement to conduct SEA for a waste plan under the SEA Regulations.

2.4 SEA SCOPING AND BASELINE

2.4.1. In order to determine the scope of the SEA, a number of activities have been undertaken as shown in Figure 1above:

- Other plans and programmes were identified to establish how the Strategy interacts with wider policy framework and identify any environmental protection objectives relevant to the SEA;
- Environmental baseline data was collected and any problems identified to provide an evidence base for prediction of effects, and monitoring; and
- SEA Objectives and associated assessment criteria were developed from the information above to provide a means by which the environmental performance of the Strategy can be appraised.

2.4.2. A Scoping Report was issued for consultation in August/September 2017. Chapters 4, 5 and 6 of the Scoping Report, in addition to Appendices A and B of the report identified other relevant plans, programmes and environmental protection objectives, set out the baseline information and identify relevant environmental issues. The SEA Objectives to be used in the assessment were derived from this information. This information is summarised for ease of reference in Section 3 of this report.

2.4.3. The responses to the scoping consultation and actions taken are summarised in Appendix C of this report. Key issues are summarised below:

- The Scoping Report generally downplays the historic environment/cultural heritage. ; there are no specific schemes or development locations proposed in the JMWMS at this stage, therefore identifying scope for improvement to the historic environment and cultural heritage has been limited;
- The Scoping Report focusses on the potential impact on placement of wheelie bins in conservation areas, when there are other ways in which cultural heritage can be a receptor of harm. The baseline has been updated and assessment reflects this;
- Greater consideration needs to be given to the impact of housing growth on waste disposal capacity and infrastructure provision and on collection capacity methodologies; The baseline has updated and assessment reflects this and
- Additional policies and plans were identified, as well as additional sources or requirements for baseline information. These are now included within Appendices A and B.

2.5 DEVELOPING ALTERNATIVES AND ASSESSING EFFECTS

2.5.1. In this stage of the SEA, the JMWMS was assessed against the SEA Objectives. The assessment covered two key areas:

- The strategic alternatives considered in developing the JMWMS; and
- The proposed policies as set out in the JMWMS.

2.5.2. The SEA Objectives (and assessment criteria) are used to predict and evaluate environmental effects. Chapter 4 of this report summarises the assessment. Where significant adverse effects are predicted or there is uncertainty, measures to prevent, reduce or offset effects are identified. The significant environmental effects of the Strategy must be monitored to identify any unforeseen adverse effects and to enable appropriate remedial action. Chapter 5 of this report includes a mitigation and monitoring plan.

2.5.3. The assessment for the proposed JMWMS is presented in a table format using colour coding shown in Table 3 along with an accompanying narrative description of the assessment finding.

Table 3 – Colour coding of effect significance

Coding	Effect Significance
++	Likely significant positive effect
+	Likely positive effect
0	Negligible or no effect
-	Likely negative effect
--	Likely significant negative effect
?	The effect is uncertain
+/-	The effect is likely to be both positive and negative

2.5.4. Following the findings of the assessment, Section 5.2 of this report also includes a list of proposed mitigation and enhancement measures for any negative or positive significant effects that have been predicted.

2.6 PREPARATION OF THE ENVIRONMENTAL REPORT AND CONSULTATION

2.6.1. This Environmental Report provides the information required by the SEA Regulations and follows the stages of the SEA as described above in Section 2.2. It assesses the environmental effects of the Strategy measures and identifies measures to improve the sustainability of the Strategy as it develops.

2.6.2. Following publication, a Post Adoption Statement will be produced stating how the Environmental Report and the responses to consultation were taken into account during the preparation of the Strategy.

2.7 IMPLEMENTATION AND MONITORING

2.7.1. The Monitoring Plan set out in Chapter 5 of this Environmental Report will be used during the implementation of the Strategy to monitor both positive and negative effects.

2.8 LIMITATIONS AND ASSUMPTIONS

2.8.1. The SEA Regulations require that limitations and assumptions should be described.

2.8.2. This SEA has been based upon the information provided by LCC and the environmental information available at the time of assessment. If other strategic objectives emerge this may potentially affect the outcomes of this assessment. Therefore, it is recommended in this case that the assessment is reviewed.

2.8.3. Currently, there are no formal proposals to provide additional waste management capacity as part of the JMWMS. However, the strategy will explore whether further residual waste recovery/disposal capacity is required and, if necessary, seek to secure appropriate capacity. Therefore, due to a lack of information as to the nature, size and location of such capacity, it has been assumed that no additional capacity is being provided. If it emerges that additional capacity is required, this may affect the outcomes of the assessment and it is recommended that the assessment is reviewed. Where there is potential for impacts arising from a potential increase in capacity, this has been stated so as to inform any future updates to the JMWMS.

2.8.4. The compiled baseline data has been used to provide a ‘snapshot’ of current key issues associated with the JMWMS. Baseline data collection has been collected at a strategic level and is limited to desk-based search of publically accessible sources. There may be other potential issues that the baseline data has not captured due to the constantly changing nature of environmental data.

2.8.5. The JMWMS will apply to a 5 year plan period before a review is required to ensure that it remains current. The assessment will focus on the effects that are likely to occur during the plan period but will also seek to identify longer term effects that may occur beyond this period. It is acknowledged that longer term effects generally have a greater level of uncertainly than shorter-term, more immediate effects.

3 BASELINE AND SEA OBJECTIVES

3.1 INTRODUCTION

3.1.1. This section provides an overview of the policies, plans and environmental information used to develop the SEA Objectives and assess the potential effects of the JMWMS.

3.2 OVERVIEW OF LINCOLNSHIRE

3.2.1. The study area covers the county of Lincolnshire, incorporating the districts, borough and city councils of Boston, City of Lincoln, East Lindsey, North Kesteven, South Kesteven, South Holland and West Lindsey.

3.2.2. The county is predominantly rural and has a geographical area of 2,309 sq miles the extent of which is shown in Figure 2.[9] The main urban area is around the City of Lincoln which is a cathedral town with a rich history dating back to Roman times. Other centres of population include Gainsborough, Louth, Mablethorpe, Skegness, Boston, Sleaford, Grantham, Stamford and Spalding.

3.2.3. Lincolnshire contains some of the country's most versatile agricultural land, a successful tourism industry and internationally important nature conservation sites.

Figure 2 Map of Lincolnshire

[9] https://www.google.co.uk/maps/place/Lincolnshire

3.3 SUMMARY OF RELATED PLANS AND PROGRAMMES

3.3.1. The SEA Regulation requires that the Environmental Report includes information on the relationship of the plan or programme with other relevant plans and programmes (Regulation 12(3)). Those Plans and Programmes most relevant to the Strategy were identified in the SEA Scoping Report (WSP, August 2017). Appendix A to the Scoping Report identified a full list of plans and programmes; those most relevant locally to the strategy are summarised in Table 4 below. LCC will work with the organisations listed to ensure that the JMWMS is integrated with the plans and programmes identified in this table.

Table 4 – Summary of Relevant Plans and Programmes

Plan/Programme	Organisation	Description and Relationship with JMWMS
The Lincolnshire Minerals and Waste Local Plan – Core Strategy and Development Management Policies (Adopted June 2016)	Lincolnshire County Council	Provides the vision, objectives, spatial strategy and development management policies for minerals and waste development in Lincolnshire over the period to the end of 2031. Related to LWP Objective 8 of the JMWMS as to whether further residual waste recovery/disposal capacity is required.
Site Locations Document (Second and final) part of the Lincolnshire Minerals and Waste Local Plan) (adopted on 15th December 2017)	Lincolnshire County Council	Provides specific proposals and policies for the provision of land for mineral and waste development. Related to LWP Objective 8 of the JMWMS as to whether further residual waste recovery/disposal capacity is required.
Boston Borough Council Environmental Policy (March 2010)	Boston Borough Council	Aims to improve the environmental quality of the borough by adhering to certain commitments such as promoting sound waste management practices by minimising its own waste production. Related to LWP Objective 4 and 5 of the JMWMS as to contribute to reducing waste through exploring new opportunities to use waste as a resource and increasing recycling to reduce waste and help in meet targets.
Boston Borough Council Carbon Management Plan (Update 2014-2016)	Boston Borough Council	Provides a framework to help reduce the council's carbon footprint and generate financial savings. Related to LWP Objectives 1 and 7 of the JMWMS to improve the commercial value of LCCs recycling stream and seeking to reduce LCCs carbon footprint.
City of Lincoln: A Climate Change Strategy (2005)	City of Lincoln Council	Objectives of the Climate Change Strategy include assessing Lincoln's impact on climate change and addressing how it can make changes to reduce authority's impact on climate change. Related to LWP Objective 7 of the JMWMS to seek to reduce LCCs carbon footprint.
Low Carbon Lincoln Plan 2012 – 2020 (Draft)	City of Lincoln Council	Preparing a Low Carbon Lincoln plan to reduce Lincoln's carbon footprint and prepare for the impacts of climate change.

Plan/Programme	Organisation	Description and Relationship with JMWMS
		Related to LWP Objective 7 of the JMWMS to seek to reduce LCCs carbon footprint.
Low Carbon North Kesteven Plan 2013-2020	North Kesteven District Council	Aims to reduce the levels of carbon emissions in the North Kesteven District and prepare for the impacts of climate change. Related to LWP Objective 7 of the JMWMS to seek to reduce LCCs carbon footprint.
Central Lincolnshire Local Plan (April, 2017)	City of Lincoln Council, North Kesteven District Council and West Lindsey District Council	Comprises the combined areas of the City of Lincoln, North Kesteven and West Lindsey. Related to LWP Objective 2, 4 and 5 of the JMWMS as it aims to minimise the amount of waste generated across all sectors and increase the re-use, recycling and recovery rates of waste materials.

3.4 SUMMARY OF BASELINE CHARACTERISTICS AND ISSUES

3.4.1. The SEA Regulations require that the Environmental Report covers:

- Relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;
- The environmental characteristics of areas likely to be significantly affected; and
- Any existing environmental problems which are relevant to the plan or programme including European sites for nature conservation.

3.4.2. The Scoping Report (WSP, August 2017) identified a number of environmental aspects which are particularly relevant to the Lincolnshire JMWMS and these are listed in Table 5 below. Appendix A provides further information from the Scoping Report.

Table 5 – Summary of Environmental Characteristics and Issues

Topic	Summary of Current and Future environment
Climatic factors	Future climate change will potentially affect many aspects of UK weather and is predicted to result in more extreme weather events, increased temperatures and rises in the sea level which will be accompanied by economic, social and environmental impacts. The precise nature of these changes is uncertain, particularly for those extreme events, whether of short or long-duration. The increased coastal erosion and flooding that is likely to be associated with climate change has the potential to decrease the quality and availability of agricultural land in the region, with the potential for impacts to the economy and food supply. It is likely that some crops could no longer be grown in the area. There may be more opportunities for vineyards and for growing lavender, sweetcorn, grain maize, sunflowers and navy beans. Additionally there may be an increased potential for planting crops for energy production. These changes in crops however will also have implications for biodiversity. Additionally, climate change is likely to result in an increased threat of pests and new crop pests such as the Colorado Beetle and the European Corn Borer. The East Midlands and Lincolnshire area contains a number of important national transport links and ports which could be affected by climate change. Built structures

Topic	Summary of Current and Future environment
	such as bridges, promenades, pylons, roads and railway lines will become more vulnerable to higher winds, flooding, storm events and changes in soil moisture. Some roads, particularly those near to the coastline and rivers will be particularly susceptible to an increased risk of flooding. Consideration will need to be given to the need to develop the capability of the carriageway to cope with excess water given the likely increase in the frequency of intense rainfall events. Railways will also be susceptible to flooding. Temperature changes also have the potential to affect roads, by causing more frequent melting of the asphalt road surface, and railways by increasing the risk of buckling on the rail tracks. Additionally, climate change has the potential to affect emergency services as a result of extreme weather events.
Air quality	Although air quality across the county is generally considered to be good there are 10 AQMAs in Lincolnshire, declared primarily as a result of pollution caused by traffic emissions. Lincoln City Council has 2 AQMAs, Boston Borough Council has 2 AQMAs and South Kesteven District Council has 6 AQMAs.
Noise	The main sources of noise in Lincolnshire are derived from transport sources, such as roads and rail. Noise action plans provide a framework to manage environmental noise and its effects. There are 94 identified NIAs in Lincolnshire, with South Kesteven district having the largest number of NIAs identified.
Biodiversity, flora and fauna	There are diverse wildlife and habitats in Lincolnshire that are highly valued locally, nationally and internationally. There is wealth of international, national and local designations for nature conservation within Lincolnshire. These include Ramsar sites, SACs, SPAs, AONBs, MCZs, SSSIs, NNRs and LNRs. The designations highlighted could be adversely affected from pollution, waste production, land take and climate change.
Geology and soils	Lincolnshire's bedrocks form a simple pattern of north-south stripes at the surface. There are older Triassic rocks in the west, overlain progressively by marine Jurassic rocks and the younger Cretaceous rocks in the east. At the surface they have been subjected to weathering and erosion under a range of climates including glacial and periglacial during the last 2 million years. The superficial geology of the county is blanketed with a covering of Quarternary superficial deposits that formed within the last two million years. The Quarternary deposits includes glacial and fluvioglacial deposits along with younger Flandrian silts, peat, sands and alluvium that cover the Fenlands, the coastal plains east of the Wolds, much of the Humber coast and the Isle of Axholme. Lincolnshire contains a wide variety of soils including alluvium (clay, silt and sand) along coastal regions, Till (Diamicton), River Terrace deposits (Sand and Gravel), blown sand, peat, glacial sand and gravel. Lincolnshire soils vary in thickness from a few centimetres to over a metre in response to the underlying geology, location in the landscape and agricultural practices. The thinnest soils tend to occur over chalk and limestone escarpments and on valley side, with the deepest soils in the Fenlands. These soils support the important agricultural sector in Lincolnshire.
Water	There are two main rivers that run through Lincolnshire. The River Witham flows through the Lincolnshire countryside, with marshy fenlands stretching out on either side. The River Witham flows from Lincoln moving east towards Bardney (west Lindsey) then south passing through Kirkstead (East Lindsey), Dogdyke (North Kesteven) and then flows into the sea at Boston. The majority of the areas in the vicinity of this river are at a high risk of flooding. The River Trent is the third longest river in the United Kingdom and a part of it forms the district boundary between Bassetlaw and West Lindsey. It runs north and then joins the River Ouse at Trent Falls to form the Humber Estuary. A majority of the areas in the vicinity of this river are at a medium risk of flooding.

Topic	Summary of Current and Future environment
	The water quality of the rivers that flow within Lincolnshire is poor in comparison to other regions. This is attributed to the slow moving flows of the rivers in the Anglican region which restrict the dilution of pollutants and high nitrate loads arising from fertilizer run off and livestock slurry in agricultural areas. The public water supply within Lincolnshire from surface water sources is 21% and that from groundwater sources is 79%. Nitrate pollution is a significant concern and levels have increased in the region despite the introduction of Nitrate Sensitive Areas (NSA's) and Nitrate Advisory Areas (NAA).
Population and human health	The population of Lincolnshire has increased by 64,830 people in the ten year period to 2015. A breakdown of this data shows that the county continues to have an ageing population and is less diverse than other areas. Deprivation across Lincolnshire has worsened slightly from 2010 to 2015.
Material assets	There is an extensive highway network in Lincolnshire. In recent years the length of trunk roads has reduced dramatically as a result of the detrunking of several A roads. There is an increasing demand on the transport network and an increase in concern around the environmental impact of traffic. Waste collection and disposal results in a substantial number of lorry movements into and out of the County to waste management facilities. Regular collections are required from households and with the number of households increasing and the total amount of waste increasing; there is the potential for an impact on transport. Mineral extraction operations within the county will result in substantial lorry movements to transport materials. New housing and employment sites are presently being identified across the county. This has the potential to increase the amount of waste generated that would need to be disposed of appropriately. This may lead to a strain on existing waste collection measures in place currently and decrease waste disposal capacity. In this case new waste infrastructure will need to be proposed. Lincolnshire contains a significant amount of best and most versatile agricultural land and is a large producer of food.
Cultural heritage	Lincolnshire's historic landscape and built environment reflects local topography, land use and the availability of building materials, and more recently changes in social conditions and technological advances. One of the county's assets is the combination of styles and materials which represent the economic and aesthetic influences of different periods of history. This is reflected in the high historic and cultural value of the cores of Lincoln City and surrounding towns. Lincolnshire has a large amount of heritage assets including 162 Conservation Areas, 7200 Listed Buildings and 478 Scheduled Monuments across the county.
Landscape	The Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) is a significant feature of the Lincolnshire landscape; the AONB covers parts of East Lindsey and West Lindsey. There are 11 Landscape Character Areas (LCA) within Lincolnshire. The major urban areas within Lincolnshire are those within and around Lincoln, South Kesteven and Boston Borough. Areas closer to the coastline are recently becoming increasingly urbanised due to tourism. The Lincolnshire coastline has been shaped throughout history by natural processes such as changes in sea level and coastal processes are constantly shaping the coast. The effects of changes in sea level and climate change will impact greater on the coastline leading to coastal erosion.

3.5 SEA OBJECTIVES

3.5.1. The Scoping Report also proposed a number of SEA Objectives, aligned with a series of themes. While not specifically required by the Regulations, SEA Objectives are a recognised way of considering the environmental effects of a plan or programme and comparing the effects of alternatives.

3.5.2. The SEA Objectives and themes for the Lincolnshire JMWMS were derived from the review of baseline information, issues, plans and policies described above. The SEA Objectives are listed in Table 6 along with potential indicators.

Table 6 – SEA Objectives

SEA OBJECTIVES	POTENTIAL INDICATORS	RESPONSIBLE AUTHORITY FOR COLLECTING INFORMATION
Climatic Factors		
1. To reduce carbon emissions from energy use.	Amount of fuel used in waste management collections per annum. Monitoring carbon emissions throughout the treatment of waste (recycling, composting, incineration, landfill)	Local Authority
2. To contribute to a circular economy through the use of waste management collection infrastructure and recycled materials.	Replacement bins that are recycled at the end of their useful life	Local Authority
Air Quality		
3. To prevent deterioration of air quality within the county and where possible make improvements.	Percentage of Euro VI engines, electric vehicles, hybrid vehicles, biogas or hydrogen fuelled vehicles operating on behalf of the local authorities in a waste management related capacity per annum Striving to meet Industrial Emissions Directive Emission Limit Values.	Local Authority
Noise		
4. To minimise the effects of noise in the identified NIAs.	Number of planning applications for new waste management infrastructure that consider the appropriateness of access through NIAs	Local Authority
Biodiversity, Flora and Fauna		
5. To maintain biodiversity in Lincolnshire.	Significant effects upon biodiversity identified during the planning consenting process for new waste management infrastructure.	Environment Agency/ Local Authority
Geology and Soils		
6. Promote the conservation and wise use of land, and protect soil quality and quantity.	Tonnes of green waste that is used as compost per annum	Local Authority
	Fly tipping incidents per annum	Environment Agency/Local Authority

	EfW facility(s) ash disposal use as a sub-base for construction material.	Local Authority
Water		
7. To protect water courses and improve the quality of water and wastewater discharges resulting from waste management activities.	Number of surface water discharge applications for new waste management infrastructure agreed by the Environment Agency.	Local Authority/ Environment Agency
Population and Human Health		
8. To encourage economic investment through waste management.	Monetary value of new waste management infrastructure developed per annum	Local Authority
9. To ensure that the growing population of Lincolnshire does not lead to an increase in the percentage of waste disposed of.	Total percentage of waste recycled and composted per annum	Environment Agency/Local Authority
	Total percentage of waste recovered per annum	Environment Agency/Local Authority
Material Assets		
10. To facilitate opportunities for recycling within residential development.	Proportion of housing scheme planning approvals where dedicated waste management storage considerations are included in the application per annum	Local Planning Authority
11. To protect agricultural resources from waste management activities	Area of agricultural land lost to new waste management infrastructure.	Local Authority
12. To encourage material re-use/waste avoidance.	Waste generated per capita per annum	Environment Agency/Local Authority
13. To ensure sustainable use of resources through effective waste management.	Amount of energy generated by the EfW (as a measure of non-combustible diversion rates) per annum	Local Authority
	Amount of heat exported from the EfW.	Local Authority
	Percentage of recyclables in residual waste per quarter (as an indicator of resources lost to less sustainable management)	Local Authority
Cultural Heritage		

14. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	Number of archaeological investigations and cultural heritage setting assessments undertaken for new waste management infrastructure.	Local Authority
Landscape		
15. To protect and enhance the countryside in Lincolnshire	Area of AONB land lost to new waste management infrastructure	Local Authority

4 ASSESSMENT OF ALTERNATIVES AND EFFECTS

4.1 INTRODUCTION

4.1.1. This section presents the findings of the assessment covering two key areas:

- The strategic alternatives considered in developing the JMWMS; and
- The proposed objectives of the JMWMS.

4.1.2. Mitigation and enhancement measures for negative or positive significant effects are set out in Section 5.2.

4.2 DEVELOPING STRATEGIC OPTIONS

4.2.1. At a strategic level, two options were considered:

- Retention of the existing JMWMS; and
- Development of a new JMWMS with new objectives.

RETENTION OF THE EXISTING JMWMS

4.2.2. This option would involve retaining the current JMWMS for Lincolnshire which was published in June 2008. The current JMWMS vision is:

- To commit to sustainable development and the waste hierarchy;
- To minimise waste growth by encouraging and promoting waste prevention and reduction;
- To promote sustainable resource use through increased re-use, recycling and composting of waste;
- To maximise recovery and the use of waste as a resource;
- To reduce the amount of biodegradable waste sent to landfill each year; and
- To minimise the impacts of the final proposal.

4.2.3. Retention of the current JMWMS would reduce both cost and time of producing a new JMWMS.

DEVELOPMENT OF NEW JMWMS WITH NEW OBJECTIVES

4.2.4. This option would involve the development of a new JMWMS.

4.2.5. New objectives could seek to improve Lincolnshire's waste management services in the context of the new challenges and issues faced, taking advantage of new and emerging technologies/processes to meet the needs of the county. It could promote innovative, customer-friendly waste management solutions that give value for money. The development of a new strategy could also allow it to more specifically align with, and take account of, the differences in waste streams, opportunities and aspirations across the county.

