



*Suffolk Minerals & Waste Local Plan
Submission Draft
Sustainability Appraisal*

**JUNE
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Contents

Non-Technical Summary	17
Introduction	17
Impacts of the Plan by Sustainability Objective / Theme	18
1. Introduction	24
1.1 Background	24
1.2 The Minerals & Waste Local Plan: Submission Draft (2018)	24
1.3 Sustainability Appraisal / Strategic Environmental Assessment	25
1.4 Background	26
1.5 Scoping Report (Stage A) 2016	28
1.6 Issues and Options (Stage B) 2016	28
1.7 The Preferred Options (Stage B) 2017	28
1.8 The Aim and Structure of this Report (Stages B & C)	28
2. Sustainability Context, Baseline and Objectives	30
2.1 Introduction	30
2.2 Plans and Programmes (Stage A1)	30
2.3 Baseline Information (Stage A2)	35
2.4 Key Sustainability Issues and Problems and Sustainability Objectives (Stage A3)	48
3. The Sustainability Frameworks	56
3.1 The Sustainability Framework – Policy Content	56
3.2 The Sustainability Framework – Site Appraisals	67
3.3 Potential Conflicts between the SA Objectives	75
4. The Plan's Vision, Aims and Objectives	77
4.1 Vision, Aims and Objectives	77
5. General Policies	82
5.1 General Policies	82
6. Minerals Policies	93
6.1 Minerals Policies	93
7. Waste Policies	115
7.1 Waste Policies	115
8. Cumulative and Synergistic Impacts of the Minerals & Waste Policies	157
8.1 Introduction	157



8.2	Cumulative and Synergistic Impacts of the Plan's Policies	157
9.	Allocation Policies	160
9.1	Introduction	160
9.2	The Local Plan's Proposed Mineral Sites	161
9.3	The Local Plan's Proposed Waste Sites	184
10.	Appraisal of Site Allocations and Reasonable Alternatives	187
10.1	Site Allocations	187
10.2	Detailed Appraisal of the Plan's Site Allocations	192
10.3	The Appraisal of Reasonable Alternatives: Non-Allocated Sites Submitted for Consideration	235
11.	Cumulative Impacts of the Local Plan Allocations	277
11.1	Introduction	277
11.2	The Preferred Site Allocations	277
11.3	The Cumulative and Synergistic Impacts of the Plan's Allocations	278
12.	Conclusions and Recommendations	293
12.1	Introduction	293
12.2	Impacts per Sustainability Objective / Theme	293
12.3	Recommendations made at this Regulation 19 stage	299
13.	Next Steps	301
13.1	Consultation on the Regulation 19 Local Plan and Sustainability Appraisal Environmental Report	301
13.2	Submission of the Local Plan and Relevant Core Documents and Examination in Public	301
13.3	Post-Adoption Statement	301
14.	Monitoring	303
Appendix I		304
	Plan Policies and Alternatives and Reasons for Selection / Rejection	304
Appendix II		320
	Summary of Effects of Site Options and Reasons for Selection / Rejection	320
Appendix III		327
	Consultation Comments at the Preferred Options (Regulation 18) Stage	327
Appendix IV		332
	Quality Assurance Checklist	332
Appendix V		338
	Recommendations taken forward throughout the Sustainability Appraisal process	338



List of Tables

Table 1:	Key Documents.....	30
Table 2:	Key Sustainability Issues and Problems.....	48
Table 3:	The SA Sustainability Framework	56
Table 4:	The Sustainability Framework for the assessment of site options	68
Table 5:	Impact on Sustainability Objectives: The Vision	77
Table 6:	Impact on Sustainability Objectives: Aims and Objectives	80
Table 7:	Impact on Sustainability Objectives: Policy GP1	83
Table 8:	Impact on Sustainability Objectives: Policy GP2	85
Table 9:	Impact on Sustainability Objectives: Policy GP3	87
Table 10:	Impact on Sustainability Objectives: Policy GP4	91
Table 11:	Impact on Sustainability Objectives: Policy MP1	94
Table 12:	Impact on Sustainability Objectives: Policy MP3	97
Table 13:	Impact on Sustainability Objectives: Policy MP4	99
Table 14:	Impact on Sustainability Objectives: Policy MP5	101
Table 15:	Impact on Sustainability Objectives: Policy MP6	103
Table 16:	Impact on Sustainability Objectives: Policy MP7	105
Table 17:	Impact on Sustainability Objectives: Policy MP8	107
Table 18:	Impact on Sustainability Objectives: Policy MP9	110
Table 19:	Impact on Sustainability Objectives: Policy MP10	113
Table 20:	Impact on Sustainability Objectives: Policy WP1	116
Table 21:	Impact on Sustainability Objectives: Policy WP3	119
Table 22:	Impact on Sustainability Objectives: Policy WP4	121
Table 23:	Impact on Sustainability Objectives: Policy WP5	124
Table 24:	Impact on Sustainability Objectives: Policy WP6	126
Table 25:	Impact on Sustainability Objectives: Policy WP7	128
Table 26:	Impact on Sustainability Objectives: Policy WP8	130
Table 27:	Impact on Sustainability Objectives: Policy WP9	132
Table 28:	Impact on Sustainability Objectives: Policy WP10	134
Table 29:	Impact on Sustainability Objectives: Policy WP11	137
Table 30:	Impact on Sustainability Objectives: Policy WP12	140
Table 31:	Impact on Sustainability Objectives: Policy WP13	142
Table 32:	Impact on Sustainability Objectives: Policy WP14	145



Table 33: Impact on Sustainability Objectives: Policy WP15.....	147
Table 34: Impact on Sustainability Objectives: Policy WP16.....	149
Table 35: Impact on Sustainability Objectives: Policy WP17.....	152
Table 36: Impact on Sustainability Objectives: Policy WP18.....	154
Table 37: Cumulative Impacts of the Plan's General Policies	157
Table 38: Impact on Sustainability Objectives: Policy MS1	162
Table 39: Impact on Sustainability Objectives: Policy MS2.....	164
Table 40: Impact on Sustainability Objectives: Policy MS3.....	167
Table 41: Impact on Sustainability Objectives: Policy MS4.....	169
Table 42: Impact on Sustainability Objectives: Policy MS5.....	171
Table 43: Impact on Sustainability Objectives: Policy MS6.....	174
Table 44: Impact on Sustainability Objectives: Policy MS7	176
Table 45: Impact on Sustainability Objectives: Policy MS8.....	178
Table 46: Impact on Sustainability Objectives: Policy MS9.....	180
Table 47: Impact on Sustainability Objectives: Policy MS10.....	182
Table 48: Impact on Sustainability Objectives: Policy WS1.....	184
Table 49: Sites proposed for allocation.....	188
Table 50: The Plan's Site Allocations.....	190
Table 51: Site appraisal for Barham allocation.....	192
Table 52: Site appraisal for Barnham allocation.....	196
Table 53: Site appraisal for Belstead allocation	200
Table 54: Site appraisal for Cavenham allocation.....	203
Table 55: Site appraisal for Layham allocation.....	208
Table 56: Site appraisal for Tattingstone allocation.....	212
Table 57: Site appraisal for Wangford allocation.....	216
Table 58: Site appraisal for Wetherden allocation.....	220
Table 59: Site appraisal for Wherstead allocation	223
Table 60: Site appraisal for Worlington allocation	227
Table 61: Site appraisal for Sizewell A Nuclear Power Station allocation	231
Table 62: Reasonable site alternatives	235
Table 63: Site appraisal: Barton Mills Quarry	236
Table 64: Site appraisal: Langmead Farms, Benhall.....	240
Table 65: Site appraisal: Foxhall Eurovia Asphalt Plant	243
Table 66: Site appraisal: Masons Quarry, Great Blakenham	243



Table 67: Site appraisal: Henham Quarry (Hektor Rous).....	246
Table 68: Site appraisal: Higham Quarry	253
Table 69: Site appraisal: Holton Hall Farm.....	256
Table 70: Site appraisal: Mendham Marshes.....	259
Table 71: Site appraisal: Grove Farm, Stowmarket.....	263
Table 72: Site appraisal: Folly Farm Tattingstone (TA1(b)).....	266
Table 73: Site appraisal: Wangford Quarry (WA1, WA2)	269
Table 74: Site appraisal: Wordwell Quarry	273
Table 75: Cumulative Impacts of Site Allocations WO1, CA1, CA2, CA3 & WS1	278
Table 76: Cumulative Impacts of Site Allocations BS1, TA1 & WH1	285
Table 77: Regulation 18 Consultation Representations and actions	327
Table 78: Quality Assurance Checklist.....	332



List of Acronyms

AD	Anaerobic Digestion
ALC	Agricultural Land Classification
AONB	Areas of Outstanding Natural Beauty
AQMA	Air Quality Management Area
BAP	Biodiversity Action Plan
BARR	Buildings At Risk Register
Bq	Becquerel
C, D & E Waste	Construction, demolition and excavation waste
CH&P	Combined Heat and Power
C&I waste	Commercial and Industrial waste
CWS	County Wildlife Site
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food and Rural Affairs
DPD	Development Plan Document
EA	Environment Agency
EEAWP	East of England Aggregates Working Party
EC	European Community
EEC	European Economic Community
EfW	Energy from Waste facility
ELV	End of Life Vehicle
EU	European Union
FZ	Flood Zone
GIS	Global Information System
GWh	Giga Watt per hour
ha	Hectare
HEC	Historic Environment Characterisation
HGV	Heavy Goods Vehicle
HRA	Habitats Regulations Assessment
HS2	High Speed 2 proposed railway
ILW	Intermediate Level Waste (radioactive waste)
IVC	In-vessel Composting facility



kW	Kilo Watt
LACW	Local Authority Collected Waste
LAA	Local Aggregates Assessment
LLW	Low Level Waste (radioactive waste)
LNR	Local Nature Reserve
LPA	Local Planning Authority
LoWS	Local Wildlife Sites
MCA	Minerals Consultation Areas
MPA	Minerals Planning Authority
MRF	Materials Recycling Facility
MSA	Minerals Safeguarding Areas
Mt	Million Tonnes
MW	Mega Watt
NNR	National Nature Reserve
NO2	Nitrogen Dioxide
NPPF	National Planning Policy Framework
NPPW	National Planning Policy for Waste
ODPM	Office of the Deputy Prime Minister
PAS	Planning Advisory Service
PDL	Previously Developed Land
PM10	Particle Matter
PPG	Planning Practice Guidance
PPS	Planning Policy Statement
PRoW	Public Right of Way
RCHW	Recycling Centres for Household Waste
SA	Sustainability Appraisal
SA/SEA	Sustainability Appraisal / Strategic Environmental Assessment
SAC	Special Areas for Conservation
SAM	Scheduled Ancient Monument
SARS	Strategic Aggregate Recycling Site
SFRA	Strategic Flood Risk Assessments
SMWLP	Suffolk Minerals & Waste Local Plan
SPA	Special Protection Area

SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
SCC	Suffolk County Council
SuDS	Sustainable Drainage Systems
SWS	Suffolk Waste Study
VLLW	Very Low-Level Waste (radioactive waste)
WCS	Waste Core Strategy
WPA	Waste Planning Authority

Glossary

Aftercare:	Following final restoration of a former quarry, the land is likely to require further treatment to bring it up to the required standard for the approved after-use, for example agriculture. This entails annual monitoring leading to the identification of any necessary remedial works such as drainage or cultivation for five years.
Anaerobic Digestion:	Anaerobic (in the absence of oxygen) digestion of organic waste, typically energy crops, brewery waste or vegetable tailings, inside a closed vessel. The methane gas produced is used to generate electricity and the digestate residue is used for fertiliser.
Aggregates:	Aggregates include crushed rock, sand and gravel or recycled materials that are used in construction, typically for the production of concrete, mortar, asphalt or as drainage media
Area of Outstanding Natural Beauty:	An AONB is an area designated under Section 87 of the National Parks and Access to the Countryside Act 1949 as an area of particular natural beauty to be preserved and enhanced. In Suffolk, the Dedham Vale and the Suffolk Coasts & Heaths are designated AONBs.
Becquerel (Bq):	The standard international unit of radioactivity equal to one radioactive transformation per second.
Bio-aerosol:	Associated with the composting of green waste which releases small particles including spores which are carried in suspension on the wind.
Borrow Pits:	In the Suffolk context are sand and gravel workings used exclusively for a particular construction project, typically new road construction. The term borrow comes from the fact that sometimes the extracted sand and gravel is replaced in the resulting void space by surplus low-quality materials such as silt which are not strong enough to carry the weight of the new road or other structure. The main advantage of borrow pits is that they are normally very close to the construction project and are often connected to that project by routes which do not use the public highway.
Commercial & industrial waste:	Waste collected by private waste contractors.
Construction, demolition and excavation waste:	Waste soils, clays, concrete, bricks, wood etc.
Composting:	Aerobic (in the presence of oxygen) degradation of organic waste, typically green garden waste, by microbes either inside buildings



	which is called in-vessel composting and/or in the open air in long piles of green waste called windrows. Examples include Local Authority Collected Waste that is sorted into the green waste bin by the householder. This is then collected by the local authority and taken to an In-vessel Composting facility (IVC) where the green waste is rapidly composted within ventilated units and the resulting compost sold for soil improver. The air passed through the compost is filtered via microbe supporting filters which remove the odour before it is released back into the atmosphere.
Construction, demolition and excavation waste:	This includes rubble and clean soils.
County Wildlife Site:	Is a locally-designated wildlife habitat.
Development Plan Documents:	Contain planning policies and identify proposed sites for development and are subject to an Examination in Public before adoption by the relevant planning authority as planning policy.
End of Life Vehicle Facilities:	Also known as scrapyards.
Hazardous Waste:	This includes contaminated soils, waste oils, waste electrical goods and asbestos.
Heavy Goods Vehicle:	Is a term for any lorry with a gross weight of over 3.5 tonnes.
HS2:	High Speed 2 proposed railway between London, Birmingham, the East Midlands, Leeds and Manchester.
Household Waste Recycling Facilities:	Sites run on behalf of the County Council primarily for the collection of bulky household waste.
Inert waste:	Is a broad term but practically speaking would mean mainly surplus uncontaminated soils and clays.
Intermediate Level Waste:	In the radioactive waste context, these are radioactive wastes exceeding the upper activity boundaries for LLW but which do not need heat to be taken into account in the design of storage or disposal facilities.
Inert waste landfill or landraise:	Refers to the final disposal of inert waste either by the infill of a void space as landfill and/or construction of a mound above ground level as landraising.
Landbank:	A stock of planning permissions for land containing specified levels of minerals reserves. The landbank level is normally expressed in the number years' supply, based upon an average of the last ten years' sales or sub-regional apportionment or some other figure.



Local Aggregates Assessment:	Provides an assessment of aggregates supplies and is published by each Minerals Planning Authority.
Local Authority Collected Waste:	Waste collected by local authorities which includes household waste and trade waste.
Local Nature Reserve:	is an area of particular wildlife interest declared by a local authority under Section 21 of the National Parks and Access to the Countryside Act 1949, and usually managed by them.
Local Planning Authority:	In Suffolk, the LPAs are the District and Borough Councils who are responsible for planning for development other than minerals, waste, County Council development or Nationally Significant Infrastructure Projects (NSIP).
Low Level Waste:	In the radioactive waste context this includes metals, soil, building rubble and organic materials, which arise principally as lightly contaminated miscellaneous scrap. Metals are mostly in the form of redundant equipment. Organic materials are mainly in the form of paper towels, clothing and laboratory equipment that have been used in areas where radioactive materials are used – such as hospitals, research establishments and industry. LLW contains radioactive materials other than those acceptable for disposal with municipal and general commercial or industrial waste. It is defined as “radioactive waste having a radioactive content not exceeding four giga-becquerels per tonne (GBq/te) of alpha or 12 GBq/te of beta/gamma radioactivity”.
Material considerations:	Is a matter that should be taken into consideration when determining planning applications. For example, highways issues are a material planning consideration and loss of property values is not.
Minerals Consultation Areas:	A mechanism whereby District or Borough Councils consult the Minerals Planning Authority upon proposed not minerals developments within MCAs. MCAs are designated where minerals resources are known to existing according to geological mapping.
Minerals Planning Authority:	Suffolk County Council is the MPA for Suffolk and is therefore responsible for the determination of minerals related planning applications and for the enforcement of planning control in respect of minerals issues and the production of a minerals local plan (or a combined minerals and waste local plan).
Minerals Safeguarding Areas:	Areas where the Minerals Planning Authority will seek to protect minerals development from other forms of development.



National Nature Reserve:	A nationally important area of special nature conservation interest, designated under Section 16 of the National Parks and Access to the Countryside Act 1949.
National Planning Policy Framework:	Contains Government planning policy on a range of issues including minerals.
National Planning Policy for Waste:	Contains Government planning policy on waste.
Non-hazardous Landfill and/or landraise:	Where Non-hazardous Waste is placed and compacted by machinery in engineered cells lined with plastic or clay. When each cell is full it is then sealed with plastic or clay then covered with soils and planted. The moisture that arises from the degradation of the waste is called leachate and is either extracted and treated before disposal or recirculated to aid waste degradation. The landfill gas that is generated from the degradation of the waste can be vented passively or extracted and flared off and/or used to drive electricity generating equipment.
Non-hazardous Waste:	This includes commercial & industrial and local authority collected waste.
Norfolk & Suffolk Broads:	Designated under the Norfolk & Suffolk Broads Act 1988 of equivalent status of a National Park.
PPG:	Government Planning Policy Guidance website.
Proposals Map:	Part of the development plan document with indicates on an Ordnance Survey map base the areas proposed for development (in this case minerals and waste development).
Radioactive Waste:	This includes Very Low-Level Waste (VLLW), Low Level Waste (LLW), Intermediate Level Waste (ILW) and Spent Fuel.
Ramsar:	Site of internationally important wetland for breeding birds identified for conservation under the Ramsar convention (1971).
Recycled Aggregates:	These are recycled concrete, recycled bricks, or other recycled waste materials, that are used as an alternative to sand and gravel or crushed rock.
Recycled Waste:	Involves the recovery of recyclable materials from the waste stream. Examples include Local Authority Collected Waste that is sorted into the recycled waste bin by the householder. This is then collected by the local authority and taken to the Materials Recycling Facility (MRF) where metals, plastics and paper etc. are removed and sent to commercial recyclers.

Restoration:	Refers to the reinstatement of a former quarry and/or landfill site to its final restored condition albeit not necessarily to the same level as before. Generally, where significant sized sites are involved then the restoration is carried out in stages and is said to be a phased restoration.
Residual Waste:	Waste which cannot be re-used, recycled or composted. Examples include Local Authority Collected Waste that is sorted into the residual waste bin by the householder. This is then collected by the local authority and taken to the Energy from Waste facility (EfW).
Scheduled Ancient Monument:	Is an historic building or site that is included in the Schedule of Monuments kept under the Ancient Monuments and Archaeological Areas Act 1979.
Secondary Aggregates:	By-products used as a source of construction aggregates.
Site of Special Scientific Interest:	Site notified by Natural England under Section 25 of the Wildlife and Countryside Act 1981 as having special wildlife or geological features worthy of protection.
Site Selection Reports:	Part of the evidence base in support of the Suffolk Minerals & Waste Local Plan, that contain information that was used in the selection of sites for inclusion in the Plan
Special Areas of Conservation:	Site of international importance for nature conservation, classified under the European Union Habitats Directive.
Special Protection Area:	An area of international importance for the conservation of wild birds, classified under the European Union Conservation of Wild Birds Directive.
Specific Sites:	Are, in the minerals context, where viable mineral resources are known to exist, landowners are supportive of minerals development and the proposal is likely to be acceptable in planning terms. Such sites may also include essential operations associated with mineral extraction. Specific sites may also be used to identify sites for future waste development where the proposal is likely to be acceptable in planning terms.
Spent Fuel:	After removal from the reactor, radioactive spent fuel is held in purpose built facilities including ponds or dry stores before eventual dispatch for reprocessing at Sellafield.
Suffolk Lorry Route Network:	This is a Suffolk County Council lorry management plan based upon a hierarchy of routes.
Suffolk Minerals Core Strategy:	Is a type of Development Plan Document which contains strategic minerals policies.

Suffolk Minerals Specific Site Allocations:	Is a type of Development Plan Document which allocates Specific Sites for minerals extraction.
Suffolk Minerals & Waste Local Plan:	Is a type of Development Plan Document which will contain strategic minerals and waste policies and identify sites for sand and gravel extraction and also potentially waste development.
Suffolk Waste Core Strategy:	Is a type of Development Plan Document which contains strategic waste policies and identifies Specific Sites and Areas of Search for waste development.
Suffolk Waste Study:	This is part of the evidence base for the Suffolk Minerals & Waste Local Plan and quantifies the amount of Local Authority Collected Waste, Commercial and Industrial Waste, Construction, Demolition and Excavation Waste, Hazardous Waste, London Waste and Radioactive Waste that needs to be managed over the Plan period.
Very Low-Level Waste:	<p>In the radioactive waste context, this is waste with very low concentrations of radioactivity. It arises from a variety of sources, including hospitals and the wider non-nuclear industry. Because VLLW contains little total radioactivity, it has been safely treated by various means, such as disposal with municipal and general commercial and industrial waste directly at landfill sites or indirectly after incineration.</p> <p>Its formal definition is, For wastes containing carbon-14 or hydrogen-3 (tritium):</p> <ul style="list-style-type: none"> - in each 0.1m³, the activity limit is 4,000 kBq for carbon-14 and hydrogen-3 (tritium) taken together; and - for any single item, the activity limit is 400 kBq for carbon-14 and hydrogen-3 (tritium) taken together. <p>Controls on disposal of this material, after removal from the premises where the wastes arose, are not necessary.</p> <p>Or; (b) in the case of high volumes of VLLW, radioactive waste with maximum concentrations of four megabecquerels per tonne (MBq/te) of total activity which can be disposed of two specified landfill sites. For waste containing hydrogen-3 (tritium), the concentration limit for tritium is 40MBq/te. Controls on disposal of this material, after removal from the premises where the wastes arose, will be necessary in a manner specified by the environmental regulators.</p>
Waste Electrical & Electronic Equipment Recovery Facilities:	Often for example located within Household Waste Recycling Centres, where members of the public can dispose of their unwanted fridges etc.



Waste Hierarchy:	The management of waste in accordance with the Government's waste hierarchy in order of preference of: prevention; preparing for re-use; recycling; other recovery and disposal is seen as an important tool for environmental protection including against climatic change and the protection of local water resources.
Waste Planning Authority:	Suffolk County Council is the WPA for Suffolk and is therefore responsible for the determination of waste related planning applications and for the enforcement of planning control in respect of waste issues and the production of a waste local plan (or a combined minerals and waste local plan)
Waste Water Treatment Facilities / Water Recycling Centres:	Also known as sewage works.
Waste Transfer Station:	these facilities involve the sorting of waste and the onward transfer of waste to recyclers, composters, energy from waste facilities or landfills etc.



Non-Technical Summary

Introduction

Suffolk County Council (SCC) commissioned consultants 'Place Services' to undertake an independent Sustainability Appraisal (SA) on the Suffolk Minerals & Waste Local Plan.

The requirement for Sustainability Appraisal originates from the European Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment" (the 'SEA Directive') which came into force in 2001. It seeks to increase the level of protection for the environment; integrate environmental considerations into the preparation and adoption of plans and programmes; and promote sustainable development.

The Directive was transposed into English legislation in 2004 by the Environmental Assessment of Plans and Programmes Regulations (the 'SEA Regulation') which requires an SEA to be carried out for Local Plans. It is mandatory for Local Plans to undergo a Sustainability Appraisal.

The aim of this Report is to identify potentially significant environmental effects created as a result of the implementation of the plan or programme on issues such as 'biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. This Report also examines economic, social and environmental considerations in order to promote sustainable development.

As part of its work on the new Minerals & Waste Local Plan, Suffolk County Council has prepared a Minerals & Waste Local Plan 'Submission Draft' Local Plan for public consultation. Suffolk County Council's Minerals and Waste Local Plan includes:

- Vision, Aims and Objectives
- General Policies for both minerals and waste
- Minerals specific policies
- Waste specific policies
- Proposed minerals sites and waste site policies
- Site allocations for minerals extraction and waste management facilities

This Non-Technical Summary outlines the overall impacts of the Plan's policy content and site allocations. This includes minerals policy, waste policy and the allocation of both small sites and large sites for minerals excavation and waste disposal.

Impacts are identified across a selection of themes that are relevant to the County, and these are addressed in turn below.

Impacts of the Plan by Sustainability Objective / Theme

Surface water and groundwater

- The Plan has been identified as having **negative impacts** on groundwater associated with the allocation of a number of sites within Source Protection Zones. Impacts are not significant however, through requirements to address such impacts in the Plan's site allocation policies (specific to each allocation).

Water use

- There are **no impacts** emanating from the Plan regarding the sustainable use of water resources. It is considered that this issue is more relevant to the operation of permanent facilities and the detailed planning applications submitted to the Minerals and Waste Planning Authority.

Soil quality

- The Plan does not make any significant commitments to the protection of the best and most versatile agricultural land and as such there will be **uncertain impacts** at this stage. This is understandable however, where mineral deposits lie where they exist. There are also many constraints within the County surrounding ecological designations such as SSSIs and inland Natura 2000 sites which have to be avoided in the first instance.

Landscapes

- The Plan's policies will have **positive long term outcomes** regarding landscapes and biodiversity, due to the enhancements that are encouraged through such activities in the long term associated with aspirations regarding restoration.
- A number of negative impacts are associated with the Plan's site allocations regarding Special Landscape Areas and in some cases Areas of Outstanding Natural Beauty. For this reason, **negative effects** can not be ruled out at this stage. It should be noted however that a number of the site allocation policies include specific measures as to the mitigation measures needed for each allocation, which prevent impacts from being 'significant'.

Energy efficiency

- There are **no impacts** emanating from the Plan regarding energy efficiency. It is considered that this issue is more relevant to the operation of permanent facilities and detailed planning applications submitted to the Minerals and Waste Planning Authority.

Biodiversity / geodiversity

- In the absence of any specific policy regarding biodiversity that sets out the requirements for forthcoming applications, **uncertain impacts** arise from the Plan's policies in general. Regarding sites, **negative impacts** can not be ruled out cumulatively following a precautionary approach adopted in this SA regarding the assessment of such environmental effects. The Plan's Habitats Regulation Assessment (HRA) does not highlight any likely significant effects on Natura 2000 sites (internationally important designations for wildlife conservation), provided that project-level HRA work is undertaken on a number of qualifying sites at the planning application stage.

The historic environment

- The protection of the historic environment is sought within the Plan's general environmental criteria policy and is a key consideration in the selection of sites as demonstrated in a series of Site Assessment Reports that form part of the Plan's evidence base. The SA identifies a number of positive impacts within the assessment of the Plan's policies, however many of these can be considered secondary. The Plan at this stage introduces a number of site allocation specific requirements regarding archaeology, however further work might be required of developers in submitting planning applications that identifying and where relevant mitigate impacts on historic assets and their settings. As such there are **uncertain impacts** as a result of the Plan as a whole.

Flood risk

- The Plan does not specifically include a policy regarding flood risk, and as such the impacts are not considered to be significantly positive. Despite this, flood risk is included within the general environmental criteria policy (GP4) and national policy further includes a planning context as to what is and what is not acceptable. The Plan's site assessment methodology, as evidenced by Site Assessment Reports for all allocated and non-allocated sites submitted for consideration includes flood risk as a key consideration. General **positive impacts** have been highlighted for the Plan as a whole regarding minimising flood risk.

Traffic impacts on the environment

- The Plan seeks to minimise traffic impacts on the environment and the SA identifies a number of positive impacts regarding this Sustainability Objective in the assessment of the Plan's policies. The Plan's site assessment methodology factors in expected HGV movements and the traffic impacts of each individual proposal / allocation. Further sustainable transport modes are promoted and safeguarded where necessary. There will be **positive impacts** resulting from the Plan as a whole on the minimisation of traffic impacts on the environment.

Air quality

- The Plan's policies have been identified as having **uncertain impacts** regarding air quality. This is due to the cumulative effects of co-locating waste management facilities in industrial areas, landfill sites during restoration or existing mineral extraction sites. This may see increases in HGV movements in those areas that already experience HGV movements; however positive implications surround the utilisation of existing infrastructure.

Restoration and after-use

- The Plan will have **significant positive impacts** on restoration and after-use by encouraging biodiversity gain and where this is not viable a return to agriculture. The Plan's allocations can be seen as having positive impacts regarding aspirations surrounding restoration and after-use.

Avoiding the sterilisation of mineral resources

- The Plan includes mechanisms to safeguard deposits and includes safeguarded existing facilities within the policy map. Policy exists to further safeguard the Plan's allocations. There will be **significantly positive impacts** regarding avoiding the sterilisation of mineral resources.

Economic use of natural resources

- **Positive impacts** have been identified throughout the Plan regarding the economic use of resources both in the nature of mineral planning and also waste, associated with a high-level focus on recycling and re-use and moving the treatment of waste up the waste hierarchy.

Minerals supply

- There will be **significant positive impacts** regarding increasing minerals supply. This is in line with the County's growth needs through a number of flexible and pragmatic policies regarding extraction. Forecasts in supply over the plan period are in alignment with the required methodologies of national guidance. The Plan's site allocations adhere to ensuring a consistent supply of minerals over the Plan period in line with the supply figure identified in Policy MP1 including a sufficient buffer or 'safety margin' of 31%.

The waste hierarchy

- Only a single new waste management facility (Sizewell A Nuclear Power Station) is identified within the Plan in line with there being no identified capacity gap for the treatment of many wastes in the plan area. Despite this, co-located facilities with are

supported in many instances in line with the lifetime of minerals operations, including allocated waste management facilities at Cavenham. Impacts on this Sustainability Objective are not significantly positive regarding the Plan's waste management policies due to the inherent need to backfill mineral voids to restore landscapes, although it should be noted that the Plan's waste policies do seek to minimise disposal in favour of recycling and re-use in the first instance. There will be **positive impacts** on this objective overall.

Impacts on the public

- The policy appraisals in this SA indicate that there will be **no impacts** on the majority of the social objectives in line with a desire to minimise impacts in the first instance, and also promote effective co-location through a series of Policy approaches for different facility types and minerals and waste development in general. This stance on minimisation rather than avoidance reflects the fact that much mineral and waste development is likely to have some degree of perceived negative impact on where people live, is carried forward within the Plan's site allocations, with no negative impacts highlighted within this SA and the ease of effective mitigation factored into the site selection process.

Meeting housing needs

- The Plan rightly focuses on the interests of waste management and ensuring minerals supply throughout the Plan period. This primarily supports the development industry by nature, however mechanisms are included within the Plan to ensure that planned development, either minerals and waste or housing, do not significantly conflict. Whereas any minerals or waste Plan is always likely to conflict to some degree with some housing schemes, the Plan's allocations can be seen to not conflict with any housing proposals in any district development plans or pending / committed applications at the time of writing. Policy MP1 ensures a suitable 'safety margin' of 31% to ensure that there is a sufficient supply of sand and gravel to support any unplanned growth; this is particularly important in regard to the proposed change to the NPPF in the form of a standardised methodology for calculating housing needs in the County and nationally, which is likely to see a significant increase in housing requirements. There will be **positive impacts** on this Sustainability Objective at the 'whole Plan' level.

Noise

- **Positive impacts** have been highlighted in the assessment of the Plan's policies regarding the minimisation of noise. Noise impacts can generally be considered more relevant to specific sites on a case by case basis and such impacts are identified in all relevant site allocation policies. It should also be noted that potential noise impacts have been a key consideration throughout the site selection process. As a result, more positive impacts can be seen to emanate from the consideration of the site allocations against the Plan's relevant policy criteria and this 'two pronged' approach



to minimising noise impacts at the site selection and eventual planning application stages ensures that negative impacts are unlikely to occur through the operation of facilities or extraction activities.

Recreation and amenity

- Policy GP4 requires applicants to demonstrate that there would be no significantly adverse impacts on Public Rights of Way or neighbouring land-uses. This goes some way to ensuring that recreation and amenity is protected throughout the Plan area from mineral and waste activities. The Plan's allocations have numerous impacts on Public Rights of Way, bridleways and by-ways that are identified on or in close proximity to any of the sites. Despite this, the Plan's site assessment methodology, as evidenced in a number of Site Assessment Reports (for all sites) identifies such impacts and assesses the ease of specific mitigation needed. This has led to the inclusion of relevant criteria within site allocation policies. There will therefore be **no impact** on recreation and amenity relevant to the context of the Plan and resulting from the Plan as a whole.

Human health and well-being

- The assessment of the Plan's policies identifies a number of minor positive impacts regarding human health and well-being through effective mitigation requirements. The Plan's site assessment methodology, as evidenced in an individual Site Assessment Report for each site submitted for consideration explores a number of site specific impacts that can fall within this objective on a case-by-case basis, such as the impacts of mud on road that can be caused by operations and the suitability of local access roads in terms of accident histories. Such considerations are reiterated within the Plan's site allocation policies. This approach, in addition to the list of criteria included within the Plan's general environmental criteria policy, ensures that there will be **no impact** on this Sustainability Objective.

Economic and employment growth

- Ensuring a supply of minerals throughout the plan period significantly supports economic growth throughout the Plan area. In addition, the minerals and waste industries provide a number of employment opportunities. Specifically relevant to the Plan content, there will be generally **uncertain impacts** regarding economic growth and investment in the County; there is a possibility that the prevalence of co-locating new waste management facilities in employment areas would make investment in them less attractive for more traditional employment uses. This is an inherent secondary reality associated with the benefits of co-locating new facilities; however **positive impacts** can be associated with the Plan's allocations (and policies) that seek to locate temporary waste management facilities at mineral extraction sites and those that are being backfilled through phased restoration.



Maintain / improve existing infrastructure

- The Plan as a whole will not have significant impacts on maintaining and improving existing infrastructure. Whereas the Plan seeks to sustainably utilise existing infrastructure in the first instance (through co-location and directing sites to existing Strategic Lorry Routes in accordance with the Spatial Strategy of Policy GP3), and Policy exists to support infrastructure projects in the Plan area. There will be **positive impacts** on this Sustainability Objective resulting from the Plan as a whole.

Sustainable investment

- There will be generally **uncertain impacts** regarding investment in the County. This is related to the possibility that the prevalence of co-locating new waste management facilities in employment areas would make investment in them less attractive for more traditional employment uses. This is not a criticism of the Plan's general approach in line with national guidance and is an inherent secondary reality associated with the benefits of co-locating new facilities.

Efficient / sustainable movement patterns

- The Plan's Spatial Strategy seeks to allocate and permit mineral extraction and waste management facilities that are well related to the Suffolk Lorry Route Network (or rail network or navigation). This can be seen as a commitment that has influenced the selection of sites, with allocations responding well to being in close proximity to this network. The Plan's allocations therefore relate well to this element of the Spatial Strategy and the Plan will have generally **significant positive** impacts as a result.

1. Introduction

1.1 Background

Suffolk County Council (SCC) commissioned Place Services to undertake an independent Sustainability Appraisal (SA) incorporating Strategic Environmental Assessment (SEA) on the Suffolk Minerals & Waste Local Plan.

Place Services are acting as consultants for this work; therefore the content of this SA should not be interpreted or otherwise represented as the formal view of Essex County Council.

1.2 The Minerals & Waste Local Plan: Submission Draft (2018)

SEA Directive requires: 'An outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes.' Annex I (a)

As part of its work on the new Minerals & Waste Local Plan, SCC as a Minerals and Waste Planning Authority (M/WPA) have prepared a Minerals & Waste Local Plan 'Submission Draft' Regulation 19 Local Plan for public consultation.

The WPAs' progress towards formulating a Local Plan in line with current planning policy terminology, includes revisions in approach (from the current adopted SCC Minerals and Waste planning frameworks) to reflect new policy requirements. The components of the Plan are:

- Vision, Aims and Objectives
- General Policies for both minerals and waste
- Minerals specific policies
- Waste specific policies
- Proposed minerals sites and waste site policies
- Site allocations for minerals extraction and waste management facilities

This iteration of the Plan represents the Regulation 19 stage of the planning process and has been made available for consultation, accompanied by this Sustainability Appraisal.



1.3 Sustainability Appraisal / Strategic Environmental Assessment

The requirement for Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) emanates from a high level national and international commitment to sustainable development. The most commonly used definition of sustainable development is that drawn up by the World Trade Commission on Environment and Development in 1987 which states that sustainable development is:

'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'

This definition is consistent with the themes of the NPPF, which draws upon The UK Sustainable Development Strategy Securing the Future's five 'guiding principles' of sustainable development: living within the planet's environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly.

SEA originates from the European Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment" (the 'SEA Directive') which came into force in 2001. It seeks to increase the level of protection for the environment; integrate environmental considerations into the preparation and adoption of plans and programmes; and promote sustainable development.

The Directive was transposed into English legislation in 2004 by the Environmental Assessment of Plans and Programmes Regulations (the 'SEA Regulation') which requires an SEA to be carried out for plans or programmes:

'subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and required by legislative, regulatory or administrative provisions'.

This includes Local Plans. The aim of the SEA is to identify potentially significant environmental effects created as a result of the implementation of the plan or programme on issues such as *'biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors'* as specified in Annex 1(f) of the Directive.

SA examines the effects of proposed plans and programmes in a wider context, taking into account economic, social and environmental considerations in order to promote sustainable development. It is mandatory for Local Plans to undergo a Sustainability Appraisal in accordance with the Planning and Compulsory Purchase Act 2004 as amended by the Planning Act 2008, and in accordance with paragraph 165 of the NPPF.

Whilst the requirements to produce a SA and SEA are distinct, it is possible to satisfy the two requirements through a single approach providing that the requirements of the SEA Directive are met. This integrated appraisal process will hereafter be referred to as SA.



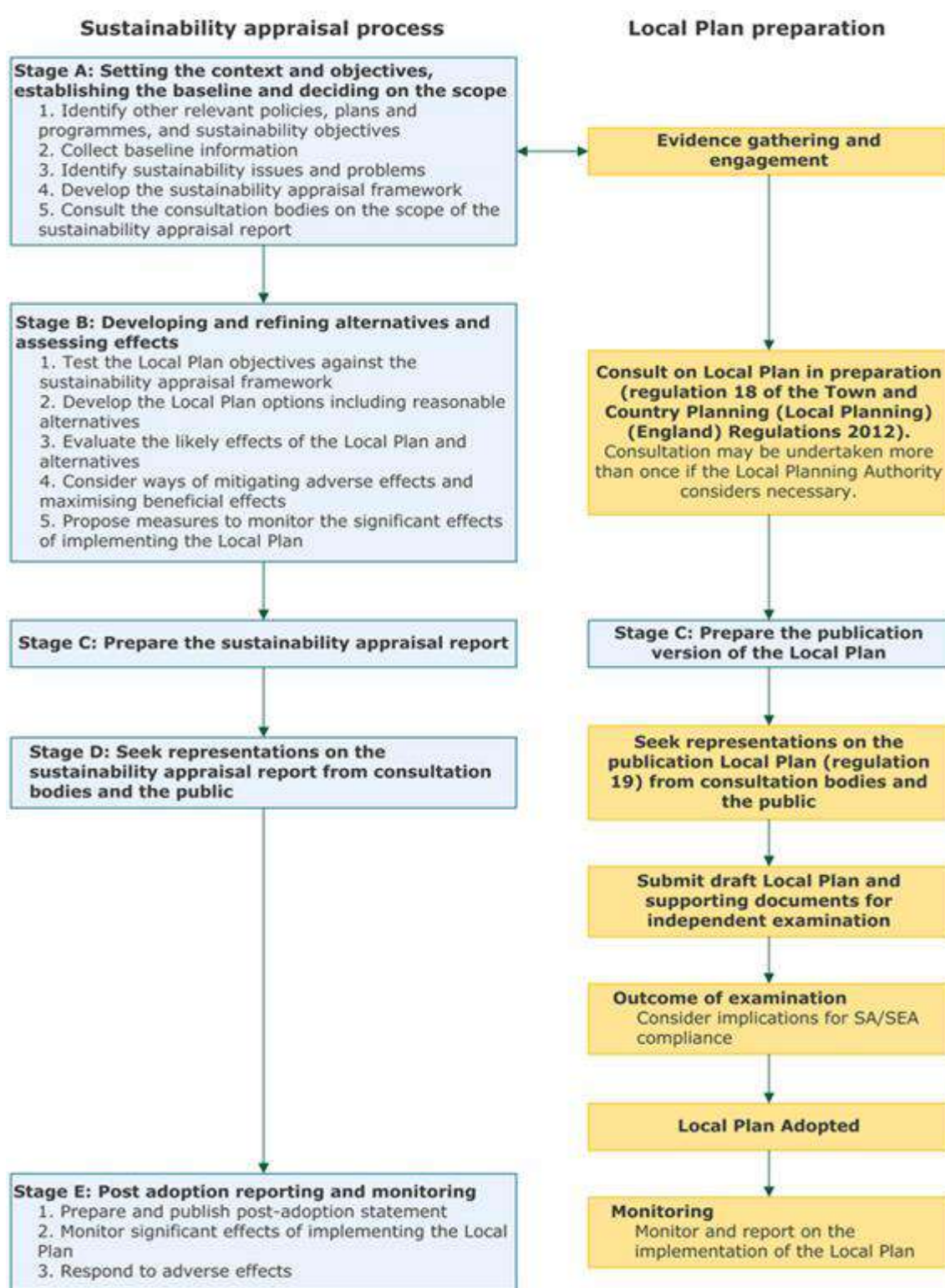
1.4 Background

The methodology adopted for the SA of the SCC Minerals & Waste Local Plan incorporates the requirements of SEA into the SA process and has been developed in accordance with the following guidance:

- Planning Policy Guidance on Sustainability Appraisal of Local Plans
- The Plan Making Manual (PAS online guidance available at: www.pas.co.uk)
- Towards a more efficient and effective use of Strategic Environmental Assessment and Sustainability Appraisal in spatial planning (CLG, 2010);
- Local Development Frameworks – Guidance on Sustainability Appraisal, (PAS, 2007);
- Resource Manual to Support Application of the UNECE Protocol on Strategic Environmental Assessment (UNECE, April 2007 (revised February 2011); and
- A Practical Guide to the Strategic Environmental Assessment Directive, (ODPM, 2005).

The Sustainability Appraisal is an integral part of plan preparation and has five sequential stages. These main stages, the tasks for each stage, and corresponding stages within the Local Plan making process are highlighted in the following chart.

Figure 1: Stages in the SA process and their purpose



Source: Planning Practice Guidance Strategic environmental assessment and sustainability appraisal Sustainability appraisal requirements for Local Plans (Paragraph: 013 Reference ID: 11-013-20140306)



1.5 Scoping Report (Stage A) 2016

A Scoping Report was published for consultation independently by Suffolk County Council in October-November 2016. This Scoping Report set out Stage A in the SA process as identified above.

The Scoping Report was subject to a focused consultation with the three statutory consultees for SA. These are:

- Historic England;
- The Environment Agency; and
- Natural England.

1.6 Issues and Options (Stage B) 2016

An Issues and Options Local Plan was consulted upon in 2016, accompanied by a SA. This SA set out a number of policy assessments alongside reasonable alternative approaches. The Plan at this stage largely represented proposed changes to the existing policy framework, and the SA assessed both the broad notion of a 'business as usual' approach alongside each proposed change / amendment as included with the Plan, again notionally.

1.7 The Preferred Options (Stage B) 2017

In October 2017, a Preferred Options Regulation 18 Local Plan and SA was produced and consulted upon between 30th October and 11th December. This Plan set out the Vision, Aims and Objectives for the area relevant to the context of the Plan and included general and specific policies for both minerals and waste and site allocations for minerals extraction and waste management facilities.

The accompanying SA appraised numerous Policies, including reasonable alternative policy approaches. The SA also appraised all submitted sites for consideration as allocations within the Plan. This included both preferred and alternative (non-preferred) sites / proposals for minerals extraction and waste management facilities.

1.8 The Aim and Structure of this Report (Stages B & C)

Since the Preferred Options Regulation 18 Consultation, the Plan has evolved in accordance with updated evidence and representations received during the Preferred Options Plan consultation period. It is important that this SA, representing the iteration that will be a focus of the Plan's examination in public (EiP), accurately reflects the whole SA and plan-making process; that is, that there is no possible requirement to refer back to past versions of the SA at the EiP (commonly referred to as a 'paper chase').

Throughout this SA, commentary regarding the changes to Policies and the subsequent appraisal of them throughout the plan-making and SA processes (including what constitutes a 'reasonable



alternative' at each stage where necessary) is addressed in each individual policy appraisal.

This Environmental Report responds to Stages B and C of the Sustainability Appraisal process for a 'Submission Draft' Regulation 19 stage of the Plan. The key element of this report is to build on the development of alternatives from the Preferred Options stage and assess effects. This stage:

- Tests the Local Plan objectives against the sustainability appraisal framework;
- Refines and re-appraises the Local Plan options including reasonable alternatives;
- Evaluates the likely effects of the Local Plan (policies and site allocations) and alternatives;
- Considers ways of mitigating adverse effects and maximising beneficial effects; and
- Proposes measures to monitor the significant effects of implementing the Local Plan.

There are 2 annexes to this Environmental Report which contain the supporting evidence.

Annex A: A contextual review of relevant plans and programmes

Annex B: Baseline information relevant to the Plan Area and the scope of the Plan

2. Sustainability Context, Baseline and Objectives

2.1 Introduction

The following section outlines the key findings of the Scoping Report which includes an outline of the plans and programmes, the baseline information profile for the Plan Area, together with the Sustainability Objectives.

2.2 Plans and Programmes (Stage A1)

Local Plans must comply with existing policies, plans and programmes at national and regional levels and strengthen and support other local plans and strategies. It is therefore important to identify and review those policies, plans and programmes and Sustainability Objectives which are likely to influence the Plan at an early stage. The content of these plans and programmes can also assist in the identification of any conflicting content of plans and programmes in accumulation with the Minerals & Waste Local Plan. Local supporting documents have also been included within this list as they will significantly shape policies and decisions in the Plan Area.

It is recognised that no list of plans or programmes can be definitive and as a result this report describes only the key documents which influence the Plan. The following table outlines the key documents, whilst a comprehensive description of these documents together with their relevance to the Plan is provided within Annex A.

Table 1: Key Documents

International Plans and Programmes
Johannesburg Declaration on Sustainable Development (United Nations 2002)
Environmental Assessment of Plans and Programmes Regulations 2004 (the SEA Regulations)
European Union Spatial Development Perspective
European Union Directive on the Landfill of Waste 1999
European Union Directive Concerning Integrated Pollution Prevention and Control (2008/1/EC)
European Union Mining Waste Directive (2006/21/EC)
European Union Directive on the Conservation of Wild Birds 2009 (79/409/EEC)



European Union Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 1992 (92/43/ECC)

European Union Water Framework Directive 2000 (2006/60/EC)

European Union Noise Directive (2000/14/EC)

European Union Air Quality Directive 2008 (2008/50/EC) and previous directives (96/62/EC; 99/30/EC; 2000/69/EC & 2002/3/EC)

European Landscape Convention 2000

United Nations Kyoto Protocol

European Union White Paper: Adapting to Climate Change

Waste Framework Directive

European Union Nitrates Directive 1991

European Directive concerning urban waste-water treatment 1991

European Union Floods Directive 2007

World Commission on Environment and Development 'Our Common Future' 1987

National Plans and Programmes

UK Climate Change Programme

Securing the Future – Delivering UK Sustainable Development Strategy

UK Renewable Energy Strategy

Energy White Paper: Meeting the Energy Challenge

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007)

Climate Change Risk Assessment

The Carbon Plan



Groundwater Protection: Policy and Practice
Water Resources Act (WRA) (2003)
Water for People and the Environment – Water Resources Strategy for England and Wales
Safeguarding Our Soils: A Strategy for England (2009)
England biodiversity strategy: Climate change and adaptation principles
UK post-2010 Biodiversity Framework
Biodiversity 2020
National and Regional Guidelines for Aggregates Provision in England 2005-2020
The Environmental Permitting (England and Wales) (Amendment) Regulations 2013
Flood & Water Management Act 2010
The DCLG Waste Management Plan for England 2013
National Planning Policy Framework (March 2012)
Proposed Changes to the NPPF Consultation (2018)
National Planning Policy for Waste (NPPW, 2014)
National Adaptation Programme 2013
The Guidance for Local Authorities on Implementing the Biodiversity Duty (2007)
Planning Practice Guidance (2014)
Natural Environment and Rural Communities Act 2006
Countryside and Rights of Way Act 2000
Natural Environment White Paper: The Natural Choice: Securing the Value of Nature (2011)



Sub-national Plans and Programmes

Sub-regional Guidelines for Aggregates Provision in England 2005-2020

River Basin Management Plan – Anglian River Basin District

The East Inshore and East Offshore Marine Plans

Local Plans and Programmes

Suffolk Coast and Heaths Area of Outstanding Natural Beauty Management Plan 2013-2018

Suffolk's Local Economic Assessment 2011

Joint Municipal Waste Management Strategy for Suffolk 2003

Suffolk Local Authorities – Air Quality Management and New Development 2011

Suffolk Climate Action Plan 2 2012

Suffolk Biodiversity Action Plan (updated October 2014)

Suffolk Historic Landscape Characterisation Map 2008

Suffolk's Local transport Plan 2011-2031

Suffolk Flood Risk Management Plan 2013

Suffolk Growth Strategy 2013

Suffolk Nature Strategy 2015

Suffolk Minerals Core Strategy (adopted 2008)

Suffolk Minerals Specific Site Allocations (adopted 2009)

Suffolk Waste Core Strategy (adopted 2011)

Suffolk Minerals & Waste Local Plan Strategic Flood Risk Assessment (September 2017)



Suffolk Minerals & Waste Local Plan Strategic Habitats Regulation Assessment (Inc. Appendices) (October 2017)
Suffolk Local Aggregates Assessment (2017 data) (April 2018)
Suffolk Minerals and Waste Local Plan – Suffolk Waste Study (April 2018)
Suffolk Coastal District Local Plan (Core Strategy & DM Policies) (adopted 2013)
Suffolk Coastal Local Plan (adopted 2013)
Suffolk Coastal Site Allocations & Area Specific Policies Preferred Options 2015
Suffolk Coastal Area Action Plan for the Felixstowe Peninsula Preferred Options 2015
West Suffolk Environmental Statement 2013-14
St Edmundsbury Core Strategy (adopted 2010)
St Edmundsbury Rural Vision (adopted 2013)
St Edmundsbury Bury St Edmunds Vision (adopted 2013)
St Edmundsbury Haverhill Vision (adopted 2013)
St Edmundsbury & Forest Heath Joint Development Management policies (adopted 2015)
Forest Heath Core Strategy (adopted 2010)
Forest Heath Single Issue Review of Core Strategy Policy CS7 Overall housing Provision and Distribution Submission Version 2017
Forest Heath Site Allocations Local Plan Submission Version 2017
Babergh Core Strategy (Part 1 of new Local Plan) (adopted 2014)
Babergh Local Plan (adopted 2006)
Babergh & Mid Suffolk Core Strategy Focused Review (objectively assessed need and rural growth policy) Issues and Options 2015



Babergh & Mid Suffolk Strategic Site Allocations & Designations Issues and Options 2015
Mid Suffolk Core Strategy (adopted 2008)
Mid Suffolk Core Strategy Focused Review (adopted 2012)
Babergh & Mid Suffolk Development Management Policies Issues & Options 2015
Mid Suffolk Local Plan Alteration (affordable housing) (adopted 2006)
Mid Suffolk Stowmarket area Action plan (adopted 2013)
Ipswich Core Strategy (adopted 2011)
Ipswich Core Strategy Review (submitted 2015)
Waveney Sites of Future Development Site Specific Allocations (adopted 2011)
Waveney Development Management Policies (adopted 2011)
Waveney and Lowestoft Lake Lothing & Outer Harbour Area Action Plan (adopted 2010)
Waveney Help Plan our Future: Options for the New Waveney Local Plan Issues and Options 2016

2.3 Baseline Information (Stage A2)

Annex B details the complete Baseline Information profile for the Plan Area relevant to the content of the Plan.

The following section outlines a summary of the key baseline information and therefore the current state of the environment for the Plan Area.

2.3.1 Waste

- The Waste Local Plan must implement the waste hierarchy, in accordance with the Revised Waste Framework Directive. In practice, this means promoting waste prevention, material and energy recovery (e.g. direct re-use, recycling and treatment to make new objects) prior to disposal.
- If plentiful facilities for the processes at the top of the waste hierarchy are provided while fewer for the processes towards the bottom of the hierarchy, movement up the waste hierarchy may be achieved. In terms of planning this means a change from continually



planning for new and extended temporary landfills in former quarries and instead the emphasis is now upon permanent fixed facilities in employment areas or on other suitable sites.

- An important goal in the Plan is to aim for net self-sufficiency. Whereby the County Council aims to manage an amount of waste equal to that arising in Suffolk, whilst acknowledging that waste is transported between different areas of the Country. The Plan also has to take into account of the potential to receive London Waste.
- The county of Suffolk has (at the time of writing) 18 household waste recycling centres, 7 composting sites (or compost processing sites), 18 landfill sites, 26 waste transfer facilities, 25 metal recycling facilities, 2 materials recovery facilities and 8 incinerators (which together deal principally with municipal and commercial and industrial waste). Waste transfer facilities are concentrated along the A14 and near the County's borders with Essex and Norfolk.
- Waste going to landfill is a major contributor to climate change accounting for about 3% of the UK's greenhouse gas emissions. As the waste decays it produces methane, which is a highly potent greenhouse gas.
- Since 2006/07 the amount of waste collected per head and the amount of household and municipal waste being sent to landfill has decreased significantly. At the same time the percentage of household waste sent for recycling, reuse or composting has increased.
- The Suffolk Waste Study indicates that
 - There is no identified shortfall in waste management facilities at the present time;
 - there is sufficient landfill capacity within Suffolk to last until the end of the Plan period in 2036.
 - LACW arisings will potentially rise to 0.470 Mt per annum in 2036 from 378,847 in 2012;
 - projections for C&I waste diverge to the extent that by 2036 the high scenario would be 1.039 Mt per annum and the low scenario would be 0.531 Mt per annum from 0.850 Mt in 2012;
 - the projections for CD&E indicates that levels of arisings per annum will decrease from 0.529 Mt in 2015 to 0.350 Mt in 2016;
 - hazardous waste (HAZ) is projected to decrease from 0.044 Mt in 2012 to 0.031 in 2036.
 - no London Waste has been landfilled within Suffolk for a number of years and therefore it is not considered necessary to plan to receive any;
 - the amount of radioactive waste to be management is very small and because it can either be accepted at normal landfills or at very specialised national facilities elsewhere it is not considered necessary to plan any provision.

2.3.2 Minerals

- It is important to note that there is a significant crossover between minerals and waste in relation to CD&E waste recycling. Minerals planning requirements should look to increase



capacity and quality of the recovered/recycled aggregate, to promote its increased use, while waste planning requirements should look to reduce the amount of waste being disposed of in landfill.

- The solid geology of Suffolk consists mostly of Cretaceous Chalk deposits, with London Clay, Reading Beds, Thanet Sand and Crag present in the east of the County. The solid geology is largely covered by glacial drift deposits of Boulder Clay, Sand and Gravel. Within the river valleys, reworked Glacial Sand and Gravel forms River Terrace deposits. In the west of the County are found Wind Blown deposits of Sand.
- The principle mineral resource within Suffolk is sand and gravel. Sand and gravel deposits are distributed fairly evenly across the county, although there are particular concentrations in the river valleys, especially the Gipping valley. Traditionally sand and gravel has been extracted from the Gipping, Lark, Blyth and Waveney river valleys and to the east of Ipswich. As these river valleys (terrace deposits) have been worked through, more recently, workings have opened up in areas exploiting more extensive glacial sands and gravels. Suffolk contains no hard rock mineral resources and therefore only seeks to maintain a land bank for sand & gravel.
- The recently published draft Suffolk Local Aggregates Assessment (LAA) (2017 data) sets out in detail how the demand for construction aggregates is met within Suffolk. The LAA indicates that:
 - recycling is making an important contribution although potential further growth in use is limited by available C, D & E waste and limitations imposed by the quality of the recycled aggregates;
 - imported crushed rock is also making an important contribution although further growth in use is uncertain due to constraints on the productive capacity of existing resources in the East Midlands, the capacity of transport infrastructure in the South West, the unfavourable currency exchange rate of resources in Europe, and the considerable demand for aggregates from projects such as HS2 and Hinkley Point C Nuclear Power Station;
 - although there are large permitted reserves of marine dredged sand and gravel off the coast of East Anglia market forces dictate that the vast majority of this is landed in London or landed elsewhere and transported by rail to London, and;
 - the long-term trend is that less land-won sand and gravel is being extracted due to diminishing resources of higher quality material, planning constraints, less intensive use of aggregates in construction.
- Over the last twenty years since the introduction of the Landfill Tax there has been a marked increase in the levels of recycled aggregates being produced, mainly from Construction, Demolition & Excavation waste (CD&E).
- The Suffolk Waste Study sets out in detail the levels of waste management activity within Suffolk. It indicates that:
 - In 2015 for example the SWS indicates that there were 0.529 Mt of C, D&E waste managed within Suffolk of which over 91.4% would be recycled, giving a total figure of 0.484 Mt of recycled aggregates per annum.



- In addition, the energy from waste facility at Gt Blakenham recycles 0.060 Mt of bottom ash from Local Authority Collected Waste (LACW) into aggregates per annum.
 - The types of facilities where recycled aggregates are produced vary from purpose built fixed installations to temporary operations on construction sites. The latter does not require planning permission separately from the County Council. Although the SWS does not indicate a specific capacity gap for aggregates recycling facilities in Suffolk, a proposal for such a facility is included at in the Plan at Cavenham Quarry.
- Suffolk has no indigenous resources of crushed rock and therefore relies on supplies imported by road, rail or sea. Crushed rock is used primarily in the production of asphalt for road maintenance and construction due to its strength and roughness.
- There are a number of railheads located along the A14 and wharves at Ipswich and Lowestoft used for the importation of crushed rock. There is also a wharf at Lowestoft that is used for the importation of armour stone for use in sea defence works.
- Although it is not possible to reveal the precise tonnages of crushed rock imported due to commercial confidentiality, it is significant.
- There are licences for the dredging of up to 9 Mt of sand & gravel off the coast of the East Anglia on an annual basis. Although a significant proportion of this total is dredged, the vast majority of this is landed in London, or sent to London by rail having been landed elsewhere. This is due to the lack of indigenous supplies of aggregates in London.
- In the 1990s the first Suffolk Minerals Local Plan was based on an annual sub-regional apportionment figure for sand & gravel of 2.43 Mt per annum. In the 2000s the Suffolk Minerals Core Strategy was based initially upon a sub-regional apportionment of 1.73 Mt per annum, which was later revised to 1.62 Mt per annum based on the revised national guidelines.
- Suffolk has always sought to meet the sub-regional apportionment and national guidelines in past Plans and will seek to meet the projected level of sales based on an average of the last ten years' sales within this Plan.
- Suffolk has also always sought to maintain a landbank of permitted sand and gravel reserves of at least 7 years which is still a requirement of the NPPF. Historically the annual figure was based on the sub-regional apportionment or the revised national guidelines. The intention now is that this to will be based upon the average of the last ten years' sales in accordance with the NPPF and will be calculated in the annual LAA each year.
- The average sales of sand and gravel in Suffolk for the ten years to the 31 December 2017 represented 1.112 Mt. The landbank of permitted sand and gravel reserves on the 31 December 2017 was 11.822 Mt (10.5 years).
- The Preferred Options Local Plan made provision for 14.770Mt of sand and gravel. The figure is lower for the Submission Draft Local Plan.
- A total of 12,180Mt of sand and gravel is likely to be worked during the Plan period. the Plan allows for a safety margin of 31% over the identified figure to account for expected higher housing growth.
- The Plan period ends on the 31 December 2036. Therefore, the shortfall in permitted



reserves is equivalent to 9.300 Mt.

2.3.3 Biodiversity

- Ramsar sites are wetlands of international importance designated under the Ramsar Convention which have a high degree of protection. There are six Ramsar sites within the Plan area.
- There are seven Special Protection Areas in the Plan area.
- There are eight Special Areas of Conservation in the Plan area.
- There are also 283 Sites of Special Scientific Interest (of which 36 are geological) and 36 Local Nature Reserves.
- The number of County Wildlife Sites currently stands at about 900 (2012) and the county has seven Regionally Important Geological/Geomorphological Sites (RIGS) and 109 candidate RIGS.
- In addition, a number of Biodiversity Action Plans and Habitat Action Plans are in place.
- Local Nature Reserves across the county providing important green spaces to support ecological networks. In 2012, 53.7% of Suffolk was covered by Environmental Stewardship, Environmentally Sensitive Area or Countryside Stewardship Schemes.
- County Wildlife Sites cover 19,200 hectares, 5% of the county. The percentage of Suffolk's County Wildlife Sites in positive conservation management has increased from 50% in 2011-12 to 58% in 2012-13.
- The entire Plan study area falls within the Suffolk Coast and Heaths AONB which covers approximately 400 km². The primary aim of the designation is to conserve the special character of the area which is defined as 'its underlying geology, shaped by the effects of the sea and the interaction of people with the landscape'
- A second Management Plan for the Suffolk Coast and Heaths AONB was published in 2008 for a five year period to 2013. It builds on the earlier plan, published in 2002. A total of 26 organisations have signed a commitment to implement the Plan and share a common vision for the long term care of the AONB

2.3.4 Landscapes

- Within the Plan Area's landscape there are many areas of special interest which have been designated and protected from inappropriate development. The main areas of importance are (statutory landscape designations) Landscape Character Areas (LCAs), Areas of Outstanding Natural Beauty (AONBs), Protected Lanes and Special Verges.
- Suffolk is rich in agricultural farmland. About 1% of the county's soils are Grade 1, with grades 2 and 3a each at about 20%; in total, about 45% of the county's soils are classed as "best and most versatile".
- Around 12% of Suffolk's landscape is designated as an Area of Outstanding Natural Beauty (AONB). Suffolk's two AONBs are the Suffolk Coast & Heaths and the Dedham Vale.



- Over 36% of Suffolk is either nationally or locally protected for its wildlife or landscape value. The Dedham Vale and Suffolk Coast & Heaths Areas of Outstanding Natural Beauty (AONBs) and the Norfolk & Suffolk Broads, are places in which the quality of landscape is formally recognised and given special statutory status to conserve and enhance natural beauty, and in the case of the Broads, an additional duty to promote open-air recreation. These special qualities are protected under legislation and through planning policy. Together they cover 13% of Suffolk. Locally designated Special Landscape Areas cover a further 22% of the county.

2.3.5 Population and Social

- According to data from the 2011 Census, the population of Suffolk has risen by 8.9% since 2001, which makes it the fifth fastest growing shire county in England. By comparison, the population of England has only grown by 7.9% since the 2001 Census.
- The number of people over the age of 75 in the county has increased by 16%, while the number of young adults has decreased by 15%. ONS population estimates suggest that by the time of the next Census, due in 2021, the population of Suffolk may have increased to 778,000, with notable projected increases in the older age groups.
- Forest Heath and Ipswich are predicted to be the fastest growing districts, while the populations of Babergh and Waveney will change least. There is likely to be a slight reduction in the number of children in the county as a whole, although Forest Heath and Ipswich will see large increases.
- The number of working age people will increase slightly again concentrated in Forest Heath and Ipswich. Other areas are likely to see a significant increase in the number of people aged 65 or over: Increases of at least two-thirds are predicted in Mid Suffolk and of over 60% in Babergh, St Edmundsbury and Suffolk Coastal.
- High population growth rates and changing demographics present a challenge in relation to ensuring the provision of appropriate waste infrastructure, services and facilities to reflect growth patterns and ensuring adequate access.
- Suffolk's women had a life expectancy of 82 and Suffolk's men 77 (2004 figures), both slightly above the national average. In 2014, men born in the county between 2010 and 2012 have a life expectancy of 80.6, up more than three years from a decade ago. For women, life expectancy is 84.1, up from just below 82 a decade ago.
- The number of deaths as a result of road traffic accidents, heart disease and self-harm have decreased or remained stable in recent years. However, deaths from respiratory disease show an increasing trend, and cancer deaths have also increased in the most recently available figures.
- A recent large-scale study in the UK showed significantly less health inequality between rich and poor groups in areas with higher levels of green space than between similar groups in areas with less green space. Ipswich alone has 500 hectares of green space and wildlife habitats within the town. According to the 2011 Census the self-reported health of the usual residents of the Plan area largely follows the Suffolk average.
- According to the Indices of Deprivation 2010, Suffolk is a relatively affluent county with



pockets of deprivation. However, 7.4% of Suffolk's population lived in the 20% most deprived areas in England, equating to about 53,000 people. Ipswich remains the most deprived local authority (LA) in Suffolk, being ranked 87th out of 326 LAs in England. Ipswich has risen in the rankings from 109 in 2007, but remains outside the top 20% of worst deprived LAs in England.

- Rural deprivation is a particular issue in Suffolk, where pockets of deprivation are masked by areas of relative affluence, a situation which may serve to exclude people more.

2.3.6 Air Quality

- Poor air quality and noise can have associated health impacts. It will be the role of the Waste planning to mitigate any of these impacts that may be associated with waste facilities and waste management throughout the Plan Area.
- Suffolk currently has nine Air Quality Management Areas (AQMAs), where the Limit Levels for nitrogen dioxide are exceeded, of which eight are solely associated with road traffic. Five are in Ipswich, where additional Areas are shortly to be added and the extent of the existing ones reviewed. There is also an Area in each of Sudbury, Newmarket and Woodbridge. An additional area is also expected to be declared adjacent to the A12 at Farnham. The ninth AQMA is in the Felixstowe Dock area, with contributions from dock activities as well as road traffic.
- The number of AQMAs has slowly increased over the years and air quality is generally getting poorer. Action Plans identifying measures to try to improve matters have been put together for the majority of the AQMAs, but have been slow in implementation.
- Of the 9 current AQMA, 4 were declared in 2006, one in 2008, two in 2009 and two in 2010.
- Suffolk County Council currently runs one full-time monitoring station at Claydon, which has been collecting background information on nitrogen dioxide, particulates and sulphur dioxide levels as a check for residents potentially affected by the Gt. Blakenham energy from waste plant. At present air quality in this locality is good, with low levels of all of the key pollutants.
- Suffolk is affected by the pollution incidents which affect the UK as a whole, such as when under certain air stream conditions, material is transported from the Sahara in the south or under easterly warm still conditions when pollutants are transported from the Continent, including the major industrial areas. One area of concern is the promotion of wood burning stoves and biomass boilers.

2.3.7 Climatic Factors

- There is a need to recognise that the County is in a particularly vulnerable position due to coastal and river flooding and lower than average rainfall compared to the rest of the UK. This increases pressure upon water resources to supply irrigation, industry and population.
- Water and coastal management are likely to be the most serious climate change issues in Suffolk. Suffolk is one of the driest parts of the country and according to the Environment Agency many of the water resources available are already overstretched.
- The eastern part of East Anglia is very dry in comparison with the rest of England and



Wales. Suffolk has an annual yearly rainfall of 610mm of which approximately 460 mm is lost to evaporation.

- Defra guidance on sea level rise suggests that the East of England will see a net rise of 4mm per year from now until 2025. This will put added pressure on structures such as tidal defences. There are also predicted river flow increases.
- Also, climate change is expected to increase the likelihood of storms. The onset of global warming has also led to predictions that the UK will experience wetter winters and drier summers as well as higher annual mean winter and summer temperatures. By the 2020s, temperatures across the Plan study area could rise by up to 1.5°C, while average summer rainfall may fall by up to 15% and average winter precipitation may increase by up to 10% (UKCP09, 2009).
- Climate change experts predict that we will experience more hotter, drier summers and warmer, wetter winters as our climate changes.
- According to DECC, in 2013 the East of England generated 9,318.9 GWh of electricity from renewable sources, which was 17.4% of the equivalent UK total. Wind (including offshore) accounted for 44% of the regional total, bioenergy (including sources co-fired with fossil fuels) for 42%, landfill gas for 11% and solar PV for 2.4%. Total sales of electricity (from all generating sources) in the East of England in 2012 were 27,009 GWh.
- Suffolk's CO₂ emissions in 2012 were 5,227.3 kilo tonnes (1.15% of the UK total), or 7.1 tonnes per capita. UK per capita emissions were also 7.1 tonnes. Suffolk's Industry and Commercial emissions were 2,247.6 kilo tonnes (42% of the Suffolk total); Domestic emissions were 1648.9 kilo tonnes (31%); and Transport emissions were 1466.2 kilo tonnes (27%). This proportional split between the three sectors matched that of the UK as a whole. Industry & Commercial emissions in St Edmundsbury Borough are notably higher than the other Boroughs and Districts, at 835.2 kilo tonnes. This is 2.6 times the Suffolk average, or 3.5 times the average of the other six Boroughs and Districts.

2.3.8 Transport

- Traffic levels at monitored locations in Suffolk have increased annually since 1999.
- Suffolk has strategic transport connectivity with main road and rail links including the A12/A14/A140 main roads from London to Felixstowe and Cambridge, together with main line rail links from London, to Cambridge and Norwich and a strategic link for freight traffic from Felixstowe to Nuneaton in the Midlands.
- The dispersed nature of Suffolk's rural population combined with a lack of services and regular scheduled public transport in rural areas is unlikely to lead to decreased demand for private travel in the near future.
- The Port of Felixstowe, the largest container port in the country, contributes significantly to HGV traffic in Suffolk, particularly on the A14. The approved port expansion there, along with the approved port at Bathside Bay in Harwich, Essex, will lead to an increase in HGV traffic in the future. Almost all waste within Suffolk is transported by road (except for some nuclear waste transported by rail from Sizewell).
- The number of cars in Suffolk has increased by over 60,000 in the last ten years (Suffolk



County Council 2013). Latest Census data (for 2011) shows that just over 255,000 Suffolk households had access to a car or van (82.1% of all households). The proportion of households with access to a car or van was higher in rural areas of Suffolk (89.2%) compared to urban areas (77.5%), but this still means that around 1 in 10 rural households (just over 13,000) do not have access to a car or van. This is an important consideration because of the potential implications for access to services and key amenities.

- Across Suffolk there has been a slight fall in use of sustainability modes of transport to work in 2012 over the period 2009 to 2012.
- Census data shows that the percentage of Suffolk residents using public transport (bus, train, tram, light rail, metro) to travel to work fell from 5.8% to 3.5% between 2001 and 2011 (although the actual number of people using public transport to get to work increased slightly, by 1.4%, or almost 250 people).

2.3.9 Water

- Water policy in England aims to protect both public health and the environment by maintaining and improving the quality of water. In addition to the ever increasing demand from human uses, water contributes to the natural environment and is an influential factor in the protection of wildlife species and sites, especially wetlands and estuaries.
- In the Anglian River Basin District only 18% of surface waters are at Good Ecological Status, as required by the Water Framework Directive (WFD). In Suffolk 9% of the rivers are at Good or High Ecological Status with 30% Poor or Bad. The WFD requires that all streams, rivers and estuaries are at Good Ecological Status by 2027.
- Suffolk need to address a range of water management and water resource issues, including physical modification, diffuse rural and urban pollution and over abstraction.
- There are also a large number of internationally important wetlands and estuaries that need to be protected and enhanced.
- Suffolk has a lower than average rainfall and with increasing population growth and demand, water resources will be under severe pressure in future, directly affecting not just public health and wellbeing but also potentially restricting economic growth.
- Currently the total requirement for public water supply is growing at about 1% per year and is expected to rise even faster as the climate warms - resulting in increasing public and agricultural demand for water - and as a result of population growth.
- In addition, there is a legal requirement to reduce the amount of water taken from local ground and surface water sources in order to protect Suffolk's many water-dependent designated environments.
- Demand for irrigation water for agricultural and food production is predicted to increase by 10% in the next 20 years – in spite of continuous improvements in the efficient use of water in this sector.
- Direct water consumption currently averages 150 litres per person per day; including food production consumption averages 3,400 litres per person per day. There will need to be considerable investment in new reservoirs or transfers from areas where water is available,



within the next 20 years to satisfy the increased demand.

- Following two dry winters in 2010/11 and 2011/12 a drought was declared, immediately followed by extreme rainfall and resultant flooding from April 2012 onward. These fluctuations in water availability are predicted to increase. Due to sea level rise and tidal flooding, groundwater supplies in the coastal area are at risk of reducing quality due to a rise in salinity.

2.3.10 Flooding

- Although flooding cannot be completely prevented, its impacts can be avoided and reduced through effective planning and land management. In the Plan Area, all local authorities have completed Strategic Flood Risk Assessments (SFRAs) in order to identify and manage catchment wide flooding issues within their area as part of the planning process. The county council has also produced SFRA for Minerals and Waste planning and a Preliminary Flood Risk Assessment as part of the requirements of the Flood Risk Regulations (2009). Data compiled on this subject is useful to identify whether broad potential future locations for development represent the most appropriate choices.
- Proposed minerals and waste developments must ensure they do not impede drainage in any way, and that mineral processing plant is not at risk of flood damage. Similarly, any proposed minerals and waste developments should not impact any flood infrastructure.
- The National Planning Policy Framework seeks to avoid inappropriate development in areas at risk of flooding, but where development is necessary, to ensure that it is safe and does not increase flood risk elsewhere.
- In Suffolk 5,000 homes are at risk from tidal flooding, 1,600+ in Ipswich alone (based on Environment Agency Shoreline Management Plans) and in addition there are over 20,000 homes potentially at risk from river flooding – particularly in the Gipping, Stour and Waveney valleys. There are also an estimated 80,000 properties currently at risk from surface water or flash flooding. In total this equates to about 1 in 6 properties potentially vulnerable to some form of flooding.
- 2012 and 2014 both saw a number of extreme rainfall events; whereas 2013 was particularly dry. On average the County Council receives some 300-500 reports of surface water flooding. Whilst the number of properties affected by internal flooding is relatively small (35 to date in 2014), the impact on transport networks can be severe.
- Much of the current drainage network is only designed to withstand a rainfall event with a 1 in 30 chance of occurring in any one year. When overwhelmed by surface rainfall, many of the older drainage systems surcharge foul water – a significant health problem.

2.3.11 Cultural Heritage and Townscape

- The historic environment should be effectively protected and valued for its own sake, as an irreplaceable record which contributes to our understanding of both the present and the past.
- Historic Environment Characterisation (HEC) is an approach to characterisation which integrates the three main strands which make up the historic environment; historic buildings,



historic landscape (urban and rural) and below ground archaeological remains. HEC is a means of incorporating the historic environment into spatial planning particularly at a strategic level, usually used at a sub-regional, county or district level. It is particularly useful since it provides an overview of the historic environment in its entirety, rather than just one aspect such as historic landscape.

- The County's Historic Environment Record (HER) currently (2013) has 24,484 records relating to 16,814 archaeological sites. Of these, 328 are designated as Scheduled Monuments of national importance. The county also contains many buildings of historical or architectural interest, with 16,650 listed buildings and 170 Conservation Areas recorded. The numbers of recorded archaeological sites, listed buildings and conservation areas have all increased in recent years, giving increased protection to Suffolk's heritage. The area of designated historic parkland has also increased in the last five years.
- Suffolk's historic landscape makes an outstanding contribution to the County's character and local distinctiveness. A high percentage of the county is deemed to be 'ancient countryside' where the pattern of fields and roads is of medieval or earlier origin. The Historic Landscape Characterisation (HLC) is a key resource for understanding the historic landscape.
- The condition of the built heritage in Suffolk is likely to decline somewhat in the near future due to a continuing reduction in public funding for conservation and a 'real terms' fall in household income.

2.3.12 Economy

- Prosperity and economic growth indicators show that the number of businesses in Suffolk has increased, although the business formation rate is lower than average for England and the East of England.
- Suffolk followed the national trend, with falls across the board in local JSA claimant counts. The biggest declines in Suffolk were in Ipswich, where the count fell by 195 to 2,856 (a rate of 3.3%), Waveney, down 158 to 2,008 (3.0%), and Babergh, down 87 to 746 (1.4%).
- The total size of Suffolk's economy (gross value added, or GVA) in 2012 was around £12.6 billion. The total size of Suffolk's economy (Gross Value Added, or GVA) in 2013 was around £15.2 billion, representing a 17% increase from the previous year. GVA per head in Suffolk was £20,620 in 2013, considerably below the national average of £23,755.
- In mid-2012 there were some 439,000 working-age residents in Suffolk, of whom around 364,000 were economically active. This is an economic activity rate of 83%, higher than the average across the East of England (79.6%). Some 21,600 working-age residents (5.9% of the population) were unemployed. Unemployment remains slightly lower than the average in the East of England (6.8%), and nationally.
- Although unemployment rates in Suffolk are generally lower than nationally, wage rates are persistently lower.
- Youth unemployment (16-24 year olds) was at 16.9%, lower than in the East of England region. In 2011, there were some 305,200 jobs in Suffolk – including both employees and those in self-employment.
- In 2012, the average earnings of full-time workers employed in Suffolk were around £24,800



per year. This lags behind the average in the East of England. Suffolk has a diverse employment base with a broad mix of jobs. In 2012, the largest proportion is in public administration, education and health with just over a quarter (26%) of total jobs. Manufacturing accounts for around 12% of jobs.

- At the last Census in 2011, within Suffolk 0.2% of those employed were within the quarrying sector and 0.7% of those employed were working within water supply, sewerage, waste management and remediation.
- The UK waste management sector employs 141,000 people, of which approximately 110,000 work in England. 13,500 work in the sector in the East of England.
- According to State of Suffolk Report (2015), Suffolk has the two largest US Air Force bases in the UK (Lakenheath and Mildenhall) in Forest Heath. These provide employment for many, as do the UK armed forces bases at Honington, Wattisham and Woodbridge. It is important to note that in early 2015 the United States Airforce announced their withdrawal from Mildenhall, which is likely to impact upon the economy over the next four years.
- Several of Suffolk's districts and boroughs have above average employment in production, the vast majority of which refers to manufacturing activities. St Edmundsbury and Waveney in particular have a large proportion of employment in production. Transport and communications is a vital sector in Suffolk Coastal. Employment data indicates that over a quarter (26.8%) of Suffolk employees are employed in public administration, education and health occupations. This area could be susceptible to future public sector cuts.

2.3.13 Housing

- The latest population trend data shows that the population in the Plan Area is growing annually. This has important implications for the management of waste, and the requirement for new waste management facilities.
- In November 2013, Suffolk had a total housing stock of 331,300, which represents a 12.2 % increase from 295,130 dwellings in 2001, with an average annual increase in recent years of about 2,700 (although the 2005/6 increase was 3392, the highest such figure in the past 15 years).
- The Ministry of Housing, Communities and Local Government has proposed a revised methodology for planning for new housing and the figures that arise from this methodology are shown in the table above. However, the total difference for the County of Suffolk is 62 dwellings per annum, which would result in a negligible increase in the total waste arisings for the County.
- There is a need to provide for new dwellings in Suffolk at an average build rate of between 3,050 and 3,112 units per year. The present household build rate is 2,077 units, well below the average and a continuing reflection of the weak economic climate.
- Suffolk has a higher proportion of fuel poor households (9.7%) when compared to its geographical neighbours; 9.5% in Norfolk, 8.3% in Cambridgeshire and 7.6% in Essex in 2012. Being a largely rural county Suffolk has both a high number of solid fuel properties as well as numerous areas off the gas grid, which further compounds the issue of fuel poverty.
- New housing developments place pressures on existing services and it naturally follows that



such developments will also have an impact on waste collection and disposal services which in turn will impact on the need for additional sites to meet demand. In addition, the needs for minerals operators and society's requirements for minerals to be reconciled with the need to protect human health and local amenity.

2.3.14 Trans-boundary effects

There are not considered to be any direct trans-boundary effects relevant to the wider area. Nevertheless, effects have been explored throughout the SA process to date, for instance regarding green infrastructure networks, the Dedham Vale AONB and strategic transport routes that cover a wider context than Suffolk alone.

The SEA Directive at Article 7, requires Transboundary Consultations should the implementation of the Plan being prepared possibly have significant effects on the environment in another 'Member State'. To date, this has been undertaken, with formal consultation sought from neighbouring County Councils and District Borough Councils. No significant environmental effects have been identified through the consultation of the Plan and the accompanying SAs at the Issues and Options and Preferred Options stages.

2.3.15 Data Limitations

Not all relevant information was available at the local level to inform site assessments. It is believed however that the available information shows a comprehensive view on sustainability within the Plan Area that can be used to fairly compare the sustainability of options. New data that has become available, including the Plan's evidence base, has been incorporated into this SA Environmental Report.

While the baseline has been updated throughout the SA process, the information outlined within this Report represents a snapshot of the information available at the beginning of April 2018.

2.4 Key Sustainability Issues and Problems and Sustainability Objectives (Stage A3)

The outcome of Stages A1 – A2 in the SA Process was the identification of key sustainability issues and problems facing the Plan Area which assist in the finalisation of a set of relevant Sustainability Objectives which would set the framework for the appraisal of the Plan during its preparation. The sustainability objectives are also derived from the review of plans and programmes and a strategic analysis of the baseline information.

The appraisal will then be able to evaluate, in a clear and consistent manner, the nature and degree of impact and whether significant effects are likely to emerge from the Plan's proposed policies. The following table outlines the stages which led to the formulation of the Sustainability Objectives, which were based on the key issues for the Plan Area.