CONCLUSION

4.2.6. The LWP considers that the retention of the existing JMWMS is unlikely to continue to reflect Lincolnshire's needs into the future since it would not take account of recent changes in national and local government budgets and policies and changes in the way waste services are delivered (such as with new technologies or processes). For example, new challenges to the management of waste in Lincolnshire include:

- Continuing to provide the best possible service at a time when local authority budgets have been greatly reduced;
- Turning around a recycling rate which has begun to fall both locally and nationally; and
- Possible changes in government policy following our departure from the European Union.

4.2.7. In environmental terms, there is likely to be little difference between the two strategic options considered. There is no evidence to indicate that the current JMWMS is having negative environmental effects. That said, the existing JMWMS is not addressing local environmental issues (which are likely to differ across the county) as fully as it could be. The development of a new JMWMS would allow more specific circumstances across different parts of the county to be considered; potentially leading to better environmental outcomes compared to if the existing JMWMS was retained.

4.2.8. Similarly, the existing JMWMS, which has been in place since 2008, may not sufficiently take into account new waste management technologies. Again, the development of a new JMWMS would allow stronger provision for the uptake of new waste management technologies/processes to be made which, in general terms, could lead to an environmental benefit.

4.3 ASSESSMENT OF JMWMS OBJECTIVES

4.3.1. The assessment of JMWMS objectives against the SEA Objectives is presented in Table 7.

Table 7 – Assessment of JMWMS

SEA Theme		Climatic Factors		Air Quality	Noise	Biodiversity, Flora and Fauna	Geology and Sols	Water	Population and Human Health		Material Assets				Cultural Heritage	Landscape
SEA Objective		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Proposed JWWMS Objective																
Objective 1: Recycling Stream	To improve the quality and therefore commercial value of our recycling stream.	+	+	+	+/-	0	0	0	+	+	+	0	+	+	+	0
		This objective focuses on minimising waste management costs and increasing efficiency throughout the recycling process. 2. An improvement in the quality and therefore commercial value of LCC's recycling stream could potentially contribute to a circular economy; improved waste management collection infrastructure would enhance the quality, variety and subsequently the marketability of waste streams. This would facilitate the use of these waste streams as resources in themselves, and the extraction of further value from them; behaviours which drive the circular economy. 1, 3, 14. There is potential for a reduction in carbon emissions if the quality and commercial value of the recycling stream is improved through an increase in recycling rates and a decrease in disposal. This may have a positive effect on air quality through the reduction of waste vehicles required for transporting non-recyclable waste, or the amount of material sent for landfill/incineration; operations which have a negative effect on air quality. The reduction in waste collection vehicles required could also benefit cultural heritage, for example by reducing the frequency of waste collection operations in conservation areas. 4. By increasing the efficiency in the waste collection stream, there could be a reduction in the amount of waste collections required, which could potentially lead to a reduction in noise levels in NIAs arising from waste collection and reduce noise generated at material recovery facilities. This would have a positive effect on noise levels. However, there is a possibility that the introduction of new technology or processes to improve the quality of the recycling stream could generate noise. The difference would be that the noise generated in this latter scenario would be site focussed (e.g. at														

		the recycling processing facility), rather than route focussed; there could therefore be more opportunities to manage noise emissions in this scenario (i.e. site specific mitigation measures). 8. A focus on improving the recycling stream and engaging with the commercial waste sector could generate investment opportunities in waste management by realising a greater revenue stream from the material collected. Focusing on streams with the most economic and/or environmental value and investment opportunities arising from waste streams as marketable products could drive economic and employment growth. Economic benefits could also arise from cost savings achieved from an increase in efficiency and efficacy of recycling. 9, 10, 12, 13. By striving to enhance the quality and commercial value of waste streams, there would be a knock-on effect at 'waste source', for example, domestic waste, as a key part in the 'supply chain' for these waste streams. Adopting and promoting circular economy thinking andthe potential for realising value from higher quality waste streams would encourage the promotion of recycling and waste reduction behaviours amongst residents. This would incentivise ways to make recycling easier for residents such as the introduction of recycling facilities within residential developments, additional support in the re-use of materials and the avoidance of waste. A growth in population and housing could thereby be seen as an opportunity to increase the amount of marketable, revenue generating material coming out of waste management activities. A quality, reliable source of recyclable material would drive its consumption as a resource in itself. There would therefore be a positive effect on these objectives. It should be noted that there could be a conflict between objectives 12 and 13, because a drive to avoid the creation of waste in the first place would eventually deprive consumers of waste streams (e.g. EfW facilities) of their source material. 5, 6, 7, 15. It is considered that the development of waste management infrastructure for new waste streams would be the most likely aspect of waste management strategy to affect these themes. However, currently there are no proposals for the development of new waste management sites; therefore no effect on these themes is predicted.														
Objective 2: Recycling Materials	To consider moving towards a common set of recycling materials.	+	+	+	+	0	0	0	+	+	+	0	+	++	0	0
		This objective aims to have a common set of recycling materials across the county; if every Local Authority is using the same bins and waste streams, it is easier to integrate waste operations, collections and sites. This would also strengthen relationships within the LWP and promote high quality recycling. 2. Moving towards a common set of recycling materials across the county will enable a greater collaboration on how to extract the most value from these materials as part of on-going re-use. This will further the contribution of the JMWMS to the circular economy. 8, 10. In order to move towards a common set of recycling materials this would require some investment initially as certain Local Authorities would need to provide a revised set of bins, educate people on what materials the new bins are														

		for, adapt/change their waste collection vehicles/collection routes and/or waste treatment sites, and re-train collection operatives. This process would provide an opportunity to revaluate wider provision of recycling facilities, such as the potential to facilitate opportunities for recycling within residential developments and contribute towards increasing recycling rates. Where collection vehicles are replaced, consideration to the procurement of low or zero emission vehicles should be considered. 5, 6, 7, 11, 14, 15. It is considered that the development of new waste management infrastructure would be the most likely aspect of waste management strategy to affect these themes. However, currently there are no proposals for the development of new waste management sites; therefore no effect on these themes is predicted. 9, 12. Having a common set of recycling materials provides an opportunity to update and educate households across the county on recycling and waste avoidance. Collaboration with local schools, youth groups, businesses and companies as part of this may encourage culture change in current and future generations with regards to recycling and waste avoidance. Combining resources across the county would provide greater opportunities for efficiencies in terms of waste collection and treatment and would enhance the capability of each LA to encourage material re-use and waste avoidance behaviours amongst the growing population. 13. Focusing on streams with the most economic and/or environmental value and deciding on a common set of recycling materials would have a positive effect in the sustainable use of resources by creating greater efficiencies across the county in waste stream collection and management. For example, waste collection routes and waste management sites could be planned and used more strategically across the county, responding to potential avenues of re-use more holistically than is currently the case. A certain amount of investment would be required to achieve this, depending on the existing waste management arrangements in each LA, but the potential for increased efficiency and resilience in both the waste management capability of the county and the resulting waste stream supply chain is worth noting. 1, 3, 4. A more strategic county wide approach to waste collection would contribute to more efficient use of vehicles, and lead to a reduction in vehicle emissions, both air quality and noise associated with waste collection vehicle movements.														
Objective 3: Food Waste Collections	To consider the introduction of separate food waste collections.	+/-	+	-	-	?	0	0	+	0	?	0	0	+	?	?
		This objective aims to introduce the separate collection of food waste. 1, 3, 4. Where existing vehicles, collection routes and processing facilities could not be adapted to incorporate the collection of this new waste stream, additional collection vehicles and routes would probably be required to achieve this objective. The introduction of separate food waste collections could therefore increase the amount of vehicle														

		movements related to waste collection and the distance they have to travel to reach a facility capable of processing the new waste stream, thus having a negative effect on climatic factors and a likely negative effect on air quality and noise. Where collection vehicles are replaced, consideration to the procurement of low or zero emission vehicles should be considered. However, by collecting food waste, there would be an associated decrease in the volume and frequency of other types of waste collections. 2, 13. The separate collection of food waste could contribute to the circular economy by enabling the recovery and use of an additional waste resource as a product, thereby realising value from this aspect of the waste stream. It would therefore also encourage greater sustainability in use of resources. For example, the potential for the re-use of food (and other green) waste as a bio-fertiliser could have particular benefits in a county such as Lincolnshire, in which agriculture is a key part of the economy. 8, 9, 10, 12. Investment and engagement with commercial sector would be required to facilitate the separate collection of food waste, but as the value from the waste stream is realised, this would generate further economic benefits. Similar to Objective 2 above, Local Authorities may need to distribute new bins, educate residents on what the new collections are for, adapt their existing vehicles/collection routes and waste treatment sites to accommodate the new waste stream, and re-train operatives. Where collection vehicles are replaced, the procurement of low or zero emission vehicles should be considered. As part of the implementation of this objective, there is an opportunity to increase support for recycling within residential developments, as well as educating households on waste avoidance and recycling, with a view to enhancing these behaviours, thereby offsetting the potential for an increasing population to generate waste. Collaboration with local schools, youth groups, businesses and companies as part of this may encourage culture change in current and future generations with regards to recycling and waste avoidance. 14, 15. There is a possibility that the changes in the frequency of waste collections, and an increase in the number of bins per household, may have a visual impact on landscape/heritage areas. 5, 6, 7, 11. It is considered that the development of waste management infrastructure for new waste streams would help fill in any processing gaps and be the most likely aspect of waste management strategy to affect these themes. However, currently there are no proposals for the development of new waste management sites; therefore no effect on these themes is predicted.														
Objective 4: Waste as a resource	To explore new opportunities of using all waste as a	+	++	+	0	0	0	0	+	+	+	0	++	+	0	0
		This objective aims to achieve sustainable waste management by following the waste hierarchy: Prevention, preparing for re-use, recycling, other recovery and disposal. This objective links to Objective 3: introduction of separate food waste collection														

	resource in accordance with the waste hierarchy.	1, 2, 3. This objective will contribute to an increase in the amount of residual waste that is recycled or composted, and therefore diverted from landfill. Consideration will need to be given to sending the collated waste and recycled materials to nearby locations within each district, borough and city councils to ensure that the environmental effects of transporting do not outweigh the benefits of reducing residual waste. The objective also contributes directly to the theme on circular economy, by seeking to identify uses for and maximising value from waste materials. 8. Using waste as a resource will generate investment, as long as there is a commercial benefit to be gained from the products arising. Careful consideration would need to be given to how this objective is realised, as it is considered that the development of waste management infrastructure for new waste streams could have a number of associated environmental effects depending on the nature and location of such development. However, currently there are no proposals for the development of new waste management sites. 9, 10, 12, 13. The objective focuses strongly on the reuse of materials and avoidance of waste where possible. There is therefore a great deal of opportunity to positively affect these themes through education/communication on recycling and waste avoidance behaviours and provision of support/facilities for households. Collaboration with local schools, youth groups, businesses and companies as part of this may encourage culture change in current and future generations with regards to recycling and waste avoidance. The objective links well to those aspiring to increase the efficiency and efficacy of recycling across the county. Achieving this objective would also help to offset a growth in waste arising from an increasing population in the county. 4, 5, 6, 7, 11, 14, 15. It is considered that the development of waste management infrastructure for new waste streams would be the most likely aspect of waste management strategy to affect these themes. However, currently there are no proposals for the development of new waste management sites; therefore no effect on these themes is predicted.														
Objective 5: Recycling Target	To contribute to the UK recycling target of 50% by 2020.	+	++	+	0	0	0	0	+	+	+	0	+	+	0	0
		This objective aims to increase the percentage of waste recycled and improve the environmental impact of existing services in order to contribute to the UK recycling targets set for 2020.														

		1, 2, 3. An increase in the percentage of recycled materials would lead to a corresponding decrease in the percentage of non-recyclable waste. The relative differences in required collections, vehicles and disposal are likely to lead to a positive effect on carbon emissions and air quality. This objective would also contribute to the circular economy by increasing the potential for additional value to be realised from recyclables. 8. An increase in yield of recycled materials could generate revenue and investment from potential consumers of this material. The marketability of the waste stream would depend on their being an adequate, predictable supply. 9, 10, 12, 13. The growing population of Lincolnshire may lead to an increase in the amount of household waste generated. This objective could help to offset this impact, by increasing the percentage of this waste that is recyclable. It provides an opportunity to promote recycling and waste avoidance to residents, as well as exploring how to enhance the performance of residential developments in terms of recycling. The objective will also drive a greater efficacy in waste management as the implementation of the strategy aligns with the national recycling target. 4, 5, 6, 7, 11, 14, 15. It is considered that the development of waste management infrastructure for new waste streams would be the most likely aspect of the waste management strategy to affect these themes. However, currently there are no proposals for the development of new waste management sites; therefore no effect on these themes is predicted.														
Objective 6: Environmental Performance	To find the most appropriate ways to measure our environmental performance and set appropriate targets.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	This objective aims to improve how the environmental performance of the waste management strategy is measured. The measurement of environmental performance, with a view to setting and tracking progress against appropriate targets, will facilitate the identification of areas for improvement, proposal of actions to drive positive changes, and provide evidence against which performance can be tracked. This will have a positive effect on all the themes, and will also tie into the objectives of this SEA, which should be used as a starting point in the development of these measurements/targets. Fulfilling this objective should ensure that the aspects measured link back to tangible environmental and waste management benefits to ensure that progress is not made for progress's sake. This may require a more strategic and holistic approach to target setting, monitoring and review than is standard practice. A feedback action should be included to make sure that the findings in relation to environmental performance have the opportunity to enable further changes to targets so support continual improvement. Working with and learning from authorities outside the LWP on measuring environmental performance and setting targets can also help achieve this objective.
		++	+	+	+	0	0	0	+	+	+	0	+	+	+	+	

Objective 7: Carbon Footprint	To seek to reduce our carbon footprint.	This objective aims to reduce LCC's carbon footprint. 1, 2, 3, 4, 14, 15. Achieving this objective would contribute directly to these themes. It is expected that this objective will be achieved in relation to the number and frequency of waste management collections made. This can be done by reducing waste collection frequency, miles driven and/or using cleaner fuels in waste collection vehicles or new electric/hybrid vehicles. These actions would lead to improvements in air quality and noise emissions associated with waste vehicle collection, as well as the potential for minor improvements in historic and landscape value. There is also the opportunity to explore the reduction of energy used at existing waste management facilities as part of this objective. 8, 9, 10, 12, 13. The ways in which this objective could be achieved links well with other objectives around waste avoidance and increased re-use of existing waste streams. There is therefore the opportunity for this objective to have a positive effect on these themes as a result of reduction in waste and realisation of higher quantity and better quality waste streams. 5, 6, 7, 8, 11. It is considered that the development of waste management infrastructure for new waste streams would be the most likely aspect of waste management strategy to affect these themes. However, this objective does not necessarily require the development of new waste management sites; it is more closely linked to management of existing infrastructure and processes. Therefore there will be no effect on these themes.														
Objective 8: Residual Waste	To make an objective assessment of whether further residual waste recovery/ disposal capacity is required and, if necessary, seek to secure appropriate capacity.	-	-	-	-	-	-	+/-	+	-	0	-	0	0	-	-
		The aim of this objective is to determine if there is a need for new waste infrastructure and what this potential infrastructure would consist of. 1, 2, 3, 4. An alternative to a potential new facility/waste infrastructure would be to transport waste out of the county to an existing, but more distant, facility. This would contribute to increased carbon, air quality and noise emissions through highway movements in the transport of waste. However, the construction and operation of a new waste recovery/disposal facility could also lead to an increase in these emissions. This objective therefore has a negative effect on these themes. 5, 6, 7, 11, 14, 15. The nature and location of potential new capacity would have the potential to negatively impact these themes as a result of land take, construction and operational emissions, and the addition of infrastructure into the natural, potentially rural/historic environment. Whilst existing legislation protects the water environment to a certain extent, any future development would need to take account of flood risk, both to the development and to other areas as a result of the development. Depending on the extent to which the development incorporated sustainable drainage, it could have positive or negative impacts on drainage and flood risk. It would also need to be resilient in the face of														

		climate change and the changes this will bring to the natural environment and conditions in which the development would operate. 8. This objective would have a positive impact on this theme through the provision of new waste management infrastructure, which would generate investment and employment. The potential for the incorporation of innovative and bold approaches to waste management could also bring benefits. Working with and learning from authorities outside the LWP and engaging with the commercial waste sector could help in forming a solution to processing capacity gaps. 9. Additional waste management infrastructure would be able to accommodate the demands of an increasing population, but unless the development contributed to other objectives in relation to waste avoidance or better recycling, then it would not prevent an increase in waste requiring disposal. It is therefore possible that this objective, on balance, would have no impact on this theme.															
Objective 9: LWP Governance Model	To regularly review the LWP governance model in order to provide the best opportunity to bring closer integration and the implementation of the objectives set by the strategy.	0	0	0	0	0	0	0	+	0	+	0	+	+	0	0	
		This objective aims to encourage and drive efficiency and action within and between the Local Authority areas. 10, 12, 13. The use of positive engagement between the LWP and with the local community can encourage behavioural change and promote recycling initiatives, whilst also identifying and exploiting opportunities for innovative approaches towards instigating change. 8. The efficiency drive can lead to cost savings if this is implemented correctly through effective communication with the Lincolnshire public and stakeholders. The collaboration between local authorities making up the partnership and working alongside and learning from authorities outside the LWP can help contribute to achieving the objectives set by this strategy. Regular reviews will enable the LWP governance model to be responsive to change, opportunities and challenges in relation to implementation of the strategy. This could provide avenues for economic investment and allow greater flexibility to respond to innovations around sustainable use of resources, waste re-use and waste avoidance.															
Objective 10: Innovative Solutions	To consider appropriate innovative solutions in the delivery	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
		This objective aims to encourage the use of innovations to deliver a sustainable waste management service.															

	of our waste management services.	There are a number of avenues through which the objective could be fulfilled; for example, use of innovative, or emerging waste management or vehicle technology, education/communication strategies to influence or support changes in householder behaviour, adopting and promoting circular economy thinking, development and/or marketing of products from waste streams, or collaborations with waste producers/users and working with and learning from authorities outside the LWP. The implementation of these innovations could take place at a local authority or a county level, and could have varying influences over each of the themes. The consideration of innovative solutions would need to ensure value for money is achieved. The effect on all SEA themes is therefore considered to be uncertain, because of the lack of information on the potential solutions at this stage.

SUMMARY OF ASSESSMENT OF JMWMS OBJECTIVES

4.3.2. The assessment has determined that there is the following potential for environmental effects:

- The introduction of a common set of recycling materials is likely to have a significant positive effect in relation to the sustainable use of resource through effective waste management;
- Exploring the use of waste as a resource via the waste hierarchy is likely to have a significant positive effect in relation to the circular economy and the sustainable use of resource through effective waste management;
- Contributing to the UK's recycling target is likely to have a significant positive effect in relation to the circular economy;
- Seeking to reduce carbon emissions from energy use is likely to have a significant positive effect in relation to carbon emissions.

There are also some unknown effects relating to:

- The effect of separate food waste collections on biodiversity, opportunities for recycling within residential developments, the historic environment and the Lincolnshire countryside; and
- Innovative solutions in the delivery of waste management services.

4.4 ASSESSMENT OF CUMULATIVE EFFECTS

4.4.1. The SEA Directive requires that cumulative effects are considered when identifying likely significant effects. These effects arise, for instance, where several developments each have insignificant effects but together have a significant effect; or where several individual effects of the plan (e.g. noise, dust and visual) have a combined effect on an environmental receptor.

4.4.2. The approach taken has been to identify all cumulative effects in terms of:

- Their spatial extent; and
- Their temporal extent;

4.4.3. The tables above have considered how the different elements of the plan combine to affect the various environmental, social and economic elements identified in the SEA Objectives. However, it is also important to consider the effects of plan implementation combined with plans or schemes within and around Lincolnshire. The first section below assesses the potential cumulative effects of the JMWMS with other local plans. Then, the second section below describes potential for cumulative effects resulting from the JMWMS combined with other potential schemes being considered in and around the county.

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CUMULATIVE EFFECTS WITH OTHER PLANS

4.4.5. LCC has five neighbouring authorities that have produced waste management development plans and strategies. These documents have been reviewed at a high level to identify the areas where cumulative effects may rise.

The five local authorities that border Lincolnshire comprise of North Lincolnshire, Nottinghamshire, Leicestershire, Peterborough and Norfolk. Each of these local authorities have a waste management development plan or strategy in place. These are considered in Table 8 below and address the potential for cumulative impacts at a strategic, rather than a site specific level.

Table 8 – Assessment of potential cumulative effects with other Plans

Plan	Potential Cumulative Effects	Mitigation/Enhancement Measures
North Lincolnshire Council- Municipal Waste Management Strategy	*This is the waste strategy for North Lincolnshire Council from 2012-2030. Currently, the household waste produced in North Lincolnshire that is not recycled or composted is buried in the ground in a landfill site.* The two strategies should be able to work together to reduce the amount of waste sent to landfill. This would manage the amount of future capacity required for waste disposal, taking into account population growth and greater efficiency of waste management.	None proposed.
Nottinghamshire County Council Waste Core Strategy (adopted 2013)	*This core strategy is part 1 of the Nottinghamshire's Waste Local Plan and sets out the overall approach to future waste management in Nottinghamshire and Nottingham including estimates of how much waste capacity needs to be provided up to 2031 , what types of sites are suitable and where in broad terms new or extended waste management sites should be located. Part 2 of the Waste Local Plan will consist of the Waste Sites and Policies document and is currently being put together by Nottinghamshire County Council and Nottingham City Council.* As both strategies suggest the potential for additional waste management capacity, there is the potential for cumulative effects arising from landtake and development of these sites at a regional/national scale. As neighbouring administrative areas, there is potential for a strategic approach to waste management between the two; for example using or managing each other's waste streams/products as the need arises e.g. composted material, fuel for EfW.	Consult with neighbouring administrative areas as to the opportunities for the use and/or management of various waste streams.
Leicestershire & Leicester WASTE Development Framework (adopted October 2009)	*Core Strategy & Development Control Policies up to 2021. The Core Strategy includes a spatial vision, spatial strategy, strategic objectives and core policies which set out the key principles to guide the form of waste management development in the WDF area.* As both strategies suggest the potential for additional waste management capacity, there is the potential for cumulative effects arising from landtake and development of these sites.	None proposed.