Table 2: Key Sustainability Issues and Problems

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
<p>The quality of water within the County's rivers is generally fair to good in terms of chemical and biological quality. However the chemical quality of the rivers is worse than the average quality of rivers in the East of England. There are potential issues with removal of part of an aquifer and disrupting groundwater flows.</p> <p>Risk of contamination of surface and groundwater and siltation of watercourses:</p> <ul style="list-style-type: none"> by suspended sediment from mineral working and tipping of mineral waste. pollution from natural contaminants and fuels, oils and solvents. pollution from the working of previously contaminated land, including the reworking of mineral waste tips for secondary aggregates and post-restoration uses, e.g. use of fertilisers, surface water run-off. 	<p>In the absence of an up to date plan-led system, the quality of water and its efficient use in the future may not be appropriately ensured through speculative minerals and waste development.</p>	<p>1. To maintain or improve quality of surface water and groundwater</p>

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
<p>Currently the total requirement for public water supply is growing at about 1% per year and is expected to rise even faster as the climate warms - resulting in increasing public and agricultural demand for water - and as a result of population growth.</p> <p>Potential increase use of water for processing stage of mineral and waste facilities.</p>	<p>In the absence of an up to date plan-led system, the quality of water and its efficient use in the future may not be appropriately ensured through speculative minerals and waste development.</p>	<p>2. To maximise the efficient use of water</p>
<p>The majority of farmland in the borough is either Grade 2 or 3 which are generally considered to be the best and most versatile types of agricultural land. The future growth in Suffolk is likely to result in the loss of some of this valuable land.</p> <p>Mineral and Waste operations need to have regard to:</p> <ul style="list-style-type: none"> • Degradation of soil stored during period of mineral working • Risk of land contamination • Fragmentation of agricultural holdings. • Land take and permanent loss of soils • Land instability during mining operations and reclamation. • Risk of subsidence or instability from sub-surface working, tipped land or hydrological changes 	<p>In the absence of a plan-led system and process of site allocation, speculative development or proposals may be forthcoming on higher quality soils.</p>	<p>3. To maintain / improve soil quality / resources</p>
<p>Over 36% of Suffolk is either nationally or locally protected for its wildlife or landscape value.</p> <p>Many mineral deposits and therefore current or potential landfill sites in Suffolk lie close or in the Areas of Outstanding Natural Beauty. The Suffolk landscape and its relationship with historic settlements form an important component of the historic environment contributing to place making and local distinctiveness.</p>	<p>In the absence of a plan-led system and process of site allocation the quality of landscapes in the future may not be appropriately supported.</p>	<p>4. To maintain / improve the quality and local distinctiveness of landscapes / townscapes</p>

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
<p>The use of quarries as landfill sites can extend the time for restoration and therefore increases landscape impacts.</p> <p>Landscape restoration and management opportunities should be maximised in relation to minerals/landfill operations and after-use.</p>		
<p>According to DECC, Suffolk's emissions have dropped from 5721.9 kilo tonnes (kt) (8.2 tonnes per capita) in 2005 to 5227.3 kilo tonnes (7.1 tonnes per capita) in 2012, a reduction of 8.6% over 7 years (1.2% per annum).</p> <p>Need to introduce measures to reduce carbon dioxide and other greenhouse emissions from waste and mineral activities.</p> <p>There are also predicted to be river flow increases associated with climate change.</p>	<p>Without suitable Plan criteria, the reduction of greenhouse gas emissions in the future may not be appropriately supported and increased flood risk may be recorded.</p>	<p>5. To reduce greenhouse gas emissions and enhance energy efficiency</p>
<p>Suffolk contains a range of sites with ecological designations, including six Ramsar sites, seven Special Protection Areas, eight Special Areas of Conservation, 283 Sites of Special Scientific Interest (of which 36 are geological) and 36 Local Nature Reserves, Geological/Geomorphological Sites (RIGS) and 109 candidate RIGS.</p> <p>In addition, a number of Biodiversity Action Plans and Habitat Action Plans are in place, with the aim of conserving and increasing nationally and locally important habitats and species in the county.</p>	<p>Without a Plan-led system and site allocation process biodiversity protection may not be appropriately ensured through speculative proposals.</p> <p>This includes net biodiversity gains, which should be sought through the restoration of minerals sites, where appropriate and the positive management and creation of new habitats.</p>	<p>6. To conserve / enhance biodiversity or geodiversity</p>
<p>Suffolk's historic landscape makes an outstanding contribution to the County's character and local distinctiveness. The numbers of recorded archaeological sites, listed buildings and conservation areas have all increased in recent years, giving increased protection to Suffolk's heritage. The area of designated historic parkland has also increased in the last five years.</p>	<p>Without the Plan, the preservation of the historic environment may not be appropriately ensured through speculative proposals. Similarly, a positive strategy for the conservation of the historic environment can be ensured through a plan-led system, including such support through this supporting SA.</p>	<p>7. To preserve or enhance the historic environment, historical buildings / sites, archaeological sites and other culturally important buildings</p>

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
<p>Many scheduled monuments lie in close proximity to current quarries and on mineral deposits. The NPPF requires a positive strategy for the conservation of the historic environment.</p>		
<p>Increased risk of flooding, creating a greater need for flood and surface water management and raise a consideration for the location, longevity and viability of minerals and waste operations. In addition effects to ground and surface water levels and quality affecting vulnerability of these resources as well as abstraction. Requiring further vulnerability assessments.</p> <p>Proposed minerals and waste developments must ensure they do not impede drainage in any way, and that mineral processing plant is not at risk of flood damage. Similarly, any proposed minerals and waste developments should not impact any flood infrastructure.</p> <p>The following risks relate to mineral and waste development:</p> <ul style="list-style-type: none"> • Disturbance or removal of surface features such as watercourses or flood storage. • Increased risk of groundwater flooding from low level restoration. • Effects of long term pumping on other abstractors and wetland habitats. 	<p>A plan-led system can ensure that proposed minerals and waste developments do not impede drainage and increase the risk of flooding off site.</p>	<p>8. To minimise flood risk</p>
<p>Parts of the strategic road network pass through towns and villages creating issues for local communities in terms of air quality, amenity and road safety which can be heavily impacted by increases in HGV trips - particularly in sensitive rural areas and designated AQMAs.</p> <p>Minerals and waste development may lead to changes in local travel patterns that may intensify</p>	<p>A plan-led system, and the process of allocating sites for minerals and waste activities, can ensure that only appropriate sites come forward both individually and cumulatively, through appropriate evidence on a strategic scale. This would not be forthcoming through speculative</p>	<p>9. To minimise effects of traffic on the environment</p>

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
<p>existing issues such as congestion or road safety.</p> <p>The dispersed nature of Suffolk's rural population leaves little scope to increase usage of modes alternative to road for waste transportation.</p>	<p>proposals, which would be based on their individual impacts and merits.</p>	
<p>Suffolk currently has nine Air Quality Management Areas (AQMAs). Eight are solely associated with road traffic. The ninth AQMA is in the Felixstowe Dock area, with contributions from dock activities as well as road traffic.</p> <p>Transportation of minerals and waste by road is increasingly likely to be an air quality issue due to congestion.</p>	<p>Without the Plan air quality in the future may not be appropriately supported by speculative proposals and an absence of cumulative analysis of sites across the strategic area.</p>	<p>10. To maintain / improve air quality</p>
<p>Protection and, where possible, enhancement of the environment both during mineral working and through high quality restoration and after-care is essential to sustainable minerals planning.</p>	<p>Without the Plan a steady and adequate supply of minerals that seeks long term gains from restoration and after-use may not be forthcoming or strategically interlinked from speculative proposals.</p>	<p>11. Promote effective restoration and appropriate after-use of sites</p>
<p>There is a strong need to safeguard mineral resources, including through increased use of secondary and recycled materials.</p>	<p>Without the Plan a steady and adequate supply of minerals over the plan period is unlikely to be appropriately ensured.</p>	<p>12. Avoid sterilisation of minerals resources</p>
<p>There is a strong need to ensure that mineral resources are both adequately supplied and also viable from an economic viewpoint. This is also the case for wider minerals and waste industries.</p>	<p>The plan can ensure a steady supply of minerals throughout the plan period, with viability a key consideration in the allocation of sites. A strategic view over the plan period cannot be guaranteed in the absence of a plan-led system.</p>	<p>13. Promote sustainable economic use of natural resources</p>
<p>Suffolk currently has sufficient permitted reserves of sand & gravel to maintain a seven years land bank. However, if rates of economic growth continue (increasing the average annual sales</p>	<p>Without the Plan a steady and adequate landbank of minerals may not be appropriately ensured over the plan period.</p>	<p>14. Ensure a steady and adequate supply of minerals to meet the needs of the society</p>

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
whilst decreasing the land bank), additional sand & gravel resources would need to be identified.		
The need to integrate minerals and waste planning (including waste infrastructure) is essential in the promotion of sustainable development.	Without a Plan-led system, the links between minerals and waste planning are unlikely to be ensured for maximum sustainability benefits and appropriate management.	15. To move treatment of waste up the waste hierarchy
<p>There is a need to give consideration to locally voiced issues regarding minerals and waste facilities, particularly from residential development in proximity to such facilities, as the basis for assessing the need for new or upgraded waste facilities.</p> <p>Potential impacts on health, well-being and quality of life should be taken into account in identifying suitable sites for minerals sites and waste facilities. The potential impact of noise, dust, blasting, vibration, lighting and water pollution generated by ongoing operations needs to be considered.</p>	Without the Plan the minimisation of any impacts on human health in the future may not be appropriately ensured.	16. To minimise the impacts arising from the minerals and waste developments on where people live
<p>The population of Suffolk has increased by 8.9% since 2001, of the respective local authority areas.</p> <p>High population growth rates and changing demographics present a challenge in relation to ensuring the provision of appropriate infrastructure, services and facilities to reflect growth patterns, ensuring adequate access, and addressing changing demographics.</p>	Without a plan-led system a ready supply of building materials may not be ensured that is specifically calculated in response to housing growth forecasts / LPAs OAN figures.	17. To meet the housing needs of the population
There is a need to give consideration to locally voiced issues regarding minerals and waste facilities, particularly from residential development in proximity to such facilities, as the	Without the Plan the minimisation of any impacts on sensitive receptors regarding the noise of operation s and effective mitigation in the future may not be appropriately ensured.	18. To minimise production of noise at quarries

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
<p>basis for assessing the need for new or upgraded waste facilities.</p> <p>Potential impacts on health, well-being and quality of life should be taken into account in identifying suitable sites for minerals sites and waste facilities. The potential impact of noise, dust, blasting, vibration, lighting and water pollution generated by ongoing operations needs to be considered.</p>		
<p>There is a need to give consideration to locally voiced issues regarding minerals and waste facilities, particularly from residential development in proximity to such facilities, as the basis for assessing the need for new or upgraded waste facilities.</p> <p>Potential impacts on health, well-being and quality of life should be taken into account in identifying suitable sites for minerals sites and waste facilities. The potential impact of noise, dust, blasting, vibration, lighting and water pollution generated by ongoing operations needs to be considered.</p>	<p>Without a plan-led system, mitigation against any impacts on recreation and open space may not be forthcoming. In addition, the plan allows long term enhancements through holistic and strategic restoration proposals.</p>	<p>19. To maintain and improve recreation and amenity</p>
<p>There is a need to give consideration to locally voiced issues regarding minerals and waste facilities, particularly from residential development in proximity to such facilities, as the basis for assessing the need for new or upgraded waste facilities.</p> <p>Potential impacts on health, well-being and quality of life should be taken into account in identifying suitable sites for minerals sites and waste facilities. The potential impact of noise, dust, blasting, vibration, lighting and water pollution generated by ongoing operations needs to be considered.</p>	<p>Without the Plan the minimisation of any impacts on human health in the future may not be appropriately ensured.</p>	<p>20.To protect and enhance human health and wellbeing</p>

Description / Supporting Evidence	State of environment in the absence of the Plan	SA Objective (SO)
<p>Mineral and waste working provides a limited, yet significant, contribution to the county's economic performance supporting economic growth in key sectors; however the creation of jobs by mineral companies is limited and may be temporary.</p> <p>Minerals and waste operations will need to be compatible with stated environmental objectives, recognising the contribution that the quality and distinctiveness of Suffolk's environment can make as a long-term economic driver.</p>	<p>Waste management facilities need to be compatible with more traditional existing and proposed employment opportunities, particularly where co-located in industrial areas. This is best ensured through a plan-led system and appropriate locational criteria for such waste management facilities.</p>	<p>21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment</p>
<p>There are established networks spread across the County, however shortcomings in the transport network are identified. The need to contribute to a more sustainable transport network is identified in order to benefit the growth of the overall economy in Suffolk.</p> <p>Infrastructure requirements are increasingly required in line with higher levels of expected housing growth in the Plan area.</p>	<p>Without the Plan the requirement for a driving economy in the future may not be appropriately supported. Plan policies can also ensure an effective landbank of minerals to support infrastructure projects.</p>	<p>22. To maintain / improve existing infrastructure</p>
<p>Minerals and waste operations will need to be compatible with stated objectives, recognising the contribution that the quality and distinctiveness of Suffolk's environment can make as a long-term economic driver.</p>	<p>Without the Plan the requirement for a driving economy in the future may not be appropriately supported. Plan policies can also ensure an effective landbank of minerals to support infrastructure projects.</p>	<p>23. Promote sustainable investment in the County</p>
<p>There are established networks spread across the County, however shortcomings in the transport network are identified. The need to contribute to a more sustainable transport network is identified in order to benefit the growth of the overall economy in Suffolk.</p>	<p>Without a Plan-led system, the transport of waste and minerals is unlikely to be viewed holistically through requirements and appropriately located sites.</p>	<p>24. To promote efficient movement patterns in the County (where possible)</p>

3. The Sustainability Frameworks

3.1 The Sustainability Framework – Policy Content

The principal outcome of the Scoping Report and Stage A in the SA process is the development of the Sustainability Framework. This is presented below, and forms the methodology for the appraisal of the Local Plan's policies.

The following table shows the Sustainability Framework developed for the appraisal of the Plan's policy content.

Table 3: The SA Sustainability Framework

SA Objective	Key Questions / Assessment Criteria	Key Indicators
1. To maintain or improve quality of surface water and groundwater	<ul style="list-style-type: none"> • Seek to sustain the highest water quality? • Take into account the Water Framework Directive and proposed development impacts? • Seek to prevent pollution from field run off or other sources? • Likely to change the general quality assessment grades of surface and ground water quality? • Avoid adverse effects on existing patterns of groundwater flow and/or surface water flow? • Protect or enhance the quantity and quality of ground and surface waters? • Does the Plan seek to address the potential issues with the removal of part of an aquifer and disrupting groundwater flows 	<ul style="list-style-type: none"> • Water quality in rivers • Groundwater quality • Potential effect on groundwater source protection zones • Condition of water bodies (Water Framework Directive)
2. To maximise the efficient use of water	<ul style="list-style-type: none"> • Change potable and/or non-potable abstraction resources or disrupt aquifer continuity? • Maintain water availability for water dependant habitats? • Affect rates of abstraction/water use? • Affect grey water recycling? 	<ul style="list-style-type: none"> • Water use figures from Anglian Water/Essex & Suffolk Water • Resource availability status for units of groundwater in Catchment abstraction • Use of recycled water on waste sites.

SA Objective	Key Questions / Assessment Criteria	Key Indicators
3. To maintain/improve soil quality/resources	<ul style="list-style-type: none"> Minimise risk of soil contamination? Safeguard soil and protect quality and quantity? Encourage the de-contamination and/or re-use of soils? Reduce the capacity of the soil to hold carbon? Minimise the loss of greenfield land to development? Minimise loss of the best and most versatile agricultural? Affect the amount of contaminated land? Lead to remediation of contaminated land? 	<ul style="list-style-type: none"> Map/data showing soil quality Area (hectares) of contaminated land returned to beneficial use Number and percentage of new development completed on greenfield land. No. of waste management sites on greenfield land. Waste management sites/development on best agricultural land.
4. To maintain/ improve the quality and local distinctiveness of landscapes/ townscapes	<ul style="list-style-type: none"> Protect and enhance the landscape everywhere and particularly in designated areas? Improve landscape and townscape character of the county and help to minimise adverse impacts to local amenity and overall landscape character? Conserve and enhance landscape character, quality and distinctiveness, paying particular regard to AONB and other designated areas of high landscape and/or historic sensitivity or value? Contribute to an adverse cumulative impact of development on protected landscapes? Provide for the restoration of land to an appropriate after-use and landscape character? Reduce the amount of derelict, degraded and underused land? Provide opportunities for the creation of accessible greenspace at waste sites where restoration is planned? 	<ul style="list-style-type: none"> Changes in landscape (Landscape Character Assessment)Area of designated landscape (SLAs & AONBs and The Broads) Number of TPOs affected Number of field boundaries affected Light pollution Number of planning applications refused for reasons due to poor design Amount of new development in AONB/National Park/Heritage Coast with commentary on likely impact. Access and green infrastructure: Percentage of the city's population having access

SA Objective	Key Questions / Assessment Criteria	Key Indicators
		<p>to a natural greenspace within 400 metres of their home.</p> <ul style="list-style-type: none"> Length of greenways constructed. Hectares of accessible open space per 1000 population.
5. To reduce greenhouse gas emissions and enhance energy efficiency	<ul style="list-style-type: none"> Encourage on-site energy improvements? Help to reduce greenhouse gas emissions and enhance energy efficiency? Affect methane levels? 	<ul style="list-style-type: none"> Consumption of electricity - Domestic use per consumer and total commercial and industrial use. Consumption of energy. Use of low carbon technologies. Location to maximize tonnes per miles. Opportunities for utilizing renewable or low-carbon energy supply systems.
6. To conserve/enhance biodiversity or geodiversity	<ul style="list-style-type: none"> Avoid damage to sites, protected species and habitats, especially where there is a designation of international, national, regional or local importance? Maintain and improve biodiversity/geodiversity, avoiding irreversible losses? Restore full range of characteristic habitats and species to viable levels? Avoid direct or indirect impacts on internationally or nationally or locally designated or recognised sites or habitats? Conserve or enhance species diversity and avoid harm to internationally and nationally protected, scarce and rare species? 	<ul style="list-style-type: none"> Change in number and area of designated ecological sites. Condition of CWS (National Indicator 197). Development proposals affecting protected species outside protected areas. Achievement of Habitat Action Plan targets. Achievement of Species Action Plan targets. Development proposals affecting habitats outside protected areas.

SA Objective	Key Questions / Assessment Criteria	Key Indicators
	<ul style="list-style-type: none"> • Provide for positive management of existing habitats? • Assist species to adapt to the anticipated effects of climate change? (i.e. through connecting habitats and/or providing greenspace)? • Expand the spatial extent of priority habitat within Suffolk? • Contribute to an adverse cumulative impact of development on biodiversity? • Conserve or enhance geological SSSIs? • Create, extend or enhance Local Geological Sites? • Allow access to geodiversity resources for study? 	<ul style="list-style-type: none"> • Bird survey results. Reported condition of ecological SSSIs. • Number of planning approvals that generated any adverse impacts on sites of acknowledged biodiversity importance. • Percentage of major developments generating overall biodiversity enhancement. • Hectares of biodiversity habitat delivered through strategic site allocations.
<p>7. To preserve or enhance the historic environment, historical buildings/sites, archaeological sites and other culturally important buildings</p>	<ul style="list-style-type: none"> • Have an adverse impact on local historic assets, historic buildings and archaeological Deposits? • Change the condition of known or potential archaeological monuments and/or the ability to record unknown buried archaeology? • Protect designated areas- nationally, regionally and locally • Protect areas of high archaeological potential • Cause a loss of, or harm to, the character and/or setting of historic assets? • Suggest the measures conserve and enhance the local character and distinctiveness of historic townscapes and landscapes? • Identify and protect the relationship between historic settlements and the wider landscape • Does the Plan Cause a loss of, or harm to, the character and/or setting of heritage assets 	<ul style="list-style-type: none"> • Number of listed buildings at risk • Area of historic parks & gardens • Size, condition and number of Conservation Areas • Buried archaeology as listed in NMR or HER • Areas of significant archaeological and paleo-environmental potential • Number of conservation area appraisals completed and enhancement schemes implemented • Buried archaeology as listed in the NMR or HER or considered to be likely within a particular site by the County Archaeologist and/or Historic England.

SA Objective	Key Questions / Assessment Criteria	Key Indicators
		<ul style="list-style-type: none"> Minerals & Waste applications submitted and refused due to adverse impact to the Historic Environment Minerals & Waste applications submitted and allowed with conditions relating to the Historic Environment Site allocations supported or opposed by Historic England
8. To minimise flood risk	<ul style="list-style-type: none"> Ensure minerals and waste developments not at risk of flooding? Ensure no increased risk of flooding elsewhere? Mitigate the potential effects of fluvial flooding and reduce overall flood risk? Mitigate the potential of surface water flooding and reduce overall flood risk? Mitigate the potential for coastal flooding and reduce overall risk? Mitigate the potential for groundwater flooding and reduce overall risk? Minimise the risks and impacts of flooding having taken into account climate change? 	<ul style="list-style-type: none"> Flood Risk – Planning applications approved against Environment Agency advice. Properties at risk of flooding from rivers. Incidence of fluvial flooding (properties affected). Incidences of surface water flooding Incidences of coastal flooding Incidences of groundwater flooding SFRA results.
9. To minimise effects of traffic on the environment	<ul style="list-style-type: none"> Minimise traffic volumes? Reduce the impact of road traffic, in particular HGV trips, on local communities? Reduce the vehicle kilometres travelled for the transportation of minerals and waste? Support and encourage the use of sustainable modes of transport? 	<ul style="list-style-type: none"> Location to maximize tonnes per miles Location of Strategic Lorry Routes Percentage of journeys to work undertaken by sustainable modes

SA Objective	Key Questions / Assessment Criteria	Key Indicators
	<ul style="list-style-type: none"> Support and encourage the use of low emission vehicles for the transportation of waste and minerals? 	
10. To maintain/improve air quality	<ul style="list-style-type: none"> Take into account proposed development impacts within any AQMAs and their relevant Action Plans Account for locations where air pollution levels are approaching the National Objectives thresholds Improve air quality? Affect levels of the 7 National Objective pollutants for local air quality (SO₂, NO₂, PM₁₀, benzene, 1,3-butadiene, CO, Pb). 	<ul style="list-style-type: none"> Achievement of emission limit values Number of AQMAs and dwelling affected Number of days of air pollution Operational impact on air quality
11. Promote effective restoration and appropriate after-use of sites	<ul style="list-style-type: none"> Promote effective restoration and after use of sites for social, environmental or economic benefit? 	<ul style="list-style-type: none"> Restoration and after use of minerals sites
12. Avoid sterilisation of minerals resources	<ul style="list-style-type: none"> Provide appropriate land-use planning mechanisms to avoid sterilisation of mineral resources? 	<ul style="list-style-type: none"> Minerals resources within the county and extend of sterilisation Planning mechanisms
13. Promote sustainable economic use of natural resources	<ul style="list-style-type: none"> Encourage the use of recycled goods/aggregates? Minimise the use of virgin materials and allow for the use of local, reused or recycled materials? Help to reduce land contamination? Protect best and most versatile agricultural land? Change the ability to extract and distribute minerals? 	<ul style="list-style-type: none"> Minerals resources consumption Protection of best and most versatile agricultural lands Soil contamination

SA Objective	Key Questions / Assessment Criteria	Key Indicators
	<ul style="list-style-type: none"> Promote sustainable waste management principles 	
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	<ul style="list-style-type: none"> Allow for a steady and adequate supply of minerals to meet the needs of the society in accordance with national policy? 	<ul style="list-style-type: none"> Supply of minerals
15. To move treatment of waste up the waste hierarchy	<ul style="list-style-type: none"> Increase recycling/reuse measures? Reduce waste to landfill? Encourage energy recovery? 	<ul style="list-style-type: none"> Tonnage of household waste produced and recycled
16. To minimise the impacts arising from the minerals and waste developments on where people live	<ul style="list-style-type: none"> Ensure that a Statutory nuisance is not caused under the Environmental protection Act 1990, in terms of dust? Ensure that a Statutory nuisance is not caused under the Environmental protection Act 1990 by reference to BS4142 "Method for Rating industrial noise affecting mixed residential and industrial sources"? Ensure odour levels compliance? Provide mitigation measures? Affect fly tipping in the County? 	<ul style="list-style-type: none"> Noise levels Dust levels Number of human receptors Complaints relating to noise, dust and odour (Districts Environmental Health officers and SCC) Fly tipping statistics (SCC) Light pollution maps
17. To meet the housing needs of the population	<ul style="list-style-type: none"> Ensure sufficient resources available to meet housing requirements? 	<ul style="list-style-type: none"> Supply of minerals Noise levels Dust levels Number of human receptors Complaints relating to noise, dust and odour (Districts Environmental Health officers and SCC) Fly tipping statistics (SCC) Light pollution maps



SA Objective	Key Questions / Assessment Criteria	Key Indicators
18. To minimise production of noise at quarries	<ul style="list-style-type: none"> Promote a decrease in noise levels in sensitive locations? 	<ul style="list-style-type: none"> Noise levels
19. To maintain and improve recreation and amenity	<ul style="list-style-type: none"> Improve access to facilities and services including recreational facilities and opportunities? Maximise the benefits of appropriate restoration and after-use of sites for the community? 	<ul style="list-style-type: none"> Access to recreation facilities and opportunities Restoration and after-use of sites that contributes towards recreational opportunities
20. To protect and enhance human health and wellbeing	<ul style="list-style-type: none"> Promote healthy lifestyles? Improve quality and quantity of publicly accessible open space, cultural heritage and landscape? Avoid or minimise adverse impacts on human health and safety to acceptable levels? Plans siting waste facilities within 250m of residential properties? Promote the use of landscaping and attenuation bunds to reduce the impact of noise-creating activities? 	<ul style="list-style-type: none"> Human health and safety Play and open space quality, quantity and accessibility Percentage of residents who are happy with their neighbourhood as a place to live Change in provision of open space Change in existing outdoor play space provision
21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	<ul style="list-style-type: none"> Promote growth in key sectors? Encourage rural diversification? Encourage inward investment? Encourage an increase in Suffolk's GDP per capita Support the development and growth of the local economy and generate employment opportunities? Encourage innovation and competitiveness within minerals and waste industry? Impact on long-term investment in waste management infrastructure? 	<ul style="list-style-type: none"> Number and percentage of businesses by industry type in key sectors. Value of minerals and waste development industry within the county Investment in innovation technologies within waste and minerals industry Amount of waste treated within county Employment land availability Amount of waste exported

SA Objective	Key Questions / Assessment Criteria	Key Indicators
	<ul style="list-style-type: none"> Impact on an appropriate/adequate supply of land? 	
22. To maintain/improve existing infrastructure	<ul style="list-style-type: none"> Make provision for development of necessary infrastructure to meet current and future needs? 	<ul style="list-style-type: none"> Communications links, utilities and transport infrastructure routes. Use of local materials, Use of low embedded energy materials. Mineral Resources identified Suffolk Minerals Core Strategy.
23. Promote sustainable investment in the County	<ul style="list-style-type: none"> Encourage an increase in long-term investment in minerals and waste industry? Ensure no conflict with other investment opportunities? 	<ul style="list-style-type: none"> Level of investment Number/percentage employed in minerals and waste sector
24. To promote efficient movement patterns in the County (where possible)	<ul style="list-style-type: none"> Encourage a decrease in road dependency? Promote alternative modes of transport of material? Encourage easy access to the Strategic Lorry Route Network? 	<ul style="list-style-type: none"> Transport movements No of developments where a green travel plan is submitted/condition of development

3.1.1 The Appraisal of Policies

The SA of the Plan appraises the document's policies against the Sustainability Objectives outlined in the SA framework. The aim is to assess the sustainability effects of the Plan following implementation. The appraisal will look at the secondary, short, medium and long-term permanent and temporary effects in accordance with Annex 1 of the SEA Directive, as well as assessing alternatives and suggesting mitigation measures where appropriate. The findings will be accompanied by an appraisal matrix which will document the effects over time.

Appraisals are shown in a tabulated format. The content to be included within each appraisal table responds to those 'significant effects' of the policy or element of the Plan subject to appraisal. Appraisals will also look at the following:

- Temporal effects;
- Secondary effects;
- The appraisal of alternatives; and

- Proposed mitigation measures / recommendations

These, and 'significant effects' are further described in the following sub-sections.

3.1.2 Description of 'Significant Effects'

The strength of impacts can vary dependant on the relevance of the policy content to certain sustainability objectives or themes. Where the policies have been appraised against the Sustainability Objectives the following key has been used to illustrate a range of possible impacts:

++	Significantly positive
+	Positive
?	Uncertain
-	Negative
--	Significantly negative
0	No impact

Commentary is also included to describe the significant effects of the policy on the sustainability objectives.

3.1.3 Description of 'Secondary Effects'

Significant effects are predominantly those that will occur directly from a policy or element of the Plan. Secondary effects are those that will occur indirectly.

3.1.4 Description of 'Temporal Effects'

The appraisals of the policies contained within the Plan recognise that impacts may vary over time. Three time periods have been used to reflect this and are shown in the appraisal tables as S (short term), M (medium term) and L (long term). For the purpose of the policy elements of the Plan S, M and L depict:

- (S) Short term - Early stages of the plan period (1-5 years)
- (M) Medium term - Middle stages of the plan period (5-10 years)
- (L) Long term - Latter stages of the plan period (10-15 years) and beyond, including restoration where relevant

3.1.5 Description of 'Secondary, Cumulative and Synergistic Effects'

In addition to those effects that may arise indirectly (secondary effects), relationships between



different policies will be assessed in order to highlight any possible strengthening or weakening of impacts from their implementation together. Cumulative effects respond to impacts occurring directly from two different policies together, and synergistic effects are those that offer a strengthening or worsening of more than one policy that is greater than any individual impact.

3.1.6 Description of 'Alternatives Considered'

Planning Practice Guidance states that reasonable alternatives are the different realistic options considered by the plan-maker in developing the policies in its plan. They must be sufficiently distinct to highlight the different sustainability implications of each so that meaningful comparisons can be made. The alternatives must be realistic and deliverable.

Alternatives for the direction of policies will be appraised and chronicled alongside each appraisal, together with the reason for their rejection / non-progression.

3.1.7 Description of 'Proposed Mitigation Measures / Recommendations'

Negative or uncertain impacts may be highlighted within appraisals. As such, mitigation measures may be needed and these will be highlighted in this section for each policy where relevant. In addition to this, this section will also include any recommendations that are not directly linked to negative or uncertain impacts, but if incorporated may lead to sustainability improvements.

3.1.8 Assumptions made in the Assessment of the Plan's Content

It should be noted that the appraisal of options is not straightforward, in reflection of the need to create a 'level playing field' for the assessment of both allocated and alternative policies and sites.

A lot of the available information and evidence commissioned for the Plan has been progressed in line with the allocated sites and strategy at this stage. In order to create a level playing field for the assessment of both allocated and alternative options, to the same level of detail, a lot of this information has not been considered within this appraisal.

The appraisal of the Plan's options has been undertaken using all available information that is relevant for use across all options.

3.2 The Sustainability Framework – Site Appraisals

A separate framework is needed for the assessment of site proposals that have been submitted to the County Council for consideration through a call-for-sites process. This Sustainability Framework has been developed acknowledging the need to differentiate between site conditions and predicted / anticipated impact on environmental, economic and social themes. The process of appraising sites in the SA aids the County Council in the selection of sites.

The process of appraisal of sites in this SA is an important tool in signposting sustainability impacts (negative or positive) and suggesting methods of mitigation or ways in which to maximise benefits. In previous stages of the Plan, this process has highlighted the need for certain issues to be addressed through inclusions within Plan policies.

The SA of sites uses all available information relevant to each Sustainability Objective highlighted in the Sustainability Framework for Policy Content, drawing on the Council's evaluation of each site in a series of Site Assessment Reports for all sites. This information represents the most thorough available information available at the current time, however mapping software was additionally utilised in the formulation of this SA.

For comparison purposes, a range of potential impacts are identified for each site against each Sustainability Objective. The following key outlines this range, alongside some commentary to describe general impacts. Please note however that the Framework itself offers more specific detail as to the qualifying criteria against each of the broad impacts identified in this key.

++	Significantly positive
+	Positive
?	Uncertain / neutral
?/+	Uncertain to positive (where there is a mixture of uncertain / neutral and positive impacts per site)
?/-	Uncertain to negative (where there is a mixture of uncertain / neutral and negative impacts per site)
-	Negative
--	Significantly negative
0	No impact

Commentary is also included to describe the effects of the site on the Sustainability Objectives. Cumulative impacts are also presented in a separate section, looking a broad range of impacts of the preferred sites in relation to:

- Impacts on a single receptor; and
- Impacts per broad area.

The following table outlines the Sustainability Framework for the appraisal / assessment of site options that has been developed at this stage. The framework indicates how impacts are identified

in the appraisal of site options later in this report.

Table 4: The Sustainability Framework for the assessment of site options

SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
1. To maintain or improve quality of surface water and groundwater	No significant positive impacts are highlighted as possible due to the nature of operations.	No positive impacts are highlighted as possible due to the nature of operations.	<p>The site is partly within a Source Protection Zone.</p> <p>OR</p> <p>The site is outside groundwater protection zones (SPZs) but sits above principle or secondary aquifers.</p> <p>OR</p> <p>More detailed assessment required.</p>	There are no known constraints regarding surface or groundwater.	<p>The site is located within a ground water Source Protection Zone.</p> <p>There are known constraints regarding surface water.</p>	No significant negative impacts identified as relevant for this objective.
2. To maximise the efficient use of water	There is not a suitable amount of information regarding the use of water submitted alongside proposals.					
3. To maintain / improve soil quality / resources	Restoration proposals intended to improve original (ALC) soil quality grading.	The proposal is not on land in agricultural use / has no intrinsic value (Grade 4 or 5 ALC)	Grade 3 ALC	Where relevant in specific circumstances	Grade 2 ALC	Grade 1 ALC
4. To maintain/ improve the quality and local distinctiveness	No significant positive impacts are highlighted as possible due to the nature	No positive impacts are highlighted as possible due to the nature	No specific landscape designation, however has important landscape	Where relevant in specific circumstances	The site is within an AONB but mitigation suitable	The site is within an AONB with mitigation unlikely to be

SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
of landscapes/ townscapes	of operations.	of operations.	features / mitigation would be required		The site is within a Special Landscape Area but mitigation suitable Unacceptable restoration scheme	suitable The site is a permanent facility in a Special Landscape Area with mitigation unlikely to be suitable
5. To reduce greenhouse gas emissions and enhance energy efficiency	The proposal would lead to the generation of energy from waste	N/A	N/A	All other proposals - No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.	N/A	N/A
6. To conserve/enhance biodiversity or geodiversity	No significant positive impacts are highlighted as possible due to the nature of operations. Restoration proposals assessed separately against SA Objective 11.	No positive impacts are highlighted as possible due to the nature of operations. Restoration proposals assessed separately against SA Objective 11.	No statutory habitat sites within 250m but potential impacts on designations that would need further assessment.	No statutory habitat sites within 250m	A temporary site with impacts on nature conservation designations, but mitigation possible.	Impacts on a SSSI / SPA / SAC
7. To preserve or enhance	No significant positive	No positive impacts are	There is considered to	No impact on any	There is considered to	There is considered to

SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
historical buildings/sites, archaeological sites and other culturally important buildings	impacts are highlighted as possible due to the nature of operations.	highlighted as possible due to the nature of operations.	be the potential for an impact on the significance of a designated / non-designated historic environment asset, although mitigation is possible.	designated / non-designated historic environment assets.	be an impact on a designated / non-designated historic environment asset or its setting, but mitigation is possible. Potential impacts have been highlighted that might require preservation in situ.	be an impact that could affect the significance of a designated / non-designated historic environment asset or its setting with no mitigation suitable.
8. To minimise flood risk	No significant positive impacts are highlighted as possible due to the nature of operations.	No positive impacts are highlighted as possible due to the nature of operations.	The site is partially within Flood Risk Zone 2 OR Water bodies present on site, but the site is within Flood Risk Zone 1.	The site is within Flood Risk Zone 1.	The site is partially within Flood Risk Zone 3 OR The site is predominantly within Flood Risk Zone 2.	The site is predominantly within Flood Risk Zone 3.
9. To minimise effects of traffic on the environment	No significant positive impacts are highlighted as possible due to the nature of operations.	No positive impacts are highlighted as possible due to the nature of operations.	Further information is needed at the planning application stage regarding the number of expected	Traffic emissions are unlikely to significantly increase local pollutant concentrations.	There is a risk of emissions significantly increase local pollutant concentrations by HGVs generated by	Emissions would significantly increase local pollutant concentrations by HGVs generated by

SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
			additional HGV movements.		the proposals. OR There is a risk of cumulative impacts where extraction activities coincide with other activities.	the proposals.
10. To maintain / improve air quality	No significant positive impacts are highlighted as possible due to the nature of operations.	There are no Air Quality Management Areas declared in the immediate area.	There are potential air quality issues associated with bioaerosols / odour.	'No impact' is not considered relevant due to the nature of operations and vehicle movements.	There are identified air quality issues associated with bioaerosols.	The site is within close proximity to an Air Quality Management Area.
11. Promote effective restoration and appropriate after-use of sites	Restoration proposal is to a gain in biodiversity value or to social / economic gain.	Restoration proposal to reflect original conditions pre-extraction	Further information required	Proposals that do not require / involve a need for restoration	Restoration scheme is considered unsuitable.	No proposals have been deemed capable of having significant negative impacts.
12. Avoid sterilisation of minerals resources	The nature of minerals and waste development being proposed in a single Plan is such that the sterilisation of resources is avoided. For that reason, 'N/A' shall be populated in the appraisals of all proposals.					
13. Promote sustainable economic use of natural resources	The site is proposed for minerals extraction	The site is proposed for recycling / re-use	N/A	All other proposals	N/A	N/A

SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	The site is proposed for minerals extraction	N/A	N/A	Waste management / treatment proposals	N/A	N/A
15. To move treatment of waste up the waste hierarchy	The nature of the proposal diverts waste from being landfilled (recycling / re-use).	N/A	The restoration proposal uses reject materials associated with mineral extraction. OR Insufficient information submitted as to the nature of the waste proposal	N/A	The restoration proposal requires the importation of materials. OR The site is for landfill.	N/A
16. To minimise the impacts arising from the minerals and waste developments on where people live	No significant positive impacts are highlighted as possible due to the nature of operations.	No properties within 250m of the site	Properties within 250m of the proposed and impacts can be mitigated	N/A	Properties within 250m of the site and impacts can not be easily mitigated	Any properties within 250m of the site with no capability of mitigation Bioaerosols will be emitted through the proposal with no capability of mitigation
17. To meet the housing needs	No significant positive	There are no conflicts with	Potential for conflict with	N/A	There are potential	There are conflicts with

SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
of the population	impacts are highlighted due to the Plan's remit.	any housing proposals	currently unallocated / pending permission housing proposals (submissions to be considered in relevant district Local Plan / Neighbourhood Plan processes), however mitigation possible		conflicts with housing proposals allocated in relevant district Local Plans / Neighbourhood Plans.	consented housing schemes
18. To minimise production of noise at quarries	No significant positive impacts are highlighted as possible due to the nature of operations.	No impacts expected with standard mitigation (such as earth screening bunds).	Further information / assessment and mitigation proposals required (including the need for stand-off buffers)	There will be no noise issues surrounding operations	Potential for impacts regardless of mitigation	Sensitive receptor(s) adjacent to site with mitigation unlikely to be acceptable
19. To maintain and improve recreation and amenity	No significant positive impacts are highlighted as possible due to the nature of operations.	There is no conflict between the proposal and any PRoW(s) or bridleway(s) or byway(s).	A PRoW(s) or and/or bridleway and/or byway(s) borders the proposal site.	N/A	The proposal would require the diversion of a PRoW(s) and/or bridleway(s) and/or byway(s).	The proposal would lead to the loss of a PRoW(s) or bridleway(s) or byway(s) / diversion would be unlikely to be suitable or viable.



SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
20. To protect and enhance human health and wellbeing	No significant positive impacts are highlighted as possible due to the nature of operations.	No specific impacts identified beyond those related to SA Objectives 10, 16 and 19	Potential issues with traffic safety, but access arrangements can be made suitable / suitably dealt with in planning conditions	N/A	The proposal would lead to impacts on human health / wellbeing, but mitigation possible	The proposal would lead to impacts on human health / wellbeing, with suitable mitigation not considered to be possible
21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	No significant positive impacts are highlighted	The proposal will lead to job creation on site	The site could conflict with neighbouring employment uses. OR Employment numbers not provided.	No increase in employment opportunities on site.	The site is proposed for an alternative employment use within a Local Plan or there is an unimplemented permission for an employment use.	The site is an existing / safeguarded employment land in the district Local Plan or has planning permission for employment use.
22. To maintain / improve existing infrastructure	This Sustainability Objective is not considered relevant to the assessment of site proposals.					
23. Promote sustainable investment in the County	No significant negative impacts are highlighted.	Permanent facilities that have no perceived conflict with other investment opportunities identified in a district Local Plan.	Temporary or permanent facility that could conflict with investment opportunities identified in a district Local Plan.	Temporary facilities with no perceived conflict with other investment opportunities identified in a district Local Plan.	Permanent facility that conflicts with investment opportunities identified in a district Local Plan.	No significant negative impacts are highlighted.

SA Objectives	Identified impact					
	Significant Positive	Positive	Uncertain / Neutral	No impact	Negative	Significant Negative
24. To promote efficient movement patterns in the County (where possible)	The proposal will see the movement of materials by sustainable means	The proposal has no objection from the County Highways Authority and access is directly onto the Suffolk Lorry Route Network	The proposal has no objection from the County Highways Authority, but access is not directly onto the Suffolk Lorry Route Network	N/A	The site could potentially conflict with identified transport infrastructure improvements OR Potential safety issues have been identified.	The proposal has an objection from the County Highways Authority regarding access arrangements and capability of being suitable.

3.2.1 Assumptions made in the Assessment of the Plan's Site Allocations (and Reasonable Alternatives) and Other Considerations

For this purpose and to further reflect a consistency of approach, regarding sites, the detailed information submitted for each site by the landowners / developers of each option have not been taken into account in those instances where they can be seen to offer different levels of information.

It should be noted that the appraisal of sites has been largely undertaken with a 'policy off' approach; that is to say, negative impacts may be highlighted in reflection of site conditions and based on available (submitted) information but can be effectively dismissed at the planning application stage should proposals adhere to the Plan's policy content. This decision has been made in order to assess all sites and alternatives to the same level of detail and its application at the Regulation 18 stage has enabled additional requirements (in the form of site specific policies) to be factored into the Submission Draft (Regulation 19) Plan, to which this SA relates.

3.3 Potential Conflicts between the SA Objectives

A total of 24 SA Objectives have been derived for the appraisal of the Plan. They are based on the scope of the document, policy advice and guidance and to the assessment of the current state of the environment.

It is useful to test the compatibility of SA Objectives against one another in order to highlight any areas where potential conflict or tensions may arise.

It is to be expected that some objectives are not compatible with other objectives thereby indicating that tensions could occur. Objectives which are based around environmental issues sometimes conflict with economic and social objectives, and vice versa.



Areas of potential incompatibility or uncertainty between the objectives relevant to the Plan are explained within the following bullet points:

- **Protecting soil quality and the majority of the minerals and waste specific objectives:** There can be expected to be unavoidable harm in regard to minimising the loss of the best and most versatile agricultural land with all other objectives relevant to minerals and waste development. This is particularly relevant to mineral extraction which is by its nature on previously undeveloped land.
- **Landscape and ecology based objectives with those associated with minerals and waste development:** As above, the objectives to preserve landscapes and ecological designations may be contrary to mineral extraction and the nature of some waste facilities. An effective balance should be addressed and promoted within the Plan and its appraisal within this Report; however a pragmatic approach should be adopted in reflection of the remit of the Plan.
- **Ensuring effective landscape restoration post-extraction and moving the treatment of waste up the waste hierarchy:** an inherent conflict exists between these objectives. Inert material (waste) is required to backfill mineral voids; however disposal in this manner is contrary to the waste hierarchy, which should focus on increased levels of recycling and re-using such material. Again, a pragmatic approach to restoration with inert material should be adopted in the Plan and within its appraisal in this Report.

4. The Plan's Vision, Aims and Objectives

4.1 Vision, Aims and Objectives

4.1.1 The Vision

The following represents the current Minerals and Waste Local Plan Vision as outlined in the existing adopted planning framework.

The Vision

Suffolk minerals and waste local plan vision 2036

“Suffolk will continue to meet its statutory obligation as required by national policy for the supply of aggregates and the management of waste in a sustainable manner.

Minerals and waste management sites will only be permitted in appropriate locations, and will be required to be operated to high standards, so that they do not cause a significantly adverse impact upon the environment, historic environment or local amenity or endanger human health.

Temporary minerals and waste management sites will be restored to a quality and state conducive to an appropriate after-use such as flood alleviation, reservoirs, agriculture, forestry, ecology, geomorphological interest or recreation.”

Alternatives Considered Throughout the Plan-making Process

The Plan's Vision has not changed since the previous Regulation 18 Local Plan consultation. No alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance and relevant to the local county context would not be distinctly different from the proposed Vision to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 5: Impact on Sustainability Objectives: The Vision

SA Objective		The Vision
Environmental	1 – Surface water / groundwater	++
	2 – Water use	++
	3 – Soils	++
	4 – Landscape / townscape	++
	5 – Emissions / energy efficiency	+



SA Objective		The Vision
	6 – Biodiversity / Geodiversity	++
	7 – Historic environment	++
	8 – Flood risk	+
	9 – Traffic impacts	++
	10 – Air quality	+
	11 – Restoration / after use	++
	12 – Mineral resources	++
	13 – Economic use of resources	++
	14 – Minerals supply	++
	15 – Waste	++
Social	16 – Public nuisance	++
	17 – Housing needs	+
	18 – Noise	++
	19 – Recreation & amenity	++
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	+
	22 - Infrastructure	+
	23 – Investment	++
	24 – Transport	+
Commentary		<p>The proposed vision is in accordance with the principles of the sustainability objectives; seeking to continue meeting aggregates supplies and waste management capacity through sensitively located facilities operated to high standards.</p> <p>Although many of the sustainability objectives relevant to the Plan area are not implicitly covered within the Vision, themes such as the minimisation of greenhouse gas emissions, flood risk and air quality can be considered to be ancillary considerations to the Vision and Plan's main remit. The Vision ensures that housing and employment needs are met through the supply of aggregates and the provision and operation of waste management facilities.</p>

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.

4.1.2 Aims and Objectives

The following represents the current Minerals and Waste Local Plan aims and objectives as outlined in the existing adopted planning framework.

Aims and Objectives

Aim 1: To make adequate provision for minerals and waste development within Suffolk by:

Objective 1: providing Policies that set out the provision to be made for minerals and waste development within Suffolk taking into account the waste hierarchy and the contribution that can be made from recycled aggregates.

Objective 2: providing a Key Diagram that indicates proposed minerals and waste development, centres of population (as an indication of sources of waste arisings and aggregates demand), transport links and areas of constraint.

Objective 3: identifying environmentally acceptable sources of sand & gravel and sites for waste management on the Proposals Map.

Objective 4: providing general Policies for the consideration for planning applications for minerals and waste management development

Aim 2: To minimise and mitigate the impact of minerals and waste development on the environment by:

Objective 5: including environmental protection policies for the consideration of minerals proposals that make reference to the impact upon nature conservation, the historic environment or human health from noise, dust, visual intrusion, traffic, tip and quarry slope stability, differential settlement of quarry backfill, flood risk, water resources, contamination and cumulative impacts.

Objective 6: including a policy for the consideration of proposals for borrow pits, agricultural reservoirs, flood alleviation and/or public water supply.

Objective 7: including environmental protection policies for the consideration of waste proposals that make reference to the impact upon water quality, flood risk, land instability, landscape character, visual impact, nature conservation, historic environment, traffic and access, dust, air quality, odour, vermin and birds, noise, light vibration, litter and land-use conflict and cumulative impacts.

Aim 3: To safeguard minerals and waste development from other forms of development by:

Objective 8: identifying all existing and potential minerals and waste development including rail depots, and port facilities, and added value plant sites e.g. concrete batching, coated stone and aggregate recycling that require safeguarding from other forms of development, directly or by proximity, and providing an accompanying appropriate safeguarding policy.

Objective 9: providing minerals safeguarding plan showing those sand and gravel resources which require safeguarding from other forms of development, directly or by proximity, and an accompanying appropriate safeguarding policy.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance and relevant to the local county context would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 6: Impact on Sustainability Objectives: Aims and Objectives

SA Objective		Aims and Objectives
Environmental	1 – Surface water / groundwater	++
	2 – Water use	++
	3 – Soils	++
	4 – Landscape / townscape	++
	5 – Emissions / energy efficiency	+
	6 – Biodiversity / Geodiversity	++
	7 – Historic environment	++
	8 – Flood risk	++
	9 – Traffic impacts	++
	10 – Air quality	++
	11 – Restoration / after use	?
	12 – Mineral resources	++
	13 – Economic use of resources	++
	14 – Minerals supply	++
	15 – Waste	+
Social	16 – Public nuisance	++

SA Objective		Aims and Objectives
	17 – Housing needs	++
	18 – Noise	++
	19 – Recreation & amenity	++
	20 – Health and well-being	++
Economic	21 – Economic growth / jobs	++
	22 - Infrastructure	0
	23 – Investment	+
	24 – Transport	++
Commentary		<p>The proposed objectives are largely compatible with the SA objectives with a number of significantly positive impacts regarding environmental, social and economic themes resulting from the Plan's aims. Notably, the Plan's aims and objectives seek to minimise negative impacts, seek enhancements where possible and support growth in the Plan area. Since the Preferred Options Plan consultation, additional content have been added regarding dust, odour and cumulative effects which has resulted in significant positive impacts being highlighted for the 'health and well-being' SA Objective (20). Uncertain impacts are however highlighted related to the restoration of mineral voids and suitable after-uses; although it should be noted that specific policies within the Plan will have significantly positive effects on this Sustainability Objective. Similarly this is the case regarding moving waste up the waste hierarchy and the recovery, re-use and recycling of waste; this will also seek to preserve primary aggregates.</p>

Proposed Mitigation Measures / Recommendations

No recommendations are made or mitigation measures suggested at this stage.

5. General Policies

5.1 General Policies

5.1.1 Policy GP1: Presumption in favour of sustainable development

The following represents a draft policy regarding the presumption in favour of sustainable development for minerals and waste development and activities.

Policy GP1: Presumption in Favour of sustainable development

The County Council will take a positive approach to minerals and waste development that reflects the presumption in favour of sustainable development.

It will work proactively with applicants to find solutions which mean that proposals can be approved wherever possible, and to secure minerals and waste development that improves the economic, social and environmental conditions in the area.

Planning applications that accord with the site allocations and policies in this Plan will be approved without delay, unless material considerations indicate otherwise.

Where there are no policies relevant to the application or the relevant policies are demonstrably out-of-date at the time of making the decision, the County Council will grant permission unless material considerations indicate otherwise – taking into account whether:

- a) Any adverse impacts of granting planning permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework and National Planning Policy for Waste taken as a whole; or**
- b) Specific policies in the National Planning Policy Framework or National Planning Policy for Waste indicate that development should be restricted.**

Alternatives Considered Throughout the Plan-making Process

No reasonable alternative options have been explored in line with this Policy reiterating national requirements as espoused in the National Planning Policy Framework and National Planning Policy for Waste.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 7: Impact on Sustainability Objectives: Policy GP1

SA Objective		Policy GP1
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	0
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	0
	7 – Historic environment	0
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Economic	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	0
	20 – Health and well-being	0
Social	21 – Economic growth / jobs	0



SA Objective	Policy GP1
22 - Infrastructure	0
23 – Investment	0
24 – Transport	0
Commentary	The policy will have positive impacts on all environmental, social and economic sustainability objectives in line with the general theme of the policy, however in order to suitably assess the direct impacts of the Plan policies in a local context, all impacts have been highlighted as 'no impact.'

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.

5.1.2 Policy GP2: Climate change mitigation and adaptation

The following represents a draft policy regarding the climate change mitigation and adaptation for minerals and waste development and activities.

Policy GP2: Climate change mitigation and adaptation

New minerals and waste management facilities should through their construction and operation minimise their potential contribution to climate change through reducing carbon and methane emissions, incorporate energy and water efficient design strategies and be adaptable to future climatic conditions.

Proposals for new minerals and waste facilities should where appropriate:

- a) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption, including maximising cooling and avoiding solar gain in the summer;
- b) be planned so as to minimise carbon dioxide and methane emissions, and support opportunities for decentralised and renewable or low-carbon energy supply;
- c) give priority to the use of sustainable drainage systems, paying attention to the potential contribution to be gained to water harvesting from impermeable surfaces and encourage layouts that accommodate waste water recycling;
- d) take account of potential changes in climate including pluvial and fluvial flooding, rising sea levels and coastal erosion, and;
- e) incorporate proposals for sustainable travel including travel plans where appropriate.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed Policy to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 8: Impact on Sustainability Objectives: Policy GP2

SA Objective		Policy GP2
Environmental	1 – Surface water / groundwater	0
	2 – Water use	++
	3 – Soils	0
	4 – Landscape / townscape	0
	5 – Emissions / energy efficiency	++
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	0
	8 – Flood risk	++
	9 – Traffic impacts	+
	10 – Air quality	+
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	N/A
	15 – Waste	0
Social	16 – Public nuisance	N/A
	17 – Housing needs	N/A
	18 – Noise	N/A
	19 – Recreation & amenity	N/A

SA Objective		Policy GP2
	20 – Health and well-being	N/A
Economic	21 – Economic growth / jobs	N/A
	22 - Infrastructure	N/A
	23 – Investment	N/A
	24 – Transport	+
Commentary		<p>The policy will have significant positive impacts on relevant sustainability objectives, specifically those related to the efficient use of water, energy efficiency and renewable energy and flood risk. The policy has been amended since the Preferred Options stage to include reference to fluvial and pluvial flood risk, which ensures heightened positive effects at this stage in the SA process. Minor and indirect impacts can be expected regarding such themes as biodiversity, through the integration of SuDS (in those instances where relevant), traffic impacts through the requirement of travel plans, and associated air quality. There will be no impacts on any of the social sustainability objectives and the majority of the economic sustainability objectives. There will however be positive impacts associated with sustainable transport through proposals for new waste management facilities being required to incorporate proposals for sustainable travel including travel plans where appropriate.</p>

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.

5.1.3 Policy GP3: Spatial strategy

The following represents the policy regarding the spatial strategy for minerals and waste development and activities.

Policy GP3: Spatial strategy

Preference will be given to proposals for minerals and waste development in accordance with the Key Diagram where individual sites are well related to the Suffolk Lorry Route Network (or rail network or navigation) major centres of population and do not have potentially significant adverse impacts upon features of environmental importance (natural or man-made) or endanger human health.

Alternatives Considered Throughout the Plan-making Process

For the purposes of the SA, the following alternatives were identified as reasonable at the Preferred Options stage:

- Alternative 1: Retain previous Local Plan Policy
- Alternative 2: To provide for the best possible geographic dispersal of sand and

gravel across the County

- Alternative 3: A spatial strategy based on sites with the least amount of environmental impacts
- Alternative 4: A spatial strategy based on the strategic road network only

The Policy has changed since the Preferred Options stage, with reference to individual sites being in close proximity to *major* centres of population and where site do not have *potentially significant* adverse impacts. At this Regulation 19 stage, the previous Preferred Options policy wording can be considered distinctly different to warrant separate assessment within this SA. For that reason, an additional fifth alternative has been added for consideration:

- Alternative 5: The previous Preferred Options policy wording

The following table assesses each of these options against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 9: Impact on Sustainability Objectives: Policy GP3

SA Objective		Policy GP3	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Environmental	1	0	0	0	0	0	0
	2	N/A	N/A	N/A	N/A	N/A	N/A
	3	+	?	?	+	?	+
	4	+	?	?	+	?	+
	5	N/A	N/A	N/A	N/A	N/A	N/A
	6	+	?	?	+	?	+
	7	+	?	?	+	?	+
	8	+	+	+	+	+	+
	9	+	+	++	?	+	+
	10	+	?	?	+	?	+
	11	+	+	+	+	+	+
	12	N/A	N/A	N/A	N/A	N/A	N/A
	13	++	++	++	++	++	++

SA Objective		Policy GP3	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
	14	?	?	+	-	?	?
	15	N/A	N/A	N/A	N/A	N/A	N/A
Commentary		<p>The Policy, as will Alternative 5, has been assessed as having largely positive impacts on the majority of the environmental Sustainability Objectives. The Policy, representing the principle of deleting the policy and replacing it with one that is based on a series of more locally relevant assumptions, can be seen to offer more positive impacts than the alternative of the existing policy's retention. It can be said that the majority of the options will have uncertain or otherwise incomparable impacts on environmental objectives due to such impacts only being recognisable on a site by site basis. The Policy and Alternatives 3 and 5 have however been assessed as having the most positive impacts across environmental objectives, in line with their general and common themes. Despite this however, a focus on sites solely in less environmentally constrained areas would be unlikely to be suitable due to the possibility of negative synergistic and cumulative impacts resulting from a potential concentration of sites. The Policy represents a better amalgamation of environmental, social and economic themes. A strategy based on environmental considerations only is likely to have negative impacts regarding the supply of minerals, noting that extraction can only occur where mineral deposits exist.</p> <p>The Preferred Options Policy wording (now reflected in the appraisal of Alternative 5) includes a preference will be made to those sites that will 'not have an adverse impact.' At that stage the SA recommended that <i>'this might not be possible in consideration of the County's significant amount of environmental designations and the nature of minerals and waste development / management; it might be more realistic that sites with 'acceptable' impacts are included within the policy, with reference to the ability to mitigate.'</i> This is reflected in Alternative 5, and the recommendations have been factored into the Policy. A theoretical best possible distribution scenario, as far as deposits exist, will have positive impacts on minerals supply with less cumulative traffic impacts. There will be uncertain impacts associated with the existing policy in light of the reasons for its proposed deletion and the eventuality that its primary assumptions have not been forthcoming or accurate. Alternatives 3 and 5 have also been assessed as having uncertain impacts as a result of its similarity in approach to the existing policy.</p>					
Social	16	?	0	0	?	0	?
	17	N/A	N/A	N/A	N/A	N/A	N/A
	18	0	0	0	0	0	0
	19	0	0	0	0	0	0
	20	?	0	0	?	0	?

SA Objective		Policy GP3	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Commentary		Social impacts have been assessed as largely 'no impact' at this stage and at the strategic level. Despite this, the Policy and Alternatives 3 and 5 have been assessed as having uncertain impacts associated with the possibility of a concentration of sites in environmentally unconstrained areas and near centres of population. It can be said however that the existing policy's focus on extensions of existing sites for mineral extraction will have the least amount of cumulative social impacts.					
Economic	21	N/A	N/A	N/A	N/A	N/A	N/A
	22	?	?	?	?	?	?
	23	0	0	0	0	0	0
	24	++	+	?	-	++	++
Commentary		Uncertain impacts have been assessed for the Policy and all alternative options regarding infrastructure, dependant on specific locations, the capacity of existing transport infrastructure in specific locations and also the possibility of any cumulative impacts arising from the allocation of multiple sites. The principle of the existing policy's deletion offers a revision to the approach that can maximise efficient movement patterns in line with minimising mineral miles. The Policy and Alternatives 4 and 5 have been assessed as having the best possibility of maximising the efficient movement of minerals of all options, with positive impacts also highlighted for those elements of the existing policy that seek to locate sites within the broad belt that follows the A14 stretching from east of Ipswich to the western extremity of the County. Negative impacts are highlighted for Alternative 3 in regard to the previously mentioned possibility of a concentration of allocations and uncertain impacts have been assessed for Alternative 2 in response to the possibility that extraction sites are theoretically located with comparably less regard to the strategic road network. At the Preferred Options stage the SA stated that (reflecting the appraisal of Alternative 5) <i>'despite the positive impacts predicted for the Policy, it is considered that the Policy could go further to define 'centres of population' within the County. It is recommended that this relate to 'Key Centres for Growth' in relation to the main destination of minerals post-extraction in the plan area and the main sources of waste based on a presumption that growth will be focused on the County's most populous existing settlements.'</i> The Policy as written at this Regulation 19 stage factors in this recommendation.					

Proposed Mitigation Measures / Recommendations

No recommendations are made or mitigation measures suggested at this stage.

5.1.4 Policy GP4: General environmental criteria

The following represents a draft policy regarding the general environmental criteria for minerals and waste development and activities.

Policy GP4: General environmental criteria

Minerals and waste development will be acceptable so long as the proposals adequately address the potentially significant adverse impacts upon:

- a) pluvial, fluvial tidal and groundwater flood risk;**
- b) vehicle movements, access and the wider highways network;**
- c) landscape character, visual impact, and protected landscapes;**
- d) biodiversity;**
- e) geodiversity;**
- f) historic environment, heritage assets and their setting;**
- g) public rights of way;**
- h) neighbouring land-use;**
- i) soil resources including the best and most versatile agricultural land;**
- j) noise and vibration;**
- k) air quality including dust and odour;**
- l) light pollution;**
- m) the local water environment;**
- n) land instability;**
- o) airfield safeguarding;**
- p) the differential settlement of quarry backfills;**
- q) mud and aggregates on the road;**
- r) litter, vermin and birds.**
- s) (or the use of) alternative forms of transport including the use of rail freight shipping;**

Proposals should where applicable meet or exceed the appropriate national or local guidelines for each criterion, including reference to any hierarchy of importance, and also comply with other

policies of the development plan.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed Policy to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 10: Impact on Sustainability Objectives: Policy GP4

SA Objective		Policy GP4
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	+
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	+
	8 – Flood risk	+
	9 – Traffic impacts	+
	10 – Air quality	+
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	+
	17 – Housing needs	0



SA Objective		Policy GP4
	18 – Noise	+
	19 – Recreation & amenity	+
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	+
Commentary		<p>The policy provides a comprehensive list of potential impacts to be considered when proposing new minerals and waste development sites at the planning application stage. Impacts in relation to the Sustainability Objectives have not been assessed as significantly positive as the policy requires potential impacts to be adequately assessed, with other Plan policies being more relevant as to what constitutes an acceptable proposal.</p>

Proposed Mitigation Measures / Recommendations

No recommendations of mitigation measures are suggested at this stage.

6. Minerals Policies

6.1 Minerals Policies

6.1.1 Policy MP1: Provision of land for sand and gravel

Policy MP1: Provision of land for sand and gravel

The County Council will allocate sites for the extraction of sand and gravel sufficient to supply 9.300 Mt over the Plan period to the end of 2036. It will also seek to maintain a landbank of permitted reserves of at least 7 years based upon the average of the last ten years' sales and calculated in the annual Local Aggregates Assessment.

Alternatives Considered Throughout the Plan-making Process

Indicative higher / lower notions regarding supply have been identified for assessment within this SA. The SA is a strategic undertaking, and there is not considered a need to identify specific ranges of supply or exact alternative figures in million tonnes. At the strategic scale, there would be no identifiable differences in impacts predicted, and as a result alternative generation is more appropriately notional and scenario-based.

The Preferred Options Plan identified a need to supply 10.422 Mt of sand and gravel over the plan period, as was the identified figure within the Council's Local Aggregates Assessment (LAA) at the time of publication (based on 2016 data). An updated LAA (dated April 2018) using 2017 data has been produced to inform the latest iteration of the Plan which indicates a supply requirement of 9.300 Mt over the Plan period. The Plan's allocations for sand and gravel extraction have been identified as 14,770 Mt over the plan period, however taking into account the proposed start dates and levels of production at new sites, it is estimated that at least 2.59 Mt of the 14.770 Mt will still remain to be worked. This reduces the resources likely to be worked within the plan period to 12.180 Mt, which represents a buffer of 31%.

The following alternatives were identified as reasonable throughout the Plan-making and SA processes, and remain realistic alternatives at this stage although with more detailed caveats as to the implications regarding flexibility and the safety margin / buffer:

- Alternative 1: To plan for a higher indicative figure than the identified 10 year rolling sales as calculated (>12.180 Mt over the plan period / representing a higher indicative buffer of 31%)
- Alternative 2: To plan for an indicative lower figure than the identified 10 year rolling sales as calculated (<12.180 Mt over the plan period / representing a buffer below 31% / no buffer)

It should be acknowledged that supply is a constantly moving target, and with that in mind the Policy factors in an element of flexibility regarding County-wide housing targets (including the implications of the proposed changes to the NPPF) as well as strategic infrastructure projects. There are therefore no significant differences between the Policy supply figure and that of the Preferred

Options Policy that would warrant their separate assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 11: Impact on Sustainability Objectives: Policy MP1

SA Objective		Policy MP1	Alternative 1	Alternative 2
Environmental	1 – Surface water / groundwater	0	0	0
	2 – Water use	0	0	0
	3 – Soils	0	0	0
	4 – Landscape / townscape	-	--	?
	5 – Emissions / energy efficiency	0	0	0
	6 – Biodiversity / Geodiversity	0	0	0
	7 – Historic environment	0	0	0
	8 – Flood risk	0	0	0
	9 – Traffic impacts	0	0	0
	10 – Air quality	0	0	0
	11 – Restoration / after use	+	-	++
	12 – Mineral resources	0	0	0
	13 – Economic use of resources	++	?	?
	14 – Minerals supply	++	++	-
	15 – Waste	N/A	N/A	N/A
Social	16 – Public nuisance	+	-	++
	17 – Housing needs	++	++	-
	18 – Noise	0	0	0
	19 – Recreation & amenity	0	0	0

SA Objective		Policy MP1	Alternative 1	Alternative 2
	20 – Health and well-being	+	-	++
Economic	21 – Economic growth / jobs	++	++	-
	22 - Infrastructure	++	++	-
	23 – Investment	0	0	0
	24 – Transport	+	-	++
Commentary		<p>The Policy will have significant positive impacts on minerals supply, where it can be seen to reflect flexibility in provision; sales over the last twenty years not having ever exceeded the sub-regional apportionment. Additionally, further flexibility in the form of a 31% buffer has been factored into the supply target in consideration of housing completion rates; these continue to be significantly lower than Adopted Local Plan projections in the County and future housing demands surrounding the proposed DCLG 'standardised methodology for calculating Objectively Assessed Need (OAN)' will be significantly higher still. Using this scenario as a baseline for comparison, the alternative of lower indicative provision will have negative impacts, and a potential undersupply of material. The alternative of a higher provision will have significantly positive implications; however there would likely be some negative impacts on some environmental objectives as a result, with ancillary implications of requiring more extraction sites, and potentially lengthy backfilling operations in restoration (including the importation of material). There will be generally negative impacts on landscapes resulting from the Policy associated with the nature of extraction, with significantly negative impacts assessed for Alternative 1 and generally more positive / uncertain effects associated with the extraction of less aggregates under the Alternative 2 scenario. The Policy represents the most sustainable use of natural resources in so far as it represents both evidence, future projections regarding house building, and sales; there will be uncertain impacts on this objective resulting from the alternatives as a result.</p> <p>The Policy will have positive implications regarding the supply of building materials, as will the alternative of a higher provision. There will be negative implications associated with the possible undersupply resulting from Alternative 2. Alternative 2 however can be seen to have less social impacts than the Policy and the alternative regarding public nuisance and perceptions of well-being. Nevertheless, such impacts are dependent on specific locations and it should be noted that the impacts highlighted above are for comparison purposes only, associated with different levels of provision.</p> <p>The Policy can be seen to have positive implications regarding economic growth; however these can be seen to be comparably more significant under the Alternative 1 scenario. Conversely, these impacts will be negative for Alternative 2. Alternative 2 and the preferred Policy approach will have positive impacts regarding the minimisation of mineral miles, whilst Alternative 1 will have negative impacts in comparison resulting from the possible short-term exportation of minerals outside the Plan area to make operations economically viable, but predominantly the importation of material to backfill a larger number of mineral voids.</p>		



Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are suggested at this stage.

6.1.2 Policy MP2: Proposed sites for sand and gravel extraction

Policy MP2: Proposed sites for sand and gravel extraction

The County Council will grant planning permission for sand and gravel extraction from within the following specific sites, as shown on the proposals map, subject to the other relevant policies of the Development Plan.

- a) Site M1 Barham
- b) Site M2 Barnham
- c) Site M3 Belstead
- d) Site M4 Cavenham
- e) Site M5 Layham
- f) Site M6 Tattingstone
- g) Site M7 Wangford
- h) Site M8 Wetherden
- i) Site M9 Wherstead
- j) Site M10 Worlington

Alternatives Considered Throughout the Plan-making Process

The appraisal of these site allocations, alongside reasonable options is subject to a detailed assessment later on in this report.

6.1.3 Policy MP3: Borrow Pits

Policy MP3: Borrow Pits

Borrow pits to provide sand and gravel to serve major civil engineering projects will be acceptable as long as:

- a) they are within 10 km of the project site;
- b) the borrow pit is worked and reclaimed as part of the project;
- c) they comply with the general environmental criteria Policy GP4.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance and relevant to the local county context would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA. Any alternative of deleting the policy would not be reasonable in line with the complexity of the issue and the unlikelihood of more general and less specific policies in the plan being directly applicable or appropriate.

Significant, Temporal and Secondary Effects

The following table assesses the preferred retention of the policy against the 24 Sustainability Objectives.

Table 12: Impact on Sustainability Objectives: Policy MP3

SA Objective		Policy MP3
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	?
	4 – Landscape / townscape	?
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	?
	7 – Historic environment	?
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0

SA Objective		Policy MP3
	11 – Restoration / after use	?
	12 – Mineral resources	0
	13 – Economic use of resources	+
	14 – Minerals supply	++
	15 – Waste	?
Social	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	0
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	+
	22 - Infrastructure	++
	23 – Investment	+
	24 – Transport	++
Commentary		<p>The Policy has been assessed as having largely uncertain impacts on the environmental criteria, however it should be acknowledged that this is primarily due to the nature of borrow pits rather than the specific policy stance. Despite this, the policy's supporting text could be expanded to set out the position for those instances where the requirement for the location of borrow pits to be in close proximity to the project site may conflict with the requirement to minimise environmental impacts, should locations and schemes be incompatible.</p> <p>Nevertheless, the policy's criterion that suitable environmental conditions will apply ensures that negative impacts will be minimised. It is considered that the policy has no direct relevance to or impacts upon the social sustainability objectives. The notion of borrow pits will have significant positive impacts on infrastructure delivery. There will also be minor secondary positive impacts associated with employment and investment. The policy, specifically, will also ensure positive impacts on minimising mineral miles through its location criterion. It is considered that the policy ensures the appropriate balance of weighing up the economic benefits of such schemes with their potential environmental impacts. In the long term however, the policy could be considered to extend the timescale of extraction beyond what is needed to serve the project, in so far as this requirement is not explicit. This could lead to unnecessary long term environmental impacts. It is recommended that a criterion regarding timescales is included within the Policy.</p>

Proposed Mitigation Measures / Recommendations

No recommendations or mitigation measures are suggested at this stage.

6.1.4 Policy MP4: Agricultural and public supply reservoirs

Policy MP4: Agricultural and public supply reservoirs

Proposals for the extraction of minerals (which would involve the removal of mineral off site) to enable the construction of a reservoir for agriculture, flood alleviation and/or public water supply will be permitted where there is a demonstrated need for the storage of water at the capacity proposed at the given location and subject to the proposals complying with the general environmental criteria Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the following alternative was identified. At this Regulation 19 stage, it is considered that the alternative remains reasonable:

- Alternative 1: To remove the policy and rely solely on the general environmental criteria policy (GP4).

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 13: Impact on Sustainability Objectives: Policy MP4

SA Objective		Policy MP4	Alternative 1
Environmental	1 – Surface water / groundwater	+	+
	2 – Water use	+	+
	3 – Soils	0	0
	4 – Landscape / townscape	?	?
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	+	+
	7 – Historic environment	?	?
	8 – Flood risk	+	+
	9 – Traffic impacts	0	0
	10 – Air quality	0	0

SA Objective		Policy MP4	Alternative 1
	11 – Restoration / after use	+	+
	12 – Mineral resources	0	0
	13 – Economic use of resources	++	++
	14 – Minerals supply	++	++
	15 – Waste	?	?
Social	16 – Public nuisance	0	0
	17 – Housing needs	0	0
	18 – Noise	0	0
	19 – Recreation & amenity	?	?
	20 – Health and well-being	0	0
Economic	21 – Economic growth / jobs	0	0
	22 - Infrastructure	++	++
	23 – Investment	0	0
	24 – Transport	0	0
Commentary		<p>Both the Policy and the alternative have been assessed as having a range of positive long term impacts on the majority of the environmental sustainability objectives, however these are more to the benefits of such schemes than the detail of the policy. As a result, the alternative of not having a policy on reservoirs would have the same impacts as including such a policy in the Plan; appropriate schemes in all instances would be subject to other more detailed general considerations policy criteria within the Plan. Nevertheless, the inclusion of such a policy is supported to provide clarity on such schemes and to assist the preparation of such proposals. There will be uncertain impacts on landscapes resulting from reservoir schemes, associated with the after-use of the initial extraction and the subsequent long term changes to the landscape. This will also lead to uncertain impacts on waste management associated with traditional restoration schemes that focus on the backfilling of mineral voids. Despite this however, a plan-led system offers the best opportunity for the strategic management of both minerals and waste over the plan period. Both the preferred approach and the alternative will have positive impacts on infrastructure through the general function of reservoirs for water supply. There will be uncertain impacts on recreation and amenity through the general principle of restoration to reservoirs in specific instances. This is not a criticism of the policy however, which requires evidence of a demonstrated need for such reservoirs to accompany planning applications and is consistent with the Plan's preference for general or more</p>	

SA Objective	Policy MP4	Alternative 1
	traditional restoration for biodiversity and ancillary amenity gains.	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are suggested at this stage or have been throughout the plan-making and SA processes.

6.1.5 Policy MP5: Cumulative environmental impacts and phasing of workings

Policy MP5: Cumulative environmental impacts and phasing of workings

Where a proposed minerals site is considered acceptable (in its own right) but the cumulative impact of a proposal in conjunction with other existing, permitted or allocated minerals sites or other development in the proximity is considered unacceptable, the proposal may be considered acceptable if phased so that one site follows the completion of the other or it can be demonstrated that the adverse cumulative impacts can be adequately mitigated.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance, the presumption in favour of sustainable development and relevant to the local county context would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 14: Impact on Sustainability Objectives: Policy MP5

SA Objective		Policy MP5
Environmental	1 – Surface water / groundwater	+
	2 – Water use	N/A
	3 – Soils	+
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	+
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	+
	8 – Flood risk	+

SA Objective		Policy MP5
	9 – Traffic impacts	+
	10 – Air quality	+
	11 – Restoration / after use	0
	12 – Mineral resources	N/A
	13 – Economic use of resources	0
	14 – Minerals supply	?
	15 – Waste	N/A
Social	16 – Public nuisance	+
	17 – Housing needs	N/A
	18 – Noise	+
	19 – Recreation & amenity	+
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	N/A
	22 - Infrastructure	N/A
	23 – Investment	N/A
	24 – Transport	N/A
Commentary		<p>The policy will ensure that no environmental impacts arise cumulatively with other mineral activities, due to the phasing arrangements of sites within close proximity. Despite this, uncertain impacts have been highlighted regarding minerals supply, in so far as the delay of sites coming forward in a broad area may affect a continuous supply of minerals throughout the plan period. Also, the policy does not factor in the possibility of cumulative impacts with other (non-mineral) development. The policy will ensure that no social impacts arise cumulatively, due to the phasing arrangements of sites within close proximity. It is considered that this policy is not relevant to any of the economic sustainability objectives.</p> <p>Although the Policy is relevant only to mineral extraction workings, in response to the findings of the HRA and specifically those relevant to Policies MP2 (including co-located waste management facilities at Cavenham) and WP2 (as identified in Appendix 2 of the HRA), any cumulative effects on Natura 2000 sites will be identified and mitigation measures proposed through project-level HRA requirements. It is recommended that this requirement is included within the Policy.</p>

Proposed Mitigation Measures / Recommendations

It is recommended at this stage that the Policy include the findings / recommendations of the HRA regarding project-level HRA requirements for both the Plan's site allocations and also any new mineral extraction proposals.

6.1.6 Policy MP6: Progressive working and restoration

Policy MP6: Progressive working and restoration

Proposals for new mineral workings should be accompanied by a scheme for the progressive working and restoration of the site throughout its life.

Preference will be given to restoration proposals that incorporate a net gain for biodiversity with the creation and management of priority habitats and that support protected priority and Red Data Book Species and/or that conserve geological and geomorphological resources. Such habitats, species and resources should be appropriately and sustainably incorporated into restoration proposals focussed on flood alleviation, reservoirs, agriculture, forestry, amenity, or ecology. Providing links to surrounding habitats is also encouraged.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses the policy content against the 24 Sustainability Objectives.

Table 15: Impact on Sustainability Objectives: Policy MP6

SA Objective		Policy MP6
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	++
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	++
	7 – Historic environment	0
	8 – Flood risk	0

SA Objective		Policy MP6
	9 – Traffic impacts	0
	10 – Air quality	0
	11 – Restoration / after use	++
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	+
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	0
Commentary		<p>The requirement for proposals for new mineral workings to be accompanied by a scheme for the progressive working and restoration of the site throughout its life will have positive impacts associated with both restoration and landscapes. At the Preferred Options SA stage, the appraisal highlighted that 'there can be expected to be some minor positive impacts regarding biodiversity through relevant restoration proposals that seek to restore land for such gains. Although aspirational, the Policy could be expanded to factor in Green Infrastructure and networks in the context of restoration throughout the County.' This recommendation has been factored into the Policy, and therefore significant positive impacts can be predicted regarding the relevant biodiversity-themed SA Objective (6). There can be expected to be some minor positive impacts regarding recreation and amenity through relevant restoration proposals that seek to restore land to such uses. It is considered that the policy has no direct relevance to or impacts upon the economic sustainability objectives.</p>

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are suggested at this stage.

6.1.7 Policy MP7: Aftercare

Policy MP7: Aftercare

Where the proposed restoration is to an agriculture, forestry, amenity or ecology after-use following minerals extraction, an outline aftercare strategy of five years or more is required prior to the determination of the planning application. The outline strategy should set out the land management proposed to bring the restored land up to the required standard for the proposed after-use. The outline strategy should also allow for additional measures that may be required following the annual aftercare inspection and the subsequent submission of a finalised version of the annual aftercare report detailing the actions required.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration and the Policy follows the same wording and approach of that at the Preferred Options stage. Any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses the policy content against the 24 Sustainability Objectives.

Table 16: Impact on Sustainability Objectives: Policy MP7

SA Objective		Policy MP7
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	0
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	0
	7 – Historic environment	0
	8 – Flood risk	0
	9 – Traffic impacts	0

SA Objective		Policy MP7
	10 – Air quality	0
	11 – Restoration / after use	++
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	?
Social	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	0
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	0
Commentary		<p>The Policy will have significant positive impacts on restoration and aftercare. The requirements of the policy will ensure the best possible outcomes regarding restoration to agriculture, forestry, amenity or ecology. There will be uncertain impacts related to moving the treatment of waste up the waste hierarchy, where there is a natural conflict with backfilling and suitable material to ensure the desired after use. This is inevitable in order to ensure long term environmental benefits, however could lead to the importation of suitable wastes and an increase in waste miles.</p>

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.

6.1.8 Policy MP8: Concrete batching plants and asphalt plants

Policy MP8: Concrete batching plants and asphalt plants

Proposals for concrete batching plants or asphalt plants at sand and gravel quarries must stipulate the proportion of indigenous sand and gravel that will be used in the production of ready mixed concrete or asphalt.

At sand and gravel quarries, planning permission will be limited to the end date of the quarry planning permission or when the indigenous material is no longer being used, whichever is the sooner.

Any proposals for concrete batching plants or asphalt plants that are County matters must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

No alternative approaches have been considered necessary for exploration and the Policy approach has not changed from that proposed at the Preferred Options stage. Any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA.

Significant, Temporal and Secondary Effects

The following table assesses the policy content against the 24 Sustainability Objectives.

Table 17: Impact on Sustainability Objectives: Policy MP8

SA Objective		Policy MP8
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	0
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	0
	7 – Historic environment	0
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0

SA Objective		Policy MP8
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	0
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	+
Commentary		<p>There will be no impacts on the majority of the Sustainability Objectives. A minor positive impact has been identified regarding transport where concrete batching is permissible on the site of sand and gravel extraction reducing the need for this material to be transported off site for this purpose in so far as is relevant. It should be noted however that the Policy's criterion that planning permission will be limited to the end date of the quarry planning permission or when the indigenous material is no longer being used ensures that any negative impacts are limited associated with operations do not extend beyond the life of the quarry or result in permanent facilities. This can be seen as significantly more sustainable generally than any other approach alternative approach.</p>

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.



6.1.9 Policy MP9: Safeguarding of port and rail facilities, and facilities for the manufacture of concrete and asphalt

Policy MP9: Safeguarding of port and rail facilities, and facilities for the manufacture of concrete and asphalt

When proposals are made which would result in the loss of or might potentially compromise the use of:

- a) an existing, planned or potential rail head, wharf or associated storage, handling or processing facilities for the bulk transport by rail or sea of minerals, including recycled, secondary and marine-dredged materials, and/or;
- b) an existing, planned or potential site for concrete batching, the manufacture of coated materials, other concrete products or the handling, processing and distribution of substitute, recycled and secondary aggregate material;

applicants will be required to demonstrate to the County Council that those sites no longer meet the needs of the aggregates industry. Where this is not the case, satisfactory alternative handling facilities should be made available by the developer. Development proposals in close proximity to the above minerals related facilities should demonstrate that they would not prejudice or be prejudiced by those facilities.

Any mitigation required falls on the development that receives planning permission last.

District and Borough Councils should consult the County Council when a potentially conflicting proposal falls within the 250 metre safeguarding zones as defined in the Appendix 3 Safeguarding Maps. The County Council will then refer to Policies MP9 before providing a consultation response.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA identified an alternative approach. At this Regulation 19 stage, this approach is still considered reasonable and is as follows:

- Alternative 1: To not include safeguarding criteria (as stated in the policy) and allow the relevant authority to treat each proposal / application on a case by case basis.

Significant, Temporal and Secondary Effects

The following table assesses the policy content against the 24 Sustainability Objectives.

Table 18: Impact on Sustainability Objectives: Policy MP9

SA Objective		Policy MP9	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	0	0
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	0	0
	8 – Flood risk	0	0
	9 – Traffic impacts	0	0
	10 – Air quality	0	0
	11 – Restoration / after use	0	0
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0
	14 – Minerals supply	++	?
	15 – Waste	0	0
Social	16 – Public nuisance	+	?
	17 – Housing needs	+	?
	18 – Noise	+	?
	19 – Recreation & amenity	0	0
	20 – Health and well-being	+	?
Economic	21 – Economic growth / jobs	+	?
	22 - Infrastructure	+	?
	23 – Investment	0	0

SA Objective		Policy MP9	Alternative 1
	24 – Transport	++	0
Commentary	<p>The Policy has changed since the Preferred Options stage, with the inclusion of the paragraph regarding consultation arrangements and the statement regarding mitigation. Nevertheless it is considered that there would be no subsequent change in impacts to those previously highlighted within the Preferred Options SA.</p> <p>There will be no direct or significant impacts on the majority of the environmental objectives in response to the purpose of the policy. There will however be significant positive impacts on minerals supply and management through the Policy approach that can not be expected through the Alternative approach.</p> <p>Safeguarding can ensure a number of indirect social benefits aside from protecting the function of the function of operations and sites. Safeguarding, as a consultation mechanism, can help prevent incompatible development proposals in close proximity to any sites allocated within the Plan which could otherwise give rise to a number of negative cumulative impacts on local communities should other development types be additionally permitted. For this reason, positive impacts are highlighted for the Policy that could not otherwise be expected through the Alternative approach.</p>		

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.



6.1.10 Policy MP10: Minerals consultation and safeguarding areas

Policy MP10: Minerals consultation and safeguarding areas

The County Council will safeguard:

- a) those Minerals Safeguarding Areas located within the Minerals Consultation Areas identified on the Proposals Map from proposed development in excess of five hectares which is not in accordance with the Development Plan. The County Council will, when consulted by the Local Planning Authority, object to such development unless it can be shown that the sand and gravel present is not of economic value, or not practically or environmentally feasible to extract, or that the mineral will be worked before the development takes place;
- b) areas falling within 250m of a site allocated in the Plan for sand and gravel extraction. The MPA will advise the Local Planning Authority whether any proposed development might prejudice the future extraction of minerals and should be refused, or whether such development itself might be prejudiced by proposed mineral working.

District and Borough Councils should consult the County Council when a potentially conflicting proposal falls within the Minerals Safeguarding Area as defined on the Proposals Map. The County Council will then refer to Policy MP10 before providing a consultation response.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, no alternative approaches were considered necessary for exploration as any alternative approaches that are similarly compliant with national guidance, the presumption in favour of sustainable development and relevant to the local county context would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA.

At this Regulation 19 stage, the Policy has changed from that included within the Preferred Options Local Plan, predominantly surrounding the scale of development from which the MPA will require consultation in a Minerals Safeguarding Area. At the Preferred Options stage, this was included as development of 1 hectare. At this stage, this can be considered a new 'reasonable alternative' that requires exploration within this SA. The alternative approach is therefore:

- Alternative 1: That the County Council will safeguard those Minerals Safeguarding Areas located within the Minerals Consultation Areas identified on the Proposals Map from proposed development in excess of 1 hectare which is not in accordance with the Development Plan.

Significant, Temporal and Secondary Effects

The following table assesses the policy content against the 24 Sustainability Objectives.

Table 19: Impact on Sustainability Objectives: Policy MP10

SA Objective		Policy MP10	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	0	0
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	0	0
	8 – Flood risk	0	0
	9 – Traffic impacts	0	0
	10 – Air quality	0	0
	11 – Restoration / after use	0	0
	12 – Mineral resources	+	++
	13 – Economic use of resources	+	+
	14 – Minerals supply	+	+
	15 – Waste	0	0
Economic	16 – Public nuisance	+	+
	17 – Housing needs	+	?
	18 – Noise	+	+
	19 – Recreation & amenity	0	0
	20 – Health and well-being	+	+
Social	21 – Economic growth / jobs	+	?