Cambridgeshire and Peterborough Minerals and Waste Development Plan (adopted July 2011)	*The development plan highlights Cambridgeshire and Peterborough, through the sustainable community's agenda and regional spatial strategy, will be subject to a significant level of growth over the period to 2026. Will need to ensure: that the waste generated in the plan area, including the new developments, is managed in a sustainable way through a network of waste management facilities* As both strategies suggest the potential for additional waste management capacity, there is the potential for cumulative effects arising from landtake and development of these sites.	None proposed.
Norfolk Minerals and Waste Development Framework	*Sets out the spatial vision for future mineral extraction and associated development and waste management facilities in Norfolk from 2011 up to the end of 2026.* As both strategies suggest the potential for additional waste management capacity, there is the potential for cumulative effects arising from landtake and development of these sites.	None proposed.
North East Lincolnshire Municipal Waste Management Plan- Summary 2016-2019	*Provides an overview of the measures that North East Lincolnshire Council (NELC) intents to implement to build on the progress made to date on resource management and further enhance: The services provided to residents and The sustainability of the management of Local Authority Collected Waste (LACW) arising in the area*	

CUMULATIVE EFFECTS WITH OTHER SCHEMES

4.4.6. This section of the cumulative effects assessment considers the potential for cumulative effects resulting from the JMWMS combined with other potential schemes being considered in and around the county. Within Lincolnshire the Lincolnshire Minerals and Waste Local Plan comprises of two parts: the core strategy and development management policy document which was adopted on 1st June 2016 and sets out the key principles to guide the future winning and working of minerals and the form of waste management development in the County up to 2031; and the Site Locations document which was adopted on 15th December 2017 and includes specific proposals and policies for the provision of land for mineral and waste development.

4.4.7. There are policies introduced in the Lincolnshire Minerals and Waste Local Plan where some cumulative effects are considered likely. These policies are:

- Policy W1: Future requirements for new waste facilities
- Policy W3: Spatial Strategy for New Waste Facilities
- Policy W4: Locational Criteria for New Waste Facilities in and around main urban areas
- Policy W5: Biological Treatment of Waste Including Anaerobic Digestion and Open-Air Composting
- Policy W6: Landfill
- Policy W7: Small Scale Waste Facilities

  Policy W8: Safeguarding Waste Management Sites.

4.4.8. There are also policies introduced in the Site Locations document where some cumulative effects are considered likely. These policies are:

- Policy SL3: Waste Site and Area Allocations Table 9 discusses the potential for cumulative effects of these nine policies when combined with possible schemes being considered.

Table 9 – Description of cumulative effects from the JMWMS combined with potential schemes in the county

Plan/Policy	Potential Cumulative Effects	Mitigation/Enhancement Measures
Policy W1: Future requirements for new waste facilities	This policy focuses on the County Council, through the Site Locations document, identifying locations for a range of new or extended waste management facilities within Lincolnshire where these are necessary to meet the predicted gaps for waste arisings in the county up to and including 2031. The introduction of new waste facilities may potentially have a negative cumulative effect on a number of aspects of the environment, such as biodiversity during land take (SEA theme 5) or disrupting watercourses and changes to flood risk (SEA theme 7). However, currently there are no proposals for the specific development of new waste management sites; therefore no cumulative effect is predicted.	Environmental assessment should be undertaken on an individual project level where appropriate. Depending on the nature and location of the scheme, statutory or non-statutory EIA may be required.
Policy SL3: Waste Site and Area Allocations	Future requirements for new waste facilities in order to meet capacity gaps, in accordance with Policy W1 of the Core Strategy and Development Management Policies document, will be provided through the granting of planning permission for waste uses at Vantage Park, Gonerby Moor and other allocated sites and areas where the applicant can demonstrate that the proposal is in accordance with the development plan.	Environmental assessment should be undertaken on an individual project level where appropriate. Depending on the nature and location of the scheme, statutory or non-statutory EIA may be required.
Policy W3: Spatial Strategy for New Waste Facilities	Proposals for new waste facilities, including extensions to existing waste facilities, will be permitted in and around the following main urban areas: Lincoln; Boston; Grantham; Spalding; Bourne; Gainsborough; Louth; Skegness; Sleaford; and Stamford.	Environmental assessment should be undertaken on an individual project level where appropriate. Depending on the nature and location of the scheme, statutory or non-statutory EIA may be required.

	New waste facility schemes proposed around these urban areas may potentially have a negative cumulative impact on sensitive receptors in close proximity to these locations i.e. residents, NIAs, AQMAs, etc.	
Policy W4: Locational Criteria for New Waste Facilities in and around main urban areas	This policy states that new waste facilities will be permitted provided that they would be located on: previously developed and/or contaminated land; or existing or planned industrial/employment land and buildings; or land already in waste management use; or sites allocated in the Site Locations Document; or In the case of biological treatment the land identified in Policy W5. The permission criteria within this policy will potentially result in a positive cumulative effect due no new agricultural land take for waste management uses (SEA theme 11); it would also have positive cumulative effects on the protecting soil quality and quantity (SEA theme 6).	Any new land take required should be kept to the absolute minimum for practical operation of the scheme; where possible existing in-use land and infrastructure should be used to achieve this. Schemes should take opportunities to improve existing infrastructure, such as drainage, and remediate contaminated land, wherever possible.
Policy W5: Biological Treatment of Waste Including Anaerobic Digestion and Open-Air Composting	Planning permission will be granted for anaerobic digestion, open air composting, and other forms of biological treatment of waste outside of those areas specified in Policy W3 provided that proposals accord with all relevant Development Management Policies set out in the Plan; The provision in this policy allows for the development of sites to accommodate food/green waste, which would enable this waste stream to be managed within Lincolnshire. This avoids the requirement to transport this material outside the county, thereby reducing air quality impacts and carbon footprint from transport. However, the operation of such sites has the potential to affect air quality in different ways (dust, odour), potentially leading to cumulative effects with other types of development/operations common in Lincolnshire (agriculture).	Ensure proposed waste management activities or developments undertake air quality assessments as required.
Policy W6: Landfill	Planning permission will only be granted for new landfills or extensions to existing landfills (inert, non-hazardous and hazardous) provided that: it has been demonstrated that the current capacity is insufficient to manage that waste arising in Lincolnshire or its equivalent, which requires disposal to landfill in the County; and	Ensure waste management proposals include sustainable landscape management plans.

	there is a long term improvement to the local landscape and character of the area, with enhanced public access where appropriate; and the development would not cause a significant delay to the restoration of existing waste disposal sites; and the proposals accord with all relevant Development Management and Restoration Policies set out in the Plan. The permission criteria within this policy will potentially result in a positive cumulative effect due no new agricultural land take for waste management uses (SEA theme 11); it could have also have positive cumulative effects on the protecting landscape in the longer term (SEA theme 15).	
Policy W7: Small Scale Waste Facilities	Planning permission will be granted for small scale waste facilities, including small extensions to existing waste facilities, outside of those areas specified in Policy W3 provided that: there is a proven need to locate such a facility outside of the main urban areas; and the proposals accord with all relevant Development Management Policies set out in the Plan; and the facility would be well located to the arisings of the waste it would manage; and they would be located on land which constitutes previously developed and/or contaminated land, existing or planned industrial/employment land, or redundant agricultural and forestry buildings and their curtilages. The permission criteria within this policy will potentially result in a positive cumulative effect due no new agricultural land take for waste management uses (SEA theme 11). There could also be a positive influence on air quality (SEA them 3) as a result of co-locating waste production and management. However, the incremental development of even small scale waste facilities could have negative impacts on biodiversity, landscape, noise, geology and soils, water and cultural heritage.	Any new land take required should be kept to the absolute minimum for practical operation of the scheme; where possible existing in-use land and infrastructure should be used to achieve this. Schemes should take opportunities to improve existing infrastructure, such as drainage, and remediate contaminated land, wherever possible.
Policy W8: Safeguarding Waste Management Sites	The County Council will seek to safeguard existing and allocated waste management facilities from redevelopment to a non-waste use and/or the encroachment of incompatible development. By retaining existing waste sites, this policy facilities the avoidance of landtake for new waste management infrastructure. This is positive for those SEA themes potentially affected most by landtake (agriculture, biodiversity etc).	Any new land take required should be kept to the absolute minimum for practical operation of the scheme; where possible existing in-use land and infrastructure should be used to achieve this.

5 MITIGATION AND MONITORING

5.1 INTRODUCTION

5.1.1. The SEA Regulations require that mitigation measures are considered to prevent, reduce or offset any significant adverse effects on the environment of implementing the plan. The guidance states that mitigation measures include both proactive avoidance of adverse effects and actions taken after potential effects are identified.

5.1.2. Whilst there were no significant negative effects identified in the assessment, there are a number of unknown effects, as well as the potential for some significant positive effects. The measures proposed below have therefore been identified in order to ensure that positive effects and the potential for enhancement are realised.

5.1.3. The SEA Regulations also require that monitoring is undertaken on a plan so that the significant effects of implementation can be identified and remedial action imposed. Monitoring also provides an important measure of the performance of the JMWMS against environmental objectives and targets. Monitoring is also used to manage uncertainty, improve knowledge, enhance transparency and accountability, and to manage environmental information.

5.2 PROPOSED MITIGATION

5.2.1. The mitigation measures proposed in Table 10 are geared towards the effects of the proposed JMWMS objectives, which are likely to result with the implementation of the JMWMS. The proposed mitigation measures set out below, where applicable, should be considered for each individual waste action/scheme. The measures should then be incorporated into the design, construction and operational stages of the proposed schemes.

Table 10 - Proposed Mitigation Measures

	Proposed Mitigation
1	Should the development of additional waste management capacity be required, environmental assessment should be undertaken on an individual project level where appropriate. Depending on the nature and location of the scheme, statutory EIA or other environmental assessments may be required.
2	Construction should be undertaken in line with a Construction Management Plan which should include measures to manage construction traffic, reduce environmental impacts and make the most of opportunities for enhancement such as landscape and habitat planting. CMPs should also encourage the use of best practice construction methods and equipment.
3	Where changes in the provision of waste collection services are proposed, in terms of materials collected and frequency, consideration will be given to the duties of each Local Authority in relation to noise and air quality.
4	Consideration of low or zero emission vehicles, such as hybrid or electric, should be considered.
5	Schemes which involve information provision should consider whether it is possible to include information such as a) flood alerts or weather events affecting waste infrastructure to increase resilience to climate change, or b) that relating to seasonal variations in waste such as green waste during the summer, or food/packaging waste during holidays.
6	Collaboration with environmental organisations should be considered, particularly where schemes are close to areas of environmental interest e.g. designated sites, habitat, to ensure opportunities for study and conservation are explored.
7	Undertake collaboration with local schools, youth groups, businesses and companies as part of any change in waste collection services or information provision with regards to recycling and waste avoidance.

8	Ensure proposed waste management activities or developments undertake air quality assessments as required.
9	Ensure waste management proposals include sustainable landscape management plan as part of their design and operation.
10	Consult with neighbouring administrative areas as to the opportunities for the use and/or management of various waste streams.
11	Ensure SEA recommendations are linked to future waste management actions/schemes, by making use of the SEA objectives and indicators in the development of action/scheme specific monitoring.

5.3 PROPOSED MONITORING

5.3.1. The existing JMWMS sets out how an action plan, which will break down the actions and tasks required to meet Lincolnshire's targets and objectives set in the strategy, will be prepared. The delivery of the tasks within the action plan will be monitored and reviewed annually to ensure the partnership would deliver the targets it sets itself through the strategy. Where significant changes occur the action plan will be updated accordingly.

5.3.2. The action plan will establish how the strategy will be delivered, considering what will be required by the Partnership in terms of:

- Action required to deliver waste minimisation and further increase recycling and composting,
- Future changes or improvements to collection services (residual waste, dry recycling, garden waste and potential kitchen waste),
- Investments required to deliver future residual waste treatment facility and additional recycling infrastructures.

5.3.3. SEA monitoring is related more to the significant or uncertain environmental effects of the JMWMS. The proposed monitoring programme is set out in Table 11.

Table 11 – Proposed monitoring indicators

SEA Theme	Potential Indicators	Proposed Monitoring Indicators
Climatic Factors		
1. To reduce carbon emissions from energy use.	Amount of fuel used in waste management collections per annum.	Amount and type of fuel used in waste management collections per annum.
2. To contribute to a circular economy through the use of waste management collection infrastructure and recycled materials.	Replacement bins that are recycled at the end of their useful life	Replacement bins that are recycled at the end of their useful life
Air Quality		
3. To prevent deterioration of air quality within the county and where possible make improvements.	Percentage of Euro VI engines, electric vehicles, hybrid vehicles, biogas or hydrogen fuelled vehicles operating on behalf of the local authorities in a waste management related capacity per annum	Percentage of Euro VI engines, electric vehicles, hybrid vehicles, biogas or hydrogen fuelled vehicles operating on behalf of the local authorities in a waste management related capacity per annum
Noise		

SEA Theme	Potential Indicators	Proposed Monitoring Indicators
4. To minimise the effects of noise in the identified NIAs.	Number of planning applications for new waste management infrastructure that consider the appropriateness of access through NIAs	Number of planning applications for new waste management infrastructure that consider the appropriateness of access through NIAs
Biodiversity, Flora and Fauna		
5. To maintain biodiversity in Lincolnshire	Significant effects upon biodiversity identified during the planning consenting process for new waste management infrastructure.	Area of greenfield land lost to new waste management uses per annum Uptake of biodiversity net positive initiatives at new and existing waste management sites
Geology and Soils		
6. Promote the conservation and wise use of land, and protect soil quality and quantity.	Tonnes of green waste that is used as compost per annum	Tonnes of green waste that is used as compost per annum
	Fly tipping incidents per annum	Fly tipping incidents per annum
Water		
7. To protect water courses and improve the quality of water and wastewater discharges resulting from waste management activities.	Number of surface water discharge applications for new waste management infrastructure agreed by the Environment Agency.	Number of surface water discharge applications for new waste management infrastructure agreed by the Environment Agency.
Population and Human Health		
8. To encourage economic investment through waste management	Monetary value of new waste management infrastructure developed per annum	Monetary value of new waste management infrastructure developed per annum
9. To ensure that the growing population of Lincolnshire does not lead to an increase in the percentage of waste disposed of.	Total percentage of waste recycled and composted per annum	Total percentage of waste recycled and composted per annum
	Total percentage of waste recovered per annum	Total percentage of waste recovered per annum
Material Assets		
10. To facilitate opportunities for recycling within residential development.	Proportion of housing scheme planning approvals where dedicated waste management storage considerations are included in the application per annum	Proportion of housing scheme planning approvals where dedicated waste management storage considerations are included in the application per annum
11. To protect agricultural resources from waste management activities	Area of agricultural land lost to waste management uses per annum	Area of agricultural land lost to waste management uses per annum

SEA Theme	Potential Indicators	Proposed Monitoring Indicators
12. To encourage material re-use/waste avoidance.	Waste generated per capita per annum	Waste generated per capita per annum
13. To ensure sustainable use of resources through effective waste management.	Amount of energy generated by the EfW (as a measure of non-combustible diversion rates) per annum	Amount of energy generated by the EfW (as a measure of non-combustible diversion rates) per annum
	Amount of heat exported from the EfW.	Amount of heat exported from the EfW.
	Percentage of recyclables in residual waste per month (as an indicator of resources lost to less sustainable management)	Percentage of recyclables in residual waste per month (as an indicator of resources lost to less sustainable management)
Cultural Heritage		
14. Protect and enhance the historic environment, heritage assets and their setting (including architectural and archaeological heritage)	Number of archaeological investigations and cultural heritage setting assessments undertaken for new waste management infrastructure.	Number of archaeological investigations and cultural heritage setting assessments undertaken for new waste management infrastructure.
Landscape		
15.To protect and enhance the countryside in Lincolnshire	The quality of Landscape character areas, Area of Green Belt land and Area designated as AONB	Area of landscape character area, green belt or AONB designation lost to waste management uses per annum

Appendix A

BASELINE DATA

BASELINE DATA

Set out below is the detailed baseline data review, that has been conducted to inform the SEA of the JMWMS.

CLIMATIC FACTORS

RELEVANCE TO JMWMS

Waste management decisions have the potential to impact on Lincolnshire's Greenhouse Gas (GHG) emission levels, in particular through the operation of waste management processes which have a significant transportation element. This strategy promotes kerbside residual, recycling and garden waste collections, both of which rely on regular collections.

OVERVIEW

Greenhouse Gas (GHG) Emission Levels

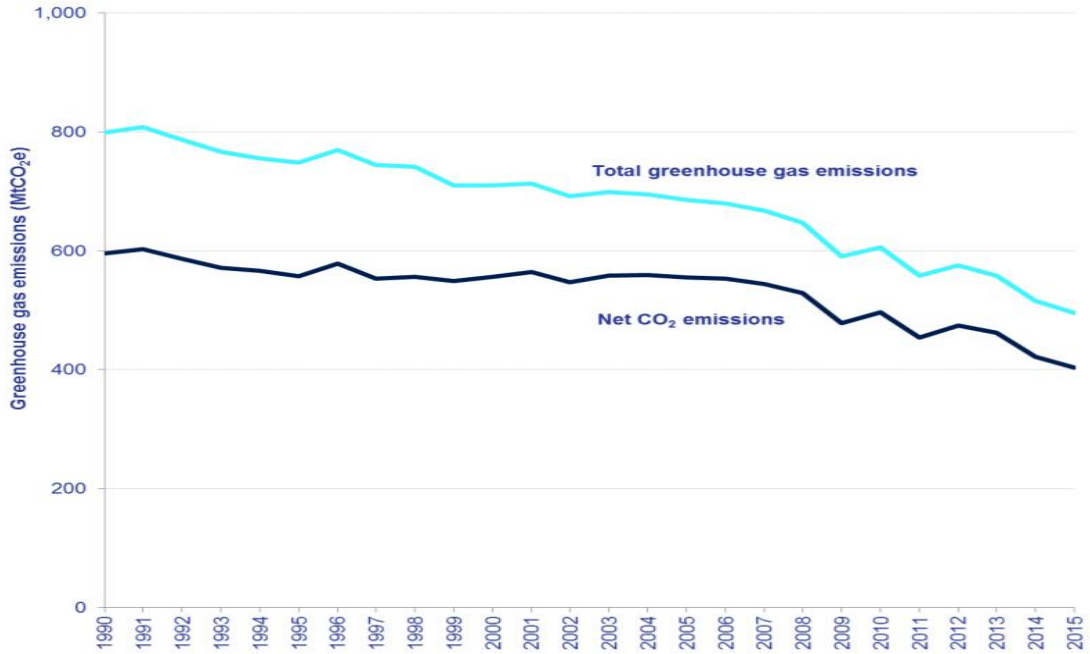
According to statistics[10] released by the Department for Business, Energy and Industrial Strategy, in 2015, UK emissions of the six GHGs covered by the Kyoto Protocol were estimated to be 495.7 million tonnes (Mt) carbon dioxide equivalent ($MtCO_2e$). This represents a 3.8% decrease on the 2014 figure of 515.1 $MtCO_2e$.

The most abundant GHG is carbon dioxide (CO_2), which accounted for about 81% of the total UK greenhouse gas emissions in 2015, the latest year for which final results are available. In 2015, UK net emissions of CO_2 were estimated to be 403.8 Mt. This was 4.1% lower than the 2014 figure of 421.2 Mt. Figure 1 shows UK emissions of GHGs and CO_2 since 1990. Overall levels of the six Kyoto Protocol GHGs have decreased from 1990 levels.

The decrease in emissions was mainly caused by reductions in the energy supply sector of 12.3% (20.1$MtCO_2e$) driven by a large decrease in power station emissions due to change in the fuel mix for electricity generation, with a decrease in the use of coal and more use of nuclear and renewables. A decrease of 2.6% (2.3 $MtCO_2e$) from the business sector, and 7.1% (1.4 $MtCO_2e$) from the waste management sector.

Figure 1 Total UK Greenhouse Gas emissions, 1990-2015 ($MtCO_2e$)

[10] 2015 UK Greenhouse Gas Emissions, Final Figures
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/604350/2015_Final_Emissions_statistics.pdf
(Accessed July 2017)



Source: Department for Business, Energy and Industrial Strategy, 2015. (2015 UK Greenhouse Gas Emissions, Final Figures; Table 1, Final UK Greenhouse Gas emissions national statistics 1990-2015 Excel data tables).

On a regional scale, the latest available data released for 2015 shows that total end user CO_2 emissions in the East Midlands region is 31.4 $MtCO_2$, with 6.7tCO_2 per capita[11]. This represents a significant decrease in the region when compared to figures produced in 2005, which showed 41 $MtCO_2$ total emissions and 9.6 tCO_2 per capita.

In comparison with regional figures, Lincolnshire's CO_2 emission levels are lower; producing 4.2 $MtCO_2$ total emissions at 5.6 tCO_2 per capita in 2015. In line with regional figures, CO_2 emission levels have reduced from 2005 levels of 5.4 Mt total emissions and 8.0t per capita[12].

Lincolnshire's capabilities to reduce emissions

In Lincolnshire there is significant potential to generate energy from renewable sources, particularly using wind, the tides and biomass. Since 2004, the generation of energy from renewable sources within the county has been increasing steadily. There is a significant number of wind turbines with more planned. However, LCC is questioning this as an approach across Lincolnshire as, although supportive of alternative energy supplies for the future, Councillors question the effectiveness of wind farm technology, and are concerned about the visual impact for residents and on tourism in the county[13]. A survey was undertaken by LCC on the public's opinion on wind farms. Out of the just under 4,000 responses: 89% of people agreed with the authority's position; 63% of people felt wind farms had no role to play in meeting our energy needs; and to developers 87% of people said the county councils guidelines should be taken into account when new wind farms are considered[14].