SA Objective	Policy MP10	Alternative 1
22 - Infrastructure	0	0
23 – Investment	0	0
24 – Transport	0	0

Commentary	<p>There will be no impacts on the majority of the environmental sustainability objectives in light of the purpose of the policy as a consultation mechanism to avoid the sterilisation of mineral resources. For this reason, the Policy will have positive impacts on those objectives regarding mineral resources, as well as ensuring the economic use of natural resources and the alternative has been assessed as having significant positive impacts associated with a more precautionary approach to consultation.</p> <p>The notion of safeguarding can arguably be considered contrary to other development needs, such as housing and employment. For that reason, the Alternative will have uncertain impacts associated with such growth. For comparison purposes, the Policy has been assessed as having minor positive impacts associated with a higher hectare threshold to warrant consultation. Safeguarding can ensure a number of indirect social benefits aside from protecting mineral resources from sterilisation. Safeguarding, as a consultation mechanism, can help prevent incompatible development proposals in close proximity to any extraction sites allocated within the Plan which could otherwise give rise to a number of negative cumulative impacts on local communities should other development types be permitted. For these notional reasons, both the Policy and the Alternative have been assessed as having positive secondary outcomes.</p> <p>The Policy states that the County Council will safeguard those Minerals Safeguarding Areas from proposed development in excess of five hectares which are not in accordance with the Development Plan. It could be considered, from a point of view to ensure that mineral deposits are safeguarded, that all applications in such areas could require consultation with the County Council. This would be in order to ensure, statutorily, that the applications of Development Plan allocated sites are also consulted upon. This would subsequently protect the MPA's interests in the possible eventuality that applications, when submitted, might differ from those proposals allocated in district Development Plans. Nevertheless, in light of wider development pressures in the Plan area and nationally, and also in regard to the Plan's wider target regarding sand and gravel extraction to meet the County's development needs, a balanced approach is supported in this SA. For that reason, the Policy's impacts predicted for housing and employment related objectives are strengthened in light of what can be considered a holistic and pragmatic Policy approach.</p>
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Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.

7. Waste Policies

7.1 Waste Policies

7.1.1 Policy WP1: Management of waste (Mt)

Policy WP1: Management of waste (Mt)

The County Council anticipates the following annual levels of waste arisings for which appropriate waste management facilities will be granted planning permission, provided they are in accordance with the Waste Hierarchy and the policies of the Development Plan and there are no other material considerations which indicate otherwise.

	2015/16	2020/21	2025/26	2030/31	2035/36
LACW	0.397	0.415	0.433	0.452	0.470
C&I	0.795 to 0.769	0.857 to 0.697	0.960 to 0.632	1.039 to 0.574	1.039 to 0.531
CD&E	0.517	0.469	0.434	0.386	0.350
HAZ	0.044	0.039	0.034	0.031	0.031

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA considered the following alternatives as reasonable:

- Alternative 1: To plan for lower indicative waste arisings, based on an assumption of improving technologies in recycling and re-use.
- Alternative 2: To plan for higher indicative waste arisings, to meet the possibility of unplanned growth in the County.

It should be noted that the Policy's supporting text outlines that the specific figures included within the Policy are not limits but indicative. This flexible approach is considered within the appraisal of the Policy and the alternatives. To this extent, specific arising figures are not identified for appraisal within the alternatives, which are also necessarily indicative and therefore scenario-based.

Although knowledge of the Plan's allocation(s) and safeguarded facilities are known at this stage, a need to appraise the Policy at a high level and to the same level of detail as the alternatives is important. The alternatives reflect scenarios where a higher number of facilities and a lower number of facilities are needed respectively, and it is in using this assumption that comparisons can be made between options. It should also be noted however, that the alternative options do not reflect the Plan's evidence base, notably the Suffolk Waste Study (SWS) and to that extent can arguably not be considered 'reasonable' alternatives. Nevertheless, their appraisal is reiterated here for

thoroughness, reflecting alternative approaches considered throughout the plan-making and SA processes.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 20: Impact on Sustainability Objectives: Policy WP1

SA Objective		Policy WP1	Alternative 1	Alternative 2
Environmental	1 – Surface water / groundwater	0	0	0
	2 – Water use	0	0	0
	3 – Soils	0	0	0
	4 – Landscape / townscape	?	?	-
	5 – Emissions / energy efficiency	0	0	0
	6 – Biodiversity / Geodiversity	?	?	-
	7 – Historic environment	?	?	?
	8 – Flood risk	0	0	0
	9 – Traffic impacts	?	-	+
	10 – Air quality	0	0	0
	11 – Restoration / after use	?	?	-
	12 – Mineral resources	0	0	0
	13 – Economic use of resources	+	?	-
	14 – Minerals supply	N/A	N/A	N/A
	15 – Waste	?	?	?
Social	16 – Public nuisance	0	0	0
	17 – Housing needs	++	--	++
	18 – Noise	0	0	0
	19 – Recreation & amenity	0	0	0
	20 – Health and well-being	0	0	0

SA Objective		Policy WP1	Alternative 1	Alternative 2
Economic	21 – Economic growth / jobs	++	--	++
	22 - Infrastructure	0	0	0
	23 – Investment	++	--	++
	24 – Transport	++	--	++
Commentary		<p>The Policy factors in some of the notions of the alternative approaches over time, with CD&E waste expected to decrease in response to higher rates of recycling and re-use. Similarly, LACW and C&I waste streams are expected to increase marginally over the plan period in response to higher levels of growth and population in the County.</p> <p>Uncertain impacts are expected for the majority of the environmental Sustainability Objectives, reflecting a need to manage this waste 'on the ground' and through the delivery of specific site allocation(s) and existing facilities within the Plan area. A lower indicative amount of waste arisings would lead to more positive environmental and social impacts as a higher indicative amount of arisings, however with potential negative impacts on transportation. This is due to the likelihood that the transportation of waste would be over comparably higher distances to fewer facilities within the County or possibly beyond should further increases in arisings over the plan period. Alternative 1 would also have difficulties in adhering to the preferred Spatial Strategy as included within the Plan, in particular those elements that seek facilities to be located in close proximity to centres of population.</p> <p>The Policy will have significant positive effects on meeting housing needs, economic growth and promoting sustainable investment, as well as ensuring that waste miles will be minimised. Alternative 2 will have similar effects, although with a higher number of possible environmental and social impacts. The Policy responds more directly to planned growth in the Plan period, with district and Housing Market Area growth requirements largely understood at this stage even in those cases where LPAs do not have an adopted Local Plan. Despite this, the reality of a number of LPA Local Plans being in preparation at this stage requires the Policy to be flexible in response to the reality of 'planning by appeal' which is prevalent nationally and in the County. This trend well known, the Policy could benefit from including a statement that waste arising forecasts may be updated through monitoring arrangements and any future Plan reviews within the plan period.</p>		

Proposed Mitigation Measures / Recommendations

No recommendations or mitigation measures are suggested at this stage.

7.1.2 Policy WP2: Proposed sites for waste management

Policy WP2: Proposed site for radioactive waste management

The County Council will grant planning permission for radioactive waste management on the following specific site, as shown on the proposals map, subject to the other relevant policies of the Development Plan.

- a) Site W1 Sizewell A Nuclear Power Station

Alternatives Considered Throughout the Plan-making Process

Sizewell A Nuclear Power Station is currently undergoing decommissioning. This involves the treatment and temporary storage of radioactive waste. The reactor has been de-fuelled already with the fuel being transported off site to Sellafield. Other less radioactive materials remain on site.

There are no specific alternatives for the management of radioactive waste management within the Plan area. Submitted sites for general / other types of waste management are assessed on a site-by-site basis, including Sizewell A Nuclear Power Station, in a latter section of this Report.

7.1.3 Policy WP3: Existing or designated land-uses potentially suitable for waste development

Policy WP3: Existing or designated land-uses potentially suitable for waste development

General waste management facilities (other than landfill sites and waste water treatment facilities) may be acceptable within the following areas:

- a) land in existing waste management use;
- b) land in existing general industrial use (B2 use class) or in existing storage or distribution use (B8 use class) (excluding open air composting);
- c) land allocated for B2 and B8 purposes in a local plan or development plan document (excluding open air composting);
- d) within or adjacent to agricultural and forestry buildings;
- e) agricultural and forestry land (open air composting only);
- f) brownfield land (excluding open air composting);
- g) former airfields (open air composting only);
- h) waste water treatment facilities (composting and anaerobic digestion only);

- i) current and former mineral workings (open air composting and construction, demolition and excavation waste recycling only).

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA identified a single alternative approach as reasonable:

- Alternative 1: To rely on an Areas of Search process to identify broad suitable locations through a plan-led system to which all proposals must be located.

At this stage, this alternative can still be considered reasonable and its appraisal is reiterated within this Report.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 21: Impact on Sustainability Objectives: Policy WP3

SA Objective		Policy WP3	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	+	+
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	+	+
	8 – Flood risk	0	0
	9 – Traffic impacts	+	+
	10 – Air quality	?	?
	11 – Restoration / after use	N/A	N/A
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0
	14 – Minerals supply	N/A	N/A

SA Objective		Policy WP3	Alternative 1
Social	15 – Waste	+	+
	16 – Public nuisance	++	++
	17 – Housing needs	N/A	N/A
	18 – Noise	?	?
	19 – Recreation & amenity	N/A	N/A
	20 – Health and well-being	++	++
Economic	21 – Economic growth / jobs	?	?
	22 - Infrastructure	++	++
	23 – Investment	?	?
	24 – Transport	++	++
Commentary		<p>It is considered that the majority of environmental objectives would not be impacted on directly or significantly through the Policy approach or the alternative. There will however be positive impacts associated with minimising the impacts on both landscapes / townscape through sensible co-location of existing waste and non-waste compatible uses. This is also generally true of the historic environment in regard to guiding proposals for waste management facilities away from historic centres and new undeveloped land in the first instance. This co-location will also allow new facilities to utilise existing transport infrastructure, should capacity exist although possibly to the detriment of air quality in industrial areas where HGV movements and other industrial operations exist. Impacts are highlighted as uncertain in this regard to reflect the fact that more detailed impacts will either exist or not in specific locations and circumstances.</p> <p>The locations specified within the Policy and the general notions of col-locating facilities with existing waste or minerals operations or similar functioning uses is likely to have positive connotations on the public and their wellbeing. This is due to such impacts being focused generally away from sensitive receptors and in industrial areas. Such a concentration of uses may have negative noise impacts, however it should be noted that these are likely to be minimal in light of both the general location of facilities away from populations and the introduction of effective mitigation for such impacts.</p> <p>Uncertain impacts have been highlighted for economic growth, where a focus on allocated employment land (in LPA development plans) could possibly conflict with the purposes of that allocation in the first instance by the LPA. This could also affect the promotion of investment in such areas should such investors be deterred by the perception of waste management facilities in such areas. Impacts are not negative however as it should be expected that the most economic use of land would be developed as preferable in such areas. There will be positive impacts associated with utilising existing infrastructure from both options. This would</p>	

SA Objective	Policy WP3	Alternative 1
	also ensure efficient movement patterns, where road infrastructure exists and is suitable for HGV movements.	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been proposed throughout the plan-making and SA process.

7.1.4 Policy WP4: Household waste recycling centres

Policy WP4: Household waste recycling centres

Household waste recycling centres may be acceptable within purpose designed or suitably adapted facilities on land within the land uses identified within Policy WP3.

Proposals for such facilities at landfill sites may be considered acceptable on a temporary basis whilst landfilling and restoration activity is taking place on site. Any temporary planning permissions will be linked to the time limits relating to the landfill activities on site.

Where it can be demonstrated that no suitable sites consistent with Policy WP3 are available within the area to be served by the household waste recycling centre, household waste recycling centres may be acceptable on other sites provided these are consistent with Policy GP4 and are accessible to the public.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA identified a reasonable alternative as follows:

- Alternative 1: To delete the policy

At this stage, the alternative can still be considered reasonable and has been reiterated within this SA for thoroughness.

Significant, Temporal and Secondary Effects

Table 22: Impact on Sustainability Objectives: Policy WP4

SA Objective		Policy WP4	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	+	+
	5 – Emissions / energy efficiency	0	0



SA Objective		Policy WP4	Alternative 1
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	+	+
	8 – Flood risk	0	0
	9 – Traffic impacts	+	?
	10 – Air quality	?	?
	11 – Restoration / after use	N/A	N/A
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0
	14 – Minerals supply	N/A	N/A
	15 – Waste	+	+
Social	16 – Public nuisance	++	++
	17 – Housing needs	N/A	N/A
	18 – Noise	?	?
	19 – Recreation & amenity	N/A	N/A
	20 – Health and well-being	++	++
Economic	21 – Economic growth / jobs	?	?
	22 - Infrastructure	++	++
	23 – Investment	?	?
	24 – Transport	++	+
Commentary		Impacts will be similar to those of policies WP3 and GP4 in so far as these remain the relevant policies, and outline the criteria to which applications will have to adhere. Regarding the comparative impacts of the two approaches assessed, there will be additional positive impacts resulting from the Policy in regard to accessibility where this is specifically implied in the Policy. The alternative will otherwise have the same impacts as those for the preferred policy approach.	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making and SA processes.

7.1.5 Policy WP5: Open Air Compositing

Policy WP5: Open Air Compositing

Open air composting facilities may be acceptable on land within the uses identified within Policy WP3.

Proposals for such facilities at landfill sites may be considered acceptable on a temporary basis whilst landfilling and restoration is taking place on site.

Proposals for open air composting will not be approved unless they are accompanied by a site-specific risk assessment which shows that the bio-aerosol levels can be maintained, throughout the life of the operations, at appropriate levels at dwellings or workspaces within 250m of a facility. Appropriate schemes for the management of odours and dust will also be required.

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, an alternative 'to not have criteria regarding open air composting at landfill sites' was identified as reasonable.

Since the Preferred Options Plan was consulted upon, the Policy has changed predominantly to remove wording related to proposals at landfill sites. This change focuses on removing criteria regarding possible proposals that would extend the life of landfill operations in order that they do not result in unacceptable environmental damage, or; perpetuate recycling activity poorly related in relation to sources of waste, or; lead to unreasonable delay in restoration. The stance of the Policy is now that proposals may be considered acceptable on a temporary basis whilst landfilling and restoration is taking place on site.

The appraisal of the Policy and the alternative at the Preferred Options stage focused on the benefits of co-location; however uncertain impacts were highlighted regarding restoration delays, which were seen as inevitable despite the general Policy stance of including the possibility that proposals could extend the life of operations at landfill sites.

At this stage, the SA has revised what constitutes a reasonable alternative, and includes subsequent re-assessment as necessary. At this stage, the following alternative has been included, reflecting co-location of open windrow composting operations at landfill sites:

- Alternative 1: the Preferred Options approach of allowing the principle of open windrow composting facilities at landfill sites, with a criteria-based approach regarding environmental impacts, the proximity principle and delays in restoration.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 23: Impact on Sustainability Objectives: Policy WP5

SA Objective		Policy WP5	Alternative 2
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	+	?
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	0	0
	8 – Flood risk	0	0
	9 – Traffic impacts	+	?
	10 – Air quality	?	?
	11 – Restoration / after use	+	?
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0
	14 – Minerals supply	N/A	N/A
	15 – Waste	+	+
Social	16 – Public nuisance	+	+
	17 – Housing needs	N/A	N/A
	18 – Noise	?	?
	19 – Recreation & amenity	N/A	N/A
	20 – Health and well-being	?	?
Economic	21 – Economic growth / jobs	?	?
	22 - Infrastructure	0	0
	23 – Investment	?	?

	24 – Transport	+	+
Commentary	<p>The predominant differences between the Policy and the alternative relate to landscapes, restoration and traffic generation, where the alternative's stance of supporting the principle of open windrow composting beyond the lifespan of landfill operations can be seen to be contrary to agreed restoration proposals and thus landscapes in the long term and also traffic generation through such activities. Otherwise the Policy and the alternative have predominantly mutual positive impacts associated with co-location, such as general transport impacts and those associated with minimising land use. Uncertain impacts have been assessed for both options regarding some objectives related to cumulative impacts in the short-medium term, however impacts are not considered negative due to the requirements for site specific risk assessments and the Policy's reference to the requirements of Policy GP4.</p>		

Proposed Mitigation Measures / Recommendations

No recommendations or mitigation measures are proposed at this stage.

7.1.6 Policy WP6: In-vessel composting facilities

Policy WP6: In-vessel composting facilities

Enclosed composting facilities may be acceptable on land within the uses identified within Policy WP3.

Proposals for such facilities at landfill sites may be considered acceptable on a temporary basis whilst landfilling and restoration activity is taking place on site.

Proposals for enclosed composting will not be approved unless they are accompanied by a site-specific risk assessment which shows that the bio aerosol levels can be maintained at appropriate levels at dwelling or workspaces within 250m of a facility. Appropriate schemes for the management of odours and dust will also be required.

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Approach stage, the SA identified the following alternative as reasonable:

- Alternative 1: To not allow such facilities to be co-located at landfill sites

At this stage, the alternative can still be considered reasonable and has been reiterated within this SA for thoroughness.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 24: Impact on Sustainability Objectives: Policy WP6

SA Objective		Policy WP6	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	+	+
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	+	+
	8 – Flood risk	0	0
	9 – Traffic impacts	+	?
	10 – Air quality	?	?
	11 – Restoration / after use	+	+
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0
	14 – Minerals supply	N/A	N/A
	15 – Waste	+	+
Economic	16 – Public nuisance	+	?
	17 – Housing needs	N/A	N/A
	18 – Noise	?	?
	19 – Recreation & amenity	N/A	N/A
	20 – Health and well-being	+	?
Social	21 – Economic growth / jobs	?	?

SA Objective		Policy WP6	Alternative 1
	22 - Infrastructure	0	0
	23 – Investment	?	?
	24 – Transport	+	?
Commentary	<p>It is considered that the majority of environmental objectives would not be impacted on directly or significantly through the approach of both options. The alternative of not including that element of the Policy that includes opportunities at landfill operations would have generally more uncertain implications, in so far as sensible co-location would not be explicitly promoted where viable and suitable. The alternative will otherwise have similar impacts as those for the preferred policy approach in line with other general policy approaches, although co-location of in-vessel composting and landfill as per the Policy would likely lead to less impacts on neighbouring land uses than a scenario where in-vessel composting facilities were stand-alone facilities elsewhere in the County.</p>		

Proposed Mitigation Measures / Recommendations

No recommendations or mitigation measures are proposed at this stage.

7.1.7 Policy WP7: Anaerobic digestion

Policy WP7: Anaerobic digestion

Anaerobic digestion facilities may be acceptable on land:

- within the uses identified within Policy WP3; or
- integrated with waste water treatment plants.

Proposals for such facilities at landfill sites will be considered acceptable on a temporary basis whilst landfilling and restoration activity is taking place on site. Any temporary planning permissions will be linked to the time limits relating to the landfill activities on site.

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the following alternative was identified as reasonable:

- Alternative 1: To not allow such facilities to be co-located at landfill sites

At this stage, the alternative can still be considered reasonable and has been reiterated within this SA for thoroughness.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 25: Impact on Sustainability Objectives: Policy WP7

SA Objective		Policy WP7	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	+	+
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	+	+
	8 – Flood risk	0	0
	9 – Traffic impacts	+	?
	10 – Air quality	?	?
	11 – Restoration / after use	+	+
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0
	14 – Minerals supply	N/A	N/A
	15 – Waste	+	+
Economic	16 – Public nuisance	+	?
	17 – Housing needs	N/A	N/A
	18 – Noise	?	?
	19 – Recreation & amenity	N/A	N/A
	20 – Health and well-being	+	?
Social	21 – Economic growth / jobs	?	?

SA Objective		Policy WP7	Alternative 1
	22 - Infrastructure	0	0
	23 – Investment	?	?
	24 – Transport	+	?
Commentary	<p>It is considered that many of environmental objectives would not be impacted on directly or significantly through the approach of both options. The alternative of not including that element of the Policy that includes opportunities at landfill operations would have generally more uncertain implications, in so far as sensible co-location would not be explicitly promoted where viable and suitable. The alternative will otherwise have similar impacts as those for the preferred policy approach in line with other general policy approaches, although co-location of AD and landfill as per the Policy would likely lead to less impacts on neighbouring land uses than a scenario where AD facilities were located elsewhere in the County.</p>		

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making and SA processes.

7.1.8 Policy WP8: Proposals for recycling or transfer of inert and construction, demolition and excavation waste

Policy WP8: Proposals for recycling or transfer of inert and construction, demolition and excavation waste

Proposals for recycling or transfer of inert and construction, demolition and excavation waste will be acceptable on land within the uses identified within Policy WP3.

At mineral sites, planning permission will be limited to the life of the mineral operation.

Proposals for such facilities at landfill sites may be considered acceptable on a temporary basis whilst landfilling and restoration is taking place on site.

On land suitable for General Industrial or Storage & Distribution uses, activities shall take place within purpose-designed facilities.

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, no alternative approaches were considered necessary for exploration within the SA. It was considered that any alternative approaches that are similarly compliant with national guidance, the presumption in favour of sustainable development and relevant to the local county context would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA.

Since the Preferred Options Plan was consulted upon, the Policy has changed predominantly to remove wording related to proposals at landfill sites. This change focuses on removing criteria regarding possible proposals that would extend the life of landfill operations in order that they do not result in unacceptable environmental damage, or lead to recycling activity poorly related in relation to sources of waste or lead to unreasonable delay in restoration. The stance of the Policy is now that proposals may be considered acceptable on a temporary basis whilst landfilling and restoration is taking place on site.

At this stage, the SA has revised what constitutes a reasonable alternative, and includes subsequent re-assessment as necessary. At this stage, the following alternative has been included, reflecting co-location of open windrow composting operations at landfill sites:

- Alternative 1: the Preferred Options approach of allowing the principle of proposals for recycling or transfer of inert and construction, demolition and excavation waste facilities at landfill sites, with a criteria-based approach regarding environmental impacts, the proximity principle and delays in restoration.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 26: Impact on Sustainability Objectives: Policy WP8

SA Objective		Policy WP8	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	+	?
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	0	0
	8 – Flood risk	0	0
	9 – Traffic impacts	+	?
	10 – Air quality	?	?
	11 – Restoration / after use	+	?
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0

SA Objective		Policy WP8	Alternative 1
	14 – Minerals supply	N/A	N/A
	15 – Waste	+	+
Social	16 – Public nuisance	++	++
	17 – Housing needs	N/A	N/A
	18 – Noise	?	?
	19 – Recreation & amenity	N/A	N/A
	20 – Health and well-being	++	++
Economic	21 – Economic growth / jobs	+	+
	22 - Infrastructure	0	0
	23 – Investment	+	+
	24 – Transport	+	+
Commentary		<p>It is considered that the majority of environmental objectives would not be impacted on directly or significantly, from either Policy or the alternative, with reference to Policy GP4 ensuring generally neutral outcomes. The Policy and alternative approaches will have positive impacts regarding the minimisation of operation effects and public nuisance due to the criterion that on land suitable for General Industrial or Storage & Distribution uses, activities shall take place within purpose-designed facilities with a focus on B8 uses.</p> <p>The main differences between the Policy and the alternative regard the impacts related to co-located proposals on landfill sites either during the lifetime of the landfill and restoration activities (the Policy approach) and beyond (the alternative). There can be seen to be more negative connotations resulting from the alternative associated with impact regarding landscapes, restoration and traffic generation through delays to restoration and extending waste operations at these sites.</p> <p>Although generally compatible, the policy ensures that recycling facilities are not located to the detriment of the function and operation of existing more traditional employment land. Despite this, the policy or supporting text could include commentary to the effect that such proposals should be compliant with the general development principles of LPA policy, particularly if such industrial areas are proposed for allocation in Local Plans.</p>	

Proposed Mitigation Measures / Recommendations

There are no recommendations or mitigation measures proposed at this stage.

7.1.9 Policy WP9: Waste transfer stations, materials recycling facilities, end of life vehicle facilities and waste electrical and electronic equipment recovery facilities

Policy WP9: Waste transfer stations, materials recycling facilities, end of life vehicle facilities and waste electrical and electronic equipment recovery facilities

Waste transfer stations, material recycling facilities, end of life vehicle facilities and waste electrical and electronic equipment recovery facilities may be acceptable within purpose designed or suitably adapted facilities on land within the uses identified within Policy WP3.

Proposals for such facilities at landfill sites may be considered acceptable on a temporary basis whilst landfilling and restoration activity is taking place on site.

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA stated that no alternative approaches have been considered necessary for exploration. Any alternative approaches that are similarly compliant with national guidance, the presumption in favour of sustainable development and relevant to the local county context would not be distinctly different from the proposed aims and objectives to warrant assessment within this SA. This position is considered valid at this Regulation 19 stage, with no additional alternatives considered necessary to explore.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 27: Impact on Sustainability Objectives: Policy WP9

SA Objective		Policy WP9
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	0
	7 – Historic environment	+
	8 – Flood risk	0
	9 – Traffic impacts	+

SA Objective		Policy WP9
	10 – Air quality	?
	11 – Restoration / after use	N/A
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	N/A
	15 – Waste	+
Social	16 – Public nuisance	+
	17 – Housing needs	N/A
	18 – Noise	?
	19 – Recreation & amenity	N/A
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	?
	22 - Infrastructure	0
	23 – Investment	?
	24 – Transport	+
Commentary	It is considered that the majority of environmental objectives would not be impacted on directly or significantly. The Policy will have positive impacts due to the requirement that facilities be purpose designed or suitably adapted facilities. Although generally compatible, the policy ensures that such facilities are not located to the detriment of the function and operation of existing more traditional employment land as per WP3.	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making and SA processes.

7.1.10 Policy WP10: Residual waste treatment facilities

Policy WP10: Residual waste treatment facilities

Residual waste treatment facilities may be acceptable where the proposed facility is:

- a) on land within the land-uses set out in Policy WP3, and;
- b) the proposals meet the environmental criteria set out in Policy GP4.

Proposals for such facilities at landfill sites may be considered acceptable on a temporary basis whilst landfilling and restoration is taking place on site.

The treatment of waste that could practicably be recycled or composted will not be acceptable. Conditions will be placed on planning permissions to ensure that only residual source-separated or pre-sorted waste is treated. Facilities that burn waste must provide for the recovery of energy and the use of combined heat and power will be encouraged.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA identified a single alternative as reasonable:

- Alternative 1: To only consider residual waste treatment facilities with a capacity of less than 100,000 tonnes annual throughput.

This alternative was identified in relation to the strategic nature of the Plan in order to consider the importance of large-scale facilities in meeting the aims and objectives of the Plan over the Plan period. At this stage, the alternative approach is considered to remain reasonable, and its appraisal alongside the Policy approach is reiterated in this Report for the purposes of thoroughness.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 28: Impact on Sustainability Objectives: Policy WP10

SA Objective		Policy WP10	Alternative 1
Environmental	1 – Surface water / groundwater	0	0
	2 – Water use	0	0
	3 – Soils	0	0
	4 – Landscape / townscape	+	+
	5 – Emissions / energy efficiency	+	+
	6 – Biodiversity / Geodiversity	0	0
	7 – Historic environment	+	+

SA Objective		Policy WP10	Alternative 1
	8 – Flood risk	0	0
	9 – Traffic impacts	+	?
	10 – Air quality	?	?
	11 – Restoration / after use	N/A	N/A
	12 – Mineral resources	0	0
	13 – Economic use of resources	0	0
	14 – Minerals supply	N/A	N/A
	15 – Waste	++	+
Social	16 – Public nuisance	+	+
	17 – Housing needs	N/A	N/A
	18 – Noise	?	?
	19 – Recreation & amenity	N/A	N/A
	20 – Health and well-being	+	+
Economic	21 – Economic growth / jobs	?	?
	22 - Infrastructure	0	0
	23 – Investment	?	?
	24 – Transport	+	+
Commentary	It is considered that the majority of environmental objectives would not be impacted on directly or significantly through the approach of both options. There will be additional positive impacts associated with the recovery of energy and encouragement of combined heat and power. The alternative will have similar impacts as those for the Policy approach, however it would be uncertain what differences in criteria would be applicable and relevant to apply separately for strategic and non-strategic scale operations.		

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making and SA processes.



7.1.11 Policy WP11: Approval of sites for disposal of inert waste by landfilling or landraise

Policy WP11: Approval of sites for disposal of inert waste by landfilling or landraise

Additional void space or areas of landraise for the deposit of inert waste may be acceptable where:

- a) the importation of inert waste is required for restoration of a former mineral extraction void; or**
- b) the importation of inert waste is required for agricultural improvement;**
- b) and there is no acceptable alternative form of waste management further up the Waste Hierarchy that can be made available to meet the need, and;**

The proposals comply with the environmental criteria set out in Policy GP4.

The landfilling of inert waste that could practicably be recycled will not be acceptable. Conditions will be placed on planning permissions to ensure that only pre-sorted wastes are landfilled.

Alternatives Considered Throughout the Plan-making Process

At the Issues and Options stage, an alternative was explored to *'delete the (existing) policy (Policy WDM3) in line with moving waste up the waste hierarchy'* and another that explored not accepting landraising proposals *'in favour of transporting material to restore mineral voids to original levels.'*

The Policy at the Preferred Options stage in the plan-making process incorporated, notionally, the principle of both of these alternative approaches into a hybrid approach to the disposal of inert waste.

At this Regulation 19 stage, these alternative approaches remain reasonable and have been reiterated for the purposes of thoroughness. Below indicates the two alternatives explored at the Issues and Options stage. These are:

- Alternative 1: To delete the policy in line with moving such waste up the waste hierarchy.
- Alternative 2: To accept no landraising proposals in favour of transporting material to restore mineral voids to original levels.

Significant, Temporal and Secondary Effects

The following table assesses the Policy and each of these two alternatives against the 24 Sustainability Objectives.

Table 29: Impact on Sustainability Objectives: Policy WP11

SA Objective		Policy WP11	Alternative 1	Alternative 2
Environmental	1 – Surface water / groundwater	?	+	?
	2 – Water use	N/A	N/A	N/A
	3 – Soils	0	0	0
	4 – Landscape / townscape	++	-	++
	5 – Emissions / energy efficiency	0	0	0
	6 – Biodiversity / Geodiversity	+	?	+
	7 – Historic environment	+	?	+
	8 – Flood risk	0	0	0
	9 – Traffic impacts	?	?	-
	10 – Air quality	0	0	0
	11 – Restoration / after use	+	-	+
	12 – Mineral resources	0	0	0
	13 – Economic use of resources	0	+	0
	14 – Minerals supply	0	0	0
	15 – Waste	+	++	+
Economic and Social	16 – Public nuisance	?	?	?
	17 – Housing needs	N/A	N/A	N/A
	18 – Noise	?	?	?
	19 – Recreation & amenity	++	?	++
	20 – Health and well-being	?	?	?
Economic	21 – Economic growth / jobs	N/A	N/A	N/A

SA Objective	Policy WP11	Alternative 1	Alternative 2
22 - Infrastructure	N/A	N/A	N/A
23 – Investment	N/A	N/A	N/A
24 – Transport	?	?	?

Commentary	<p>There will be positive impacts associated with the Policy, which is not restrictive of landraising (for engineering projects for example) and acknowledges the requirement for landfill as an integral process to restore landscapes post-mineral extraction for the benefit of biodiversity or other after uses. There will also be positive impacts associated with the historic environment where this and landscapes are intrinsically linked in the Plan area. Alternative 2 can be seen as having similarly positive impacts with an added emphasis on landscape, through a more restrictive approach to landraising, maximising the potential for restoring landscapes to original levels. Despite this however, this approach may lead to the added transportation of waste to fill such voids and could be seen to restrict recycling or re-use should commitments be made to restore in this regard. Alternative 1 will have largely negative and uncertain impacts on relevant criteria associated with the need to restore mineral voids through the landfilling of inert waste. The alternative will have significantly positive impacts on moving waste up the waste hierarchy and the re-use of inert material as an economic resource; however it should be acknowledged that this is predominantly aspirational and not realistic to the County context and the requirements for mineral extraction in the Plan area and the need to fill existing voids. Equally, it can be assumed that no operation associated with any option would be reasonable if it were not economically viable. Landfill and landraise options will have uncertain impacts on the majority of social criteria associated with the scale of such operations and general perceptions associated with HGV movements. Despite this, impacts are uncertain due to the general locational requirements of such sites which are located away from key centres of growth. Both the Policy and that of Alternative 2 will have significant positive impacts associated with restoration to recreation opportunities.</p> <p>It can be assumed that no operation associated with any option would be reasonable if it were not economically viable, however no impacts have been highlighted as such operations are unlikely to stimulate economic growth directly. There will be uncertain impacts associated with efficient movement patterns resulting from the existing policy approach and Alternative 1 where this is more relevant to individual schemes.</p>
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Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.



7.1.12 Policy WP12: Disposal of non-hazardous or hazardous waste by landfilling or landraise

Policy WP12: Disposal of non-hazardous or hazardous waste by landfilling or landraise.

Additional void space or areas of landraise for the deposit of non-hazardous or hazardous waste may be acceptable where:

- a) no alternative form of waste management can be made available to meet the need, and;
- b) the proposals comply with the environmental criteria set out in Policy GP4.

The landfilling of waste that could practicably be recycled, composted or recovered will not be acceptable.

For non-hazardous waste conditions will be placed on planning permissions to ensure that only residual source-separated or pre-sorted waste is landfilled. Proposals for landfill gas energy recovery will be required.

Alternatives Considered Throughout the Plan-making Process

At the Issues and Options stage, an alternative was explored to *'delete the (existing) policy (Policy WDM4) in line with moving waste up the waste hierarchy'* and another that explored not accepting landraising proposals *'in favour of transporting material to restore mineral voids to original levels.'*

The Policy at the Preferred Options stage in the plan-making process incorporated, notionally, the principle of both of these alternative approaches into a hybrid approach to the disposal of non-hazardous waste. At this stage, the Policy has also incorporated hazardous waste as relevant for the Policy requirements.

The alternatives explored to date remain reasonable and have been reiterated in this SA for the purposes of thoroughness. Below indicates the two alternatives explored at the Issues and Options stage. These are:

- Alternative 1: To delete the policy in line with moving such waste up the waste hierarchy
- Alternative 2: To accept no landraising proposals in favour of transporting material to restore mineral voids to original levels.

Significant, Temporal and Secondary Effects

The following table assesses the Policy and each of these two alternatives against the 24 Sustainability Objectives.

Table 30: Impact on Sustainability Objectives: Policy WP12

SA Objective		Policy WP12	Alternative 1	Alternative 2
Environmental	1 – Surface water / groundwater	?	+	?
	2 – Water use	N/A	N/A	N/A
	3 – Soils	0	0	0
	4 – Landscape / townscape	+	-	+
	5 – Emissions / energy efficiency	0	0	0
	6 – Biodiversity / Geodiversity	+	?	+
	7 – Historic environment	+	?	+
	8 – Flood risk	0	0	0
	9 – Traffic impacts	?	?	-
	10 – Air quality	0	0	0
	11 – Restoration / after use	+	-	+
	12 – Mineral resources	0	0	0
	13 – Economic use of resources	0	+	0
	14 – Minerals supply	0	0	0
	15 – Waste	+	++	+
Economic and Social	16 – Public nuisance	?	?	?
	17 – Housing needs	N/A	N/A	N/A
	18 – Noise	?	?	?
	19 – Recreation & amenity	+	?	+
	20 – Health and well-being	?	?	?
Economic	21 – Economic growth / jobs	N/A	N/A	N/A

SA Objective	Policy WP12	Alternative 1	Alternative 2
22 - Infrastructure	N/A	N/A	N/A
23 – Investment	N/A	N/A	N/A
24 – Transport	?	?	?

Commentary	<p>It should be acknowledged that at this Regulation 19 stage, the Policy's inclusion of hazardous waste as relevant for the Policy requirements has not resulted in any changes to the identified impacts within the Policy as worded previously at the Preferred Options stage.</p> <p>There will be positive impacts associated with the Policy, which is not restrictive of landraising and acknowledges the requirement for landfill as an integral process to restore landscapes post-mineral extraction. The Policy importantly states that proposals would only be acceptable where no alternative form of waste management can be made available to meet the need. There will also be positive impacts associated with the historic environment where landfill for restoration purposes and landscapes are intrinsically linked in the Plan area. Alternative 2 can be seen as having similarly positive impacts with an added emphasis on landscape, through a more restrictive approach to landraising, maximising the potential for restoring landscapes to original levels. Despite this however, this approach may lead to the added transportation of waste to fill such voids and could be seen to restrict recycling or re-use should commitments be made to restore in this regard.</p> <p>Alternative 1 will have largely negative and uncertain impacts on relevant criteria associated with the need to restore mineral voids through the landfilling of non-hazardous and hazardous waste. The alternative will have significantly positive impacts on moving waste up the waste hierarchy and the re-use of inert material as an economic resource; however it should be acknowledged that this is predominantly aspirational and not realistic to the County context. Equally, it can be assumed that no operation associated with any option would be reasonable if it were not economically viable. Landfill and landraise options will have uncertain impacts on the majority of social criteria associated with the scale of such operations and general perceptions associated with HGV movements. Despite this, impacts are uncertain due to the general locational requirements of such sites which are located away from key centres of growth. Both the existing policy approach and that of Alternative 2 will have significant positive impacts associated with restoration to recreation opportunities. It can be assumed that no operation associated with any option would be reasonable if it were not economically viable, however no impacts have been highlighted as such operations are unlikely to stimulate economic growth directly. There will be uncertain impacts associated with efficient movement patterns resulting from the existing policy approach and Alternative 1 where this is more relevant to individual schemes.</p>
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Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.

7.1.13 Policy WP13: Mining or excavation of landfill waste

Policy WP13: Mining or excavation of landfill waste

The mining or excavation of landfill waste will be considered favourably where it is demonstrated clearly that:

- a) without mining or excavation of waste, the site is posing a significant risk to human health or safety, and/or;
- b) without mining or excavation of waste, the site is posing a significant risk to the environment or;
- c) removal is required to facilitate a major infrastructure project or;
- d) the proposals would result in the management of the excavated waste higher up the waste hierarchy and there would be significant local and global environmental benefits in doing so;
- e) and the proposals include detailed information upon how the types of waste deposited within the landfill are to be managed;
- f) and the proposals comply with the environmental criteria set out in Policy GP4.

It must be demonstrated that any waste can be handled and if necessary removed from the site without posing additional significant risk to human health or safety, or to the environment.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA identified the following alternative as reasonable:

- Alternative 1: To not have a policy regarding the mining or excavation of landfill waste.

At this stage, the alternative remains reasonable and its appraisal alongside the Policy approach has been reiterated in this Report for the purposes of thoroughness.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 31: Impact on Sustainability Objectives: Policy WP13

SA Objective		Policy WP13	Alternative 1
Environmental	1 – Surface water / groundwater	+	?
	2 – Water use	0	0
	3 – Soils	0	0

SA Objective		Policy WP13	Alternative 1
	4 – Landscape / townscape	-	0
	5 – Emissions / energy efficiency	0	0
	6 – Biodiversity / Geodiversity	+	?
	7 – Historic environment	0	0
	8 – Flood risk	0	0
	9 – Traffic impacts	0	0
	10 – Air quality	0	0
	11 – Restoration / after use	?	+
	12 – Mineral resources	0	?
	13 – Economic use of resources	+	?
	14 – Minerals supply	N/A	N/A
	15 – Waste	++	?
Social	16 – Public nuisance	0	0
	17 – Housing needs	N/A	N/A
	18 – Noise	0	0
	19 – Recreation & amenity	0	0
	20 – Health and well-being	+	?
Economic	21 – Economic growth / jobs	+	?
	22 - Infrastructure	+	?
	23 – Investment	0	0
	24 – Transport	0	0
Commentary		<p>The Policy will have significant positive outcomes through adhering to the waste hierarchy. There will also be minor positive impacts associated with the economic use of resources through the recovery of previously deposited materials. The alternative of not having a policy on such operations has been assessed as yielding uncertain impacts, however these can be considered comparably negative in comparison to the policy content. The alternative will have minor positive impacts in comparison to</p>	

SA Objective	Policy WP13	Alternative 1
	<p>the policy in so far as restoration and after-use proposals would not be delayed or disrupted by landfill mining. A negative impact has been highlighted for landscapes, where the mining and excavation of waste used in previous restoration proposals could ensure negative outcomes and the material required to backfill these would not be identified through a plan-led system; as such schemes would largely be speculative.</p> <p>There will be positive impacts regarding human health through the policy essentially seeking to eradicate such risks posed by any existing landfill waste through its extraction. The alternative will have uncertain impacts in this regard.</p> <p>It should be noted that the policy itself would be unlikely to improve conditions without effective schemes coming forward, the viability of which can be expected to be uneconomic in many instances. Further, it is difficult to see how such operations, notably of those landfills containing municipal solid waste, could yield worthwhile revenue to offset the costs (including environmental assessments, securing planning and other consents and any necessary mitigation).</p>	

Proposed Mitigation Measures / Recommendations

At the Preferred Options stage, the SA made the following recommendation: *'supporting text could be included in future Plan iterations that explains the Council's position regarding the compatibility of such schemes with landscape policy. In addition, supporting text could also set out the position regarding the backfilling the voids created by such excavation.'* At this stage, the recommendations have not been factored into the Plan. As such, the recommendations remain valid at this Regulation 19 stage.

7.1.14 Policy WP14: Waste water treatment facilities

Policy WP14: Waste water treatment facilities

New or extended waste water treatment facilities may be acceptable where such proposals aim to improve the quality of discharged water or reduce the environmental impact of operation. The developer will be required to demonstrate that the proposal can be located without giving rise to unacceptable environmental impacts.

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage it was considered that no alternative approaches were necessary for exploration as any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed Policy to warrant assessment within this SA.

The Policy has not changed in its approach or wording since the Preferred Options stage. Therefore, at this Regulation 19 stage, the above statement remains valid and no additional alternatives have been considered reasonable.

Significant, Temporal and Secondary Effects

The following table assesses the proposed preferred Policy against the 24 Sustainability Objectives.

Table 32: Impact on Sustainability Objectives: Policy WP14

SA Objective		Policy WP14
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	0
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	0
	7 – Historic environment	0
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	N/A
	15 – Waste	+
Social	16 – Public nuisance	0
	17 – Housing needs	N/A
	18 – Noise	0
	19 – Recreation & amenity	N/A
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	N/A
	22 - Infrastructure	0



SA Objective		Policy WP14
	23 – Investment	N/A
	24 – Transport	N/A
Commentary	There will be no impact on the majority of the Sustainability Objectives. Minor positive impacts are predicted related to water quality, based on the purpose of the Policy and also associated with the treatment of waste.	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.

7.1.15 Policy WP15: Transfer, storage, processing & treatment of hazardous waste

Policy WP15: Transfer, storage, processing & treatment of hazardous waste

Facilities for the transfer, storage, processing and treatment (including incineration) of hazardous waste will be acceptable on land:

- a) in existing general industrial use (B2), in storage and distribution use (B8) or identified for these uses in a development plan document or;
- b) integrated within an establishment producing much of the waste that will be dealt with.

Facilities for the transfer and short-term storage of hazardous waste will also be acceptable on existing waste management sites identified as having potential for non-hazardous waste transfer where hazardous waste will only represent up to 5% of waste managed on site.

Proposals must also comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, no alternative approaches were considered necessary for exploration, as any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed Policy to warrant assessment within this SA.

The Policy has changed to establish what constitutes a 'small amount' of hazardous waste on wider existing waste management sites that have potential for non-hazardous waste transfer. This is now included as 'up to 5%' of hazardous waste.

It is considered that the Policy has not significantly changed in its approach or wording since the Preferred Options stage. Therefore, at this Regulation 19 stage, the above statement remains valid and no additional alternatives have been considered reasonable for exploration at this stage.

Significant, Temporal and Secondary Effects

Table 33: Impact on Sustainability Objectives: Policy WP15

SA Objective		Policy WP15
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	0
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	0
	7 – Historic environment	0
	8 – Flood risk	0
	9 – Traffic impacts	+
	10 – Air quality	?
	11 – Restoration / after use	N/A
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	N/A
	15 – Waste	+
Economic	16 – Public nuisance	+
	17 – Housing needs	N/A
	18 – Noise	0
	19 – Recreation & amenity	N/A
	20 – Health and well-being	+
Social	21 – Economic growth / jobs	?

SA Objective		Policy WP15
	22 - Infrastructure	0
	23 – Investment	?
	24 – Transport	+
Commentary	<p>It is considered that the majority of environmental objectives would not be impacted on directly or significantly through the approach the preferred policy approach. There will however be positive impacts associated with minimising the impacts on both traffic impacts and compliance with notions of moving waste up the waste hierarchy. Co-location with compatible uses in industrial areas will also allow new facilities to utilise existing transport infrastructure, should capacity exist although possibly to the detriment of air quality in industrial areas where HGV movements and other industrial operations exist. Positive impacts in this regard can also be expected in line with the storage, processing and treatment of hazardous waste at source.</p> <p>The locations specified within the Policy and the general notions of co-locating facilities at the source of such waste likely to have positive connotations on the public and their wellbeing. This is due to such impacts being focused generally away from sensitive receptors and in industrial areas. Impacts are limited however due to the general public perceptions regarding incineration over a relatively wide geographic area.</p> <p>Uncertain impacts have been highlighted for economic growth, where a focus on allocated employment land (in LPA development plans) could possibly conflict with the purposes of that allocation in the first instance by the LPA. This could also affect the promotion of investment in such areas should such investors be deterred by the perception of waste management facilities in such areas. Impacts are not negative however as it should be expected that the most economic use of land would be developed as preferable in such areas. There will be positive impacts associated with minimising transport movements through the storage, processing and treatment of hazardous waste at the sources of such waste. This would also ensure efficient movement patterns, where road infrastructure exists and is suitable for HGV movements.</p>	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.

7.1.16 Policy WP16: Treatment and storage of radioactive waste at Sizewell nuclear power stations

Policy WP16: Treatment and storage of radioactive waste at Sizewell nuclear power stations

Planning permission for the treatment and/or interim storage of radioactive waste at Sizewell nuclear power stations may be granted within the licensed area subject to the applicant demonstrating that the proposed development:

- a) is consistent with national strategies for radioactive waste management;
- b) there are exceptional circumstances why the development is justified within the Suffolk Coasts & Heaths Area of Outstanding Natural Beauty;
- c) includes adequate measures to mitigate adverse impacts on the environment and local community or, as a last resort, proportionately compensates for or offsets such impacts;
- d) is supported by robust economic and environmental assessments;
- e) utilises the existing rail link for the transportation of the radioactive waste unless it is demonstrated to be economically unviable, and;
- f) the proposals comply with the environmental criteria set out in Policy GP4.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA identified the following alternative as reasonable:

- Alternative 1: Permission for nuclear or radioactive waste treatment or storage will not be favoured and the Councils will seek to ensure that any nuclear wastes continue to be disposed of and/or reprocessed at appropriate national facilities

At this stage, the above statement remains valid and no additional alternatives have been considered reasonable for exploration at this stage.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 34: Impact on Sustainability Objectives: Policy WP16

SA Objective		Policy WP16	Alternative 1
Environmental	1 – Surface water / groundwater	?	0
	2 – Water use	?	0
	3 – Soils	?	0

SA Objective		Policy WP16	Alternative 1
	4 – Landscape / townscape	?	0
	5 – Emissions / energy efficiency	?	0
	6 – Biodiversity / Geodiversity	?	0
	7 – Historic environment	?	0
	8 – Flood risk	?	0
	9 – Traffic impacts	?	0
	10 – Air quality	?	0
	11 – Restoration / after use	?	0
	12 – Mineral resources	?	0
	13 – Economic use of resources	?	0
	14 – Minerals supply	?	0
	15 – Waste	+	-
Social	16 – Public nuisance	?	0
	17 – Housing needs	N/A	N/A
	18 – Noise	?	0
	19 – Recreation & amenity	?	0
	20 – Health and well-being	?	0
Economic	21 – Economic growth / jobs	+	0
	22 - Infrastructure	N/A	N/A
	23 – Investment	+	0
	24 – Transport	?	--



SA Objective	Policy WP16	Alternative 1
<p>Commentary</p>	<p>It should be noted that the Policy has been introduced to offer more clarity on the situation at Sizewell Power Stations. There will be uncertain impacts on the majority of the environmental impacts associated with the Policy and general treatment and the storage of radioactive wastes at Sizewell. This is due to the Policy's position regarding proposed development that should include adequate measures to mitigate adverse impacts on the environment and local community or, as a last resort, proportionately compensate for or offset such impacts. There will be positive impacts associated with the sustainable management of waste through the criterion of storage only being acceptable within the Nuclear Licensed Areas at Sizewell and negative impacts associated with the alternative, where such waste is produced within the Plan area.</p> <p>There will be uncertain impacts on the majority of the social impacts associated with the Policy and general treatment and the storage of radioactive wastes at Sizewell. This is due to the Policy's position regarding proposed development that should include adequate measures to mitigate adverse impacts on the environment and local community or, as a last resort, proportionately compensate for or offset such impacts. The alternative will have no impacts on all relevant sustainability objectives.</p> <p>There will be positive implications regarding the sustainable transportation of waste associated with the utilisation of rail links, however the policy's supporting text could set out the situation regarding whether VLLW, LLW and ILW could be received, stored and processed at source to minimise the transportation of waste. As such, impacts are uncertain at this stage. There will otherwise be positive economic impacts associated with the Policy and the treatment of radioactive waste at Sizewell in general. The alternative will have no impacts on the majority of the sustainability objectives associated with the transportation of such waste outside the Plan area, and negative impacts on transport as a result.</p>	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.

7.1.17 Policy WP17: Design of waste management facilities

Policy WP17: Design of waste management facilities

Waste management facilities will be considered favourably where they incorporate:

- a) designs of an appropriate scale, density, massing, height and materials;
- b) safe and convenient access for all potential users;
- c) schemes for the retention of existing and provision of new landscape features;
- d) measures which will protect, preserve and where practicable enhance the natural, historic environment including the setting and built environment, and;
- e) comply with Policy GP2.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the SA stated that no alternative approaches have been considered necessary for exploration, as any alternative approaches that are similarly compliant with national guidance would not be distinctly different from the proposed Policy to warrant assessment within this SA. At this stage, the above statement remains valid and no additional alternatives have been considered reasonable for exploration at this stage.

Significant, Temporal and Secondary Effects

The following table assesses the Policy against the 24 Sustainability Objectives.

Table 35: Impact on Sustainability Objectives: Policy WP17

SA Objective		Policy WP17
Environmental	1 – Surface water / groundwater	0
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	++
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	++
	7 – Historic environment	++
	8 – Flood risk	0
	9 – Traffic impacts	++

SA Objective		Policy WP17
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	N/A
	13 – Economic use of resources	0
	14 – Minerals supply	N/A
	15 – Waste	+
Social	16 – Public nuisance	0
	17 – Housing needs	N/A
	18 – Noise	0
	19 – Recreation & amenity	+
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	N/A
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	+
Commentary	<p>The Policy will have significant positive impacts on those relevant sustainability objectives, specifically those related to landscapes / townscape, biodiversity and the historic environment. There will additionally be marginal positive impacts associated with moving waste up the waste hierarchy through good and sustainable waste management facilities and ancillary development. There will also be significantly positive impacts associated with minimising traffic impacts through the policy's requirement that waste management facilities incorporate safe and convenient access</p> <p>The Policy will also have indirect positive impacts regarding recreation and amenity through any forthcoming schemes that enhance the natural environment. This will also have indirect positive impacts on well-being.</p> <p>There will be positive impacts associated with efficient movement patterns through the Policy's requirement that waste management facilities incorporate safe and convenient access</p>	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.

7.1.18 Policy WP18: Safeguarding of waste management sites

Policy WP18: Safeguarding of waste management sites

The County Council will seek to safeguard existing sites and sites proposed for waste management use as shown on the Proposals & Safeguarding Maps and will object to development proposals that would prevent or prejudice the use of such sites for those purposes unless suitable alternative provision is made.

Development proposals in close proximity to existing sites, should demonstrate that they would not prejudice or be prejudiced by a waste management facility. The safeguarding policy will also apply to any site where planning permission has already been granted.

Any mitigation required falls on the development that receives planning permission last.

District and Borough Councils should consult the County Council when a potentially conflicting proposal falls within the 250 or 400 metre safeguarding zones as defined in the Appendix 3 Safeguarding Maps. The County Council will then refer to Policies WP18 before providing a consultation response.

Alternatives Considered Throughout the Plan-making Process

At the Preferred Options stage, the following alternatives were identified as reasonable:

- Alternative 1: To safeguard all existing permanent permissions only.
- Alternative 2: To safeguard all existing permanent permissions and site allocations with a size/capacity of strategic importance only.

Since the Preferred Options Plan consultation, the Policy has changed to include additional paragraphs related to mitigation requirements and the consultation procedure. This is not considered a change that would warrant the separate appraisal of the Preferred Options Policy as an alternative.

At this stage, the previously explored alternatives can be considered to remain reasonable and their appraisals have been reiterated within this SA Report for the purposes of thoroughness.

Significant, Temporal and Secondary Effects

The following table assesses each of these options against the 24 Sustainability Objectives.

Table 36: Impact on Sustainability Objectives: Policy WP18

SA Objective		Policy WP18	Alternative 1	Alternative 2
Environmental	1 – Surface water / groundwater	0	0	0
	2 – Water use	0	0	0
	3 – Soils	0	0	0
	4 – Landscape / townscape	0	0	0

SA Objective		Policy WP18	Alternative 1	Alternative 2
	5 – Emissions / energy efficiency	0	0	0
	6 – Biodiversity / Geodiversity	0	0	0
	7 – Historic environment	0	0	0
	8 – Flood risk	0	0	0
	9 – Traffic impacts	0	0	0
	10 – Air quality	0	0	0
	11 – Restoration / after use	0	0	0
	12 – Mineral resources	0	0	0
	13 – Economic use of resources	0	0	0
	14 – Minerals supply	N/A	N/A	N/A
	15 – Waste	++	+	+
Social	16 – Public nuisance	++	+	+
	17 – Housing needs	?	?	?
	18 – Noise	++	+	+
	19 – Recreation & amenity	0	0	0
	20 – Health and well-being	++	+	+
Economic	21 – Economic growth / jobs	?	?	?
	22 - Infrastructure	++	+	+
	23 – Investment	0	0	0
	24 – Transport	++	+	+
Commentary		<p>It can be considered that there would be no direct impact on the majority of the environmental criteria as they can be considered only relevant on a site by site basis. Regarding impacts associated with the management of waste however there will be significant positive impacts associated with the Policy's safeguarding position. This will ensure the effective operation of all waste management facilities. The alternative of only safeguarding permitted sites could conflict with other speculative development proposals that could come forward in close proximity to allocations throughout the plan making process and until such allocations are granted planning permission or</p>		



SA Objective	Policy WP18	Alternative 1	Alternative 2
	<p>are operational. To only safeguard strategic permitted and allocated sites would have more positive impacts than Alternative 1, however does not factor in the important function of smaller waste management facilities, which are not only integral to the function of waste management in the Plan area, but could also be considered of strategic importance in their local context or type regardless of their size. The notion of safeguarding can arguably be considered contrary to other development needs, such as housing and employment. For that reason, the Policy and all alternatives will have uncertain impacts associated with such growth. Safeguarding, as a consultation mechanism, can help prevent incompatible development proposals in close proximity to waste management facilities which could otherwise give rise to a number of negative cumulative impacts on local infrastructure and the local road network should other development types be permitted in close proximity. For these reasons, the Policy approach will have more positive impacts than the alternatives.</p>		

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage or have been throughout the plan-making or SA processes.

8. Cumulative and Synergistic Impacts of the Minerals & Waste Policies

8.1 Introduction

This section explores the cumulative and synergistic impacts of the Local Plan's non-allocation based policies. Cumulative impacts are identified per sustainability objective, with each option exploring whether any exist on a thematic basis.

It should be noted that the majority of the Sustainability Objectives are predominantly concerned with protection, rather than enhancement, and for that purpose positive cumulative impacts are unlikely through a number of Policy approaches that seek to minimise impacts in the first instance. It is not considered possible that a Minerals and Waste Plan can ensure genuine positive outcomes regarding enhancement of environmental and social conditions and therefore positive cumulative impacts have not been highlighted. In addition, many of the policy approaches seek to minimise site specific impacts on a case by basis, with few additional cumulative impacts resulting on a County wide level.

8.2 Cumulative and Synergistic Impacts of the Plan's Policies

Table 37: Cumulative Impacts of the Plan's General Policies

SA Objective		Incidences of specific impacts within the policy appraisals					Cumulative Impact
		++	+	?	-	--	
Environmental	1 – Surface water / groundwater	0	5	3	0	0	0
	2 – Water use	1	1	1	0	0	0
	3 – Soils	0	3	2	0	0	0
	4 – Landscape / townscape	3	12	4	2	0	+
	5 – Emissions / energy efficiency	1	2	1	0	0	0
	6 – Biodiversity / Geodiversity	2	8	3	0	0	+
	7 – Historic environment	1	11	4	0	0	0
	8 – Flood risk	1	4	1	0	0	0
	9 – Traffic impacts	1	13	4	0	0	0



9. Allocation Policies

9.1 Introduction

The Local Plan includes allocations for proposed sites for sand and gravel extraction. The appraisal of the various allocations and reasonable alternative options are included within Section 10 of this Environmental Report. Regarding the policies in this Section, no alternative policy approaches can be considered reasonable or otherwise distinctly different in approach to warrant assessment within this Report.

Additionally the Plan includes a specific policy for each allocation, including site related criteria to which any forthcoming planning application would have to adhere. These can be seen as seeking to minimise environmental, social and economic impacts from each site in operation, as well as enhancing any benefits.

The appraisal of these policies within this Report follows a process of exploring whether the criteria included in each site specific policy are suitable and appropriate, in sustainability terms, in consideration of the individual site impacts highlighted within Section 10. For instance, if a site allocation is adjacent to a number of residential dwellings, this appraisal will explore whether appropriate mitigation measures are included within the site policy. If this is not the case, this Environmental Report will highlight any such issue as a recommendation. To aid the identification of where potential impacts would be mitigated through the policy, minor 'positive' impacts are highlighted. It is acknowledged however that in many instances, effective mitigation would ensure that 'no impacts' would be forthcoming.



9.2 The Local Plan's Proposed Mineral Sites

9.2.1 Policy MS1: Barham

Policy MS1: Barham

Development will be acceptable so long as the proposals, adequately address the following:

- a) the cutting of vegetation within the visibility splay where the quarry access joins Sandy Lane;
- b) the impact of the proposals upon the boundary vegetation and the wider Special Landscape Area;
- c) the provision of an archaeological field evaluation and deposit modelling for palaeolithic potential at depth;
- d) potential impacts upon natural history interests including Sandy Lane Pit Barham SSSI, the Oak Wood/Broomwalk Covert County Wildlife Site, and protected species including Otters, Bats and Great Crested Newts;
- e) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m;
- f) the provision of measures to mitigate noise;
- g) the shared use of the public footpath which also forms the quarry access, and;
- h) the implications for the underlying groundwater source protection zone and controlled waters.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 38: Impact on Sustainability Objectives: Policy MS1

SA Objective		Policy MS1
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	?/+
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	+
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0

SA Objective		Policy MS1
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, the Sandy Lane Pit Barham SSSI and the Oak Wood / Broomwalk Covert CWS, protected species, archaeology and the proximity of a number of residential properties. The Policy can be seen to address all of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p> <p>Despite this, the appraisal of the site indicates that a Grade I listed medieval church of St Mary is located approximately 350m south west of the site. The Council's site assessment states that 'there is considered to be no impact upon setting'; however at this stage it is uncertain whether any forthcoming planning application would be acceptable in this regard. 'Proximity testing' is unlikely to highlight issues at the project level. The Policy could therefore seek the submission of an appropriate impact assessment regarding this listed building.</p>	

Proposed Mitigation Measures / Recommendations

It is recommended that the Policy be expanded to seek the submission of an appropriate impact assessment regarding the Grade I listed medieval church of St Mary to accompany any planning application, with mitigation measures included where relevant.

9.2.2 Policy MS2: Barnham

Policy MS2: Barnham

Development will be acceptable so long as the proposals, adequately address the following:

- a) the seasonal working of the minerals to avoid the Stone Curlew nesting season;
- b) the importation of inert wastes to aid restoration;
- c) the use of an off-road haul route to reach the stockpiling area at Contract Farm
- d) the provision of a signalised junction where the haul road crosses the B1106;
- e) the storage of stockpiled material at Contract Farm;
- f) measures to maximise highway safety and minimise amenity impacts at Elveden Primary School;
- g) provision of a phased working and restoration scheme that is sympathetic to the Special Landscape Area and Brecks landscape;
- h) the provision of an archaeological field evaluation and deposit modelling for palaeolithic potential at depth;
- i) potential impacts upon nature conservation interest including Breckland SPA, Breckland SAC, Breckland Farmland/Little Heath/Thetford Heaths SSSI, Gorse Grassland CWS,

Thetford Heath NNR, European Protected Species (Bats and Great Crested Newt), Priority Species, other Protected Species, Priority Habitats (Lowland Heath);

- j) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m;
- k) the provision of measures to mitigate noise;
- l) an appropriate buffer zone to safeguard the Icknield Way;
- m) the implications for the underlying groundwater source protection zone and controlled waters, and:
- n) only inert waste materials would be used to help restore the site.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 39: Impact on Sustainability Objectives: Policy MS2

SA Objective		Policy MS2
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+/?
	7 – Historic environment	+/?
	8 – Flood risk	?
	9 – Traffic impacts	+
	10 – Air quality	+
	11 – Restoration / after use	0
	12 – Mineral resources	0

SA Objective		Policy MS2
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	+
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	+
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, the Breckland SPA, Breckland SAC, Breckland Farmland/Little Heath/Thetford Heaths SSSI, Gorse Grassland CWS, and Thetford Heath NNR, protected species, historic buildings, archaeology, flood risk, a PRoW, highways access / safety and the proximity of a number of residential properties. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p> <p>Despite this, the appraisal of the site indicates that a number of Listed Buildings are in close proximity to the site; the nearest (Meadow Cottage and Carine Cottage) are located approximately 600m to the east. The Council's site assessment states that 'no historic buildings have been identified as being affected'; however at this stage it is uncertain whether any forthcoming planning application would be acceptable in this regard. 'Proximity testing' is unlikely to highlight issues at the project level. The Policy could therefore seek the submission of an appropriate impact assessment regarding listed buildings.</p> <p>At the time of writing, a number of comments were made on the HRA work undertaken to accompany the Plan by Natural England. In consideration of the potential impacts highlighted for the site within Section 10 regarding Natura 2000 sites, it is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'natural history interests', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.</p> <p>Additionally, there exists an uncertainty surrounding the impacts of flood risk on site, with the site</p>	

SA Objective	Policy MS2
	lying within an area of Flood Risk Zone 3 to the eastern boundary; although it should be noted that this area is very small and represents a small percentage of the total site area. Whereas the Policy does not specifically include this as an impact to be addressed, it should be noted that Policy GP4 ensures suitable requirements that are applicable to all proposals.

Proposed Mitigation Measures / Recommendations

The Policy could seek the submission of an appropriate impact assessment regarding listed buildings, with mitigation measures included where relevant.

It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'natural history interests', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.

9.2.3 Policy MS3: Belstead

Policy MS3: Belstead

Development will be acceptable so long as the proposals, adequately address the following:

- a) establishment of a quarry access onto the A12 and a traffic management plan drafted so as to avoid quarry traffic diverting through local villages including Copdock except in the case of local deliveries;
- b) safeguarding of all woodlands and wooded tracks;
- c) adequate mitigation of potential significant adverse impacts upon Bentley Old Hall and its setting;
- d) the requirement for an archaeological investigation leading appropriate mitigation for near surface potential and Palaeolithic potential at depth;
- e) potential impacts upon nature conservation interest including Brockley and Old Hall Woods CWS, European Protected Species (Dormouse, Bats), Priority Species, other Protected Species and Protected Habitats;
- f) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m;
- g) the provision of measures to mitigate noise;
- h) proposals of the safeguarding or diverting of public rights of way, and;
- i) the implications for the underlying groundwater source protection zone and controlled waters.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 40: Impact on Sustainability Objectives: Policy MS3

SA Objective		Policy MS3
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	+
	8 – Flood risk	0
	9 – Traffic impacts	+
	10 – Air quality	+
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Economic	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	+
	20 – Health and well-being	0
Social	21 – Economic growth / jobs	0

SA Objective		Policy MS3
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	+
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, Brockley and Old Hall Woods CWS, protected species, historic buildings, archaeology, highways access / safety and the proximity of a number of residential properties. The Policy can be seen to address all of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p>	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.

9.2.4 Policy MS4: Cavenham

Policy MS4: Cavenham

Development will be acceptable so long as the proposals, adequately address the following:

- a) highways maintenance, safety and amenity implications of HGVs;
- b) a phased restoration scheme appropriate to the Brecks Landscape;
- c) the requirement for an archaeological investigation leading appropriate mitigation for near surface potential and Palaeolithic potential at depth;
- d) potential impacts upon nature conservation interest including Breckland SPA, Breckland SAC, Breckland Farmland SSSI, Ancient Woodland CWS, Cavenham Heath NNR, RNR, watercourses, European Protected Species (Bats), Priority Species, Priority Habitats, Stone Curlew, Woodlark and Nightjar;
- e) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m;
- f) the provision of measures to mitigate noise;
- g) proposals of the safeguarding or diverting of public rights of way, and;
- h) the implications for the underlying groundwater source protection zone and controlled waters.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 41: Impact on Sustainability Objectives: Policy MS4

SA Objective		Policy MS4
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+/?
	7 – Historic environment	+
	8 – Flood risk	?
	9 – Traffic impacts	+
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Economic	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	+
	20 – Health and well-being	0
Social	21 – Economic growth / jobs	0



SA Objective	Policy MS4
22 - Infrastructure	0
23 – Investment	0
24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, Breckland SPA, Breckland SAC, Breckland Farmland SSSI, Ancient Woodland CWS, Cavenham Heath NNR, protected species, archaeology, flood risk, a PRoW, highways access / safety, noise, a byway, and the proximity of a number of residential properties. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p> <p>At the time of writing, a number of comments were made on the HRA work undertaken to accompany the Plan by Natural England. In consideration of the potential impacts highlighted for the site within Section 10 regarding Natura 2000 sites, it is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.</p> <p>Additionally, there exists an uncertainty surrounding the impacts of flood risk on site with areas of Flood Risk Zone 2 and 3 existing on and in close proximity to the site. This includes some significant water bodies (reservoirs for agricultural irrigation), however the total area is large and operational activity is not intended to be located in these specific areas. Whereas the Policy does not specifically include this as an impact to be addressed, it should be noted that Policy GP4 ensures suitable requirements that are applicable to all proposals.</p>

Proposed Mitigation Measures / Recommendations

It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.

9.2.5 Policy MS5: Layham

Policy MS5: Layham

Development will be acceptable so long as the proposals, adequately address the following:

- a) a progressive working and low-level restoration scheme that is sympathetic to the wider Special Landscape Area;
- b) protection of residential amenity;
- c) potential impacts upon nature conservation interest including CWS including ancient woodland, European Protected Species (dormice, otters, bats, and great crested newts), priority species (BAP) and, priority habitats including hedgerows. Appropriate surveys and mitigation will be required;
- d) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m;
- e) the provision of measures to mitigate noise, and;
- f) the implications for the underlying groundwater and controlled waters.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 42: Impact on Sustainability Objectives: Policy MS5

SA Objective		Policy MS5
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+/?
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	?
	8 – Flood risk	0

SA Objective		Policy MS5
	9 – Traffic impacts	0
	10 – Air quality	+
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	0
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, a CWS including ancient woodland, protected species, archaeology, air quality, noise and the proximity of a number of residential properties. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p> <p>The Policy could however include reference to the presence of the AONB 300m of the site in the landscape criterion and seek relevant assessment and possible mitigation requirements as a result.</p> <p>Both the appraisal of the site within Section 10 of this Report and the Council's independent site assessment highlight the evidence of low density and low complexity later prehistoric activity identified by archaeological investigations undertaken in connection with previous phases of extraction, lying north of the proposed extension to workings. The Policy does not include the requirement for an archaeological investigation and possible appropriate mitigation and the inclusion of such a requirement is recommended.</p>	



Proposed Mitigation Measures / Recommendations

It is recommended that the Policy include reference to the presence of the AONB 300m of the site in the landscape criterion and seek relevant assessment and possible mitigation requirements as a result.

The Policy does not include the requirement for an archaeological investigation and possible appropriate mitigation and the inclusion of such a requirement is recommended in light of the appraisal of the site within Section 10 of this Report and the Council's independent site assessment.

9.2.6 Policy MS6: Tattingstone

Policy MS6: Tattingstone

Development will be acceptable so long as the proposals, adequately address the following:

- a) the highways safety, maintenance and amenity implications of HGVs;
- b) a comprehensive scheme of screening and bunding for the proposed extension is essential to minimise adverse impacts of the wider landscape of the Special Landscape Area, Area of Outstanding Natural Beauty and on local visual amenity;
- c) an archaeological field evaluation, and deposit modelling for Palaeolithic potential, prior to the granting of any planning permission to allow for preservation in situ, where appropriate, of any sites of importance that might be defined (and which are currently unknown) and to allow archaeological preservation or mitigation strategies to be designed;
- d) potential impacts upon nature conservation interest including watercourses, European Protected Species (Bats), Priority Species, Priority Habitats, which need to be adequately assessed and where necessary mitigation proposed;
- e) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m;
- f) the provision of measures to mitigate noise;
- g) the diversion of Bridleway 37A, and;
- h) the implications for the underlying groundwater and controlled waters including the stream that runs through the site.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 43: Impact on Sustainability Objectives: Policy MS6

SA Objective		Policy MS6
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+/?
	7 – Historic environment	+
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	+
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	+
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 – Infrastructure	0

SA Objective		Policy MS6
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding landscape, Stour & Orwell SPA, Stour Estuary SSSI, Brantham Bridge Meadows CWS, protected species, archaeology, a bridleway / PRoW, and the proximity of a number of residential properties. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p> <p>At the time of writing, a number of comments were made on the HRA work undertaken to accompany the Plan by Natural England. In consideration of the potential impacts highlighted for the site within Section 10 regarding Natura 2000 sites, it is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interests', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.</p>	

Proposed Mitigation Measures / Recommendations

It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interests', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.

9.2.7 Policy MS7: Wangford

Policy MS7: Wangford

Development will be acceptable so long as the proposals, adequately address the following:

- a) the highways safety, maintenance and amenity implications of HGVs;
- b) mitigation of landscape and visual impacts through a scheme of planting and bunding and the retention of boundary features and other key vegetation;
- c) a programme of archaeological evaluation, including appropriate fieldwork, and should demonstrate the impacts of development/ extraction on archaeological remains, including deposits with Palaeolithic potential, and proposals for managing those impacts;
- d) the potential for direct and indirect impacts upon nature conservation interest including Suffolk Coast & Heaths AONB, Minsmere-Walberswick SPA, Minsmere-Walberswick Heaths & Marshes SSSI, Wangford Marshes CWS, Suffolk Coast NNR, Hen Reedbeds (SWT Site), Reydon Wood (SWT Site), Groundwater Source Protection Zone (River Wang, Wolsey's creek, River Blyth), European Protected Species (Otters, Bats), Priority Species (Bittern, Water Vole, Barn Owl), other protected Species (Badger), Priority Habitats (REEDBEDS, Grazing Marshes) and any mitigation required;
- e) measures to prevent significant adverse hydrological impacts upon the potable water

supplies, protected sites and species in respect of both water quality and dewatering;

- f) the retention of linear features on the boundary and within the site to safeguard the ecological interest within the site including hedgerows and large hedgerow trees;
- g) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m and at statutory habitats, and;
- h) the provision of measures to mitigate noise.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 44: Impact on Sustainability Objectives: Policy MS7

SA Objective		Policy MS7
Environmental	1 – Surface water / groundwater	+
	2 – Water use	+
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+/?
	7 – Historic environment	+
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0

SA Objective		Policy MS7
	15 – Waste	0
Social	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	0
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, Minsmere-Walberswick SPA, Minsmere-Walberswick Heaths & Marshes SSSI, Wangford Marshes CWS, Suffolk Coast NNR, Hen Reedbeds (SWT Site), Reydon Wood (SWT Site), protected species, archaeology, and the proximity of a number of residential properties. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p> <p>At the time of writing, a number of comments were made on the HRA work undertaken to accompany the Plan by Natural England. In consideration of the potential impacts highlighted for the site within Section 10 regarding Natura 2000 sites, it is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.</p>	

Proposed Mitigation Measures / Recommendations

It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application

9.2.8 Policy MS8: Wetherden

Policy MS8: Wetherden

Development will be acceptable so long as the proposals, adequately address the following:

- a) the highways safety, maintenance and amenity implications of HGVs including improved wheel cleaning facilities to avoid mud being deposited on the public highway outside of the site;
- b) mitigation of landscape and visual impacts through a scheme of planting along the western flank of the existing quarry and proposed extension;
- c) a programme of archaeological investigation, which will include assessment of, and provide mitigation strategies for, near surface archaeological potential and Palaeolithic potential (at depth).
- d) potential impacts upon watercourses, European Protected Species, Priority Species, and Priority Habitats;
- e) the provision of an air quality assessment which considers the potential impacts of increased dust and pollutant concentration associated with the extraction and infilling process, the potential for cumulative impacts, and which defines the mitigation and monitoring which will be implemented at the site to minimise the risk at residential properties within 250m;
- f) the provision of measures to mitigate noise;
- g) proposals to mitigate the impacts upon the existing rights of way network, and;
- h) the implications for the underlying groundwater and controlled waters.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 45: Impact on Sustainability Objectives: Policy MS8

SA Objective		Policy MS8
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0

SA Objective		Policy MS8
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	+
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	+
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	+
	20 – Health and well-being	+
Economic	21 – Economic growth / jobs	0
	22 – Infrastructure	0
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, protected species, archaeology, a PRoW, public safety (regarding mud on roads) and the proximity of a number of residential properties. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p>	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.

9.2.9 Policy MS9: Wherstead

Policy MS9: Wherstead

Development will be acceptable so long as the proposals, adequately address the following:

- a) mitigation of landscape and visual impacts;
- b) a programme of archaeological investigation, which will include assessment of, and provide mitigation strategies for, near surface archaeological potential and Palaeolithic potential (at depth).
- c) potential impacts upon nature conservation interest including Freston and Cutler's Wood SSSI, CWS ancient woodland, Ground Water Source Protection Zone, European Protected Species (dormice and bats), priority species (BAP) and habitats, and another protected species;
- d) the retention of the boundary between the existing site and the proposed extension including the mature oak trees and the recently planted trees;
- e) proposals to minimise the impact upon air quality in the wider area;
- f) proposals to mitigate the impacts upon the existing rights of way network;
- g) the implications for the underlying groundwater and controlled waters, and;
- h) a traffic management plan drafted to avoid traffic diverting through local villages including Belstead except in the case of local deliveries.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 46: Impact on Sustainability Objectives: Policy MS9

SA Objective		Policy MS9
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	+

SA Objective		Policy MS9
	8 – Flood risk	0
	9 – Traffic impacts	+
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	+
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, Freston and Cutler's Wood SSSI, CWS ancient woodland, protected species, archaeology, a PRoW, and HGV movements. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p>	

Proposed Mitigation Measures / Recommendations

No mitigation measures or recommendations are proposed at this stage.

9.2.10 Policy MS10: Worlington

Policy MS10: Worlington

Development will be acceptable so long as the proposals, adequately address the following:

- a) mitigation of landscape and visual impacts including the retention where possible of the characteristic tree belts;
- b) a programme of archaeological investigation, which will include assessment of, and provide mitigation strategies for, near surface archaeological potential and Palaeolithic potential (at depth);
- c) potential impacts upon nature conservation interest including Breckland SPA, Breckland SAC, Ancient Woodland CWS, Ground Water Source Protection zone, European Protected Species, Other Protected Species, and Priority Habitats;
- d) the provision of measures to mitigate noise, and;
- e) the implications for the underlying groundwater and controlled waters.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

Significant, Temporal and Secondary Effects

Table 47: Impact on Sustainability Objectives: Policy MS10

SA Objective		Policy MS10
Environmental	1 – Surface water / groundwater	+
	2 – Water use	0
	3 – Soils	0
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+/?
	7 – Historic environment	+
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0

SA Objective		Policy MS10
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	+
	19 – Recreation & amenity	0
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	?
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding groundwater, landscape, Breckland SPA, Breckland SAC, Ancient Woodland CWS, protected species, archaeology, and infrastructure (regarding a potential route for a Mildenhall bypass). The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p> <p>At the time of writing, a number of comments were made on the HRA work undertaken to accompany the Plan by Natural England. In consideration of the potential impacts highlighted for the site within Section 10 regarding Natura 2000 sites, it is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.</p>	

Proposed Mitigation Measures / Recommendations

It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.

9.3 The Local Plan's Proposed Waste Sites

9.3.1 Policy WS1: Sizewell A Nuclear Power Station

Policy WS1: Sizewell A Nuclear Power Station

Development will be acceptable so long as the proposals, adequately address the following:

- a) a programme of archaeological investigation if the proposed development is located on an area of previously undisturbed land, which will include assessment of, and provide mitigation strategies for, near surface archaeological potential and Palaeolithic potential (at depth);
- b) potential impacts upon nature conservation interest including Suffolk Coasts & Heaths AONB;
- c) the preservation of the flora and fauna associated with the established sand dunes on Sizewell beach including protect species such as Adders, unless there is an overriding need;
- d) the preservation of the existing public rights of way on Sizewell beach unless there is an overriding need;
- e) the protection of the underlying minor aquifer and proposal to mitigate the high/intermediate risk of groundwater flooding.

Proposals must also be generally in accordance with other policies of the development plan including the environmental criteria set out in Policy GP4.

The following table assesses the Policy against the 24 Sustainability Objectives.

NOTE: It should be noted that operational activity is being undertaken on this site. It is expected that any significant environmental effects of additional waste management activity would be more appropriately mitigated at the planning application stage, in line with the Plan's policy content, and as identified through an Environmental Impact Assessment (EIA). Nevertheless, the site is subject to assessment within this Report in order to identify whether there would be any cumulative or synergistic effects resulting from activities at Sizewell with other plan allocations.

Significant, Temporal and Secondary Effects

Table 48: Impact on Sustainability Objectives: Policy WS1

SA Objective		Policy WS1
Environmental	1 – Surface water / groundwater	+/?
	2 – Water use	0
	3 – Soils	0

SA Objective		Policy WS1
	4 – Landscape / townscape	+
	5 – Emissions / energy efficiency	0
	6 – Biodiversity / Geodiversity	+
	7 – Historic environment	+
	8 – Flood risk	0
	9 – Traffic impacts	0
	10 – Air quality	0
	11 – Restoration / after use	0
	12 – Mineral resources	0
	13 – Economic use of resources	0
	14 – Minerals supply	0
	15 – Waste	0
Social	16 – Public nuisance	0
	17 – Housing needs	0
	18 – Noise	0
	19 – Recreation & amenity	+
	20 – Health and well-being	0
Economic	21 – Economic growth / jobs	0
	22 - Infrastructure	0
	23 – Investment	0
	24 – Transport	0
Commentary	<p>The appraisal of this site within Section 10 of this Report indicates negative or possible negative impacts surrounding surface water flooding, landscape, flora and fauna associated with the established sand dunes including protect species, archaeology, and a PRoW. The Policy can be seen to address the majority of these impacts suitably, with additional information and mitigation measures requested of any forthcoming planning applications.</p>	



SA Objective	Policy WS1
	Uncertain impacts are highlighted regarding surface water flood risk. This is identified as a possible issue to be dealt with within the appraisal of the site in Section 10 of this Report and the Council's independent site assessment yet is not included within the Policy.

Proposed Mitigation Measures / Recommendations

It is recommended that the policy includes that any forthcoming applications be accompanied by a suitable assessment and where relevant mitigation measures regarding surface water flooding.



10. Appraisal of Site Allocations and Reasonable Alternatives

10.1 Site Allocations

This section explores the sustainability impacts and benefits of those sites that were submitted to the County Council for consideration during the call-for-sites process. It appraises the site options (both currently allocated and those 'reasonable' alternatives) on a level playing field using all available information.

It should be noted that the Plan predominantly allocates sites for mineral extraction, with only one allocated site for waste management. This is due to the findings of the Plan's evidence base, notably the Waste Capacity Gap Report, which identifies that there is currently no specific waste capacity gap which would require multiple new waste management facilities to come forward and this is forecasted to be the case over the Plan period.

The Plan states,

'The recently published Suffolk Waste Study (SWS) sets out in detail the levels of waste management activity within Suffolk.

In 2015 for example the SWS indicates that there were 0.529 Mt of C, D&E waste managed within Suffolk of which over 91.4% would be recycled, giving a total figure of 0.484 Mt of recycled aggregates per annum.

In addition, the energy from waste facility at Gt Blakenham recycles 0.060 Mt of bottom ash from Local Authority Collected Waste (LACW) into aggregates per annum.

The types of facilities where recycled aggregates are produced vary from purpose built fixed installations to temporary operations on construction sites. The latter does not require planning permission separately from the County Council. Although the SWS does not indicate a specific capacity gap for aggregates recycling facilities in Suffolk, a proposal for such a facility is included at in the Plan at Cavenham Quarry.

If, in the future proposals for aggregates recycling facilities require planning permission are made, then there are criteria based policies included within the Plan.

All permitted recycled aggregates facilities are safeguarded within the Plan from other forms of competing development.'

10.1.1 The Plan's Site Allocations

The following table lists the Plan's minerals and waste site allocations. The table outlines a summary of the submitted details of each allocation, with a description of each proposal.

Table 49: Sites proposed for allocation

Proposal	Site name	Site Reference	Description of development
Allocated Sites			
Minerals extraction	Barham	BA1	Two sites were submitted as small extensions of the existing quarry. The proposed developments represent modest extensions to the existing long standing sand and gravel quarrying operations at Sandy Lane, Barham. They are both in close proximity to each other and thus have been assessed as a single opportunity within this SA.
Minerals extraction	Barnham	BN1	This is a proposed extension to an existing quarry that was originally granted planning permission to supply the construction of the A11 Elveden bypass. The proposal is to work the area surrounding of the existing quarry. Working would be seasonal as with the existing planning permission and avoid the Stone Curlew nesting season.
Minerals extraction	Belstead	BS1	The proposed development would involve sand and gravel extraction on land at Belstead which is currently in agricultural use. Some backfilling of the resultant void with inert wastes would follow.
Minerals extraction and inert waste recycling	Cavenham	CA1	The proposed developments represent extensions to the existing long standing sand and gravel quarrying operations at Cavenham Quarry (CA1) as well as inert waste recycling and treatment (CA2) and disposal (infilling) (CA3).
		CA2	
		CA3	
Minerals extraction	Layham	LA1	The proposed development represents an extension to the existing long standing sand and gravel quarrying operations at Rands Hall Pit, Layham.
Minerals extraction	Tattingstone	TA1(a)	The proposed quarry extension was submitted on behalf of Shotley Holdings and proposes an extension to the area currently being quarried for sand. Restoration would involve the backfilling with inert waste (mainly soils and clays) to previous ground levels.

Proposal	Site name	Site Reference	Description of development
Minerals extraction	Wangford	WA3	This site was proposed as an extension to Wangford Quarry. The proposed extension known as Lime Kiln Farm is located to the east of the existing processing plant.
Minerals extraction	Wetherden	WE1	The proposed extension to Wetherden Quarry is for an extension to the area currently being quarried for sand and gravel. Restoration would involve the backfilling with inert waste (mainly soils and clays) to previous ground levels.
Minerals extraction	Pannington Quarry, Wherstead	WH1	The proposed development represents an extension to the permitted sand and gravel quarrying operations at Pannington Hall Quarry, Wherstead. The quarry is however currently dormant to the prevailing economic conditions. Some inert waste materials might be required to aid restoration.
Minerals extraction	Worlington	WO1	The proposed developments represent extensions to the permitted sand and gravel quarrying operations at Bay Farm, Worlington. The proposed sites would follow the existing pattern of development whereby the sand and gravel is extracted and the land restored by utilising the importation of inert waste materials. The proposed extension sites include three to the north of the existing quarry and one to the south east.
Waste Management	Sizewell A Nuclear Power Station	WS1	This Plan proposal relates to the management of waste arising from the decommissioning of Sizewell A together with other waste from sister stations in accordance with national policy to share waste facilities. It is important to note that Sizewell A is already benefiting from sharing waste management facilities at Bradwell Nuclear Power Station in Essex. Whilst there are no such proposals at the present time to share facilities at Sizewell it is considered prudent to have policies in place if such a proposal is put forward in the future.

10.1.2 Overview of Impacts

The following table shows the range of impacts per sustainability objective and per site. Detailed site assessments follow in the preceding sub-sections.