LCC has been proactive in seeking to reduce emissions through the use of biomass, which is carbon neutral, to produce energy. The Lincolnshire Green Heat Scheme (LIGHT) works on the principle that burning biomass is

[9] Local Authority CO_2 Emissions Estimates 2015. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/623015/2005_to_2015_UK_local_and_regional_CO2_emissions_statistical_release.pdf (Accessed July 2017)

[12] Local and regional CO2 emissions estimates for 2005-2015 for the UK: Technical Report: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/623020/2005_to_2015_UK_local_and_regional_CO2_emissions_technical_report.pdf (Accessed July 2017)

[13] http://www.lincolnshire.gov.uk/local-democracy/council-news/what-do-you-think-about-wind-farms/114432.article [Accessed 22.07.13]

[14] http://parishes.lincolnshire.gov.uk/Files/Parish/380/Lincolnshire_County_Council_Survey_on_Wind_farm_January_2013.pdf (Accessed July 2017)

'Carbon Neutral' and does not contribute to global warming and can provide a cost effective way of reducing CO_2 emissions. It is renewable because trees and crops are replanted after they are harvested. The energy in one tonne of wood-fuel is equivalent to over 300 litres of oil (65 gallons) or 3500 units (kWh) of gas or electricity[15]. There is opportunity to utilise the waste heat that is generated from the EfW facility at North Hykem in Lincoln. This can contribute to the efforts on reducing carbon emissions.

In 2015, 4,157.4 kilo tonnes (4.2 Mt) of CO_2 emissions were released in Lincolnshire, which represented approximately a 12% decrease since 2013. In 2015, the total emissions in kt CO_2 per sector were as follows[16]:

- 1,265.8kt from domestic sources;
- 1,448.2kt from industrial and commercial sources; and
- 1,443.4kt from road transport.

Table 1 shows emissions for each local authority in the Lincolnshire between 2013 and 2015.

[15] http://www.lincolnshire.gov.uk/residents/environment-and-planning/sustainability/environmental-policy/case-studies/biomass-%28light%29/107002.article?tab=downloads [Accessed 22.07.13]

[16] Department for Business, Energy and Industrial Strategy (2017) 2005 to 2015 UK local and regional CO2 emissions – data tables

Table 1 CO_2 Emission for Local Authorities in Lincolnshire

Authority	Year	Total Industry and Commercial kt CO_2	Total Domestic kt CO_2	Total Transport kt CO_2	Total kt CO_2	Population ('000s mid-year estimate)	Per Capita Emissions (t)
Boston Borough Council	2013 2014 2015	145.3 142.4 118.6	135.4 112.5 107.7	121.2 123.0 125.6	401.8 377.9 351.8	65.9 66.5 66.9	6.1 5.7 5.3
East Lindsey District Council	2013 2014 2015	301.9 300.6 265.9	323.5 273.4 258.2	289.5 296.9 304.2	914.8 870.9 828.3	136.7 137.6 137.9	6.7 6.3 6.0
Lincoln City Council	2013 2014 2015	228.4 177.1 156.2	174.9 145.1 140.5	57.7 59.6 60.0	461.1 381.8 356.8	95.6 96.2 97.1	4.8 4.0 3.7
North Kesteven District Council	2013 2014 2015	227.0 220.1 201.3	240.2 202.7 194.9	220.5 225.7 231.5	687.7 648.5 627.7	109.8 111.0 111.9	6.3 5.8 5.6
South Holland District Council	2013 2014 2015	254.3 262.1 206.0	197.7 166.6 159.6	187.3 189.6 194.1	639.4 618.3 559.7	89.2 90.4 91.2	7.2 6.8 6.1
South Kesteven District Council	2013 2014 2015	396.6 366.4 341.9	296.1 248.3 238.1	302.7 294.8 308.0	995.4 909.5 888.1	136.4 138.0 138.9	7.3 6.6 6.4

West Lindsey District Council	2013 2014 2015	190.8 187.5 158.3	209.9 177.0 166.8	211.8 214.8 219.9	612.4 579.4 545.0	90.7 91.8 92.8	6.8 6.3 5.9

Total CO_2 emissions were highest in the South Kesteven District, which accounted for 888.1kt CO_2, and the lowest emissions were in Boston Borough with 351.8kt CO_2. All local authorities showed reductions in their total emissions between 2013 and 2015.

The highest per capita emission in 2015 was 6.4t in the South Kesteven District and the lowest per capita emissions was 3.7t in Lincoln City.

Climate Change Implication for Lincolnshire

Climate change is predicted to result in more extreme weather events, increased temperatures and rises in the sea level which will be accompanied by economic, social and environmental impacts. Some of the potential implications of climate change for Lincolnshire are discussed in the following sections and will need to be taken into consideration within the JMWMS.

Climate Change and Agriculture

Lincolnshire has some of the highest quality agricultural land in the UK and is the most productive county for wheat, oil seed rape, cereals, poultry, and horticulture especially field vegetables (leeks, broccoli, cauliflower and cabbages) and bulbs.

Lincolnshire has 39% of land which is at or below sea level putting many coastal areas at risk of coastal flooding. Much of this land is grade 1 arable farming land and any salt intrusion could take up to 40 years for the land to recover. It is therefore very important that LCC addresses and prepares for a changing climate.

The increased coastal erosion and flooding that is likely to be associated with climate change has the potential to decrease the quality and availability of agricultural land in the region, with the potential for impacts to the economy and food supply.

It is likely that some crops could no longer be grown in the area. However, there may be opportunities to grow different crops and the longer growing seasons may lead to higher yields and more locally grown produce throughout the year. There may be more opportunities for vineyards and for growing lavender, sweetcorn, grain maize, sunflowers and navy beans. Additionally there may be an increased potential for planting crops for energy production. These changes in crops however will also have implications for biodiversity[17].

Additionally, climate change is likely to result in an increased threat of pests and new crop pests such as the Colorado Beetle and the European Corn Borer.

Climate Change, Transport and Infrastructure

The East Midlands and Lincolnshire contain a number of important national transport links and ports which could be affected by climate change. Built structures such as bridges, promenades, pylons, roads and railway lines will become more vulnerable to higher winds, flooding, storm events and changes in soil moisture.

Some roads, particularly those near to the coastline and rivers will be particularly susceptible to an increased risk of flooding. Consideration will need to be given to the need to develop the capability of the carriageway to cope with excess water given the likely increase in the frequency of intense rainfall events. Railways will also be susceptible to flooding.

Temperature changes also have the potential to affect roads, by causing more frequent melting of the asphalt road surface, and railways by increasing the risk of buckling on the rail tracks.

Additionally, climate change has the potential to affect emergency services as a result of extreme weather events.

KEY ISSUES – CLIMATIC FACTORS

Set out below in Table 2 are the key issues that can be identified from the baseline data collected in terms of climatic factors.

[17] East midlands Regional Climate Change Partnership 2000

Table 2 Key Issues: Climatic Factors

Key Issues – Climatic Factors
CO2 emissions are lower in Lincolnshire than in the East Midlands region in 2015. This figure has reduced from levels recorded in 2005.
Planning applications for renewable energy proposals have increased although the visual impact and efficiency of these measures is being questioned.
Climate change could have potential impacts on Lincolnshire's coastal areas, agricultural areas and transport infrastructure.

AIR QUALITY

RELEVANCE TO JMWMS

The JMWMS will need to consider any impacts of operational processes on air quality, particularly due to the nature of waste collections which rely on vehicles and the transport network. Furthermore, the effects of composting may have an impact on air quality which will need to be assessed accordingly.

OVERVIEW

Air Quality Management

As part of the National Air Quality Strategy (NAQS), all local authorities are obliged to establish air quality levels in their area that meet national air quality objectives. These are set by concentrations of airborne pollutants considered to be acceptable for health and the environment. If an area does not meet these objectives Air Quality Management Areas (AQMA) are declared. The authority must then draw up an Air Quality Action Plan to set objectives for improving air quality.

Although air quality across the county is generally considered to be good there are 10 AQMAs in Lincolnshire, declared primarily as a result of pollution caused by traffic emissions. Lincoln City Council has 2 AQMAs, Boston Borough Council has 2 AQMAs and South Kesteven District Council has 6 AQMAs. These are detailed in Table 3 below.

Table 3 Lincolnshire AQMAs

Local Authority	Pollutants Declared	Description
Lincoln City Council	Lincoln AQMA- Nitrogen Dioxide NO_2	The area generally follows the major road network in the City Centre and arterial routes and is primarily due to road traffic emissions.
	Lincoln PM10 AQMA - Particulate Matter PM10.	An area encompassing the whole borough.
Boston Borough	Boston AQMA - Nitrogen dioxide (NO_2)	The AQMA follows the A16 trunk road through the centre of town encompassing properties on either side. It extends from Queen Street roundabout through to the intersection of John Adams Way and Main Ridge East.
	Bargate Bridge AQMA - Nitrogen dioxide NO_2	An area from Bargate roundabout extending east in to the top part of Spilsby Road and incorporating the junctions of Freiston Road and Willoughby Road, Boston.
South Kesteven DC	No.1- Particulate Matter PM10, Nitrogen dioxide NO_2	An area of land including residential properties along Wharf Road, Grantham, Lincolnshire.

	No.2 - Nitrogen dioxide NO_2, Particulate Matter PM10	An area of land including residential properties of Meres Road Grantham, Lincolnshire adjacent to the A1.
	No. 3- Nitrogen dioxide NO_2, Particulate Matter PM10	An area of land including residential properties of Welwyn Close, Rosemary Crescent and Denton Avenue, Grantham, Lincolnshire, adjacent to the A1.
	No. 4 - Nitrogen dioxide NO_2, Particulate Matter PM10	An area of land including residential properties of Welwyn Close, Rosemary Crescent and Denton Avenue, Grantham, Lincolnshire, adjacent to the A1.
	Brooke St and Manthorpe Rd AQMA	Area incorporating Brooke Street and Manthorpe Road, Grantham.
	South Kesteven District Council No 6 - Nitrogen dioxide NO_2	Manthorpe Road, Wharf Road, High Street and London Road

KEY ISSUES – AIR QUALITY

Set out below in Table 4 are the key issues that can be identified from the baseline data collected in terms of air quality.

Table 4 Key Issues: Air Quality

Key Issues – Air Quality
Air quality is considered to be good, although there are 10 AQMAs within the county, established primarily as a result of pollution from traffic emissions.

NOISE

RELEVANCE TO JMWMS

Waste management is likely to have significant effects on noise levels due to the nature of the strategies proposed in the JMWMS. One of the strategies has proposed the development of new sites for waste management; therefore the JMWMS will need to consider any impacts on the noise environment.

OVERVIEW

Noise Important Areas

The main sources of noise in Lincolnshire are derived from the roads. Noise action plans provide a framework to manage environmental noise and its effects. A Noise Important Area (NIA) is identified through a noise action plan. Noise levels can be measured by the following three indicators:

- Lden (day-evening-night) - a 24 hour annual average noise level in decibels with weightings applied for the evening and night periods;
- LAeq, 16h - the annual average noise level (in dB) for the 16-hour period between 0700-2300; and
- Lnight - the night time annual average noise level (in dB) where night is defined as 2300-0700.

There are 94 identified NIA's around Lincolnshire. Table 5 shows the locations of these NIA's and the source of noise.

Table 5 Lincolnshire NIAs

Local authority	Source	Quantity of NIAs
Lincoln City	Road	3
	Rail	2
West Lindsey	Road	14
	Rail	1
East Lindsey	Road	11
	Rail	1
North Kesteven	Road	8
South Kesteven	Road	22
	Rail	4
Boston Borough	Road	11
South Holland	Road	17

KEY ISSUES- NOISE

Set out below in Table 6 are the key issues that can be identified from the baseline data collected in terms of noise.

Table 6 Key Issues: Noise

Key Issues – Noise
Overall there are 94 NIA's within the county that have been identified due to noise from roads or rail.
South Kesteven district has the largest number of NIAs identified

BIODIVERSITY, FLORA AND FAUNA

RELEVANCE TO JMWMS

The JMWMS will most likely not affect areas that are of high landscape and biodiversity value due to there being development policies in place to ensure the protection of these types of sites. However, the JMWMS may have potential to cause indirect impacts that may adversely affect these sites.

OVERVIEW

International Designations

The international designations that are located within Lincolnshire include Special Protection Areas (SPA's), Special Areas of Conservation (SAC's) and Ramsar sites.

There are three RAMSAR Sites within Lincolnshire; Table 7 below shows the number of Ramsar sites present within each district and borough council.

Table 7 Lincolnshire Ramsar Sites

Local Authority	Number of Ramsar Sites	Name of ramsar site
East Lindsey	1	Humber Estuary
Boston Borough	1	Gibraltar Point
South Holland	1	The Wash

There are three SAC's within Lincolnshire; Table 8 below shows the number of SAC's present within each district and borough council.

Table 8 Lincolnshire SAC's

Local Authority	Number of SACs	Name of SAC
East Lindsey	1	Humber Estuary SAC
South Kesteven	1	Baston Fen SAC
Boston Borough	1	The Wash and North Norfolk Coast SAC
South Holland	1	The Wash and North Norfolk Coast SAC

There are two SPAs within Lincolnshire; Table 9 below shows the number of SPAs present within each district and borough council.

Table 9 Lincolnshire's SPAs

Local Authority	Number of SPAs	Name of SPA
East Lindsey	1	Humber Estuary SPA
Boston Borough	1	The Wash SPA
South Holland	1	The Wash SPA

National Designations

The national designations that are located within Lincolnshire include Areas of Outstanding Natural Beauty (AONB), Marine Conservation Zones (MCZ), Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR).

Area of Outstanding Natural Beauty (AONB) Lincolnshire Wolds 558.98 sq km. covers East Lindsey and West Lindsey. The Lincolnshire Wolds chalk hills are located northwest to south east between the Humber and Wash[18].

There is one Marine conservation zone (MCZ) within Lincolnshire. This is the Lincs Belt MCZ that is on the boundary of East Lindsey.

There are 118 SSSI's within Lincolnshire; Table 10 below shows the number of SSSI's present within each district, borough and city council.

[18] http://www.landscapesforlife.org.uk/lincolnshire-wolds-aonb.html (Last accessed July 2017)

Table 10 Lincolnshire SSSI's

Local Authority	Number of SSSIs
Lincoln City	26
West Lindsey	14
East Lindsey	44
North Kesteven	5
South Kesteven	27
Boston Borough	1
South Holland	3

There are four NNRs within Lincolnshire; Table 11 below shows the number of NNRs present within each district and borough councils.

Table 11 Lincolnshire's NNRs

Local Authority	Number of NNRs	Name of NNR
East Lindsey	2	Donna Nook NNR
		Saltfleetby- Theddlethorpe Dunes NNR
West Lindsey	1	Bardney Limewoods NNR
Boston Borough	1	Gibralter Point NNR

Local Designations

The local designations that are located within Lincolnshire include Local Nature Reserves (LNR). There are 15 LNR's within Lincolnshire; Table 12 below shows the number of LNR's present within each district, borough and city councils.

Table 12 Lincolnshire's LNR's

Local Authority	Number of LNRs	Name of LNR
East Lindsey	4	Snipe Dales LNR
		The Pringle LNR
		Willoughby Branch Line LNR
		South Thoresby Warren LNR
West Lindsey	2	Owlet LNR
		Theaker Avenue LNR
Boston Borough	2	Gibralter Point NNR
		Havenside LNR
Lincoln City	2	Swanholme Lakes LNR
		Cross O'Cliff Orchard LNR
North Kesteven	3	Whisby Nature Park LNR
		Lollycocks Field LNR
		Mareham Pasture LNR

South Kesteven	1	Stantons Pit LNR
South Holland	2	Vernatts LNR
		The Shrubberies LNR

KEY ISSUES- BIODIVERSITY, FLORA AND FAUNA

Set out below in Table 13 are the key issues that can be identified from the baseline data collected in terms of Biodiversity, Flora and Fauna.

Table 13 Key Issues: Biodiversity, Flora and Fauna

Key Issues – biodiversity, Flora and fauna
There are diverse wildlife and habitats in Lincolnshire that are highly valued locally, nationally and internationally
The designations highlighted are prone to pollution, waste production, land take and climate change

GEOLOGY AND SOILS

RELEVANCE TO JMWMS

Measures included within the JMWMS include proposals for the continued collection of green waste and composting. This has the potential to affect soil quality.

OVERVIEW

Soils and geology play an important part in determining the environmental character of an area. The nature and alignment of the rocks has a major influence on the landform. Rocks provide the parent material from which the soils are created and, through their constitution and chemistry, they influence the rate at which soils are formed. Soil chemistry and structure strongly influence the type of vegetation, which occurs naturally in an area.

Geology and Geomorphology

Lincolnshire's bedrocks form a simple pattern of north-south stripes at the surface. There are older Triassic rocks in the west, overlain progressively by marine Jurassic rocks and the younger Cretaceous rocks in the east. At the surface they have been subjected to weathering and erosion under a range of climates including glacial and periglacial during the last 2 million years.

The superficial geology of the county is blanketed with a covering of Quarternary superficial deposits that formed within the last two million years. The Quarternary deposits includes glacial and fluvioglacial deposits along with younger Flandrian silts, peat, sands and alluvium that cover the Fenlands, the coastal plains east of the Wolds, much of the Humber coast and the Isle of Axholme.

Soils

Lincolnshire contains a wide variety of soils including alluvium (clay, silt and sand) along coastal regions, Till (Diamicton), River Terrace deposits (Sand and Gravel), blown sand, peat, glacial sand and gravel.

Lincolnshire soils vary in thickness from a few centimetres to over a metre in response to the underlying geology, location in the landscape and agricultural practices. The thinnest soils tend to occur over chalk and limestone escarpments and on valley side, with the deepest soils in the Fenlands.

KEY ISSUES – GEOLOGY AND SOILS

Set out below in Table 14 are the key issues that can be identified from the baseline data collected in terms of geology and soils.

Table 14 Key Issues: Geology and Soils

Key Issues – Geology and Soils
Lincolnshire contains a wide variety of soils that are used to support an important agricultural sector.

WATER

RELEVANCE TO JMWMS

The JMWMS may impact both surface and groundwater quality. Waste management activities may impact water quality through the introduction of new waste management infrastructure which may cause leachate and grey water. Some sites may create run-off and effluent treatment issues and therefore water quality impacts

OVERVIEW

Main Rivers

There are 2 main rivers that run through Lincolnshire. The River Witham flows through the quiet and flat Lincolnshire countryside, with marshy fenlands stretching out on either side. The river flows from Lincoln moving east towards Bardney (west Lindsey) then south passing through Kirkstead (East Lindsey), Dogdyke (North Kesteven) and then ends at Boston. A majority of the areas in the vicinity of this river are at a high risk of flooding.

The River Trent is the third longest river in the United Kingdom and a part of it forms the district boundary between Bassetlaw and West Lindsey. It runs north and then joins the River Ouse at Trent Falls to form the Humber Estuary. A majority of the areas in the vicinity of this river are at a medium risk of flooding.

Water Quality and Quantity

The water quality of the rivers that flow within Lincolnshire is poor in comparison to other regions. This is attributed to the slow moving flows of the rivers in the Anglican region which restrict the dilution of pollutants and high nitrate loads arising from fertilizer run off and livestock slurry in agricultural areas.[19]

The public water supply within Lincolnshire from surface water sources is 21% and that from groundwater sources is 79% [20].Nitrate pollution is a significant concern and levels have increased in the region despite the introduction of Nitrate Sensitive Areas (NSA's) and Nitrate Advisory Areas (NAA). [21]

KEY ISSUES- WATER

Set out below in Table 15 are the key issues that can be identified from the baseline data collected in terms of Water

Table 15 Key Issues: Water

Key Issues – Water
The water quality of rivers is poor in Lincolnshire compared to other regions
Main source of water supply (79%) is from aquifers and nitrate pollution is a significant concern

POPULATION AND HUMAN HEALTH

RELEVANCE TO JMWMS

The JMWMS will need to consider the needs of the existing and future population of Lincolnshire, particularly in relation to promoting waste awareness. Waste management decisions may have potential impacts on transport networks and on the local economy.

[19] https://www.lincolnshire.gov.uk/residents/environment-and-planning/environment/environmental-report/part-e-water/fresh-water-quality/100459.article (Accessed July 2017)

[20] Lincolnshire State of the Environment Report, The 1995 audit into the state of the environment by Lincolnshire County Council

[21] https://www.lincolnshire.gov.uk/residents/environment-and-planning/environment/environmental-report/part-e-water/groundwater-quality/100460.article (Accessed July 2017)

Understanding local demographic trends is important in planning for the future of an area as it enables local authorities to predict the changing needs of the population and address them.

OVERVIEW

Population Structure and Statistics

Data released from the Office of National Statistics (ONS) 2015 mid-year population estimates (based on the 2011 census of population for England and Wales) is as presented below in Table 16.

Table 16 2012 Mid-Year Lincolnshire Population

Area	Mid-2015 Estimate	Mid-2014 Estimate	Mid-2005	Change 2014-2015		Change 2005-2015		Area Sq km	Density Persons per sq km, 2015
				Persons	%	Persons	%		
Lincolnshire CC	736,700	731,500	671,870	5,200	0.7	64,830	8.8	5,921	124
Boston	66,900	66,500	57,400	400	0.6	9,500	14.2	362	185
East Lindsey	137,900	137,600	135,418	300	0.2	2,482	1.8	1,760	78
Lincoln	97,100	96,200	87,778	900	0.9	9,322	9.6	36	2700
North Kesteven	111,900	111,000	99,479	900	0.8	12,421	11.1	922	121
South Holland	91,200	90,400	80,621	800	0.9	10,579	11.6	742	123
South Kesteven	138,900	138,000	126,677	900	0.7	12,223	8.8	943	147
West Lindsey	92,800	91,800	83,798	1,000	1.1	9,002	9.7	1,156	80
East Midlands	4,677,000	4,637,400	4,302,840	39,600	0.9	374,160	8	15,600	300
England	54,786,300	54,316,600	50,239,037	469,700	0.9	4,547,263	8.3	151,013	363

The 2015 mid-year population estimates released by ONS show a continued increase in Lincolnshire's population. They show the county's total population increased by 64,830 people in ten years, to approximately 736,700 in 2015. This is an 8.8% rise and is higher than the percentage increase of 8.3% for England over the same period.