Table 50: The Plan's Site Allocations

SA Obj	Site Allocation														
	BA 1	BN 1	BS 1	CA 1	CA 2	CA 3	LA 1	TA 1	WA 3	WE 1	WH 1	WO 1(a)	WO 1(b)	WO1 (c)	WS 1
1	-	-	?	-	-	-	-	0	-	-	?	?	?	?	-
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	?	+	?/-	?/+	?/+	?/+	+	+	?	?/-	?	+	+	+	+
4	-	-	?	?	?	0	-	-	-	?	-	?	?	?	?/-
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	-	-	?	-	-	-	?	-	-	?	-	-	-	-	?
7	-	-	-	-	-	0	?	?	?	?	?	?	?	?	?/-
8	?	-	?	-	-	-	0	0	0	0	0	?	0	0	?
9	?	0	0	0/?	0/?	0/?	0	0	0	0	?/-	0	0	0	0
10	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+
11	+	?/+	+	++	0	++	++	++	?	++	+	+	+	+	0
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	++	++	++	++	+	0	++	++	++	++	++	++	++	++	0
14	++	++	++	++	0	0	++	++	++	++	++	++	++	++	0
15	-	?	?/-	-	++	-	?/-	?/-	?	?	?/-	?/-	?/-	?/-	?/-
16	?	?	?/-	?/-	?	?/-	?	?	?/-	?	+	+	+	+	+
17	?	+	+	+	+	+	?	?	+	?	+	+	+	+	+
18	+	?	?	?	?	?	+	+	+	?	+	+	+	+	+

SA Obj	Site Allocation														
	BA 1	BN 1	BS 1	CA 1	CA 2	CA 3	LA 1	TA 1	WA 3	WE 1	WH 1	WO 1(a)	WO 1(b)	WO1 (c)	WS 1
19	?/+	?/-	+	?/-	?/-	?/-	?/-	?/-	+	?/-	-	+	+	+	?/-
20	+	?	+	+	+	+	+	+	+	?	+	+	+	+	+
21	+	+	+	+	+	+	0	0	0	0	+	0	0	0	+
22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23	0	0	0	0	0	0	0	0	0	0	0	?	?	?	0
24	?	?	?	+	+	+	?	?	?	+	+	?/-	?/-	?/-	+

10.2 Detailed Appraisal of the Plan's Site Allocations

This section assesses the sites allocated in the Plan against the sustainability objectives.

10.2.1 Barham

Barham

The proposed developments represent modest extensions to the existing long standing sand and gravel quarrying operations at Sandy Lane, Barham, which is operated by Brett.

Currently sand and gravel is extracted and transported to the processing area at nearby Shrubland Quarry. Restoration would entail the importation of inert fill materials.

The established road access uses Sandy Lane, the C445 and the C492 (the old A45) to reach the access to Shrubland Quarry. None of these roads are part of the Suffolk Lorry Route Network. The route to Shrubland Quarry passes many residential properties.

These sites were previously included in the Suffolk Minerals Specific Site Allocations DPD but no planning application was received due to the prevailing economic conditions.

Table 51: Site appraisal for Barham allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is located within a ground water Source Protection Zone.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?	The extensions are both Grade 3a/b agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	With suitable mitigation that the impact including upon the Special Landscape Area would be acceptable. Detailed working proposals should take into account the potential impacts on the wider landscape, and protect boundary vegetation.
5. To reduce greenhouse gas emissions and	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.

SA Objectives	Sustainability Impact	Commentary
enhance energy efficiency		
6. To conserve/enhance biodiversity or geodiversity	-	Potential impacts upon nature conservation interest including Sandy Lane Pit, Barham SSSI, The Oak Wood/Broomwalk Covert County Wildlife Site, the underlying Groundwater Source Protection Zone and protected species including Otters, Bats and Great Crested Newts need to be adequately assessed and where necessary mitigation proposed. The SSSI is almost entirely encompassed within the boundary of the existing Barham Quarry boundary. The APIS database has not identified any sensitive features associated with this SSSI. There are no other statutory habitat sites within 250m of the proposed extensions. With appropriate mitigation the proposed development could be made acceptable.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	The Grade 1 listed medieval church of St Mary lies approximately 350m SW. The site has an extremely high potential for heritage assets with archaeological interest. There is a WWII pill box in the SW corner of the existing site which should be preserved. An archaeological field evaluation and deposit modelling for Palaeolithic potential will be required at an appropriate stage prior to the granting of any planning permission to allow for preservation in situ, where appropriate, of any sites of importance that might be defined (and which are currently unknown) and to allow archaeological preservation or mitigation strategies to be designed. Changes to the way the site is worked may be required to ensure that the Palaeolithic potential is properly managed and recorded.
8. To minimise flood risk	?	A small water body lies within the southern portion of the site; however no fluvial flood risk issues have been identified.
9. To minimise effects of traffic on the environment	?	Further information is needed at the planning application stage regarding the number of expected additional HGV movements.
10. To maintain / improve air quality	+	Air Quality near the site is currently good; there are no Air Quality Management Area declared by Mid Suffolk District Council (the closest AQMAs are over 6km south, within Ipswich).
11. Promote effective restoration and appropriate after-use of sites	+	The site submission states that restoration would be to agriculture through the importation of inert waste material. Detailed restoration proposals should take into account the potential impacts on the wider landscape, and protect boundary vegetation.

SA Objectives	Sustainability Impact	Commentary
12. Avoid sterilisation of minerals resources	N/A	N/A – Minerals allocation
13. Promote sustainable economic use of natural resources	++	The site is for mineral extraction
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is for mineral extraction.
15. To move treatment of waste up the waste hierarchy	-	Restoration would require the importation of inert fill materials. This can be seen to run contrary to moving waste up the waste hierarchy, however is required to restore mineral voids.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?	There are three properties within 250m of the extension site boundaries, including two residential properties (Barham Lodge and Nursery Wood Lodge, both >200m) and another to the south which appears to be an agriculture related property (approx. 115m). The route to Shrubland Quarry passes many residential properties.
17. To meet the housing needs of the population	?	In preparation for the emerging joint local plan Babergh and Mid Suffolk have published the “Babergh and Mid Suffolk Public Site Submissions” in April 2017. This includes a submission (reference SS0551) close to the proposed quarry extensions area and a further submission (reference SS0103) that would extend the existing lines of housing along Sandy Lane. Housing developers are advised that they should provide adequate mitigation in respect of the permitted sand and gravel quarry (which is likely to be sufficient for the proposed extension areas).
18. To minimise production of noise at quarries	+	Assuming standard mitigation measures such as the use of earth screening bunds no noise issues are expected.
19. To maintain and improve recreation and amenity	?/+	Footpaths run along and across the quarry access route but there have been no conflicts reported in the past.
20. To protect and enhance human health and wellbeing	+	The proposed developments represent extensions to the existing long standing sand and gravel quarrying operations at Sandy Lane, Barham. As modest extensions to a current existing quarry, the impacts of the proposal are likely to be minimal in comparison to the notion of entirely

SA Objectives	Sustainability Impact	Commentary
		new quarry activities.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The Site Assessment Report indicates that the site would secure the jobs of two people.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	?	The County Highways Authority has not objected to the proposed highways access arrangements. The established road access uses Sandy Lane, the C445 and the C492 (the old A45) to reach the access to Shrubland Quarry. None of these roads are part of the Suffolk Lorry Route Network.

10.2.2 Barnham

Barnham

This is a proposed extension to an existing quarry that was originally granted planning permission to supply the construction of the A11 Elveden bypass. Although the soils were stripped from the surface and formed into a screening bund the sand and gravel was not required for the A11 construction.

The proposal is to work the area surrounding of the existing quarry. Working would be seasonal as with the existing planning permission and avoid the Stone Curlew nesting season. The intention is to import inert materials to aid restoration.

The proposed access to the site would utilize the existing permitted dump truck haul route which is 7km in length across farmland to Contract Farm. This would include the need for a signalised junction where the haul route crosses the B1106. From Contract Farm road going lorries would travel a short length of the former A11 which is now a private road until the lorries reach the B1106 and the wider highways network including the adjacent A11.

The B1106 is classified as a Local Access Lorry Route and the A11 as a Strategic Lorry Route in the Suffolk Lorry Route Network. Between Contract Farm and the B1106 the lorries would pass Elveden Church of England Primary School. The route would be reversed to bring in inert fill materials.

Table 52: Site appraisal for Barnham allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is above a principle chalk aquifer and in SPZ2 (medium zone).
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The site is within Grade 4 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	The site is located within a Special Landscape Area and suitable proposals for mitigation during working would be required. The suitability of the proposal may require mitigation and exclusion of certain sensitive areas. Two woodland plantations (Hunwellspring Plantation and Triangle Plantation) are located within the central and eastern parts of the site, although these are not formally designated as Ancient Woodland or otherwise.

SA Objectives	Sustainability Impact	Commentary
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	The site encompasses parts of the Breckland SPA and Breckland Farmland SSSI, and lies adjacent to the Breckland SPA/SAC and Thetford Heaths SSSI. Potential impacts upon nature conservation interest including Breckland SPA, Breckland SAC, Breckland Farmland/Little Heath/Thetford Heaths SSSI, Gorse Grassland CWS, Thetford Heath NNR, European Protected Species (Bats and Great Crested Newt), Priority Species, Other Protected Species, Priority Habitats (Lowland Heath). Appropriate surveys potentially leading to mitigation would be required. With appropriate mitigation the proposed development could be made acceptable.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	A number of Listed Buildings are in close proximity to the site; the nearest (Meadow Cottage and Carine Cottage) are located approximately 600m to the east of the site. The site also has potential with regards to WWI, WWII and Cold War military history, Barnham Camp (BNH 054), and which may relate to the Scheduled Atomic Bomb Store (NHLE 1020781). The Breckland landscape, particularly along river valleys, such as the Little Ouse, has been shown to have high potential for archaeological remains of prehistoric and later occupation. It is possible that following a program of archaeological assessment, some parts of this site may be found to contain heritage assets of sufficient significance to trigger NPPF 139, and therefore, potentially require preservation in situ
8. To minimise flood risk	-	The site lies within an area of Flood Risk Zone 3 to the eastern boundary. This area is very small and represents a small percentage of the total site area.
9. To minimise effects of traffic on the environment	0	Traffic emissions are unlikely to significantly increase local pollutant concentrations.
10. To maintain / improve air quality	0	Air Quality near the site is currently good; the closest Air Quality Management Area is located approximately 26km southwest of the site, in Newmarket
11. Promote effective restoration and	?/+	The site is located within a Special Landscape Area and suitable proposals for mitigation during restoration would be required. The scheme of restoration should be appropriate to the Brecks landscape.

SA Objectives	Sustainability Impact	Commentary
appropriate after-use of sites		Restoration would be to a conservation after use / biodiversity gain with silt and reject materials used in restoration.
12. Avoid sterilisation of minerals resources	N/A	N/A – Minerals allocation
13. Promote sustainable economic use of natural resources	++	The site is for mineral extraction
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is for mineral extraction with proposed working for 30 years.
15. To move treatment of waste up the waste hierarchy	?	Restoration would be to a conservation after use / biodiversity gain with silt and reject materials used in restoration. There would be no importation of materials.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?	A number of residential properties lie within 250m of the proposed site boundary. This includes properties alongside Elveden Road to the east and west of the site.
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals which conflict with the proposed developments. There are no planning applications which conflict with the proposed developments.
18. To minimise production of noise at quarries	?	Assuming standard mitigation measures such as the use of earth screening bunds, additional standoff buffer areas may be required.
19. To maintain and improve recreation and amenity	?/-	The site abuts a strategic regional trail, Barnham Byway no.2 (Icknield Way) adjacent to the western edge of the site. An appropriate buffer zone would be required. The precise details of which would depend upon details of site bunding. Byways 5 and 6 should also be preserved on their existing routes.
20. To protect and enhance human health and wellbeing	?	A safe crossing of the B1106 for dump trucks needs to be maintained as well as appropriate traffic management around school. The County Highways Authority have not objected to the proposed highways access arrangements, subject to conditions that a safe crossing of the B1106 is

SA Objectives	Sustainability Impact	Commentary
		provided along with a travel plan around the school.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The Site Assessment Report indicates that there are likely to be 20 new jobs resulting from the development.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	?	From Contract Farm, HGVs would have to travel a short length of a private road passing Elveden CofE Primary School until reaching the B1106 and the wider highways network including the adjacent A11. The B1106 is classified as a Local Access Lorry Route and the A11 is a Strategic Lorry Route in the Suffolk Lorry Route Network.

10.2.3 Belstead

Belstead

The proposed development would involve sand and gravel extraction on land at Belstead which is currently in agricultural use. Some backfilling of the resultant void with inert wastes would follow.

The proposed access would be directly onto the grade separated junction via an existing agricultural access onto the A12 at Belstead.

Table 53: Site appraisal for Belstead allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	?	The northern part of the site is within a Source Protection Zone (outer zone - Zone 2). Proposals need to consider the potential implications for ground water resources and controlled waters.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?/-	This site is predominantly Grade 2 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	?	All woodlands and wooded tracks (Historic Landscape Features) should be retained and a suitable stand-off distance maintained.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	?	Potential impacts upon nature conservation interest including Brockley and Old Hall Woods CWS, Ground Water Source Protection Zone, European Protected Species (Dormouse, Bats), Priority Species, other Protected Species and Protected Habitats need to be adequately assessed and where necessary mitigation proposed. With appropriate mitigation that the proposed development could be made acceptable.
7. To preserve or enhance historical	-	Proposals should adequately assess if there would be potential impacts upon Bentley Old Hall which is a Grade II* listed building and propose

buildings/sites, archaeological sites and other culturally important buildings		suitable mitigation. Cropmarks of extensive pre-modern field systems are recorded from the vicinity (BSD 005, BTY 003), whilst the line of a Roman road passes west of the proposed extraction site.
8. To minimise flood risk	?	A drain exists on the site associated with the A12, however the site is not within any Flood Risk Zones. The SFRA indicates that a track servicing the site is within Flood Risk Zones 2 and 3, but that the sequential test has been passed.
9. To minimise effects of traffic on the environment	0	The site access is intended to be from the A12, with effects minimised as a result.
10. To maintain/improve air quality	+	Air Quality near the site is currently good; Babergh District Council has declared one Air Quality Management Area in Sudbury, however this is >24km from the site. The closest AQMA, in Ipswich is almost 6km northeast of the site.
11. Promote effective restoration and appropriate after-use of sites	+	The restoration of the site is intended to be to agriculture (surface topsoil to allow continued farming use).
12. Avoid sterilisation of minerals resources	N/A	N/A – Minerals allocation
13. Promote sustainable economic use of natural resources	++	The site is for mineral extraction
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is for mineral extraction with proposed working for 10 years.
15. To move treatment of waste up the waste hierarchy	?/-	Backfilling of the resultant void is proposed to be with inert wastes, with recycling / backfilling of excavated area with restoration to agriculture (surface topsoil to allow continued farming use).

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	There are a number of residential properties within 250m of the site boundary/proposed access road (Including properties adjacent to London Road and on The Avenue), the closest being approximately 100m from the site boundary (Charity Cottage to the east of the site, and properties at the corner of Oakfield Road/ The Avenue to the north of the site). Mitigation and monitoring will be required at the site to minimise the identified risk of impacts at the identified nearby
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		properties.
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed site.
18. To minimise production of noise at quarries	?	Will require the use of standard mitigation measures such as the use of earth screening bunds along with an additional standoff buffer area.
19. To maintain and improve recreation and amenity	+	There are no PRoWs or bridleways within the site, or any land designated / safeguarded for recreational use.
20. To protect and enhance human health and wellbeing	+	Aside from the site's proximity to those residential properties outlined above (SA Objective 16), no impacts are expected regarding human health and wellbeing.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The proposal as submitted indicates that 10-15 new jobs can be expected.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	?	The proposed access would be directly onto the grade separated junction via an existing agricultural access onto the A12 at Belstead. The County Highways Authority has not objected to the proposed highways access arrangements, subject to access being off the A12.

10.2.4 Cavenham

Cavenham

The proposed developments represent extensions to the existing long standing sand and gravel quarrying operations at Cavenham Quarry which is operated by Allen Newport.

Currently sand and gravel is extracted and transported to the processing area by dump trucks. Once at the processing plant it is washed and sorted into different grades. It is then loaded onto lorries for transportation to various construction sites.

The established road access to the existing quarry utilises the C class roads to access the wider road network via the villages of Cavenham and Tuddenham St Mary. The roads are however part of Suffolk Lorry Route Network and are designated as Local Access Lorry Routes.

Middleton Aggregates currently operate an aggregates recycling area adjacent to the sand and gravel processing plant. Breedon Aggregates currently also operate an asphalt plant adjacent to the existing sand and gravel processing plant. In both cases using the existing access arrangements.

Originally the quarry started within the former World War II and Cold War Tuddenham Airfield. Extensions have since been dug to the north towards the River Lark. These proposals would extend the quarry to the south and west and bring them closer to the villages of Cavenham and Tuddenham St Mary.

Historically restoration has been designed to enhance habitat for the ground nesting Stone Curlew as the area is within a Special Protection Area.

Besides the proposed sand and gravel extraction there are proposals to infill part of the existing workings with inert waste materials (mainly soils and clays) and to consolidate the aggregates recycling area (that would remove any recyclable materials from imported inert waste materials).

Table 54: Site appraisal for Cavenham allocation

SA Objectives	Sustainability Impact			Commentary
	CA1	CA2	CA3	
Environmental				
1. To maintain or improve quality of surface water and groundwater	-	-	-	Proposals need to consider the potential implications for ground water resources and controlled waters. SPZ1 and 3s are affected by this proposal.
2. To maximise the efficient use of water	N/A	N/A	N/A	N/A
3. To maintain/improve soil quality/resources	?/+	?/+	?/+	The site is comprised of Grade 3b and 4 agricultural land.

SA Objectives	Sustainability Impact			Commentary
	CA1	CA2	CA3	
4. To maintain/ improve the quality and local distinctiveness of landscapes/ townscapes	?	?	0	With suitable mitigation the impact of extraction upon the landscape would be acceptable; subject to a scheme of restoration appropriate to the Brecks Landscape.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	0	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	-	-	The Site is encompassed by the Breckland Farmland SSSI and Breckland SPA. It also lies immediately adjacent to the Breckland SAC and Ickingham Heaths SSSI. Potential impacts upon nature conservation interest including Breckland SPA, Breckland SAC, Breckland Farmland SSSI, Ancient Woodland CWS, Cavenham Heath NNR, RNR, watercourses, European Protected Species (Bats), Priority Species, Priority Habitats, Stone Curlew, Woodlark and Nightjar need to be adequately assessed. With appropriate mitigation the proposed development could be made acceptable.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	-	0	No historic buildings would be affected. Evidence of prehistoric occupation is known from the vicinity. Archaeological investigations associated with previous phases of extraction have identified Neolithic and Bronze-Age occupation (CRM 003, CRM 018). Archaeological potential for later prehistoric and Roman occupation is indicated by surface finds scatters (CAM 014) and numerous metal detecting finds from the fields immediately south of the proposed extraction site. The site also has potential with regards to WWII military history, Tuddenham Airfield (TDD 019). Archaeological field evaluation, and deposit modelling for Palaeolithic potential, will be required at an appropriate stage prior to the granting of any planning permission to allow for preservation in situ.
8. To minimise flood risk	-	-	-	Areas of Flood Risk Zone 2 and 3 exist on and are in close proximity to the site including some significant water bodies (reservoirs for agricultural irrigation), however the total area is large and operational

SA Objectives	Sustainability Impact			Commentary
	CA1	CA2	CA3	
				activity is not intended to be located in these specific areas. The reservoirs are located in areas that are barren in terms of available sand and gravel deposits.
9. To minimise effects of traffic on the environment	0/?	0/?	0/?	There are no perceived effects of traffic on the environment at this stage, in line with the Council's air quality assessments and the lower threshold of expected HGV movements. Should HGV movements exceed 100 movements a day, then the impacts will have to be assessed through an air quality assessment at the planning application stage.
10. To maintain / improve air quality	+	+	+	Air quality near the Site is currently good; the closest Air Quality Management Area is located approximately 13km southwest of the Site, in Newmarket.
11. Promote effective restoration and appropriate after-use of sites	++	0	++	Restoration to biodiversity gain is indicated within the site proposals.
12. Avoid sterilisation of minerals resources	N/A	N/A	N/A	N/A
13. Promote sustainable economic use of natural resources	++	+	0	CA1 is proposed for mineral extraction, which will see a sustainable use of natural resources. CA2 will have positive impacts associated with the recycling operations proposed. CA3 will have no impacts due to the nature of infilling proposals.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	0	0	Site CA1 is for mineral extraction, whilst sites CA2 and CA3 represent waste management facilities / operations.
15. To move treatment of waste up the waste hierarchy	-	++	-	CA1 would be restored by infilling with inert waste materials whilst CA2 is an aggregates recycling area (that would remove any recyclable materials from imported inert waste materials) and CA3 indicates proposals to partially infill a previously dug area within inert wastes, which in practice means soils and clays. Although the importation of inert wastes would be required to restore the landscape, the presence of a temporary aggregates recycling area

SA Objectives	Sustainability Impact			Commentary
	CA1	CA2	CA3	
				conforms to the notion of moving the treatment of waste up the waste hierarchy.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	?	?/-	There are a number of residential properties within 250m of the site. Some of these properties are located at the junction of Cavenham Road / The Street to the north of Cavenham. One residential property, on Cavenham Road, Tuddenham lies within 250m of the extension southern site boundary. Based on the Wattisham wind rose, this property would be upwind of the extraction activities for most of the time. Mill Farm House is located approximately 170m of the eastern boundary. There is an existing barrier of trees between the quarry and this property. One residential property, on Cavenham Road, Tuddenham lies within 250m of the western most point of the proposed site boundary. The properties in the vicinity of Cavenham Road/The Street may require an additional stand-off buffer associated with noise mitigation.
17. To meet the housing needs of the population	+	+	+	There are no adopted or draft plan proposals which conflict with the proposed developments. There no planning applications which conflict with the proposed developments.
18. To minimise production of noise at quarries	?	?	?	The properties in the vicinity of Cavenham Road/The Street may require an additional stand-off buffer associated with noise mitigation. This is potentially less relevant to CA2 associated with inert waste recycling operations, which are centrally located within the wider site proposal; however uncertain impacts are highlighted.
19. To maintain and improve recreation and amenity	?/-	?/-	?/-	A byway exists on and in close proximity to the wider site; the Cavenham Byway Open should be retained on its definitive alignment and southern end should be fenced from the rest of the site.
20. To protect and enhance human health and wellbeing	+	+	+	Aside from the impacts and measures outlined above (Sustainability Appraisal 16), there are not anticipated to be any additional impacts on human health and well-being associated with the current



SA Objectives	Sustainability Impact			Commentary
	CA1	CA2	CA3	
				operational status of the working to which this allocation represents an extension.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	+	+	There will be a small increase in job creation of between 8-10 operational staff and a small number of additional office staff.
22. To maintain/improve existing infrastructure	N/A	N/A	N/A	N/A
23. Promote sustainable investment in the County	0	0	0	The proposals are temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	+	+	+	The established road access to the existing quarry utilises the C class roads to access the wider road network via the villages of Cavenham and Tuddenham St Mary. The roads are however part of Suffolk Lorry Route Network and are designated as Local Access Lorry Routes. The existing access arrangements are acceptable based on the existing flows.

10.2.5 Layham

Layham

The proposed development represents an extension to the existing long standing sand and gravel quarrying operations at Rands Hall Pit, Layham, which is operated by Brett.

The established road access uses the U8552 Rands Road to reach the reach the A1071, which is defined in the Suffolk Lorry Route Network as a Zone Distributor. The proposed site would involve quarry traffic crossing the U8504 Pope's Green Lane which however very lightly trafficked.

This site was previously included in the Suffolk Minerals Specific Site Allocations DPD but no planning application was received due to the prevailing economic conditions.

Table 55: Site appraisal for Layham allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is within Source Protection Zone 3. The proposal will need to consider the potential implications for ground water resources and controlled waters.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?	The site is within Grade 3a agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	The site lies in a Special Landscape Area and the boundary of the Dedham Vale AONB lies 300 metres to the south east. The resource is shallow and is capable of effective and sensitive mitigation without fill.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	Potential for impacts upon nature conservation interest including CWS including ancient woodland, European Protected Species (dormice, otters, bats, and great crested newts), priority species (BAP) and, priority habitats including hedgerows. Appropriate surveys and mitigation will be required. Peripheral hedgerows must be adequately

SA Objectives	Sustainability Impact	Commentary
		safeguarded.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. Evidence of low density and low complexity later prehistoric activity (LYM 034) has been identified by archaeological investigations undertaken in connection with previous phases of extraction, lying north of the proposed extension to workings. A programme of archaeological work will be required, secured through a planning condition.
8. To minimise flood risk	0	The site is entirely within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	?/-	It is estimated that the site will generate 150 HGV movements per day; there is a risk therefore that, where this traffic is additional to the existing quarry traffic, emissions would significantly increase local pollutant concentrations alongside routes taken by HGVs generated by the proposals. The scale of HGV movements per day generated from the proposal together with HGVs requiring the crossing the U8504 Pope's Green Lane would warrant further assessment at the planning application stage.
10. To maintain / improve air quality	+	Air quality near the Site is currently good; Babergh District Council has declared one Air Quality Management Area in Sudbury; however, this is >14km from the proposed site.
11. Promote effective restoration and appropriate after-use of sites	++	Part of the existing Layham Quarry site has been restored to agriculture with other areas north of Popes Green Lane undergoing restoration for biodiversity gain.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is for mineral extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is for mineral extraction.

SA Objectives	Sustainability Impact	Commentary
15. To move treatment of waste up the waste hierarchy	?	The Site Assessment Report states that reject materials would be used in restoration. As such, this can be seen to be partially moving waste up the waste hierarchy as far as is relevant, with no importation of inert wastes.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?	There are four residential properties within 250m of the extension site boundary; The Croft, Ivy Tree Cottage, Ivy Tree Farm, and Wyncoll's Farm. A stand-off margin and planting / bunding are proposed to help mitigate the effects at these properties; additional dust suppression measures will also be defined.
17. To meet the housing needs of the population	+	There are no adopted plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	+	Assuming standard mitigation measures such as the use of earth screening bunds, no additional mitigation is required.
19. To maintain and improve recreation and amenity	+	No Public Rights of Way will be affected. There are similarly no formally or informally designated areas for recreational use that would be affected.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16), there are no additional impacts highlighted regarding health and well-being.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	0	The Site Assessment Report outlines that 3 jobs would be maintained.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is temporary with no proposed conflict with any identified investment opportunities or employment allocations.



SA Objectives	Sustainability Impact	Commentary
24. To promote efficient movement patterns in the County (where possible)	?	The established road access uses the U8552 Rands Road to reach the A1071, which is defined in the Suffolk Lorry Route Network as a Zone Distributor. The proposed site would involve quarry traffic crossing the U8504 Pope's Green Lane which however very lightly trafficked.

10.2.6 Tattingstone

Tattingstone

The proposed quarry extension was submitted on behalf of Shotley Holdings and proposes an extension to the area currently being quarried for sand. Restoration would involve the backfilling with inert waste (mainly soils and clays) to previous ground levels.

In the existing quarry sand is extracted in modest volumes on an annual basis and sold mainly for general fill. The subsequent void space is backfilled with dry not reactive waste hazardous waste, mainly asbestos.

The established road access to the site utilises the C426 to access the A137 which is classed as a Zone Distributor Lorry Route under the Suffolk Lorry Route Network.

Table 56: Site appraisal for Tattingstone allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	0	There are no known constraints regarding surface or groundwater.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The site is currently Grade 4 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	The site lies within a Special Landscape Area, although suitable mitigation is possible regarding the extraction of minerals. The existing site is well screened. Detailed proposals should be designed to minimise impacts on the existing screening and bunding. Furthermore a comprehensive scheme of screening and bunding for the proposed extension is essential to minimise adverse impacts of the wider landscape of the Special Landscape Area and on local visual amenity.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.

SA Objectives	Sustainability Impact	Commentary
6. To conserve/enhance biodiversity or geodiversity	-	There are no statutory designated habitat sites within 250m of the extension site boundary. Despite this there is the potential for impacts upon nature conservation interest including Stour & Orwell SPA, Stour Estuary SSSI, Brantham Bridge Meadows CWS, watercourses, European Protected Species (Bats), Priority Species, and Priority Habitats. These impacts should be adequately assessed and where necessary mitigation proposed.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. There has been no systematic archaeological investigation of this large site. In relation to the proposed minerals extraction, evidence of prehistoric and medieval occupation (TAT 020) identified during archaeological investigations in association with the previous phases of extraction, immediately west of the proposed site. Cropmarks of linear and curvilinear ditches (TAT 004), probably representing at least two separate phases of relict field systems.
8. To minimise flood risk	0	The whole site is in Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	Access to the site would be via the existing quarry access roads. The number of HGVs generated by the proposals will be similar to that generated by the existing quarry.
10. To maintain / improve air quality	+	Air quality near the Site is currently good; the closest Air Quality Management Area is located over 8km northeast of the Site, in Ipswich.
11. Promote effective restoration and appropriate after-use of sites	++	The restoration proposal is for a return to agriculture with some biodiversity gain.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The proposal will have significantly positive impacts associated with mineral extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The quarry extension site is intended for mineral extraction.

SA Objectives	Sustainability Impact	Commentary
15. To move treatment of waste up the waste hierarchy	?/-	Regarding the quarry extension, restoration would require the importation of inert wastes alongside silt (a reject material). This goes some way to moving waste up the waste hierarchy in terms of reducing waste miles; however the notion of any restoration will inevitably include a level of inert landfill.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?	There are a number of residential properties within 250m of the eastern Site boundary, including properties adjacent to the A137. Folly Farm House also lies approximately 225m from the southwest corner of the Site boundary. This property also lies within 200m of the southern boundary of the existing Folly Farm Quarry. A 'standoff' buffer is indicated on drawings along the eastern boundary of Phase 1, within which a soil storage / screening bund is proposed. Phase 2 is screened along the eastern boundary by existing trees.
17. To meet the housing needs of the population	?	There are no adopted plan proposals that conflict with the proposed site. The "Babergh and Mid Suffolk Public Site Submissions" (April 2017) forming part of the preparation of a combined Local Plan includes a submission (reference SS0336) which refers to the proposed permanent retention of waste recycling facilities. It is considered that the waste recycling activities should cease when the adjacent landfill activities come to an end. Another submission (reference SS0392) indicates an extension to the existing development at Tattingstone Heath in proximity to the proposed quarry extension.
18. To minimise production of noise at quarries	+	Assuming standard mitigation measures such as the use of earth screening no additional stand-off buffers are required.
19. To maintain and improve recreation and amenity	?/-	Regarding the quarry's eastern extension, boundaries should be so arranged to ensure a nearby bridleway (Tattingstone BR 37A) is unobstructed. Part of a PRoW (Tattingstone FP 37) is within the site. This should either be accommodated, or a temporary extinguishment order sought.
20. To protect and enhance human health and wellbeing	+	Suffolk County Council's Highways team raise no objection to this site subject to no increase in traffic volumes (with subsequent impacts regarding safety). There are no additional issues regarding human health and wellbeing.

Economic



SA Objectives	Sustainability Impact	Commentary
21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	0	There are no identified increases in the amount of jobs the proposal would ensure regarding the extension of the existing quarry.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The allocation is temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	?	The established road access to the site utilises the C426 to access the A137 which is classed as a Zone Distributor Lorry Route under the Suffolk Lorry Route Network.

10.2.7 Wangford

Wangford

This site was proposed as an extension to Wangford Quarry operated by Cemex. The proposed extension known as Lime Kiln Farm is located to the east of the existing processing plant.

Table 57: Site appraisal for Wangford allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is at a high risk of groundwater flooding and is underlain by a minor aquifer. There are areas of predicted surface water flooding for the sites. The sites also fall within SPZ Zones.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?	The agricultural land classification is Grade 3b or lower.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	The proposal is inside AONB but could be considered capable of mitigation if overriding need case exists.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	Potential impacts upon nature conservation interest including Suffolk Coast & Heaths AONB, Minmere-Walberswick SPA, Minmere-Walberswick Heaths & Marshes SSSI, Wangford Marshes CWS, Suffolk Coast NNR, Hen Reedbeds (SWT Site), Reydon Wood (SWT Site), Groundwater Source Protection Zone (River Wang, Wolsey's creek, River Blyth), European Protected Species (Otters, Bats), Priority Species (Bittern, Water Vole, Barn Owl), other protected Species (Badger), Priority Habitats (Reedbeds, Grazing Marshes) need to be adequately assessed and where necessary mitigation proposed. The Site Assessment Report does not identify any significant concerns however regarding the above

SA Objectives	Sustainability Impact	Commentary
		impacts from the County Council's Ecology specialists.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. The site occupies a favourable topographic location for early occupation and ritual activity. Extensive cropmarks of linear and curvilinear ditches and enclosures (REY 077, REY 76, REY 075) and finds of Roman and Medieval date (REY 026, REY 028) are recorded on the County Historic Environment Record (HER) in the vicinity. Archaeological investigations associated with previous phases of extraction lying immediately west of the proposed site identified a range of features of prehistoric and Medieval date (WNF 023, WNF 018, WNF 021).
8. To minimise flood risk	0	The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	Traffic generation is anticipated to be the same as for the existing Wangford Quarry.
10. To maintain / improve air quality	+	Air Quality at the site is currently good; Waveney District Council has not declared any Air Quality Management Areas.
11. Promote effective restoration and appropriate after-use of sites	?	No restoration proposals submitted.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is intended for mineral extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is intended for mineral extraction.
15. To move treatment of waste up the waste hierarchy	?	Silt and reject minerals would be used in restoration. This can be seen to move the treatment of waste up the waste hierarchy in line with the proximity principle.

Social

SA Objectives	Sustainability Impact	Commentary
16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	There are a number of residential properties within 250m of the site; Lime Kiln Farm lies within approximately 50m of the Southern boundary of the site. Reydon Grange, Toad Hall and Wangford Farm lies within 250 of the northern boundary of the site.
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed sites. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	+	The proposal will require standard mitigation measures such as the use of earth screening bunds.
19. To maintain and improve recreation and amenity	+	No public rights of way or bridleways are affected.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts identified above (Sustainability Objective 16), there are no additional identified impacts on human health and well-being.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	0	The Site Assessment Report indicates that 3 jobs would be safeguarded.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposals are temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	?	The site is located to the north of the existing processing plant site. The existing processing plant site access utilizes the U1628 to the A12, which is classed as a Strategic Lorry Route in the Suffolk Lorry Route Network. May require a contribution towards replacement of the bridge.



10.2.8 Wetherden

Wetherden

The proposed extension to Wetherden Quarry was submitted on behalf of Aggmax and proposes an extension to the area currently being quarried for sand and gravel. Restoration would involve the backfilling with inert waste (mainly soils and clays) to previous ground levels.

This would follow the existing pattern in the existing quarry where sand and gravel is extracted and processed and the subsequent void space backfilled with inert wastes

The established road access to the site utilises the U4977 which is classed as a Local Access Lorry Route under the Suffolk Lorry Route Network to access the A14. When travelling to and from the east, quarry traffic passes through the village of Haughley New Street.

Table 58: Site appraisal for Wetherden allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is within a Source Protection Zone.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?/-	The Site Assessment Report states that some of the site's agricultural land is Grade 2.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	?	A screening belt of trees should be planted along the western flank of the existing quarry and proposed extension.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	?	Potential impacts upon watercourses, European Protected Species, Priority Species, Priority Habitats, to be adequately assessed and where necessary mitigation proposed.

SA Objectives	Sustainability Impact	Commentary
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. There is evidence of low density and low complexity prehistoric and Roman activity (WDN 013, WDN 002, WDN 011, EWL 004) identified by archaeological investigations undertaken in connection with previous phases of extraction, lying south of the proposed extension to workings. In addition, several ovens/kilns of Roman date were identified at evaluation, ahead of development on a site immediately north of the proposed extension.
8. To minimise flood risk	0	The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	Access to the site would be via the existing quarry access roads. The site is estimated to generate 60 HGV movements per day.
10. To maintain/improve air quality	+	Air quality near the Site is currently good; there are no Air Quality Management Areas currently declared by Mid Suffolk District Council.
11. Promote effective restoration and appropriate after-use of sites	++	Restoration would be to agriculture with a hope that 6ha of best and most versatile land can be created at restoration.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is intended for mineral extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is intended for mineral extraction.
15. To move treatment of waste up the waste hierarchy	?	Restoration would involve the backfilling with inert waste (mainly soils and clays) to previous ground levels. This does not theoretically adhere to moving the treatment of waste up the waste hierarchy, however the nature of the inert waste intended to be used is unlikely to be re-useable or recyclable.

Social



SA Objectives	Sustainability Impact	Commentary
16. To minimise the impacts arising from the minerals and waste developments on where people live	?	There are a number of residential properties to the north of the Site which lie within 250m of the extension site boundary (properties on Mill Gardens and Prescott Drive); the closest property is Warren Mill House, which is approximately 50m from the extension boundary. This property is no closer to the extension boundary than it is to the existing quarry boundary, and a bund is already in place to separate the property from the extraction activities.
17. To meet the housing needs of the population	?	There are no adopted plan proposals that conflict with the proposed site. In preparation for an emerging joint Local Plan Babergh and Mid Suffolk published a "Babergh and Mid Suffolk Public Site Submissions" in April 2017. This includes a submission close to the proposed quarry extension area. This land bid is part of a larger area that is the subject of an outline planning application.
18. To minimise production of noise at quarries	?	Assuming standard mitigation measures such as the use of earth screening additional stand-off buffers are required.
19. To maintain and improve recreation and amenity	?/-	A PRoW (footpath 22) runs from Warren Lane Elmswell to Warren Mill house. This runs along the site boundary and should be suitably diverted. A number of new homes are proposed in the broad area of the site which can be expected to lead to the increased use of this PRoW. A number of s106 requests are also in place for upgrades to the PRoW. A proposed development on the parcel of land between Wetherden Rd and the proposed extension of the quarry includes a community park area and a children's play area; both of which will be in close proximity to the quarry boundary.
20. To protect and enhance human health and wellbeing	?	The existing quarry has had recorded complaints regarding mud on the road, so it will be important that improved wheel wash facilities are included in any consented proposal.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	0	There are no anticipated increases in job opportunities as a result of the proposed extension (jobs as per the existing quarry).
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SA Objectives	Sustainability Impact	Commentary
22. To maintain/improve existing infrastructure	0	The proposal is temporary with no proposed conflict with any identified investment opportunities or employment allocations.
23. Promote sustainable investment in the County	N/A	N/A
24. To promote efficient movement patterns in the County (where possible)	+	The established road access to the site utilises the U4977 which is classed as a Local Access Lorry Route under the Suffolk Lorry Route Network to access the A14. When travelling to and from the east, quarry traffic passes through the village of Haughley New Street.

10.2.9 Wherstead

Wherstead

The proposed development represents an extension to the permitted sand and gravel quarrying operations at Pannington Hall Quarry, Wherstead, which is operated by Brett. Planning permission was granted a number of years ago, implemented and also renewed recently. The quarry is however currently dormant to the prevailing economic conditions. Some inert waste materials might be required to aid restoration.

The permitted access is directly onto the A137, which is defined in the Suffolk Lorry Route Network as a Zone Distributor. The existing site is bisected by the C453 Belstead road; the intention is that the two parts of the site would be linked by a conveyor under the road.

This proposed extension site is adjacent to the main southern part of the site without the need to cross a public highway.

Table 59: Site appraisal for Wherstead allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	?	During excavation, there is likely to be a risk to groundwater and controlled water.
2. To maximise the efficient use of water	N/A	N/A

SA Objectives	Sustainability Impact	Commentary
3. To maintain/improve soil quality/resources	?	The site is within Grade 3 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	The site is within a Special Landscape Area. The boundary between the existing site and the proposed extension should be safeguarded to protect the mature oak trees and the recently planted trees. The proposal is likely to be acceptable subject to detailed mitigation but will require significant stand off from adjacent landscape features (ancient woodland).
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	Potential impacts upon nature conservation interest including Freston and Cutler's Wood SSSI, CWS ancient woodland, Ground Water Source Protection Zone, European Protected Species (dormice and bats), priority species (BAP) and habitats, and other protected species, need to be adequately assessed and where necessary mitigation proposed.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. Evidence of prehistoric, Roman and Medieval occupation is recorded from the vicinity, on the County Historic Environment Record (HER). Cropmarks of extensive field boundaries, a trackway and ditches have been identified by aerial photography across the proposed site (WHR 078). There is the potential for Lower Palaeolithic faunal, environmental and possible artefactual remains.
8. To minimise flood risk	0	The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	?/-	This proposed extension site is adjacent to the main southern part of the site without the need to cross a public highway. Despite this, it is estimated that the proposal would generate 150 HGV movements per day; there is a risk therefore that, where this traffic is additional to the existing quarry traffic, emissions would significantly increase local pollutant concentrations alongside routes taken by HGVs generated by the proposals. It is however understood that extraction will follow on from the permitted workings, and therefore this is unlikely to be the case. There is a risk of cumulative impacts where extraction activities coincide with activities on the existing quarry site (however, this is understood not to be the case).

SA Objectives	Sustainability Impact	Commentary
10. To maintain / improve air quality	+	Air quality near the Site is currently good; the closest Air Quality Management Area is located approximately 4.5km northeast of the Site, in Ipswich.
11. Promote effective restoration and appropriate after-use of sites	+	Restoration is intended to be to agriculture in line with the existing quarry and as approved with the planning consent.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is intended for mineral extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is intended for mineral extraction.
15. To move treatment of waste up the waste hierarchy	?/-	The submission states that the importation of inert wastes may be necessary to achieve restoration. This will be subject to a planning application being submitted for restoration proposals. This does not adhere to moving the treatment of waste up the waste hierarchy, however it should be noted that a recycling facility is within / adjacent to the existing plant site which can be expected to reduce any additional waste miles through transportation.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	+	There are no residential properties within 250m of the extension site boundary.
17. To meet the housing needs of the population	+	There are no adopted plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	+	Assuming standard mitigation measures such as the use of earth screening bunds, no additional mitigation is required.