Across the districts, borough and city councils, East Lindsey has shown the least rate of population growth at 1.8%, whereas Boston has the highest rate of population growth at 14.2% between the period of 2005 and 2015.

A breakdown of the population data by age group and ethnicity shows that Lincolnshire continues to have an ageing population and is less ethnically diverse in comparison with the national figures.

In terms of country of birth, Lincolnshire has a higher proportion of residents who were born in the EU than in England and Wales. In addition, Lincolnshire also has a higher proportion of UK born residents than in England and Wales. In terms of ethnicity, Lincolnshire has become more diverse with the non-white population making up 2.4% of the total population in 2011 compared to 1.4% in 2001. However this proportion is still small when compared with a national non-white population of 14%. Single person households aged over 65 make up nearly 14% of all households compared to 12% nationally. However, this is down 1% on 2001. Conversely the number of people stating that their day to day activities are limited due to their health has increased by 1% from 2001 to 20%. Nationally 18% of the population reported that this was the case[22].

Deprivation

The Index of Multiple Deprivation (IMD), published by the Department for Communities and Local Government (DCLG), is a national dataset of deprivation indicators, chosen to cover a range of economic, social and housing issues, into a single deprivation score. They assess deprivation over small geographical areas that enable the extent and distribution of deprivation to be compared and monitored over time.

The 2015 Indices of Deprivation compared to data from 2010 show that[23]:

- Lincolnshire's coast stands out as being amongst the most deprived 10 percent of neighbourhoods nationally;
- Urban Areas and the East Coast of Lincolnshire show relatively higher levels of multiple deprivation in comparison with the rural areas of the county; and
- A higher proportion of people in Lincolnshire are now officially ranked as living in England's most deprived areas compared to the previous data release in 2010.

Table 17 below shows the extent of deprivation in Lincolnshire on a district, borough and city level and the changes seen from 2010 data.

Table 17 Extent of District, Borough and City Deprivation in Lincolnshire

Area	% persons living in most deprived areas	Change from IMD 2010
Boston	19.6	2.8
East Lindsey	29.8	7.9
Lincoln	31.9	2.1
North Kesteven	0.3	0.1
South Holland	2.1	1.0
South Kesteven	4.6	0.9
West Lindsey	13.1	3.6

The IMD uses geographical areas called Super Output Areas (SOAs) to facilitate the calculation of the IMD, by using a set of areas of consistent size that do not change boundaries. Lower Super Output Areas (LSOAs) typically contain four to six SOAs.

[22] http://www.research-lincs.org.uk/2011-census.aspx [Accessed 26.06.2013]
[23] http://www.research-lincs.org.uk/UI/Documents/IMD-2015-Summary-Report-for-Lincolnshire.pdf (Accessed July 2017)

The most deprived Lower Super Output Area (LSOA) in the county is in East Lindsey and the least deprived is in North Kesteven. From the 2015 figures, it can be seen that Lincolnshire has 29 LSOAs that are ranked in England's top 20% most deprived areas.

Economy

Since April 2010, all unitary authorities and county councils have a statutory duty to carry out an assessment of the economic conditions of their area through a Local Economic Assessment (LEA). This is intended to provide local authorities and other stakeholders with a robust analysis of the local economy which can help shape actions to improve the local economy.

Lincolnshire is one of the largest and most sparsely populated areas of England and presents a distinctive range of challenges for organisations concerned with the socio-economic well-being of a low wage area experiencing sustained population growth.

The Economic and Development Strategy 2008-2010 identified five distinct economic and geographical areas each with their own characteristics within Lincolnshire and classified the areas as follows:

- The expanding Greater Lincoln area - including Gainsborough - which is increasingly prosperous and is consolidating as a regional centre;
- The coastal strip - has significant levels of deprivation due to peripherality and seasonal employment;
- The Fenland area of the south east - has a strong and successful food and horticultural identity;
- The A1 corridor - is experiencing private sector led economic growth and still has significant untapped potential; and
- The large central and traditional rural area - has a network of market towns in a historic agricultural setting.

Each area presents a different set of issues, and with the exception of greater Lincoln, the most distinctive characteristic is the commonality of rural issues.

Slow and low economic growth: Gross Value Added (GVA) is a very broad barometer of economic vitality and is used locally, regionally and internationally to make comparisons between areas. The consequences of a low-wage economy are a low GVA. Lincolnshire has one of the lowest GVAs in the country despite the growth in the local economy over the past few years.

In 2011, an LEA was undertaken which described Lincolnshire in terms of its economic profile and examined local data. This study developed thirteen economic zones to enable data analysis at a more local level and reflect areas where similar issues and opportunities are faced by the local population.

The LEA stated that GVA figures estimates the value of the county's economy at over £10bn for the first time. This however does not improve the economic performance of the county as it still remains one of the weakest and is generally regarded as a low skilled, low wage economy. Lincolnshire's economy is set to continue growing, however, without intervention, the positive projections will not be enough to move it closer to the national or regional rates of economic activity[24].

The economic downturn had an impact on Lincolnshire's economy although less than was experienced in other parts of the country. A number of economic indicators highlight the resilient qualities of the local economy. An example is the county's unemployment rate which fell from 3.8% in January 2010 to 3.2% during April 2011, and has remained below both the regional and national rates. The overall employment rate in the county (72.7%) has remained above that of regional and national rates (71.2% and 70.3% respectively). Recruitment activities appear to have also recovered for some sectors since the economic downturn.

Despite the positive signs of economic recovery, many businesses and organisations in Lincolnshire continue to report difficult trading conditions with some operating at less than full capacity during 2010. The number of businesses per 10,000 of the population (400) is lower than the national rate of 420. The sparse nature of the county results in an average of only five businesses per km^2 compared to 17 nationally.

There is also a clear rural/urban divide in the county on some issues including, transport, information and communications technology, levels of crime, skills and wages, and how communities access services.

[24] http://www.research-lincs.org.uk/UI/Documents/Local%20Economic%20Assessment.pdf [Accessed 26.07.13]

The number of people of working age (16 to 64) in Lincolnshire during the mid-year 2012 population estimate was 441,500 and the percentage of claimants in working age population is 10.7%.[25] This figure is lower than the regional and national rates of 10.9% and 11.6% respectively[26]. However, the International Labour Organisation's (ILO) wider measure of unemployment shows that 6% of the county's working age population are out of work.

The Draft Central Lincolnshire Economic Growth Strategy 2012-2031 highlighted 5 key strategic objectives that would unlock potential to deliver growth[27]. These are:

- To deliver sustainable economic growth in the Lincoln Principal Urban Area (PUA), Gainsborough, and Sleaford;
- Facilitate the necessary infrastructure to support growth;
- Stimulate the local economy by supporting new and existing businesses, tourism and attracting inward investment;
- Ensuring access to employment and skills provision; and
- Deliver and maintain a robust and up to date evidence base

KEY ISSUES – POPULATION AND HUMAN HEALTH

Set out below in Table 18 are the key issues that can be identified from the baseline data collected in terms of population and human health.

Table 18 Key Issues: Population

Key Issues – Population and Human Health
The population of Lincolnshire has increased by 64,830 people in the ten year period to 2015. A breakdown of this data shows that the county continues to have an ageing population and is less diverse than other areas.
Deprivation across Lincolnshire has worsened slightly from 2010 to 2015.

MATERIAL ASSETS

RELEVANCE TO JMWMS

Waste management decisions may impact on material assets, related to transport and social infrastructure, such as hospitals, residential areas etc. How these facilities deal with their waste has a significant bearing on the success of the JMWMS.

OVERVIEW

For the purpose of this SEA 'material assets' refers to the critical infrastructure, waste management facilities and housing within the borough that could be potentially affected by the implementation of the JMWMS.

Critical Infrastructure

Critical infrastructure comprises 'those facilities, systems, sites and networks necessary for the functioning of the country and the delivery of the essential services upon which daily life depends'.[28] The implementation of the JMWMS measures has the potential to disrupt critical infrastructure such as utilities (e.g. clean water, electricity supply, telecoms network) and access to community care facilities (hospitals or health centres). The JMWMS will seek to manage these risks to critical infrastructure and material assets within Lincolnshire. If the

[25] http://www.research-lincs.org.uk/Local-Economic-Assessment.aspx#data [Accessed 26.07.13]
[26] http://www.nomisweb.co.uk/reports/lmp/la/1941962809/report.aspx#tabwab [Accessed 26.07.13]
[27] http://uk.sitestat.com/lincolnshire/lincolnshire/s?Home.local-democracy.how-the-council-works.key-plans-and-strategies.central-lincolnshire-economic-growth-strategy consultation.114282.articleDownload.43418&ns_type=pdf&ns_url=https://www.lincolnshire.gov.uk//Download/43418 (Accessed July 2017)
[28] http://www.cpni.gov.uk/about/cni/ [Accessed July 2017]

JMWMS requires the building of new infrastructure, it will also need to consider access to and use of critical infrastructure.

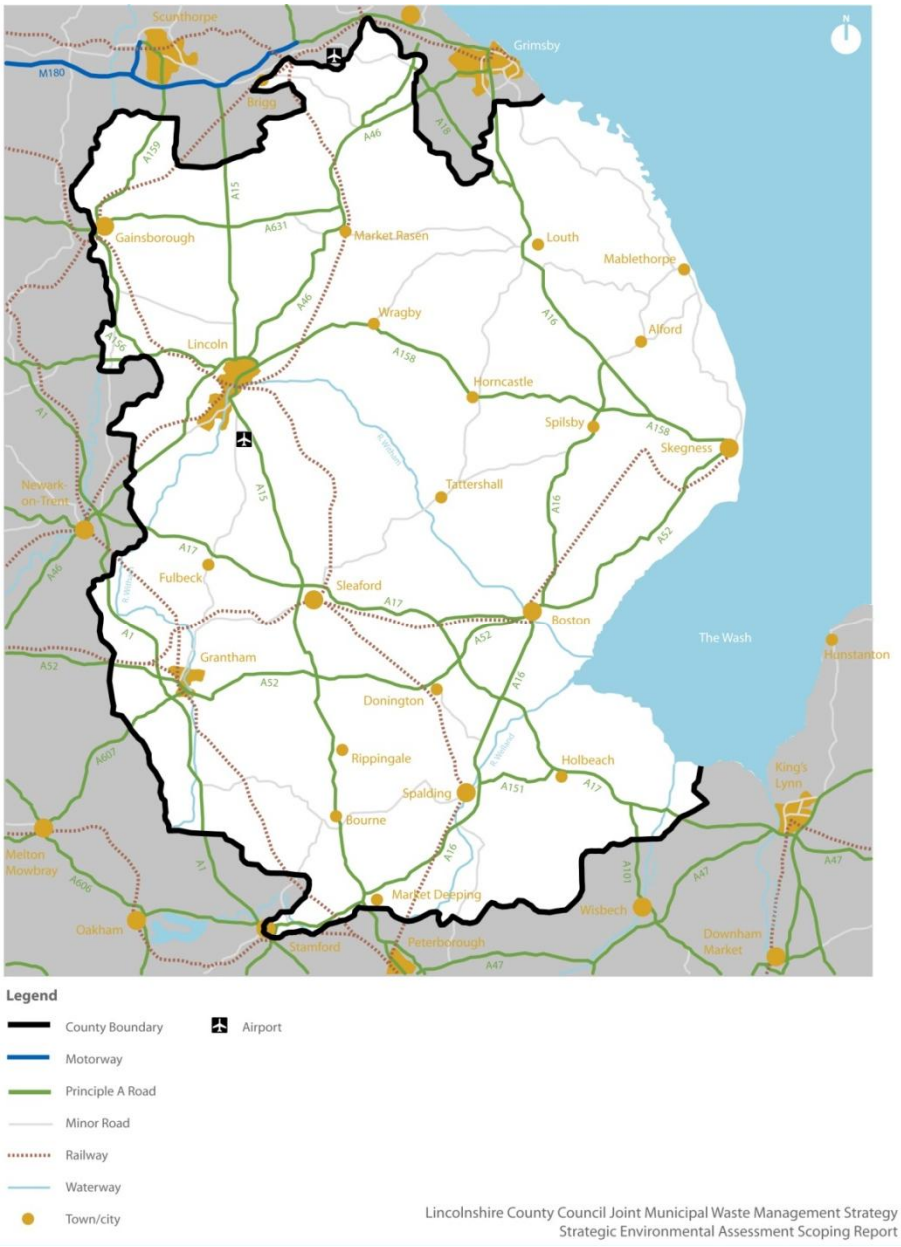
Transport

Lincolnshire is a predominantly rural county and as a consequence of its size, the highway network is extensive totalling about 8,905km (5,534 miles)[29]. LCC is responsible for the 5th largest road network in England covering 5,500 miles with 85% classified as rural, 3,030 miles of footway and over 3,500 highways structures[30]. LCC is the highway authority for all public roads except trunk roads. Within this network there is no motorway and just 41m of dual carriageway of which the A1 and the recently upgraded A46 between Newark and Lincoln form the majority.

[29] 4th Lincolnshire Local Transport Plan http://uk.sitestat.com/lincolnshire/lincolnshire/s?Home.transport-and-roads.strategy-and-policy.local-transport-plan.34380.articleDownload.102928&ns_type=pdf&ns_url=https://www.lincolnshire.gov.uk//Download/102928 (Accessed July 2017)

[30] https://www.lincolnshire.gov.uk/upload/public/attachments/1215/travel_and_transport_briefing__east_lindsey_division__may_2010.pdf (Accessed July 2017)

Figure 2 Lincolnshire's Transport Network



Traffic counts[31] for Lincolnshire, taken by the Department for Transport, show that in 2016 vehicles travelled 2,511,926 thousand miles which is broken down as follows:

- Pedal Cycles-3,749;
- Motorcycles-19,036;
- Cars-1,855,650;
- Buses and Coaches-14,202;
- Light Goods Vehicles – 393,653; and
- HGV's – 229,385

[31] https://www.lincolnshire.gov.uk/upload/public/attachments/1215/travel_and_transport_briefing__east_lindsey_division__may_2010.pdf (Accessed July 2017)

[31] http://www.dft.gov.uk/traffic-counts/area.php?region=East+Midlands&la=Lincolnshire

It is apparent that the predominant mode of transport in the county is the car with the proportion of HGV's (commonly used to transport waste) making up 9% of the total thousand miles.

Lincolnshire's recently published fourth Local Transport Plan (LTP4)[32] identifies the current issues around transport in the county. The LTP4 recognises that there is increasing demand on the road network and at the same time concerns around the environmental impact of transport continue to grow. Three key challenges have been identified which are as follows:

- Supporting growth and the local economy;
- Improving access to employment, training and key services, and
- Contributing to a healthier community.

The LTP4 recognises that increasing development in the county will put pressure on transport networks. LCC, as highways authority, is working alongside its constituent district, borough and city councils on preparing appropriate Infrastructure Development Plans (IDPs) in support of the Local Plans. However, within the current economic climate, delivering appropriate transport infrastructure will be challenging and a range of funding sources will need to be explored.

The LTP4 outlines LCC's commitment to reducing the environmental impact of transport. LCC has ongoing initiatives around reducing carbon emissions, using alternative fuels and reducing the impact of traffic through reduction of speeds and re-routing traffic.

Public Rights of Way

There are no national trails within Lincolnshire. However, the Viking Way is a long distance footpath which runs for 235km from the Humber Bridge at Barton-upon-Humber to Oakham in Rutland. There are a number of national cycle routes within the county including national route 1 which runs through Boston, Lincolnshire, and Market Rasen. There are other schemes including a cycleway from Newark to Lincoln and a town centre scheme in Grantham. There is a network of over 4000km of public rights of way in Lincolnshire, including public footpaths, bridleways and byways.

Waste

Lincolnshire disposes of a range of waste streams: municipal waste; waste generated by industry, commerce and business; waste from construction and demolition activities; and other more specific waste types such as hazardous waste, agricultural waste, waste water and sewage sludge[33]. Over 3 million tonnes of waste is produced each year and a large percentage of this ends up in landfill[34].

The total municipal solid waste (MSW) arisings in Lincolnshire between 2010 and 2011 was 355,609 tonnes. Data shows that the average rate of change yearly between 2000/01 to 2010/11 has remained at 1%. Municipal waste arisings in the County is currently forecasted to grow at a rate of 1.7% per annum from the 2010/11 figure of 355,609 tonnes over the next 20 years until 2030/11. It is also assumed that that 55% of the total arisings is recycled and composted (with a ratio of 32% and 23% of total arisings, respectively), and that by 2013/14 150,000 tonnes per annum is recovered via the energy from waste facility at North Hykeham[35].

Lincolnshire is in the examination stage of producing their Minerals and Waste Local Plan: Sites Locations document which includes specific proposals for the provision of land for minerals and waste development.[36]

Waste collection and disposal results in a substantial number of lorry movements into and out of the County to transport waste to recycling facilities, energy from waste facilities or landfill sites. Regular collections are required from households and with the number of households increasing and subsequently the amount of waste increasing; there will inevitably be an impact on transport.

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[32] http://www.lincolnshire.gov.uk/residents/transport-travel-and-roads/transport-planning-and-development-control/local-transport-plan/4th-lincolnshire-local-transport-plan/102070.article?tab=downloads (Accessed July 2017)
[33] Preferred Minerals and Waste Strategies, 2010. [Lincolnshire Council]
[34] http://www.lincolnshire.gov.uk/recycle-for-lincolnshire/waste-local-plan/ [Accessed 30.07.13]
[35] Lincolnshire County Council, Waste Needs Assessment, November 2012.
[36] https://www.lincolnshire.gov.uk/residents/environment-and-planning/planning-and-development/minerals-and-waste/minerals-and-waste-sites/88170.article (June 2017)

It is essential to ensure that the JMWMS considers such issues regarding the increasing number of households and corresponding increases in waste generation and waste transportation to enable appropriate waste management across the County.

Housing and Homes

The issues of affordable housing will be addressed by the Local Planning Authorities, Local Development Framework Core Strategies and Site Allocations Development Plan Documents (DPD). Within these DPDs, new housing locations are identified as will new employment sites, it is essential that the JMWMS is integrated with the LDFs to ensure that development is located in areas that are not negatively impacted by the implementation of the strategy.

Lincolnshire is a growing county in terms of provision of new homes. The town of Grantham is a designated growth point, and here alone it is anticipated that 7,500 homes and 4,000 jobs will be created by 2026. Furthermore, within central Lincolnshire (City of Lincoln, North Kesteven and West Lindsey), the draft Core Strategy sets out plans to build 42,800 homes by 2031.

The JMWMS must ensure access to services is a high priority for new housing development within Lincolnshire, the SEA process provides an opportunity to ensure that these issues are fully addressed at the strategy options/alternatives appraisal stage.

Agriculture

The East Midlands is a very productive area for agriculture and contains a significant percentage of the total national resource of the best and most versatile agricultural land. The proportion of

Grade 1, 2 and 3a agricultural land, i.e. the best and most versatile land, in the East Midlands is 47% compared to 39% across England. The East Midlands also contains a significant percentage (34%) of the total national resource of Grade 1 agricultural land. Within the region, over 1.2 million hectares of land is in agricultural use and the industry employs over 39,000 people across some 18,500 farms.

Farming is a major industry in Lincolnshire, with a farmed area of 484,220ha, a total of 3,680 holdings and a labour force of 8,490 in 2010.[37] Some of the highest grade agricultural land in the country is found in the south and east of the county, with 44% of the agricultural land in Lincolnshire being Grade 1 or Grade 2.

Lincolnshire's agricultural sector is the market leader in many intensive crop and livestock product categories, such as production of: 25% of vegetable production, 21% of ornamental crops, 19% of sugar beet, 17% of meat chickens, 18% of duck and 21% of turkey production[38].

Lincolnshire is the largest producer of wheat in the UK; contributes over 10% of total national wheat production and over 50% to regional production. The split in produce on Lincolnshire's farms is shown in Table 19 below.

The JMWMS needs to consider protection of agriculture and the infrastructure required for transportation.

Table 19 Farming Produce

Type	Area / Number	Includes
Arable	383,729 ha	Cereals 2,328ha; potatoes 13,650ha; sugar beet 19,971ha; field beans 19,826ha, peas 5,290ha, oilseed rape 62,412ha, linseed 3,695ha, root crops 1,375ha
Horticulture	32,480ha	Peas and beans 11,329ha; other veg and salad 19,067ha; fruit 152ha; bulbs and flowers 1,620ha
Livestock	3,227,858 No.	Cattle 87,814; pigs 174,722; sheep 144,789; goats 1,024; horses 4,760; poultry 12,945,060

[37] http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do [Accessed 30.07.13]
[38] https://www.greaterlincolnshirelep.co.uk/assets/documents/Agri-food_sector_plan_final.pdf (Accessed July 2017)

KEY ISSUES – MATERIAL ASSETS

Set out below in Table 20 are the key issues that can be identified from the baseline data collected in terms of material assets.

Table 20 Key Issues: Material Assets

Key Issues – Material Assets
There is an extensive highway network in Lincolnshire. In recent years the length of trunk roads has reduced dramatically as a result of the detrunking of several A roads.
Increasing demand on the transport network and an increase in concern around the environmental impact of traffic.
Waste collection and disposal results in a substantial number of lorry movements into and out of the County to waste management facilities. Regular collections are required from households and with the number of households increasing and the total amount of waste increasing; there is the potential for an impact on transport.
Mineral extraction operations within the county will result in substantial lorry movements to transport materials.
New housing and employment sites are presently being identified across the county, This has the potential to increase the amount of waste generated that would need to be disposed of appropriately. This may lead to a strain on existing waste collection measures in place currently and decrease waste disposal capacity. In this case new waste infrastructure will need to be proposed.
Lincolnshire contains a significant amount of best and most versatile agricultural land and is a large producer of food.

CULTURAL HERITAGE

RELEVANCE TO JMWMS

Waste management decisions may change the pattern and frequency of waste collections which may have a visual impact on areas of heritage value due to the equipment that may be required.

OVERVIEW

The term ‘cultural heritage’ covers buried archaeological remains which allow the study of past societies through the medium of material culture, and built heritage which is buildings and structures of heritage interest.

Lincolnshire’s Heritage Assets

Lincolnshire’s historic landscape and built environment reflects local topography, land use and the availability of building materials, and more recently changes in social conditions and technological advances. One of the county’s assets is the combination of styles and materials which represent the economic and aesthetic influences of different periods of history. This is reflected in the high historic and cultural value of the cores of Lincoln City and surrounding towns.

Some of the earliest archaeological remains include evidence of Palaeolithic inhabitation, other features include the prehistoric burial mounds of the Wolds, the waterlogged landscape of the Witham Valley, medieval castles and monasteries and the industrial and agri-industrial buildings of the towns and World War II sites and defences, the most important of which are designated Scheduled Monuments (SMs). Lincolnshire has a small number of historic battlefield sites one of which, at Winceby, is registered.

There are a number of grant schemes supported by LCC which aim to repair historic buildings; these schemes include Townscape Heritage Initiative in Boston, Heritage Economic Regeneration Scheme in Burgh le Marsh, Tattershall, Woodhall Spa and Wragby, and Historic Buildings Grant Schemes throughout the county.

Conservation Areas

Conservation areas are designated for their special architectural and historic interest. They are normally centred on listed buildings and groups of other buildings, open space, or historic street patterns. Planning

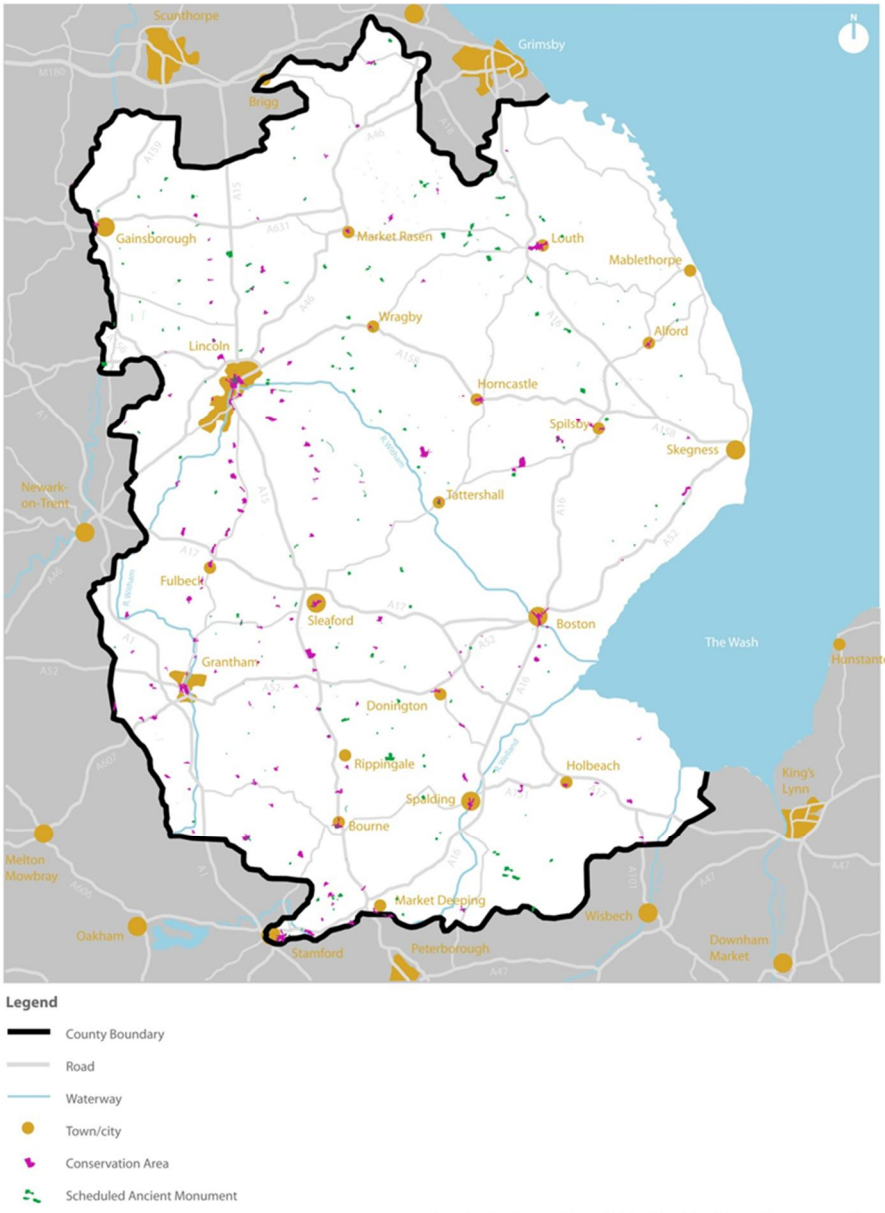
legislation requires that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of the conservation area.

The district, borough and city councils within the Lincolnshire boundary have recognised the importance of the man-made heritage; this is reflected in development plans which contain a number of policies which afford protection to the character and appearance of the historic built environment. Proposals for waste management developments impinging on conservation areas and listed buildings are expected to respect and enhance their surroundings in terms of appearance. For Lincolnshire as a whole there are: 162 conservation areas, which vary greatly in nature and character[39]; 7200 Listed Buildings, ranging in date from the roman period through to the 1950's[40]; and 478 Scheduled Monuments, which range from prehistoric settlements to medieval crosses to early nineteenth-century cast iron footbridges[41].

Lincolnshire's conservation areas and Scheduled Monuments are shown in Figure 3.

Figure 3 Lincolnshire's Conservation Areas and Scheduled Monuments

[39] http://www.lincolnshire.gov.uk/residents/environment-and-planning/conservation/conservation-areas/conservation-areas-in-lincolnshire/100514.article (July 2017)
[40] http://www.lincolnshire.gov.uk/residents/environment-and-planning/conservation/listed-buildings/ (July 2017)
[41] http://www.lincolnshire.gov.uk/residents/environment-and-planning/conservation/scheduled-monuments/ (July 2017)



Lincolnshire County Council Joint Municipal Waste Management Strategy
Strategic Environmental Assessment Scoping Report

Historic Landscape Character zones

This wider historic landscape character is a fundamental aspect of the historic environment. The County of Lincolnshire has been assessed within the context of Historic England's 'Historic Landscape Characterisation Programme'. The programme identified 42 Historic Character Zones within 10 broad Historic Landscape Types; these comprised:

- The Confluence;
- The Northern Cliff;
- The Northern Marshes;
- The Wolds;
- The Clay Vale;
- The Trent Valley;
- The Southern Cliff;
- The Grazing Marshes;
- The Fens; and
- The Wash

A complete list of the Historic Character Zones is available from Historic England document 'The Historic Character of the County of Lincolnshire'.[42]

KEY ISSUES – CULTURAL HERITAGE

Set out below in Table 21 are the key issues that can be identified from the baseline data collected in terms of cultural heritage.

Table 21 Key Issues: Cultural Heritage

Key Issues – Cultural Heritage
Lincolnshire has a large amount of heritage assets including 162 conservation areas, 7200 listed buildings and 478 scheduled monuments across the county.

LANDSCAPE

RELEVANCE TO JMWMS

The JMWMS is not a site specific plan and local landscape impacts are outside the control of the plan. However, the proposals of new waste management sites and changes in the frequency of waste collections may have a visual impact on landscape areas.

OVERVIEW

Area of Outstanding Natural Beauty

The Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) is a significant feature of the Lincolnshire landscape; the AONB covers East Lindsey and West Lindsey.

The key characteristics of the Lincolnshire Wolds AONB are the dissected chalk tableland, grasslands and abandoned chalk pits. The abandoned chalk pits form an important habitat for insects and rare flowers. There are also areas of fine mixed woodland which are managed in order to conserve their traditional oak, ash and hazel coppice. The AONB is sparsely settled and is a historical landscape which has pre historic barrows, ancient tracks and fine medieval churches.[43]

The rural economy of the AONB is based on arable farming with intensive, large cereal units and mineral extraction. There are some small quiet towns and villages scattered around the area.[44]

Landscape Character Areas

There are 11 Landscape Character Areas (LCA) within Lincolnshire; Table 22 below shows the number of LCAs present within each district, borough and city councils.

Table 22 Lincolnshire LCAs

Local Authority	Number of LCAs	Name of LCA
East Lindsey	4	Lincolnshire Coast and Marshes LCA
		Lincolnshire Wolds LCA
		Central Lincolnshire Vale LCA
		The Fens LCA
Boston Borough	1	The Fens LCA
North Kesteven	3	Southern Lincolnshire Edge LCA

[42] English Heritage (2011). The Historic Character of The County of Lincolnshire: English Heritage Project No. 4661. https://www.n-kesteven.gov.uk/_resources/assets/attachment/full/0/26034.pdf (July 2017)
[43] http://www.landscapesforlife.org.uk/lincolnshire-wolds-aonb.html (Accessed July 2017)
[44] http://www.englandthisway.com/regions/lincolnshire-wolds.php (Accesses July 2017)

		The Fens LCA
		Trent and Belvoir Vales LCA
City of Lincoln	3	North Lincolnshire Edge with Coversands LCA
		Southern Lincolnshire Edge LCA
		Trent and Belvoir Vales LCA
South Holland	1	The Fens LCA
South Kesteven	4	Kesteven Uplands LCA
		Southern Lincolnshire Edge LCA
		Trent and Belvoir Vales LCA
		Rockingham Forest LCA
West Lindsey	6	Lincolnshire Coast and Marshes LCA
		Humber Estuary LCA
		Lincolnshire Wolds LCA
		Central Lincolnshire Vale LCA
		North Lincolnshire Edge with Coversands LCA
		Humberhead Levels LCA

Townscape and Seascape

The major urban areas within Lincolnshire are those within and around Lincoln, South Kesteven and Boston Borough. Areas closer to the coastline are recently becoming increasingly urbanised due to tourism.

The Lincolnshire coastline has been shaped throughout history by natural processes such as changes in sea level and coastal processes. However, currently East Lindsey districts coastline is not changing due to the mitigation measure in place to protect the coast. The effects of changes in sea level and climate change will impact greater on the coastline leading to coastal erosion.[45]

KEY ISSUES- LANDSCAPE

Set out below in Table 23 are the key issues that can be identified from the baseline data collected in terms of landscape.

Table 23 Key Issues: Landscape

Key Issues – Landscape
Lincolnshire has 11 LCAs that have been designated around the county
The effects of changes in sea level and climate change in the long run will have an impact on the coastline leading to coastal erosion

[45] https://www.lincolnshire.gov.uk/coastalcountrypark/about/land-sea-and-sky/seascape/ (Accessed July 2017)

Appendix B

PLANS POLICIES AND PROGRAMMES REVIEW

Plan, Policy Programme	SEA Framework Objectives relevant to PPP	Aims and Objectives	SEA Topic
International			
The Paris Convention of 1954 (formerly known as the European Cultural Convention)	14	1. Development of the national contribution to the common cultural heritage of Europe (article 1); 2. Safeguarding objects of European cultural value placed under government control (article 5); 3. Ensuring reasonable access to such objects (article 5).	Cultural Heritage
The Granada Convention 1985	14	Signatories (including the UK) also promise to adopt integrated conservation policies in their planning systems and other spheres of government influence that promote the conservation and enhancement of architectural heritage and the fostering of traditional skills.	Cultural Heritage
The Valletta Convention 1992 (formally known as the Convention for the Protection of the Archaeological Heritage of Europe)	14	Signatories (including the UK) also promise to allow the input of expert archaeologists into the making of planning policies and planning decisions.	Cultural Heritage
The Florence Convention 2000	14	Formally known as the European Landscape Convention (8), its signatories (including the UK) agree to recognise "landscapes" in law as "an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity". . These recognised landscapes are then to be subject to policies for their management, amongst other obligations. The UK became a signatory in 2007.	Cultural Heritage

World Heritage Convention in 1972.	14	To ensure, as far as possible, the proper identification, protection, conservation and presentation of the world's heritage, the Member States of UNESCO adopted the World Heritage Convention in 1972. The Convention foresees the establishment of a "World Heritage Committee" and a "World Heritage Fund". Both the Committee and the Fund have been in operation since 1976.	Cultural Heritage
European Convention on the Protection of the Archaeological Heritage revised 1985	14	The aim of this (revised) Convention is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study. To this end shall be considered to be elements of the archaeological heritage all remains and objects and any other traces of mankind from past epochs: the preservation and study of which help to retrace the history of mankind and its relation with the natural environment; for which excavations or discoveries and other methods of research into mankind and the related environment are the main sources of information; and which are located in any area within the jurisdiction of the Parties; The archaeological heritage shall include structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water.	Cultural Heritage
UN Conference on Environment and Development, Rio 1992	All	Requirement that new development should be sustainable.	General
Kyoto Protocol to the UN Framework Convention on Climate Change (1997)	1, 2	Improved energy efficiency. Lower carbon intensive forms of energy supply (energy and transport). Reduced industrial process emissions. Improved agricultural practices and livestock management. Management of biodegradable waste.	Climatic Factors
Report of the World Summit on Sustainable Development. UN	All	The report aims to reverse the trend in the loss of natural resources, encouraging waste reduction and producer responsibility. It also plans to tackle climate change and energy and to promote sustainable communities.	General

Johannesburg (2002)			
European			
Waste Framework Directive (2008/98/EC)	10, 11, 12, 13	Repeals the previous directive 2006/12 on waste and directives 75/439/EEC and 91/689/EEC regarding waste oils and hazardous waste respectively. It introduces new provisions in order to boost waste prevention and recycling as part of a waste hierarchy and clarifies key concepts namely, the definitions of waste, recovery and disposal and lays down appropriate procedures applicable to by-products and to waste that ceases to be waste. The Directive also focuses on the prevention and reduction of waste arisings, and on the mitigation of environmental and public health impacts of waste management activities and initiatives.	Material Assets
Landfill Directive (1999/31/EC)	10, 11, 12, 13	Aims to prevent or decrease the negative effects on the environment from the associated landfilling of waste during the lifecycle of the landfill. It also sets out mandatory targets for the reduction of biodegradable municipal waste sent to landfill – including to reduce biodegradable municipal waste landfilled to 35% of the produced in 1995 by 2020.	Material Assets
Directive on packaging and packaging waste (94/62/EEC)	10, 11, 12, 13	This Directive aims at reducing packaging waste in the European Community. Member States are required to prevent the formation of packaging waste and to develop packaging reuse systems, which reduce their impact on the environment.	Material Assets
Waste Electrical and Electronical Equipment Directive (2002/96/EC)	10, 11, 12, 13	The directive aims to minimise the impact of electrical and electronical goods on the environment. It looks to increase re-use and recycling of waste electrical and electronical goods by also reducing the amount going to landfill. It seeks to achieve this by making producers responsible for financing the collection, treatment, and recovery of waste electrical equipment, and by obliging distributors to allow consumers to return their waste equipment free of charge.	Material Assets
Industrial Emissions Directive (2010/75/EU)	10, 11, 12, 13	The intention of the Directive is to provide a consistent, best available technique (BAT) based approach to the regulation of waste treatment techniques which can be used both for disposal and for recovery and which have the potential to cause environmental damage if they are not appropriately controlled.	Material Assets

Waste Incineration Directive (2000/76/EC)	10, 11, 12, 13	Aims to introduce measures to prevent or reduce as far as possible air, water and soil pollution caused by the incineration of waste, as well as the resulting risk to human health. The measures set out under the Directive include a prior authorisation requirement for incineration and co-incineration plants, and emission limits for certain pollutants released to air or to water. The requirements of the Directive have been developed to reflect the ability of modern incineration plants to achieve high standards of emissions control.	Material Assets
Directive on Batteries (2006/66/EC)	10, 11, 12, 13	A new Directive on batteries was published in September 2006 includes the UK. The original batteries Directive (91/157/EEC) only covered consumer batteries containing mercury, lead, and cadmium above a certain threshold level. The new directive will require collection schemes (financed by battery manufacturers) to be set up, and these will need to collect 25% of household batteries by September 2012 and 45% by September 2016. The UK is currently recovering less than 1% of household batteries.	Material Assets
The IPPC Directive, concerning integrated pollution prevention and control (2008/1/EC)	3, 8, 9, 10, 11	To prevent, reduce and eliminate pollution at source through the efficient use of natural resources. It is intended to help industrial operators move towards greater environmental sustainability. It sets standards and target dates for reducing concentrations of fine particles, which together with coarser particles known as PM10 already subject to legislation, are among the most dangerous pollutants for human health.	Air Quality, Population and Human Health
Directive 1966/62/EC on ambient air quality and management	3, 8, 9	Establishes mandatory standards for air quality and sets limits and guide values for sulphur and nitrogen dioxide, suspended particulates and lead in air.	Air Quality, Population and Human Health
Directive 2008/50/EC on ambient air quality and cleaner air for Europe	3, 8, 9	This directive establishes new air quality objectives for PM2.5 (fine particles), the possibility to discount natural sources of pollution and for time extensions of PM10 or up to five years (NO2, benzene) for complying with limit values, based on conditions and the assessment by the European Commission.	Air Quality, Population and Human Health
Green Paper: A European strategy for sustainable, competitive and	1, 2	Commission proposes a common European energy policy which will enable Europe to face the energy supply challenges of the future and the effects these will have on growth and the environment.	Climatic Factors

secure energy (2006)		This document aims to strike a balance between economic development and the quality and safety demands made by society in order to develop a modern, sustainable transport system for 2010.	
European Landscape Convention 2000	14	The European Landscape Convention introduced the concept of “landscape quality objectives” into the protection, management and planning of geographical areas. Members of the council noted that the landscape has an important public interest role in the cultural, ecological, environmental and social fields, and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation. It also noted that developments in agriculture, forestry, industrial, mineral production techniques, in regional planning, town planning, transport, infrastructure, tourism, recreation and, at a more general level, changes in the world economy are in many cases accelerating the transformation of landscapes.	Cultural Heritage
EC Sustainable Development Strategy Revision (2005)	All	Combat climate change Ensure sustainable transport Address threats to public health Manage natural resources more responsibly and stop biodiversity decline Combat poverty and social exclusion Meet the challenges of an ageing population	General
Nitrates Directive (91/676/EEC)	6, 8, 9	Prevention of eutrophication and water pollution Human health and ecosystem protection. Nitrate Vulnerable Zones (NVZs) designated in vulnerable sites.	Geology and Soils, Population and Human Health
Hazardous Waste Directive (91/689/EC)	10, 11, 12, 13	Lays down the framework for the management, recovery and correct disposal of waste considered to be hazardous. Member states are required to ensure that hazardous waste is recorded and identified. They must also ensure that different categories of hazardous waste are not mixed and that hazardous waste is not mixed with non- hazardous waste, unless necessary measures have been taken to safeguard human health and the environment.	Material Assets

Management of Waste from Extractive Industries Directive (2006/21/EC)	8, 9	Sets minimum requirements to prevent or reduce adverse effects on the environment and human health caused by waste from the extractive industry through BAT and taking account of specifics of the operation and its location	Population and Human Health
Strategic Environmental Assessment Directive (2001/42/EC)	All	Article 1 of which states that its objective is to provide for a high level of environmental protection and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.	General
The Conservation of Natural Habitats and of Wild Fauna and Flora Directive (94/43/EEC)	5	Article 6 of which requires that, where a plan or proposal is likely to have a significant effect on a site designated through the European Natura 2000 network of protected sites and species, an 'appropriate assessment' of the effects is required.	Biodiversity, Flora and Fauna
The Promotion of Energy from Renewable Sources Directive (2009/28/EC)	10, 11, 12, 13	Establishes a common framework for the use of energy from renewable sources in order to limit greenhouse gas emissions and sets a target for the UK to achieve 15% of its energy consumption from renewable sources by 2020. The Directive takes into account energy from biomass (which includes energy from the biodegradable fraction of industrial and municipal waste).	Material Assets
End of Life Vehicles (ELV) Directive (2000/53/EC)	10, 11, 12, 13	The Directive aims at making dismantling and recycling of ELVs (which account for approximately 8 – 9 million tonnes of waste in the EU) more environmentally friendly. It sets clear quantified targets for reuse, recycling and recovery of the ELVs and their components. It also pushes producers to manufacture new vehicles without hazardous substances (in particular lead, mercury, cadmium and hexavalent chromium), thus promoting the reuse, recyclability and recovery of waste vehicles	Material Assets
National			
Government Review of Waste Policy in England 2011		This Government review sets out 13 commitments to progress towards a zero waste economy. It prioritises efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste.	

		As part of a more sustainable approach to the use of materials, delivering environmental benefits and supporting economic growth, the review aims to: • Prioritise efforts to manage waste in line with the waste hierarchy and reduce the carbon impact of waste; • Develop a range of measures to encourage waste prevention and reuse, supporting greater resource efficiency; • Develop voluntary approaches to cutting waste, increase recycling, and improve the overall quality of recycled material, working closely with business sectors and the waste and material resources industry; • Consult on the case for higher packaging recovery targets for some key materials; • Support energy from waste where appropriate, and for waste which cannot be recycled; • Work to overcome the barriers to increasing the energy from waste which Anaerobic Digestion provides, as set out in the new AD strategy; • Consult on restricting wood waste from landfill and review the case for restrictions on sending other materials to landfill. To improve the service to householders and businesses while delivering environmental benefits and supporting growth the review aims to: • Support initiatives which reward and recognise people who do the right thing to reduce, reuse and recycle their waste; • Work with councils to increase the frequency and quality of rubbish collections and make it easier to recycle; • Encourage councils to sign the new Recycling & Waste Services Commitment, setting out the principles they will follow in delivering local waste services; • Protect civil liberties by stopping councils from criminalising householders for trivial bin offences, while ensuring that stronger powers exist to tackle those responsible for flytipping and serious waste crime; • Support councils and the waste industry in improving the collection of waste from smaller businesses; • Reduce the burden of regulation and enforcement on legitimate business, but target those who persistently break the law.	

The Waste (England and Wales) Regulations 2011		The Waste Regulations transpose the revised WFD into national law and they seek to ensure that the waste hierarchy is implemented – prevention, preparing for reuse, recycling, other recovery and disposal.	
Waste (England and Wales) (Amendment) Regulations 2012		The amended regulations relate to the separate collection of waste. They amend the Waste (England and Wales) Regulations 2011 (above) by replacing regulation 13. From 1 January 2015, waste collection authorities must collect waste paper, metal, plastic and glass separately. The amendment also imposes a duty on waste collection authorities, from that date, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection.	
Environmental Protection Act 1990		The Environmental Protection Act provides the structure and authority for waste management and the control of emissions into the environment.	
The Natural choice – Securing the Value of the Nation (2011, Defra)		This document seeks to promote the valuing of the natural environment for the social and economic benefits it brings. Defra are seeking to mainstream the value of nature across our society by: • facilitating greater local action to protect and improve nature; • creating a green economy, in which economic growth and the health of our natural resources sustain each other, and markets, business and Government better reflect the value of nature; • strengthening the connections between people and nature to the benefit of both; and • showing leadership in the European Union and internationally, to protect and enhance natural assets globally.	
The Site Waste Management Plans Regulations (2008)	10, 11, 12, 13	This Regulations require any construction project in England costing over £300k (be it for new build, maintenance, alteration or installation/removal of services such as sewerage, water) will need a Site Waste Management Plan (SWMP). A SWMP sets out how building materials, and resulting waste, is to be managed during the project. The SWMP's purpose is to ensure that: building materials are managed efficiently; waste is disposed of legally; and that material recycling, reuse and recovery is maximised. It is the client's responsibility to ensure a SWMP is written, followed, and updated during the project. Although the plan needs to be written at the construction design stage, it is a	Material Assets

		requirement of the SWMP regulations to maintain it during the whole project. Therefore, the client (or principal contractor) is also responsible for updating the plan with the site day to day activity. There will be two types of SWMP depending on the cost of the project: 1. A project costing between £300 - £500k will follow a basic template 2. Anything over £500k will require a much greater level of detail.	
PPS10 Planning for Sustainable Waste Management ODPM (2011)	10, 11, 12, 13	Regional planning bodies and all planning authorities should, to the extent appropriate to their responsibilities, prepare and deliver planning strategies that (amongst other priorities) help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for.	Material Assets
Clean Neighborhoods and Environment Act (2005)		The Act provides local authorities, parish and community councils and the Environment Agency with more effective powers and tools to tackle poor environmental quality and anti-social behavior. In particular the Act includes sections on nuisance and abandoned vehicles, litter, graffiti, waste, noise and dogs. The section on waste covers fly tipping, and enables local authorities to issue fixed penalty notices if waste is left out on the street.	
Achieving a Better Quality of Life – Review of Progress Towards Sustainable Development DEFRA (2004)	8, 9	15 Headline Indicators of sustainable development. 147 Quality of Life Counts indicators. Headline Indicators not being met in crime – robbery, air quality, road traffic and volumes of household waste.	Population and Human Health
Delivering a Sustainable Transport System Department for Transport (2008)	8, 9	Support national economic competitiveness and growth, by delivering reliable and efficient transport networks; Reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of tackling climate change; Contribute to better safety, security and health and longer life-expectancy by reducing the risk of death, injury, or illness arising from transport and by promoting travel modes that are beneficial to health; Promote greater equality of opportunity for all citizens, with the desired outcome of achieving a fairer society; Improve quality of life for transport users and non-transport users, and to promote a healthy natural environment.	Population and Human Health

Low Carbon Transport – A Greener Future A Carbon Reduction Strategy for Transport Department for Transport (2009)	3, 8, 9	Supporting a shift to new technologies and fuels Promoting lower carbon transport choices Using market-based measures to encourage a shift to lower carbon transport	Air Quality, Population and Human Health
Delivering Sustainable Low Carbon Travel: An Essential Guide for Local Authorities Department for Transport (2009)	8, 9	Creating positive choices for travellers; A holistic package of measures, which 'lock-in' the benefits; and Local application tailored to local circumstances.	Population and Human Health
Saving Lives: Our Healthier Nation White Paper (DoH 1999)	8, 9	Promotion of health and the prevention of ill-health. Four priority areas – Cancer, Coronary Heart Disease and Stroke, Accidents and Mental Health. Address the underlying causes of ill-health, such as poverty, wordlessness, poor educational achievement, poor housing.	Population and Human Health
Culture at the Heart of Regeneration DCMS (2004)	8, 9	3 priority areas: Building partnerships across government, the private and voluntary sectors and culture and regeneration practitioners. Supporting delivery by spreading good practice and measuring outcomes. Strengthening evidence to find coherent and robust methods for measuring impacts.	Population and Human Health
Government Urban White Paper: Our Towns and Cities: the Future – Delivering an Urban Renaissance. DETR (2000)	8, 9	People shaping the future of their community, supported by strong and truly representative local leaders; People living in attractive, well-kept towns and cities which use space and buildings well; Good design and planning which makes it practical to live in a more environmentally sustainable way; Towns and cities able to create and share prosperity; Good quality services – health, education, housing, transport, finance, shopping, leisure and protection from crime.	Population and Human Health

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland DETR (2000)	3, 8, 9	Government's and the devolved administrations' ultimate objective is to "render polluting emissions harmless". A number of set objectives for protecting human health to be included in regulations for the purposes of Local Air Quality Management relating to concentrations of, amongst others, carbon monoxide, lead, nitrogen dioxide, ozone and particulates.	Air Quality, Population and Human Health
Our energy future – creating a low carbon economy. Energy White Paper DTI (2003)	1, 2, 8, 9	To put ourselves on a path to cut the UK's carbon dioxide emissions (60% by 2050) – the main contributor to global warming; To promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and improve our productivity; Stimulate new, more efficient sources of power generation; Cut emissions from the transport sector; Measures for promoting a shift to low-carbon vehicles and fuels are brought together in our 'Powering Future' Vehicles1 strategy, published in July 2002. That strategy is complementary to this white paper: Providing cleaner and better transport, set targets that within the next decade one in ten new cars sold in the UK will be low-carbon vehicles with emissions of 100 grammes per kilometre (g/km) CO2 or less, and that one in five new buses will also be low-carbon.	Climatic Factors, Population and Human Health
UK Climate Change Programme DETR (2000)	1, 2	Key priority of the programme is to ensure that the UK meets its legally binding target under the Kyoto Protocol to reduce its greenhouse gas emissions to 12.5% below 1990 level by 2008-2012. Programme also designed to move towards the domestic goal of a 20% reduction in carbon dioxide emissions below 1990 levels by 2010.	Climatic Factors
Planning (Listed Buildings and Conservation Areas) Act 1990	14	Sets out the legal requirements for the control of development and alterations that affect buildings, including those that are Listed or in Conservation Areas, and the framework by which control is maintained. Conservation of the built heritage. Protection of listed buildings and conservation areas.	Cultural Heritage
The Conservation Areas Direction 2015	14	The Direction came into force on 15 April 2015 and sets out requirement for handling heritage related applications	Cultural Heritage

Ancient Monuments and Archaeological Areas Act 1979	14	Provides for nationally important archaeological sites to be statutorily protected as Scheduled Monuments.	Cultural Heritage
The Governments Statement on the Historic Environment for England (2010)	14	The value of the historic environment is recognised by all who have the power to shape it; that Government gives it proper recognition and that it is managed intelligently and in a way that fully realises its contribution to the economic, social and cultural life of the nation.	Cultural Heritage
The National Trust Playing Our Part – what does the nation need from the National Trust in the 21st Century?	14	This strategy is focused on three areas as follows: Play our part in restoring a healthy, beautiful, natural environrnent; Offer experiences that move, teach and inspire; and Help look after the places where people live.	Cultural Heritage
The Historic Environment: A Force for Our Future DCMS/DLTR (2001)	14	The historic environment is protected and sustained for the benefit of our own and future generations.	Cultural Heritage
The National Trust Our Future – join in Our strategy to 2010 and beyond	14	This strategy is focused on four issues - cultural heritage, our natural world, climate change and local food. It also identifies plans to tackle each issue. The Trust by means of the following statements pledges to address the identified issues: We will enjoy the uniqueness, beauty and shared sense of pride and belonging that these wonderful places give us. We will involve our visitors more closely with our conservation work. We will partner organisations to foster and encourage our wildlife- both flora and fauna.	Cultural Heritage
Environmental Quality in Spatial Planning. English	14	Planning authorities should consider more ambitious initiatives for the conservation, enhancement and better management of the environment and rural areas.	Cultural Heritage

Heritage et al (2005)			
UK Sustainable Development Strategy (2005)	All	The revised objectives are: Living within environmental limits, Ensuring a strong, healthy and just society, Achieving a sustainable economy, Promoting good governance, Using sound science responsibly.	General
Sustainable Communities Plan ODPM (2003)	All	The following are identified as key components of a sustainable community: • A flourishing local economy to provide jobs and wealth; • Strong leadership to respond positively to change; • Effective engagement and participation by local people, groups and businesses, especially in the planning, design and long term stewardship of their community, and an active voluntary and community sector; • Sufficient size, scale and density, and the right layout to support basic amenities in the neighbourhood and minimise use of resources (including land); • Good public transport and other transport infrastructure both within the community and linking it to urban, rural and regional centres; • Buildings - both individually and collectively - that can meet different needs over time, and that minimise the use of resources; • A well-integrated mix of decent homes of different types and tenures to support a range of household sizes, ages and incomes; • Good quality local public services, including education and training opportunities, health care and community facilities, especially for leisure; • A diverse, vibrant and creative local culture, encouraging pride in the community and cohesion within it; • A "sense of place"; • The right links with the wider regional, national and international community.	General
Planning and Compulsory Purchase Act (2004)	All	This Act substantially reforming the town planning and compulsory purchase framework in the United Kingdom. It both amended and repealed significant parts of the existing planning and compulsory purchase legislation in force at the time, including the Town and Country Planning Act 1990, and introduced reforms such as the abolition of Local Plans and Structure Plans, and their replacement with Local Development Frameworks. It also sets out provision during the transition period.	General

Securing the Future - UK Sustainable Development Strategy (2005)	All	The revised objectives are: Living within environmental limits, Ensuring a strong, healthy and just society, Achieving a sustainable economy, Promoting good governance, Using sound science responsibly.	General
The Town and Country Planning (Local Planning) (England) Regulations 2012	All	The Regulations (a) consolidate the existing Town and Country Planning (Local Development) (England) Regulations 2004 and the amendments made to them; and (b) make new provision and amendments to take account of the changes made by the Localism Act 2011. The 2004 Regulations sets out the specific Local Development Documents which Local Planning Authorities in England are required to prepare and how that should be done. The 2008 Regulations amendment has an effect on local development schemes to specify that an adopted proposals map will be amended when a development plan document is approved.	General
National Planning Policy Framework (2012)	All	The NPPF sets out the Coalition Government's agenda for development and places a presumption in favour of development, which is sustainable.	General, Population and Human Health, Economic, Climate, Cultural Heritage, Water and Environment
National Planning Policy for Waste (2014)	10, 11, 12, 13	This document sets out detailed waste planning policies. It should be read in conjunction with the National Planning Policy Framework, the Waste Management Plan for England and National Policy Statements for Waste Water and Hazardous Waste, or any successor documents. All local planning authorities should have regard to its policies when discharging their responsibilities to the extent that they are appropriate to waste management.	Material Assets
Natural Environment and Rural Communities Act (2006)	All	An Act to make provision about bodies concerned with the natural environment and rural communities; to make provision in connection with wildlife, sites of special scientific interest, National Parks and the Broads; to amend the law relating to rights of way; to make provision as to the Inland Waterways Amenity Advisory Council; to provide for flexible administrative	General

		arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes.	
Environment Agency: Creating a better place (2016)	All	The Environment Agency Objectives for 2016 to 2020 include: A cleaner, healthier environment which benefits people and the economy; A nation better protected against natural threats and hazards, with strong response and recovery capabilities; and Higher visibility, stronger partnerships and local choices.	General
The Health and Social Care Act (2012)	8, 9	The Health and Social Care Act introduces specific legal duties on health inequalities for the Secretary of State for Health, NHS England, clinical commissioning groups and Monitor.	Population and Human Health
Ozone-Depleting Substances Regulation (2015)	1, 2	Replaces and consolidates the Ozone-Depleting Substances (Qualifications) Regulations 2009 and the Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011. The consolidated regulations concern the production import, export and placing on the market of ozone-depleting substances, statutory testing of units containing these substances and minimum qualifications for the testing, recovery, recycling, reclamation or destruction of ozone-depleting substances.	Climatic Factors
Landfill Tax (amendment) Regulation 2017		Simplifies the landfill tax system which was introduced to discourage the disposal of waste to landfill, providing greater clarity and certainty to landfill operators and put beyond doubt when there is a charge to Landfill Tax on material deposited at a landfill site.	
Waste Strategy for England (2007)	10, 11, 12, 13	Fosters a shift to sustainable waste management and aims to reduce waste by making products with fewer natural resources and thereby severing the link between economic growth and waste growth.	Material Assets
Safeguarding our Soils – A Strategy for England	10, 11, 12, 13	The strategy sets out the vision for all England's soils to be managed sustainably and degradation threats tackled successfully by 2030.	Material Assets
The UK Geodiversity Action Plan (UKGAP)	10, 11, 12, 13	The UKGAP aims to raise the profile and importance of geodiversity and supports its advocacy across the UK.	Material Assets
Geodiversity Charter for England	10, 11, 12, 13	The Charter aims to increase understanding of the importance of geodiversity and the influence it has on people's daily lives and in shaping the natural and built environment.	Material Assets

The Climate Change Act (2008)	1, 2	The Climate Change Act commits the UK government to reducing greenhouse gas emissions by at least 80% of 1990 levels by 2050. This includes reducing emissions from the devolved administrations (Scotland, Wales and Northern Ireland), which currently account for about 20% of the UK's emissions.	Climatic Factors
National Flood Risk and Coastal Erosion (FCERM) Strategy		This strategy sets out a national framework for managing the risk of flooding and coastal erosion. It will help risk management authorities and communities understand their different roles and responsibilities and will be particularly relevant to Lead Local Flood Authorities (LLFAs) which have new responsibilities under the Flood and Water Management Act (2010)	Water
Historic England Grant Scheme	14	The grant scheme is offered by Historic England to : • People who own or manage individual historic sites and need to repair them or understand them better • Local authorities, for sites and buildings in their area • Organisations who want to encourage better understanding, management and conservation of the historic environment in its many and varied forms.	Cultural Heritage
Local			
The Lincolnshire Minerals and Waste Local Plan – Core Strategy and Development Management Policies (Adopted June 2016)		Provides the vision, objectives, spatial strategy and development management policies for minerals and waste development in Lincolnshire over the period to the end of 2031. The strategic objectives of the Minerals and Waste Core Strategy are as follows: • Protect the environment and local communities from negative impacts of minerals and waste development, reduce residual impacts and deliver improvements where possible. Ensure new facilities include high standards of design and layout, sustainable construction methods, good working practices and environmental protection measures; • Ensure that the minerals extracted in Lincolnshire supplies industry in line with national and regional guidance and contributes to local and national requirements; • Seek to ensure that minerals are supplied from appropriately located and environmentally acceptable sources; • Through prioritising movement of waste up the waste hierarchy, minimise greenhouse gas emissions by reducing the reliance on landfill; maximise opportunities for the re-use and recycling of waste; facilitate new technologies to maximise the renewable energy potential of waste as a resource; and promote the use of carbon capture technology;	

		• Deliver adequate capacity for managing waste more sustainably when it is needed; to ensure waste is managed as near as possible to where it is produced, including the need for waste water infrastructure; • Safeguard key mineral resources from sterilisation by other forms of development; • Provide for a steady and adequate supply of minerals and ensure efficient use of primary minerals and encourage the production and use of good quality secondary and recycled aggregates; • Protect Lincolnshire's high quality agricultural land (Grades 1, 2 and 3a) and soil where practicable from development; and in cases where it is affected, safeguard its long term potential by encouraging restoration back to agriculture, or protection of soils through restoration schemes to biodiversity where soils are cared for in a sustainable manner, enabling habitat creation in addition to soil preservation for future agricultural needs; • Consider the restoration of mineral sites at the beginning of the proposal; after-uses will be identified which best meet local circumstances. The enhancement of existing and the creation of new priority habitats, in line with National Guidance, the Lincolnshire Biodiversity Action Plan, Lincolnshire Geodiversity Action Plan; the national strategy Biodiversity 2020 and green infrastructure will be key objectives; • Ensure the unique historical heritage of Lincolnshire, including its built, archaeological and natural landscape features and their wider settings are protected from the adverse impacts of mineral and waste developments; • Ensure that local sources of building stone are available to contribute towards the maintenance and enhancement of locally distinctive buildings. Stone for Lincoln Cathedral will be specifically protected; • Protect Lincolnshire's coastal and fluvial high flood risk areas from inappropriate minerals and waste development and reduce flood risk through development opportunities wherever possible; • Protect and enhance the Lincolnshire Wolds AONB, coastline and other nature conservation areas ranging from International (Natura 2000 sites) through to local designations; • Sustainable alternative modes of transport will be given priority and vehicular-tonne movements will be minimised wherever practicable.	
Providing for Lincolnshire's Future – A	All	The County Council has identified six ambitions that will drive its objectives and policy over the next few years. These are: • Create economic prosperity	General

Sustainability Framework incorporating Environmental Stewardship Strategy March 2005		• Enrich the quality of life • Provide the opportunity for people to achieve their full potential • Improve community engagement • Improve the transport infrastructure throughout the county • Provide community focused, cost effective services	
4th Lincolnshire Local Transport Plan 2013/14 – 2022/23	1, 2, 8, 9, 10, 11, 12, 13	The aims of the LTP4 are as follows: • to assist the sustainable economic growth of Lincolnshire, and the wider region, through improvements to the transport network • to improve access to employment and key services by widening travel choices, especially for those without access to a car • to make travel for all modes safer and, in particular, reduce the number and severity of road casualties • to maintain the transport system to standards which allow safe and efficient movement of people and goods • to protect and enhance the built and natural environment of the county by reducing the adverse impacts of traffic, including HGVs • to improve the quality of public spaces for residents, workers and visitors by creating a safe, attractive and accessible environment • to improve the quality of life and health of residents and visitors by encouraging active travel and tackling air quality and noise problems • to minimise carbon emissions from transport across the county	Climatic Factors, Population and Human Health, Material Assets
Lincolnshire Geodiversity Action Plan (2010)	10, 11, 12, 13	The aim of the action plan is to enhance understanding and action to conserve and develop the geodiversity of Lincolnshire, whilst promoting and managing its sustainable use. The plan objectives include: • To develop and maintain an audit of the geodiversity resource in Lincolnshire; • To conserve and develop the geodiversity of Lincolnshire; • To have geodiversity included in relevant plans and policies of all local and regional authorities and relevant organisations by 2015; • To raise awareness of geodiversity among local authorities, professional partners, landowners and managers, across all levels of education and the general public; • To create a positive feedback system enabling effective reporting, monitoring and review of the LGAP to partners and other interested parties; and	Material Assets

		• To create a sustaining LGAP that will actively pursue funding to enable it to achieve its aim.	
Central Lincolnshire Gypsy and Traveller Accommodation Needs Assessment (2013)	8, 9	This study assesses the amount and quality of accommodation provision for Gypsies and Travellers. Provides an estimate of future pitch need over a 20 year period (2013-2033). Identifies a requirement for 72 residential pitches, four emergency stopping places and one travelling show-people yard.	Population and Human Health
South Kesteven District Council Gypsy and Traveller Accommodation Needs Assessment (amended August, 2007)	8, 9	This study assesses the amount and quality of accommodation provision for Gypsies and Travellers. Provides a recommendation to increase the capacity of authorised transit sites by five pitches and review site capacity on all Council sites every three to five years.	Population and Human Health
East Lindsey District Council Gypsy and Traveller Accommodation Needs Assessment (2012)	8, 9	This study assesses the amount and quality of accommodation provision for Gypsies and Travellers. The study also demonstrates that if the privately owned site with planning permission for 11 pitches at Brackenfreya Woods, Brackenborough Road, Louth, is developed within five years, no additional permanent pitches would be required for residential occupation during the plan period. However If development of the site at Brackenfreya Woods is not secured then 2 further sites for renting, one of a size suited to extended family occupation for 4 pitches and an additional 2 pitch site will need to be provided within the 5 year period. Suggested locations for these sites are in the vicinity of Louth in the Toynton/Spilsby area and also Frithville or Stickford and West Keale for the New Travellers. It also recommends that an additionally single pitch site for owner occupation will also be required if planning permission is not granted for the existing unauthorised site.	Population and Human Health
Central Lincolnshire Core Strategy Publication	All	The City of Lincoln, North Kesteven District and West Lindsey District in partnership with Lincolnshire County Council, have joined together to prepare a Core Strategy for their area which is collectively known as Central Lincolnshire. The five key themes of the Core Strategy are as follows: • Sustainable Development	General, Population and Human Health, Economic,

Version, 2013 (draft)		• Tackling Climate Change, A Low Carbon Future • Growing Central Lincolnshire • Flourishing communities and places • A quality environment	Transport, Air, Water
Lincolnshire County Council Natural Environment Strategy 2012 – 2018	All	The Natural Environment Strategy forms part of the Council's overarching Environmental Management Strategy and establishes a set of priorities to provide Council services, local communities and businesses and partner organisations with guidance on the approach the Council will take in working with the natural environment. LCC is aiming to achieve the following: • Lincolnshire's countryside, coastline and towns are much richer in biodiversity by 2018 • The natural environment is better understood and is valued by residents, visitors and businesses for its intrinsic value and for its contribution to the local and regional economy and the health and amenity of local communities • Effective promotion of Lincolnshire's natural environment, increases the county's profile as a tourist destination, contributing to increasing visitor numbers and the amount of time they spend within the area • The natural environment of Lincolnshire is more resilient to climate change, the impacts of which are better understood • The Council's approach to the natural environment is integrated across its different service areas and with that of its partners and local communities, making the most of existing resources and exploring to the full opportunities for attracting additional external resources and greater joint working between partner organisations. • Planning policy balances promotion of sustainable growth and economic regeneration with the protection and enhancement of the natural environment. This will be achieved by liaison with Local Planning Authorities and through the Council's Minerals and Waste and Local Transport Planning Policy functions	General
Lincolnshire's Countryside Access and Rights of Way Improvement Plan 2007-2012	14	This is a five year strategic report which sets out how Lincolnshire County Council intends to improve the management, provision and promotion of public rights of way in Lincolnshire. Our Vision for the Rights of Way Improvement Plan in Lincolnshire is:-"To have an integrated network of rights of way that is relevant for today's needs, bringing added benefits to residents and visitors by supporting wider interests including sustainable transport, rural economy and tourism, health benefits and quality of life issues".	Cultural Heritage

The Lincolnshire Historic Landscape Characterisation	14	A Historic Landscape Characterisation project has been undertaken in Lincolnshire; this helps people to interpret the modern environment with reference to how it has developed and what is historically important about particular landscapes. The project identified 42 Historic Character Zones within 10 broad Historic Landscape Types	Cultural Heritage
Lincolnshire Sustainable Community Strategy 2009-2030 and Refresh March 2010	8, 9	Represents a shared evidence base and vision for Lincolnshire, which is promoted by the Lincolnshire Assembly which consists of a range of local bodies such as Age Concern, local councils and development agencies. The strategy tackles issues that are important to Lincolnshire, including connections between communities, climate change flooding and road safety.	Population and Human Health
South Kesteven District Council Consultative Draft Local Plan (2011-2036)	All	The Local Plan will set out the strategy for delivering sustainable development including the vision, objectives and spatial strategy. It will also establish development requirements including the amount of housing and employment land needed, and allocate specific development sites to meet need. The consultative draft Local Plan contains policies on the following: • Sustainable Development • The Spatial Strategy and Settlement Hierarchy • Economic Prosperity • Meeting Housing Needs • Protecting and Enhancing the Natural and Built Environment • Renewable Energy Generation	General
South Kesteven District Council Core Strategy 2010	All	"A successful rural district supported by excellent social and transport infrastructure. Grantham will have developed as a key economic centre not only in Lincolnshire but also sub regionally. Stamford, Bourne and The Deepings will have equally developed their distinctive market town roles. Rural communities will have remained viable by achieving development that supports their needs. All of this will have been achieved in ways which ensures a good quality of life, health and well-being for everyone as well as celebrating the distinctiveness of the districts countryside and heritage." This will be achieved by: • Creating the right balance of jobs, housing and infrastructure; • Ensuring that development is sustainable in terms of location, use and form;	General, Population and Human Health, Economic, Transport, Air, Water

		• Balancing the development needs of the District with the protection and enhancement of the • natural and built environment; • Addressing and mitigating any negative effects of development on the built and natural environment. Working with partners and residents to develop a place where people really matter. This vision seeks to reflect both the vision of the Local Strategic Partnership, as set out in the Community Plan for South Kesteven, and that of the Council's Corporate Plan.	
South Kesteven District Council Site Allocation and Policies DPD 2014	All	Sets out objectives around housing, employment/commercial, supporting rural communities and green infrastructure. Notably, the plan sets out to make provision for at least 5950 new homes (excluding Grantham) within the district up to 2026. Ensuring a rolling five year supply of housing development which varies in terms of sites, size, type and tenure and affordability.	General, Population and Human Health, Economic, Transport, Air, Water
The Boston Borough Local Plan (April 1999)	All	The saved policies of the Boston Borough Local Plan has the following four principal functions: • to translate the strategic policies and proposals of the Structure Plan, into a more specific form and to relate them directly to areas of land in the Borough: • to provide a detailed basis for development control decisions; • to provide certainty and a basis for co-ordinating public and private investment in the development and use of land; • to bring issues concerning the use of land before the public and to involve them in the plan-making process.	General, Population and Human Health, Economic, Transport, Air, Water
Boston Borough Council Environmental Policy (March 2010)	All	The Council aims to improve the environmental quality of the borough by adhering to certain commitments: • Reduce greenhouse gas emissions (principally carbon emissions) and manage climate risks and opportunities to combat climate change. It will seek to minimise energy use in every area of its work including transport, heating and lighting. It will continue to improve energy efficiency in all its buildings and to use and promote renewable energy; • Minimise water consumption in all its buildings and on its land. It will seek to implement measures to reduce pollution entering water and to recycle water whenever possible;	General, Population and Human Health, Economic, Water, Air, Water

		• Promote sound waste management practices by minimising its own waste production through reducing materials consumed, re-using and recycling materials wherever possible; • Purchase products and services which do the least damage to the environment wherever possible; • Work with others to protect, enhance and extend the diversity of the natural environment and landscape character while encouraging community awareness and participation; • Protect and enhance the built environment to safeguard historic buildings and ancient monuments and promote sustainable development that reflects the character of the area and reduces the area's carbon footprint; • Work with partners to promote a more sustainable transport system which integrates land use and all forms of travel to minimize environmental impact and reduces the need to travel, particularly by car; • Minimise and monitor air, water, noise and land pollution, accepting the principle that the polluter should pay; • Raise awareness and encourage participation in environmental issues throughout the whole community; • Work with businesses, partners and others in the local community to encourage good environmental practices.	
Boston Borough Council Carbon Management Plan (Update 2014-2016)	1, 2, 3	The Carbon Management Plan (CMP) Update provides a framework for future investment in carbon management projects to help reduce the council's carbon footprint and generate financial savings. The CMP Update also recommends the council to adopt a revised carbon reduction target of 28% by March 2016.	Climatic Factors, Air Quality
Lincoln's Sustainable Community Strategy 2008-2023 Vision Our City Our Future	8, 9,	Sets out the Local Strategic Partnership's vision for Lincoln in 2030: "A well run, creative city of sustainable neighbourhoods and ambitious people, which is internationally renowned for its culture, economy, and special character. Lincoln is a great place to live and work that unlocks the potential in all people and all places and provides an enviable quality of life". The strategy sets out 5 key issues that need to be addressed to realise the vision: 1. Our children and young people; 2. Our health; 3. Our economy; 4. Our environment;	Population and Human Health, Economic

		5. Our safety	
The City of Lincoln Local Plan (August 1998) saved policies	All	The City Council aims to: • improve the quality of the local environment and the physical, social and economic health of the local community; • protect and reinforce Lincoln's special identity as development, change and renewal take place; • manage change with care, working towards a more sustainable, energy efficient city which offers improved quality of life and expanding opportunities for present and future generations.	General, Population and Human Health, Economic, Transport, Air, Water
Lincoln Townscape Assessment	14	The city is divided up into a total of 108 distinct 'Character Areas', with each area representing a different 'place' in Lincoln. The LTA describes the inherited character of all parts of the City of Lincoln.	Cultural Heritage
City of Lincoln Council Vision 2020	All	The Vision 2020 sets out what the Council wants to achieve and how these are going to be achieved within a three-year timeframe and programme. The Vision includes four strategic priorities as follows: • Driving economic growth • Reducing inequality • Enhancing the environment • Delivering quality housing	General
City of Lincoln: A Climate Change Strategy (2005)	1, 2, 8, 91	The main objectives of the Climate Change Strategy for Lincoln are to: • Assess the contributory impact of the City of Lincoln on climate change through a study of past trends and future scenarios; • Identify how the climate in Lincoln has changed already and forecast change for the future; • Address how the City of Lincoln Council can make changes to reduce the authority's impact on climate change and opportunities to adapt services in response to changing climate.	Climatic Factors, Population and Human Health

Low Carbon Lincoln Plan 2012 – 2020 (Draft)	1, 2	The aim of Low Carbon Lincoln is to establish a Low Carbon Lincoln partnership (LCLP) working together to prepare a Low Carbon Lincoln plan to reduce Lincoln's carbon footprint. The LCLP aims to involve all sectors of the community in reducing carbon dioxide (CO_2) emissions in Lincoln; prepare the city for the impacts of climate change and support opportunities for the local economy and community that result from climate change.	Climatic Factors
North Kesteven District Council Sustainable Community Strategy 2008-2018	All	Represents the Local Strategic Partnership's vision for North Kesteven which sets out two main objectives to realise the vision: 1. Working in partnership to improve the quality of life, economic performance and environmental sustainability of North Kesteven; 2. Inspiring community participation in the delivery of public services and the achievement	General, Population and Human Health, Economic
Low Carbon North Kesteven Plan 2013-2020	1, 2	Low Carbon North Kesteven Aims – To reduce the levels of carbon emissions in the North Kesteven District. The plan aims to involve all sectors of the community in reducing carbon dioxide (CO2) emissions and prepare the District for the impacts of climate change and support opportunities for the local economy and community that result from climate change.	Climatic Factors
North Kesteven District Council Localism Plan March 2013	All	The aim of the Localism Plan is to outline North Kesteven District Councils approach to the new Localism Act 2011, ensuring that the Council has put in place provision to fulfill its statutory requirements and a structure that will encourage the active empowerment of local communities. • The council aims to equip communities with: • the appropriate skills, knowledge and confidence to deliver, sustain and develop local facilities and services; • the ability to cater for the changing demands on local communities due to population changes, growth agenda, welfare reform and the overall economic situation; and • To empower communities to take control of their areas and use innovative models to improve their neighbourhood.	General, Population and Human Health, Economic
The South Holland Local Plan (July 2006)	All	The saved policies of the South Holland Local Plan identify the Planning policies which will guide and control new development in the District until 2021, encouraging the economy to grow and allowing more housing to be built as part of a balanced strategy.	General, Population and Human Health, Economic, Transport, Air, Water

South East Lincolnshire Local Plan 2011 – 2036 (Publication Version March 2017)	All	The South East Lincolnshire Local Plan: Publication Version is currently under examination and once adopted, will become the new Local Plan and would help to shape the growth of Boston Borough and South Holland for the future. The Local Plan provides a revised suite of planning policies to help deliver growth in South East Lincolnshire to 2036, together with a set of proposed sites for housing, employment and shopping development and other areas identified for protection. The Local Plan also ensures that settlements grow in the right way, ensure there are enough homes and employment in the right places, at the right time, supported by the right infrastructure so that any new and existing communities are more sustainable. The Local Plan also safeguards and enhances the things that make South East Lincolnshire distinctive; its wealth of historic buildings, its attractive market towns and villages and large areas of open countryside.	General
West Lindsey District Council Sustainable Community Strategy 2006-2016	8, 9	Represents the Local Strategic Partnership's vision for West Lindsey: "The Vision is that West Lindsey is seen as a place where people want to live, work, invest and visit". Healthy Communities • Residents of West Lindsey Enjoy Good Physical and Mental Health, and Emotional Well-Being. West Lindsey Residents are informed about the ways in which they can improve and sustain their own Health and Well-Being. Safer, Stronger Communities • Empowered Communities, Engaged with Partner Agencies, Helping to shape Local Service Delivery. • To improve the quality of life by promoting a culture of partnership with the local community to improve the local environment and reduce the incidents of Environmental Crime. Residents Feel Safe. • West Lindsey Provides Affordable, Sustainable Housing Economic Development • A positive Economic Environment for West Lindsey: • Business and employment are diverse • New businesses are attracted to the area • Existing businesses are growing • Economic activity is strong	Population and Human Health, Economic

		• High number of residents are economically active • There is a diverse skills-mix among local residents • West Lindsey balances economic growth with principles of sustainability particularly environmental sustainability • West Lindsey is Accessible in the Broadest Sense	
West Lindsey District Council Corporate Plan (2016 – 2020)	All	The aim of the corporate plan is to meet the differing needs of the 129 communities that make up the district, whose needs, strengths and assets also vary greatly by becoming less-grant dependent, adopting an entrepreneurial and commercial model, making the best of innovation and technology and a community empowerment approach strengthened by strong and accountable leadership. The six main priority areas include: • Open for Business • People First • Asset Management • Partnership/Devolution • Central Lincolnshire Plan • Excellent Value for Money Services	General
Central Lincolnshire Local Plan (April, 2017)	All	Central Lincolnshire comprises the combined areas of the City of Lincoln, North Kesteven and West Lindsey. These three councils along with LCC have joined in a formal partnership to prepare a joint Local Plan for the area. However the responsibility for processing and decision making on planning applications remains with the individual local authorities. The objectives of the Central Lincolnshire Local Plan include: • Housing: To ensure that the housing stock meets the housing needs of the Central Lincolnshire area. • Employment: To create and improve access to high quality employment and training opportunities for everyone within the Central Lincolnshire area. • Local Economy: To encourage and support a competitive, diverse and stable economy and to protect and enhance Central Lincolnshire's hierarchy of centres to meet the needs of residents and visitors. • Transport and Accessibility: To make efficient use of the existing transport infrastructure, reduce the need to travel by car, improve accessibility to jobs and	General

		services for all and to ensure that all journeys are undertaken by the most sustainable travel modes (particularly public transport, walking and cycling). • Health: To reduce health inequalities, promote healthy lifestyles and maximise health and well-being. • Social Equality and Community: To stimulate regeneration that maximises benefits for the most deprived areas and communities in Central Lincolnshire. To also ensure equitable outcomes for all, particularly those most at risk of experiencing discrimination, poverty and social exclusion. • Biodiversity and Green Infrastructure: To conserve and enhance biodiversity across Central Lincolnshire and provide opportunities for people to access and appreciate wildlife and the natural environment. To create and improve high quality green and blue spaces that are multifunctional, (including opportunities for sport, recreation and play), accessible to all and which form part of and are connected to the green infrastructure network. • Landscape and Townscape: To protect and enhance the rich diversity of the character and appearance of Central Lincolnshire's landscape and townscape, maintaining and strengthening local distinctiveness and sense of place. • Built and Historic Environment: To protect and enhance the significance of the buildings, sites and features of archaeological, historic or architectural and artistic interest and their settings, and ensure new buildings, spaces and places are designed to a high quality. • Natural Resources – Water: To protect and enhance water resources and their quality in Central Lincolnshire. • Pollution: To minimise pollution (air, noise and light) and improve air quality. • Natural Resources – Land Use and Soils: To protect and enhance soil and land resources and quality in Central Lincolnshire. • Waste: To minimise the amount of waste generated across all sectors and increase the re-use, recycling and recovery rates of waste materials. • Climate Change Effects and Energy: To minimise the effects of climate change by developing the area's renewable energy resources, reducing dependency on fossil fuels, minimise energy usage, and to reduce greenhouse gas emissions from the area. • Climate Change Adaptation and Flood Risk: To ensure Central Lincolnshire adapts to the effects of climate change, both now and in the future through careful planning	

		and design of development, including reducing and managing the risk of flooding from all sources.	
East Lindsey Core Strategy – Submissions Modifications Draft (2016 - 2031)	All	The Core Strategy will guide growth and development in East Lindsey up to 2031. It will concentrate on a number of issues within the district over this time: Communities; Housing; Transport; Economy; Environment, Landscape and biodiversity; and Climate Change. The Core Strategy also aims to match its vision with the Council's Corporate Strategy, so that, through shared action, their common priorities can effectively be tackled in order to achieve the delivery of sustainable development.	General, Population and Human Health, Air Quality.
The Environment Agency's River Basin Management Plan for the River Witham	7	This Plan sets out a framework for protecting and enhancing the benefits of the water environment: • It sets out statutory objectives for the quality of water bodies in chemical ecological and quantitative terms • It sets out the current baseline quality against which water quality must be managed and against which it cannot be allowed to deteriorate • It sets out objectives for protected areas including those for drinking water, bathing, commercial shellfish harvesting and those that sustain the most precious wildlife species and habitats. • It fulfils the requirements of the Water Framework Directive	Water Environment
Joint Lincolnshire Flood Risk and Drainage Management Strategy	7	The purpose of the Strategy is to increase the safety of people across Lincolnshire by reducing the number of people at risk of flooding, increasing the resilience of local communities and reducing the impact of flooding.	Water Environment
Townscape Heritage Scheme-Boston Borough Council	14	The purpose of this scheme is to invest in the historic built environment in Boston and aim to increase visitor numbers and economic regeneration through that investment. The scheme started in Boston in 2012 and has so far contributed to 8 completed projects.	Cultural Heritage

Appendix C

SCOPING CONSULTATION

RESPONSES

Consultee	Response	WSP Response
Natural England	Natural England stated that the SEA does not pose any likely risk or opportunity in relation to their statutory purpose and did not wish to comment on this consultation.	Noted
Environmental Agency	Request to add reference to the EA's River Basin Management Plan for the River Witham in Appendix A of the JMWMS SEA Scoping Report.	Addressed
Historic England	Request that the text following Section 3.1 referring to 'English Heritage' and other references to EH within the document, should be revised to read 'Historic England'.	Addressed
	Agree that Cultural Heritage is confirmed as being an item for inclusion in the scope of the SEA in Table 5.1	Noted
	Have noted and welcome the Key Environmental Consideration for Cultural Heritage, including enhancement/further protection in Table 6.1. Also request reference to Scheduled Ancient Monuments should be revised to read 'Scheduled Monument (SM's)' in line with current terminology in Table 6.1.	Addressed
	Noted in Table 7.1- SEA Objective 14, second point has an omission as no 'responsible authority' is listed.	Addressed
	Noted within Appendix A pg. 34 the NPPF reference does not include Cultural Heritage in the list of relevant SEA topics and it is recommended this is included for completeness.	Addressed
	Noted within Section 10.10 the second paragraph of the Lincolnshire's Heritage Assets part refers to Scheduled Ancient Monuments - it is recommended this is revised to read 'Scheduled Monument (SM's)' in line with current terminology.	Addressed
	Noted in Table 10.21 the text refers to Scheduled Ancient Monuments - it is recommended this is revised to read 'Scheduled Monument (SM's)' in line with current terminology.	Addressed

	Noted in Appendix C Table 11.1 that it is not clear why the Cultural Heritage related section is headed 'Built and Historic Environment' - you may wish to amend this to correlate with the Cultural Heritage heading used throughout the rest of the scoping report.	Addressed
	Not all Cultural Heritage related PPP set out earlier in the report are included in the associated list and this should be updated for the avoidance of doubt.	Noted.
LCC- Historic Environment	Noted that the document generally downplays the scoping of the historic environment/ cultural heritage	Noted
	Noted that the main focus in the early part of the document seems to be the potential impact on historic places of wheelie bins in conservation areas. However, there are others ways in which cultural heritage can be a receptor of harm. Air-borne pollutants can be harmful to building materials and therefore threaten the survival of our historic buildings and monuments. Water-borne pollutants. If allowed to enter the groundwater, can harm buried archaeological features and sites. Noise can also have a harmful impact upon the experience of heritage assets so setting is an important consideration.	Noted
	Advise to include 'Our Lincolnshire, Our Past' the LCC Historic Environment Strategy, 2017-22. in Section 4	It does not appear that this document has been published.
	Advised to scope in the following key issues for the cultural heritage in Section 10.10: 1, Archaeological sites recorded on the HER 2, Buildings/Sites on local lists held by the district councils 3, Assets on national registers, particularly Historic Parks and gardens and Battlefields. 4, Assets of marine and maritime heritage (which have separate legislation)	Noted
LCC- Strategic Partnership Manager	Suggested to add the commissioning strategies that are currently being updated across the council and the Joint Lincolnshire Flood Risk and Drainage Management Strategy in Appendix A - Local Section	Addressed
	Suggested to add the National Flood Risk and Coastal Erosion (FCERM) Strategy in Appendix A- National Section	Addressed

	Noted that statement in reference to the East Lindsey Coast on pg. 14 is correct over geological epochs of time but not correct currently as existing policy states that the coastline is not changing.	Addressed
North Kesteven	Suggest 'Minimising contamination' would benefit from being better defined to assist consultees in Section 2.2 pg. 5	Noted
	In Table 5-1 pg 9 Suggest Air quality should Include the point source impact of Energy from Waste (EfW) facility (and any additional/expanded EfW).	Noted
	In Table 5-1 pg 9 Query that there may be impacts on Biodiversity, Flora and Fauna from emissions from EfW facility(s) Are there sensitive receptors in the vicinity of the current EfW? (Swanholme Lakes)	Noted
	Advise In Table 5-1 pg. 9 regarding Geology and Soils to Consider the impact of disposal of ash from the EfW facility(s). (End use of the ash under the Waste Framework Directive).	Noted
	Advise In Table 6.1 pg. 12 regarding Climatic factors to include consideration of use of waste heat from the EfW.	Noted
	Advise in Table 6-1 pg. 12 regarding Air quality to consider the impact for the EfW facility(s).	Noted
	Advise in Table 7-1 pg. 16 regarding Climatic Factors - The amount of fuel used is only part of the carbon impact of waste services. There should be an attempt to derive a holistic carbon impact assessment from waste activities to include impacts through moving materials up the waste hierarchy.	Noted
	Advice in Table 7-1 pg.16 regarding Air quality to consider the need to meet Industrial Emissions Directive Emission Limit Values.	Noted
	Suggest that in Table 7-1 pg.16 regarding Noise that it may not be a meaningful measure of the noise impact of waste services.	Noted

	Advise in Table 7-1 pg.16 regarding Geology and Soils to Consider EfW facility(s) ash disposal use as a sub-base for construction material.	Noted
	Query that in Table 7-1 pg.16 regarding water if there an impact of waste services on flood risk	
	Suggest to include reference to the opportunity to use the waste heat from the EfW and an indication of its impact on reducing carbon emissions in Section 10.1 pg. 53	Addressed
	Have noted dates referred to in Section 10.9 pg.71 are from 2010. Query if there is more recent data that can be referenced.	Noted
	Request to include more about the impact of housing growth on waste disposal capacity and infrastructure provision and on collection capacity and methodologies in Table 10-20 pg. 73	Noted

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