SA Objectives	Sustainability Impact	Commentary
19. To maintain and improve recreation and amenity	-	Bridleway no. 27 and 29 Wherstead are adjacent to a proposed boundary, which should be so arranged to ensure these bridleways are unobstructed. Public Footpath no. 34 is affected and will run partly within the site. This would need to be temporarily diverted with a minerals order to follow the boundary alignment.
20. To protect and enhance human health and wellbeing	+	There are no recognised impacts on human health and wellbeing at this stage.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The Site Assessment Report indicates that an additional 3 jobs will be created as a result of the proposal.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	+	The permitted access is directly onto the A137, which is defined in the Suffolk Lorry Route Network as a Zone Distributor. The existing site is bisected by the C453 Belstead Road; the intention is that the two parts of the site would be linked by a conveyor under the road.

10.2.10 Worlington

Worlington

The proposed developments represent extensions to the permitted sand and gravel quarrying operations at Bay Farm, Worlington, which is operated by Frimstone. The proposed sites would follow the existing pattern of development whereby the sand and gravel is extracted and the land restored by utilising the importation of inert waste materials. The proposed extension sites include three to the north of the existing quarry and one to the south east

The permitted access is directly onto the B1085 Elms Road which links to the A11 via a grade separated junction close by.

Table 60: Site appraisal for Worlington allocation

SA Objectives	Sustainability Impact			Commentary
	Site 20	Site 20a	Site 20b	
	WO1 (a)	WO1 (b)	WO1 (c)	

Environmental

1. To maintain or improve quality of surface water and groundwater	?	?	?	The sites are outside groundwater protection zones (SPZs) but do sit above Principle and Secondary Aquifers. An ordinary watercourse lies near 20a which should not be adversely affected by works in terms of water quality (pollution). It should be noted that the proposals are intended to be partial wet workings.
2. To maximise the efficient use of water	N/A	N/A	N/A	N/A
3. To maintain/improve soil quality/resources	+	+	+	The sites lie within Grade 4 agricultural land.
4. To maintain/ improve the quality and local distinctiveness of landscapes/ townscapes	?	?	?	All proposals are acceptable in landscape terms subject to mitigation. This should include, as with the design of current quarry, retention of the locally characteristic tree belts.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	0	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.

SA Objectives	Sustainability Impact			Commentary
	Site 20 WO1 (a)	Site 20a WO1 (b)	Site 20b WO1 (c)	
6. To conserve/enhance biodiversity or geodiversity	-	-	-	There will be potential impacts upon nature conservation interest including Breckland SPA, Breckland SAC, Ancient Woodland CWS, Ground Water Source Protection zone, European Protected Species, Other Protected Species, and Priority Habitats. These are however likely to be acceptable with adequate mitigation.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	?	?	No historic buildings are in proximity to the site that can be identified as being affected. Evidence of low density and low complexity prehistoric activity (WGN 028, WGN 034, WGN 038) has been identified by archaeological investigations undertaken in connection with previous phases of extraction, lying south of areas 20,20a and 20b. The site of a probable BA burial mound, "Swale's Tumulus" (WGN 003) lies approximately 100m NE. Significant quantities of Neolithic pottery and burnt bone have been found in association with this feature (WGN 003).
8. To minimise flood risk	?	0	0	Site 20a –The site contains a water body at the south western corner, with associated flood implications. Site 20b - The site is within Flood Risk Zone 1. Site 20c - The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	0	0	Traffic associated with the proposed site would continue to enter and leave the site by the existing access point. The site will be worked once extraction from the current phases is completed, and traffic movements will be similar to the existing quarry. Therefore, there will be no material change from existing flows.
10. To maintain / improve air quality	+	+	+	Air quality near the sites is currently good; the closest Air Quality Management Area is located approximately 9.4km southwest of the Site, in Newmarket.
11. Promote effective restoration and appropriate after-use of sites	+	+	+	Restoration for all extensions is intended to be to agricultural use and to near original ground levels.

SA Objectives	Sustainability Impact			Commentary
	Site 20 WO1 (a)	Site 20a WO1 (b)	Site 20b WO1 (c)	
12. Avoid sterilisation of minerals resources	N/A	N/A	N/A	N/A
13. Promote sustainable economic use of natural resources	++	++	++	The sites are intended for mineral extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	++	++	The sites are intended for mineral extraction.
15. To move treatment of waste up the waste hierarchy	?/-	?/-	?/-	The proposed sites would follow the existing pattern of development whereby the sand and gravel is extracted and the land restored by utilising the importation of inert waste materials. This does not directly respond to moving the treatment of waste up the waste hierarchy, however is a necessity to restore landscapes post extraction, and will use some reject materials and silt.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	+	+	+	There are no residential properties within 250m of extensions 20, 20a and 20b site boundaries.
17. To meet the housing needs of the population	+	+	+	There are no adopted plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	+	+	+	On all extension proposals, assuming standard mitigation measures such as the use of earth screening bunds then these sites will be acceptable.
19. To maintain and improve recreation and amenity	+	+	+	No public rights of way will be affected by any extension.



SA Objectives	Sustainability Impact			Commentary
	Site 20 WO1 (a)	Site 20a WO1 (b)	Site 20b WO1 (c)	
20. To protect and enhance human health and wellbeing	+	+	+	No impacts on human health have been identified at this stage.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	0	0	0	The Site Assessment Report indicates that any of the proposals would maintain 3-4 jobs.
22. To maintain / improve existing infrastructure	N/A	N/A	N/A	N/A
23. Promote sustainable investment in the County	?	?	?	The proposals are all temporary; however the site is in close proximity to the A11 and a potential route for a Mildenhall bypass.
24. To promote efficient movement patterns in the County (where possible)	?/-	?/-	?/-	The permitted access is directly onto the B1085 Elms Road which links to the A11 via a grade separated junction close by. The site however is close to the A11 and a potential future route for a Mildenhall bypass. This area has been flagged up by West Suffolk planners as an area of interest in the past for the relief road corridor.

10.2.11 Sizewell A Nuclear Power Station

Sizewell A Nuclear Power Station

The proposal relates to the management of waste arising from the decommissioning of Sizewell A together with other waste from sister stations in accordance with national policy to share waste facilities. It is important to note that Sizewell A is already benefiting from sharing waste management facilities at Bradwell Nuclear Power Station in Essex. Whilst there are no such proposals at the present time to share facilities at Sizewell it is considered prudent to have policies in place if such a proposal is put forward in the future.

Table 61: Site appraisal for Sizewell A Nuclear Power Station allocation

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is at risk from surface water flooding from both 1 in 30 and 1 in 100 flooding events. There are no groundwater implications.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The site is not in agricultural use.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	?/-	Potential impacts upon nature conservation interest including Suffolk Coasts & Heaths AONB need to be adequately assessed and where necessary mitigation proposed. Continued remediation of the A Station site is welcome in landscape terms.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	?	The Site Assessment Report for the site states that the beach should be left undisturbed to preserve the flora and fauna associated with the established sand dunes including protect species such as Adders.
7. To preserve or enhance historical buildings/sites,	?/-	No historic buildings are in proximity to the site that can be identified as being affected. The site is within an area of archaeological potential identified through information held on the County Historic Environment

SA Objectives	Sustainability Impact	Commentary
archaeological sites and other culturally important buildings		Record (HER). The vast majority of the site has been heavily disturbed by its current usage. Proposed development within unaffected areas will require planning conditions to secure a programme of archaeological investigation, which will include assessment of, and provide mitigation strategies for, near surface archaeological potential, including Palaeolithic/ palaeo-environmental potential.
8. To minimise flood risk	?	The site borders an area of flood zone 3.
9. To minimise effects of traffic on the environment	0	It is considered unlikely that any additional traffic generated by the decommissioning process (which is already underway) will exceed the thresholds defined within the IAQM/EPUK guidance, and therefore traffic emissions are unlikely to significantly increase local pollutant concentrations.
10. To maintain / improve air quality	+	Air Quality near the site is currently good; Suffolk Coastal District Council has declared three Air Quality Management Areas, the closest of which is over 12km west of the proposed site.
11. Promote effective restoration and appropriate after-use of sites	0	Due to the nature of operations that do not involve a need for restoration.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	0	The site is neither form mineral extraction or proposed for recycling re-use.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	0	The proposal is for continued waste management.
15. To move treatment of waste up the waste hierarchy	?/-	The proposal would see the importation of waste for treatment / storage from 'sister sites' as per National policy, however it is expected that the majority of the waste arising would be from Sizewell A.

Social

16. To minimise the impacts arising from the minerals and waste	+	There are no properties within 250m of the site.
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SA Objectives	Sustainability Impact	Commentary
developments on where people live		
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed site.
18. To minimise production of noise at quarries	+	The site Environmental Management Plan includes mitigation measures relating to noise and vibration.
19. To maintain and improve recreation and amenity	?/-	A PRoW borders the existing site, with the red-line boundary associated with the submission including a PRoW to the east associated with the beach.
20. To protect and enhance human health and wellbeing	+	There are no impacts associated with human health and well-being.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The proposals would help maintain the 180 jobs involved in decommissioning.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The site is a permanent facility however operations are associated with the management of waste arisings from the decommissioning of Sizewell A. There are no conflicts with investment opportunities identified in the SCDC Site Allocations 2017 document.
24. To promote efficient movement patterns in the County (where possible)	+	Lorries would access from the A12, which is classified as a Strategic Lorry Route in the Suffolk Lorry Route Network, via the B1122 which is classified as a Zone Distributor Lorry Route, and then onto the U2822 Lovers Lane and then onto the C228, which are classified as a Local Access Lorry Routes, before reaching the site access road. The site is also rail linked although it is not currently in commission. There has been no objection from the County's Highways Authority.



10.3 The Appraisal of Reasonable Alternatives: Non-Allocated Sites Submitted for Consideration

10.3.1 Identification of Reasonable Alternatives

The following table sets out those sites that were submitted for consideration as allocations by landowners / developers through the Council's call-for-sites process. These have all been considered 'reasonable alternatives' at this stage and for the purpose of identifying such within the SEA Regulations.

Table 62: Reasonable site alternatives

Proposal	Site name	Site Reference	Description of development
Non-Allocated Site Alternatives			
Waste management	Barton Mills Quarry	BM1	Inert waste disposal and recycling and landfilling of inert waste materials.
Waste management	Langmead Farms, Benhall	BE1	Open windrow composting.
Minerals development	Foxhall – Eurovia Asphalt Plant	FO1	The development already has a temporary planning permission which expires on the 31 March 2021 to coincide with final restoration of the adjacent landfill site. The proposal is to identify the existing site as a permanent facility within the draft Plan.
Waste management	Masons Quarry, Great Blakenham	GB1	The proposed development is for a strategic waste management site – Materials Recovery / Recycling Facility (MRF) and composting.
Waste management	Folly Farm, Tattingstone	TA1(b)	This proposal was submitted on behalf of Shotley Holdings for the permanent retention of waste recycling activities. This recycling operation is ancillary to the landfill and is permitted on a temporary basis.
Minerals extraction	Henham Quarry (Hektor Rous)	HE1 (a,b,c)	Three sites proposed for sand and gravel extraction were put forward for consideration within the Henham Estate.
Mineral extraction	Higham Quarry	HG1	Sand and gravel extraction on land at Higham which is currently used for as a point to point.
Mineral extraction	Holton Hall Farm, Holton St Mary	HO1	The proposed development would involve sand and gravel extraction at Holton Hall Farm. The site is currently in agricultural use. Some backfilling of the resultant void may be required.

Proposal	Site name	Site Reference	Description of development
Mineral extraction	Mendham Marshes	ME1	Sand and gravel extraction on land at Mendham which is currently used for agriculture.
Mineral extraction	Grove Farm, Stowmarket	ST1	Sand and gravel extraction on land at Grove Farm, in the Gipping Valley between Stowmarket and Creeting St Mary.
Mineral extraction	Wangford Quarry	WA1	Sand and gravel extraction at Hill Farm. This is an extension to the current extraction site at Wangford Quarry. A different extension at Lime Kiln Farm is preferred (WA3).
Mineral extraction	Wangford Quarry	WA2	Sand and gravel extraction at Wangford Quarry. This is a 'Southern Extension' to the current extraction site. A different extension at Lime Kiln Farm is preferred (WA3).
Mineral extraction	Wordwell	WD1	Sand and gravel extraction.

10.3.2 Appraisal of Reasonable Alternatives

This section appraises those sites that were proposed but ultimately rejected in favour of the preferred strategy and site allocations through the plan-making process to date.

Barton Mills Quarry

Table 63: Site appraisal: Barton Mills Quarry

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is within an outer SPZ and overlies principle and secondary aquifers. As the proposal is for landfill there are additional concerns regarding subsequent water pollution, however any proposals would be required to have consent from the Environment Agency.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The site is currently not within agricultural use as it represents an existing site for mineral extraction.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	As a restoration scheme, the long-term implications of the proposal on the landscape are not considered suitable and a modification would be required to ensure that the proposal is suitable.

SA Objectives	Sustainability Impact	Commentary
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	Potential impacts upon nature conservation interest including Barton Mills Chalk Pit CWS, Priority Woodland and Grassland need to be adequately assessed and where necessary mitigation proposed. With appropriate mitigation the proposed development could be made acceptable
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	No historic buildings are in proximity to the site that can be identified as being affected. Potentially extensive and important Roman remains (BTM 026) were destroyed by previous phases of extraction. Further remains of prehistoric date (BTM 060) identified prior to extraction in the south-western quadrant. It is highly likely that further important heritage assets with archaeological interest survive within unquarried areas (CWS). Any disturbance to these areas will require archaeological mitigation.
8. To minimise flood risk	0	The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	There are no specific impacts related to the effects of traffic on the environment.
10. To maintain / improve air quality	+	Air Quality near the site is currently good; the closest Air Quality Management area is located over 9km southwest of the site, in Newmarket.
11. Promote effective restoration and appropriate after-use of sites	-	The Site Assessment Report indicates that a modification of the restoration proposal would be needed to incorporate locally characteristic chalk grassland.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	+/-	The proposal is for a waste management proposal of varying facility types, including an element of recycling.
14. Ensure a steady and adequate supply of	0	Waste management proposal

SA Objectives	Sustainability Impact	Commentary
minerals to meet the needs of the society		
15. To move treatment of waste up the waste hierarchy	-	The proposed development would involve the importation, recycling and landfilling of inert waste materials. This does not adhere to the notion of moving the treatment of waste up the waste hierarchy, however is a necessity to restore landscapes post extraction of minerals. The material required for importation to the site would be predominantly if not entirely from within the Plan Area.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	Chalkhill Cottages are located adjacent to the southwest corner of the proposed site. Northlodge Cottages are located over 280m southwest of the site. For the majority of the time, Northlodge Cottages will be upwind of the proposed waste site. Due to the nature of the material to be received, the potential for the waste to be odorous is considered to be low.
17. To meet the housing needs of the population	?/-	The FHDC Site Allocations Local Plan has been submitted and includes proposals under Policy SA10: Focus of growth – North Red Lodge, for a mixed use development of 350 houses, 8ha of employment land and 3ha for a new primary school (see Appendix 2). The development is over 250 metres away from the proposed infilling operations and therefore is unlikely to be significantly adversely affected. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	?	It may be necessary to use suitable planning conditions to control noise from the use of the site. For the majority of time, Northlodge Cottages will be upwind of the proposed waste site.
19. To maintain and improve recreation and amenity	+	No PRoWs or bridleways are envisaged to be affected by the proposal.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16), there are no additional impacts on human health or well-being expected.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an	+	The Site Assessment Report indicates that 3 to 5 jobs would be provided.
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SA Objectives	Sustainability Impact	Commentary
opportunity for employment		
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is temporary and does not conflict with any identified investment opportunities or allocated employment land.
24. To promote efficient movement patterns in the County (where possible)	--	Lorries would access the site from the A11, which is classified as a Strategic Lorry Route in the Suffolk Lorry Route Network, via a short stretch of the C623 (which is not classified under the Suffolk Lorry Route Network) before reaching the site access road. Despite this, there is substandard access onto the A11 which is not adequate for the anticipated additional 80 HGV's a day. There is additionally a 7.5 tonne limit to the south of the site.

Langmead Farms, Benhall

Table 64: Site appraisal: Langmead Farms, Benhall

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	?	Risk to groundwater and controlled waters would need to be assessed and mitigation provided as necessary.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The site is within Grade 4 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	?	The site is in an elevated and exposed location but maybe acceptable subject to mitigation, if deemed acceptable in policy terms.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	Potential impacts upon nature conservation interest including CWS, River Alde watercourse, European Protected Species (Otter, Bat), Priority Species, Other Protected Species, Priority Habitats (Hedgerows). Surveys leading to proposed mitigation as appropriate required. With appropriate mitigation the proposed development could be made acceptable
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. There is however evidence suggestive of later prehistoric, Roman and Medieval occupation, predominantly from surface finds and metal detecting recorded on the County Historic Environment Record (HER) and PAS database from the vicinity. The evidence includes a hoard of bronze-age date (BNL 028) and the remains of a medieval Moated site (BNL 004). Despite this, given the likely previous disturbance associated with the A12, and nearby rail line, it is possible that the proposal will not require archaeological mitigation.

SA Objectives	Sustainability Impact	Commentary
8. To minimise flood risk	0	The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	The site will be accessed from the A12, and will generate, on average, only 2 HGV movements per day.
10. To maintain / improve air quality	?	Air Quality near the site is currently good; the closest Air Quality Management Area is located 2km west of the site, in Stratford St Andrew. The proposals are for composting in open windrows which have the potential to produce odour at certain times (related to turning frequency). Bioaerosols are also a consideration with composting facilities.
11. Promote effective restoration and appropriate after-use of sites	0	N/A – Waste management / treatment proposal.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	+	Waste management proposal.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	0	Waste management proposal.
15. To move treatment of waste up the waste hierarchy	++	The proposal is for open windrow composting, which can be seen to adhere to the notion of moving the treatment of waste up the waste hierarchy.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	There is a risk that odour and bioaerosol generated by the proposals could have adverse impact on the surrounding area, however, this is considered unlikely to be significant considering the separation distance between the site and the nearest sensitive receptors. There are no residential properties within 250m of the site boundary; however the Whitearch Touring Caravan Park is located approximately 230m northeast of the site boundary at its closest point.
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SA Objectives	Sustainability Impact	Commentary
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	?	Further information is required. It may be necessary to use suitable planning conditions to control noise from the use of the site.
19. To maintain and improve recreation and amenity	+	No PRoWs or bridleways are envisaged to be affected by the proposal.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16), there will be no additional impacts associated with human health and wellbeing.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The Site Assessment Report indicates that 5 jobs would be created through the proposal.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	+	The proposal is for a permanent waste management facility with no conflicts between identified investment opportunities of allocated employment land,
24. To promote efficient movement patterns in the County (where possible)	--	Lorries would access the A12, which is classified as a Strategic Lorry Route in the Suffolk Lorry Route Network, via an existing agricultural access or via a new access onto the U2312, both which open onto an existing layby. Despite this, there is no apparent safe and suitable access off the A12 and poor visibility to the south west down a minor classified road.

Foxhall Eurovia Asphalt Plant

Table 65: Site appraisal: Foxhall Eurovia Asphalt Plant

Reason for non-appraisal	The allocation of such sites is no longer a County Matter, instead being a matter for Suffolk Coastal District Council, and therefore it is not appropriate to identify the proposal as a permanent facility in the draft Plan. The site has been identified in the Plan in accordance with the National Planning Policy Framework. For the purposes of the Sustainability Appraisal, this site submission can not be considered a reasonable alternative for allocation within the draft Local Plan.
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Masons Quarry, Great Blakenham

Table 66: Site appraisal: Masons Quarry, Great Blakenham

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site lies within a Source Protection Zone (SPZ). There are also pockets of predicted surface water flooding due to existing operations on site.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The land is currently in non-agricultural use.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	?	The Site Assessment Report states that there is insufficient information to determine any likely impacts.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	--	The Great Blakenham Pit SSSI lies within the site boundary and there are also anticipated impacts regarding a County Wildlife Site (CWS). There will be potential significant adverse impacts upon nature conservation interest including Great Blakenham pit SSSI, Little Blakenham pit SSSI, Sandy Lane pit SSSI, Great Blakenham pit CWS, Column field Upper Quarry CWS, RNR, Blakenham Chalk pit SWT, Groundwater Source protection zone, European Protected Species (Otter, Great Crested Newt), Priority Species, Other Protected Species (Badger), Priority

SA Objectives	Sustainability Impact	Commentary
		Habitats (Deciduous Woodland, Lowland Meadows, Hedgerows, Lowland Meadows).
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. Assuming that all works will be undertaken within the previously excavated quarry site, there will be no impact on below ground heritage assets. However, any ancillary works affecting areas of previously undisturbed land will require archaeological assessment and mitigation. The scale and scope of the archaeological works will depend on the design of the application submitted.
8. To minimise flood risk	0	The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	-	Depending on the type of waste site proposed, there is a risk that a significant amount of additional traffic may be generated. Where the proposals generate more than 500 additional car movements and/or more than 100 Heavy duty vehicle movements per day, there is a risk that there will significantly increase local pollutant concentrations. The Site Assessment Report indicates that any proposal should commit to a regime of road sweeping to minimise subsequent impacts.
10. To maintain / improve air quality	?	Air Quality near the site is currently good; Mid Suffolk District Council has not declared any Air Quality Management Areas, and the closest AQAM is located approximately 6.8km southeast of the site, in Ipswich. It is assumed however that there is potential for the waste to be received and treated on site to be odorous. The site lies adjacent to an existing recycling facility and skip hire premises. There is a risk of cumulative dust and/ or odour impacts in the area.
11. Promote effective restoration and appropriate after-use of sites	0	N/A – The proposal is for a non-landfill waste management facility.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	+	Waste management proposal.
14. Ensure a steady and adequate supply of	0	Waste management proposal.

SA Objectives	Sustainability Impact	Commentary
minerals to meet the needs of the society		
15. To move treatment of waste up the waste hierarchy	?	The nature of non-landfill waste management facilities is such that the notion of moving waste treatment up the waste hierarchy is suitably adhered to. That established, there is a lack of suitable information submitted to make judgements as to the sustainability performance of the proposal in light of this Sustainability Objective.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	+	There are no residential properties within 250m of the proposed site boundary; the closest properties are approximately 300m from the site (to the south and the east).
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	?	The site is proposed for a strategic waste management facility. The type of waste is unknown at this stage however; therefore the noise from site operations is also unknown.
19. To maintain and improve recreation and amenity	?	The following PRoWs - FP13 & FP15 - run along part of the southern boundary of the site. As the route is an existing concrete it is possible that that the PRoWs can be retained throughout the proposal's life.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16) there are no additional impacts highlighted at this stage.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	?	Any permission will need to consider the SnOasis proposal as a committed site. The number of jobs to be created from the proposal was not submitted.
22. To maintain/improve existing infrastructure	N/A	N/A

SA Objectives	Sustainability Impact	Commentary
23. Promote sustainable investment in the County	?	The proposal is for a permanent waste management facility with potential conflicts with the SnOasis committed site.
24. To promote efficient movement patterns in the County (where possible)	+	Lorries would access the B1113 via the existing Gt Blakenham site access. The B1113 is designated a "Local Access Lorry Route" in the Suffolk Lorry Route Network. The B1113 is connected to the A14 via a grade separated junction. The A14 is designated as a Strategic Lorry Route."

Henham Quarry (Hektor Rous)

Table 67: Site appraisal: Henham Quarry (Hektor Rous)

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
Environmental				
1. To maintain or improve quality of surface water and groundwater	-	-	-	<p>Site 1 - The site is at high/intermediate risk of groundwater pollution and is underlain by a minor aquifer. There are areas of predicted surface water flooding for the site.</p> <p>Site 2 - The site is partially within an outer SPZ zone. The site is at high/intermediate risk of groundwater pollution and is underlain by a minor aquifer. There are areas of predicted surface water flooding for the site.</p> <p>Site 3 - The site is partially within an outer SPZ zone. The site is at high/intermediate risk of groundwater and is underlain by a minor aquifer. There are areas of predicted surface water flooding for the site.</p>
2. To maximise the efficient use of water	N/A	N/A	N/A	N/A
3. To maintain/improve soil quality/resources	?	?	?	All of the sites are within Grade 3b agricultural land.
4. To maintain/improve the quality and local distinctiveness of	--	--	-	<p>Site 1 - The site is inside the AONB on an exposed valley side site with likely significant impacts on the landscape and local visual amenity. The proposed conveyor across the river valley would also create additional</p>

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
landscapes/ townscapes				<p>adverse impacts. The site may have inter-visibility with and impacts upon the setting of the listed Parkland to the south of Tuttle's Wood.</p> <p>Site 2 – The site is inside the AONB within what appears to be an extension of the designed landscape of the designated parkland to the east of the A12. The proposal is therefore likely to have significant landscape and visual impacts. There are additional possible impacts on the setting of the listed parkland opposite.</p> <p>Site 3 - The majority of the proposed site is outside the AONB and this portion could be acceptable subject to mitigation, subject to exclusion of some of the central and western areas of the site.</p>
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	0	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	--	-	<p>Site 1 - The Minsmere-Walberswick SPA/Ramsar and Minsmere-Walberswick Heaths & Marshes SSSI lie within close proximity of the southern and eastern boundaries of the site, and adjacent to the eastern-most point of the site boundary. There could be potential impacts upon nature conservation interest including Minsmere to Walberswick Ramsar, SPA, SAC, Minsmere to Walberswick Heaths and Marshes, Wangford Marshes CWS, Tuttle's Wood, Hen Reedbeds NNR, Groundwater Source Protection Zones, European Protected Species, Priority BAP Species, other Protected Species, Priority Habitats need to be adequately assessed and where necessary mitigation proposed.</p> <p>Proposals should include measures to prevent significant adverse hydrological impacts upon the protected sites and species.</p>

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
				<p>Site 2 – The Minsmere-Walberswick SPA/Ramsar and Minsmere-Walberswick Heath & Marshes SSSI lie within close proximity of the southern and eastern boundaries of the Site, and adjacent to the eastern-most point of the Site boundary. There could be potential impacts upon nature conservation interest including Minsmere-Walberswick Ramsar, SPA, SAC, Minsmere to Walberswick Heath and Marshes, Wangford Marshes CWS, Tuttle Wood, Hen Reedbeds NNR, Groundwater Source Protection Zones, European Protected Species, Priority BAP Species, other Protected Species, Priority Habitats need to be adequately assessed and where necessary mitigation proposed.</p> <p>Proposals should include measures to prevent significant adverse hydrological impacts upon the protected sites and species.</p> <p>Site 3 - The Minsmere-Walberswick SPA/Ramsar and Minsmere-Walberswick Heath & Marshes SSSI lie within close proximity of the southern and eastern boundaries of the Site, and adjacent to the eastern-most point of the Site boundary. Potential impacts upon nature conservation interest including Minsmere-Walberswick Ramsar, SPA, SAC, Minsmere to Walberswick Heath and Marshes, Wangford Marshes CWS, Tuttle Wood, Hen Reedbeds NNR, Groundwater Source Protection Zones, European Protected Species, Priority BAP Species, other Protected Species, Priority Habitats need to be adequately assessed and where necessary mitigation proposed.</p>
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	-	-	<p>Site 1 – Adequate mitigation would be needed to Henham Park, a Registered Parks and Garden which abuts the site. Evidence of pre-modern field systems (UGG 017) recorded on the Historic Environment Record (HER). A geophysical survey undertaken in advance of a solar farm application for the site identified</p>

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
				<p>evidence consistent with Medieval roadside settlement (UGG 013).</p> <p>Site 2 - Adequate mitigation would be needed to Henham Park, a Registered Parks and Garden which abuts the site. The site occupies a highly favourable topographic location for early occupation and ritual activity. Evidence for prehistoric, Roman and Medieval occupation is recorded on the County Historic Environment Record (HER) from the vicinity. Cropmarks of linear ditches including at least one trackway (WNF 048). Possible pre-modern settlement and field systems. High potential for Palaeolithic and Mesolithic remains, indicated in association with Lowestoft formation deposits, as demonstrated by finds of flint axe and a Mesolithic quartz mace head (WNF 011) on similar deposits 300m N.</p> <p>Site 3 - Adequate mitigation would be needed to Henham Park, a Registered Parks and Garden which abuts the site. The site occupies a highly favourable topographic location for early occupation and ritual activity. Evidence for prehistoric, Roman and Medieval occupation is recorded on the County Historic Environment Record (HER) from the vicinity. Cropmarks of linear ditches including at least one trackway (WNF 048). Possible pre-modern settlement and field systems. High potential for Palaeolithic and Mesolithic remains, indicated in association with Lowestoft formation deposits, as demonstrated by finds of flint axe and a Mesolithic quartz mace head (WNF 011) on similar deposits 300m N. The impact on the setting of Grade II Listed Henham Park (NHLE 1000557) also needs to be addressed.</p>
8. To minimise flood risk	0	-	?	<p>Site 1 – The site borders areas of Flood Risk Zone 3 and 2, however the site is within Flood Risk Zone 1.</p>

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
				<p>Site 2 –The site includes a small amount (in respect of the site area) of land within Flood Risk Zones 3 and 2 at the eastern edge of the site.</p> <p>Site 3 - The site borders areas of Flood Risk Zone 3 and 2, however the site is largely within Flood Risk Zone 1 with the exception of a small area near the southern boundary.</p>
9. To minimise effects of traffic on the environment	0	0	0	It is anticipated that the extensions would generate around 60 HGV movements per day, however this is a similar level to the existing quarry and as the sites will not operate concurrently, does not represent any increase on local roads. Therefore, traffic emissions are unlikely to increase local pollutant concentrations.
10. To maintain / improve air quality	+	+	+	Air quality near the site is currently good; Waveney District Council has not declared any Air Quality Management Areas.
11. Promote effective restoration and appropriate after-use of sites	+	++	?	<p>Site 1 – The site is proposed to be restored back to agriculture.</p> <p>Site 2 - The site is proposed to be restored to agriculture with possible biodiversity gain through a low lying wetland. Biodiversity gain could also be ensured in the latter stages of progressive restoration.</p> <p>Site 3 – No indicative restoration proposals were submitted.</p>
12. Avoid sterilisation of minerals resources	N/A	N/A	N/A	N/A
13. Promote sustainable economic use of natural resources	++	++	++	The sites are proposed for minerals extraction.
14. Ensure a steady and adequate supply of	++	++	++	The sites are proposed for minerals extraction

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
minerals to meet the needs of the society				
15. To move treatment of waste up the waste hierarchy	?	?	?	Silt and reject minerals would be used in restoration for all of the sites. Whereas this responds to landfilling, such methods are necessary to restore landscapes. It should be noted that the materials to be used would not be imported, ensuring no increase in waste miles.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	?/-	?/-	<p>Site 1 - There are a number of residential properties within 250m of the Site (including Redhouse Farmhouse approximately 100m from the Site boundary, and Bullions Bed & Breakfast approximately 70m from the northeast corner of the Site)</p> <p>Site 2 - There are a small number of residential properties within 250m of the Site; Nova Scotia Cottages, which are located adjacent to the northern boundary of the site, and Fools Watering, approximately 200m south of the site adjacent to the A12.</p> <p>Site 3 - There are a small number of residential properties within 250m of the Site; Nova Scotia Cottages, which are located adjacent to the northern boundary of the site, and Fools Watering, approximately 200m south of the site adjacent to the A12.</p>
17. To meet the housing needs of the population	+	+	+	There are no adopted or draft plan proposals that conflict with the proposed sites. At the time of writing there are no known planning applications which affect the sites.
18. To minimise production of noise at quarries	?	?	?	The use of standard mitigation measures such as the use of earth screening bunds and standoff buffer areas will be required.
19. To maintain and improve recreation and amenity	?	+	--	Site 1 - Uggeshall FP5 is on the north boundary of this site and could be left on its current alignment with a suitable separation

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
				<p>from the works site and a safe crossing point provided.</p> <p>Site 2 – No PRowS or bridleways are expected to be affected from the proposal.</p> <p>Site 3 - Uggeshall FP 5 is through the centre of the proposed site and Uggeshall 4 is on the SW perimeter of the site at the east end approaching the A12.</p>
20. To protect and enhance human health and wellbeing	+	+	+	Aside from those impact highlighted above (Sustainability Appraisal 16), there are no additional impacts predicted that would affect human health and wellbeing.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	+	+	The Site Assessment Report indicates that all of the site proposals would lead to 3 additional jobs.
22. To maintain/improve existing infrastructure	N/A	N/A	N/A	N/A
23. Promote sustainable investment in the County	0	0	0	The proposals are for temporary mineral extraction with no conflicts between identified investment opportunities of allocated employment land.
24. To promote efficient movement patterns in the County (where possible)	?/-	?/-	--	<p>Site 1 - The existing quarry access utilizes the U1518 to the A12, which is classed as a Strategic Lorry Route in the Suffolk Lorry Route Network. There is a dip in A12 to the south and the location on the inside of a bend may require the relocation of access to the north.</p> <p>Site 2 - The proposed access would be direct onto the A12. There is a dip in A12 to the south and the location on the inside of a bend may require the relocation of access to the</p>

SA Objectives	Sustainability Impact			Commentary
	Site 1	Site 2	Site 3	
				north. Site 3 - The proposed access to Site 3 would be via the C930 to the junction with the A12. It would likely be necessary to ensure junction improvements; either a roundabout or traffic lights. The junction has a high frequency of injury crashes.

Higham Quarry

Table 68: Site appraisal: Higham Quarry

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	0	The site is located outside any Source Protection Zones.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?/-	The site is currently not in agricultural use and used as a flat racecourse (point to point). The land is classified as Grade 2 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	The site is inside an AONB but capable of mitigation if overriding need case exists.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	There are likely to be potential impacts upon nature conservation interest including CWS (Rowley Grove, Snake's Wood, Higham Meadow, Wasses Marches), European Protected Species (Bats, Otters), Priority Species, Other Protect Species (Badgers), Priority Habitats. With appropriate mitigation the proposed development could be made acceptable.

SA Objectives	Sustainability Impact	Commentary
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	The proposal would see lorries passing through Stratford St Mary Conservation Area. The site occupies a position favourable for occupation, overlooking the Brett and Stour rivers. Cropmarks of extensive pre-modern field systems and surface finds of artefacts from the wider vicinity recorded on the County Historic Environment Record (HER), are indicative that the area has been occupied throughout the later prehistoric, Roman, Saxon and Medieval periods. A double ditched rectangular feature (HSM002) is recorded just east of the proposed quarry.
8. To minimise flood risk	0	The site is within Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	It is considered unlikely that additional traffic generated by the proposed extraction site will significantly increase local pollutant concentrations.
10. To maintain / improve air quality	+	Air Quality near the site is currently good; the closest Air Quality Management Area is located approximately 14km of the site in Ipswich.
11. Promote effective restoration and appropriate after-use of sites	++	The restoration proposals are for a biodiversity led scheme in keeping with the Dedham Vale AONB.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is proposed for minerals extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is proposed for minerals extraction.
15. To move treatment of waste up the waste hierarchy	?	It is currently unknown what materials would be used in the site's restoration.

Social

16. To minimise the impacts arising from the minerals and waste	?/-	A number of residential properties lie within 250m of the proposed site boundary. This includes properties alongside Hadleigh Road to the west of the site, and the B1068 to the south of the site, as well as Dewland's
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SA Objectives	Sustainability Impact	Commentary
developments on where people live		Farm to the Northeast. The closest property is Marney Lodge approximately 100m west of the site boundary.
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	?	Additional stand-off buffers would be required.
19. To maintain and improve recreation and amenity	+	There are no PRoWs or bridleways affected by the proposal.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16) there are no additional impacts expected that would affect human health and wellbeing.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The Site Assessment Report indicates that 5 new jobs would be created through the proposal.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is for a temporary mineral extraction with no conflicts between identified investment opportunities of allocated employment land.
24. To promote efficient movement patterns in the County (where possible)	--	The proposed egress would be on to the B1068, which is not part of the Suffolk Lorry Route Network and which then joins the A12, which is classed as a Strategic Lorry Route. To access the site from the south lorries would leave the A12 onto the B1068. To access the site from the north, lorries would have to leave the A12 at Stratford onto the B1029, which is not part of the Suffolk Lorry Route Network, and then re-join the A12 northbound before leaving at the B1068 junction. There are substandard slip roads onto the A12 with crash history. There are also issues with local traffic movements following the closure of Hughes

SA Objectives	Sustainability Impact	Commentary
		Corner on A12. Vehicles are re-routed through Stratford St Mary. The visibility from proposed junction will be difficult to achieve due to bends and summit.

Holton Hall Farm

Table 69: Site appraisal: Holton Hall Farm

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	0	The site is located outside any Source Protection Zones.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?/-	The site is in agricultural use and of Grade 2 & 3.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	--	The development of the site to the west of the central track would have an unacceptable impact on the Dedham Vale Area of Outstanding Natural Beauty. The proposed plant site not acceptable in its present location.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	Higham Meadow CWS (designated for Grassland Mosaic Habitat) is located directly adjacent to the west of the site. Appropriate survey and mitigation measures are recommended. There are also a significant number of Protected Species present in the broad area due to the presence of the AONB. With appropriate mitigation the proposed development could be made acceptable.
7. To preserve or enhance historical buildings/sites, archaeological sites	-	A number (approximately 10) of Listed Buildings border the site boundary, the settings of which will need to be preserved. The site occupies a favourable topographic location for early occupation and ritual activity, overlooking the confluence of the Stour and Brett rivers. The line

SA Objectives	Sustainability Impact	Commentary
and other culturally important buildings		of a Roman Road (Margary 3c, CSM014) crosses, or passes close to, the SE corner of the site. Numerous ring ditches and cropmarks of pre-modern field systems are recorded from the wider vicinity, on the County Historic Environment Record (HER). Cropmarks of a double ditched rectangular enclosure and ring ditch (HSM002, HSM003) are also recorded from within the land in question. A significant number of late medieval/early post medieval buildings surround the site. The site has potential for archaeological remains of Prehistoric, Roman and Medieval date.
8. To minimise flood risk	0	The site is entirely within Flood Zone 1.
9. To minimise effects of traffic on the environment	0	Traffic emissions are unlikely to significantly increase local pollutant concentrations
10. To maintain / improve air quality	+	Air quality near the site is currently good; the closest AQMA is located approximately 13km northeast of the site, in Ipswich.
11. Promote effective restoration and appropriate after-use of sites	?/+	The submitted information specifies no clear scheme for detailed reference – the intention is for agricultural restoration, with flexibility as to levels and biodiversity gain, and sensitivity regarding the AONB.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is proposed for minerals extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is proposed for minerals extraction.
15. To move treatment of waste up the waste hierarchy	?/-	There will be no reject materials associated with extraction as the proposal is for a wet working. No additional restoration proposals were submitted although infill was indicated as being imported.

Social

16. To minimise the impacts arising from the minerals and waste	?/-	A number of residential properties lie within 250m of the proposed site boundary and access road. This includes Bobitts Hall and Coral's Barn to the south, Dewland's Farm to the west, Holton Place and properties in
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SA Objectives	Sustainability Impact	Commentary
developments on where people live		Rose Acre to the north, and Squire's Hall to the east. There are no statutory designated habitats near to the site.
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	?	There are a number of residential receptors on the site boundary and it is likely that significant mitigation would need to be employed to protect NSRs from noise due to minerals extraction considering their locations. It is anticipated that an assessment of noise would be submitted with a planning application considering the likely impacts at receptors close to the Site or adjacent to roads affected by additional traffic, and defining the appropriate level of mitigation to be put in place.
19. To maintain and improve recreation and amenity	-	There are a number of rights of way running through the site - Bridleway 19, footpath 17, 16, 23 and Stratford St Mary footpath number 9. These will need to be kept open on their legal alignment or temporarily closed ideally with alternative routes in a similar condition made available to the appropriate status.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16) there are no additional impacts expected regarding human health and wellbeing.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	It is assumed that a number of additional jobs would be created.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is for a temporary mineral extraction with no conflicts between identified investment opportunities of allocated employment land.
24. To promote efficient movement	?	The proposed access would utilise the current industrial access from Holton Park. There would also be an option to use the B1068, which the site borders, however this is not part of the Suffolk Lorry Network.

SA Objectives	Sustainability Impact	Commentary
patterns in the County (where possible)		

Mendham Marshes

Table 70: Site appraisal: Mendham Marshes

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	There is a high risk of flooding to this site from surface water.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The site is located on Grade 4 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	--	The Site Assessment Report states that it is likely that mineral extraction here would lead to very significant impacts on character of the locally designated landscape (SLA), the historic landscape and local visual amenity. Extraction here would cause significant adverse impacts to the character and special qualities of this landscape that could not be satisfactorily mitigated, during either the operation or restoration of the site.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	--	There is the potential for significant adverse impacts upon nature conservation interest including Weybread Pits CWS, River Waveney CWS, European Protected Species (Otters, Bats, and Great Crested Newts), Priority Species (Water Vole, Curlew, and Herring Gull), Priority Species, Other Protected Species, Priority Habitats (Floodplain Grazing Marsh). It is considered unlikely that mitigation would be able to be provided that would make the development acceptable.
7. To preserve or enhance historical	--	There is a Grade II Listed Building on the southern edge of the site. The site also possesses a very high potential for heritage assets with

SA Objectives	Sustainability Impact	Commentary
buildings/sites, archaeological sites and other culturally important buildings		archaeological significance and is of high historic landscape significance. River valleys such as the Waveney have been shown to be strong focuses of past human occupation, and waterlogged deposits provide high levels of preservation for rare and vulnerable organic artefacts of all periods. Significant and extensive evidence for later prehistoric, Roman, Saxon and Medieval occupation is recorded from the vicinity on the County Historic Environment Record (HER) and PAS database, including finds identified during excavation of the previous workings lying to the west. The scheduled site of St Mary's Priory (NHLE 1006054) occupies a position towards the centre of the proposed extraction site. Although the Scheduled site itself is excluded from the proposal, the site of the Priory is surrounded by a landscape of well-preserved Medieval field system, which is important in terms of both landscape and contextual setting for the Priory site.
8. To minimise flood risk	-	The site is almost entirely within Flood Risk Zone 2, with some significant areas of Flood Risk Zone 3 along the eastern boundary.
9. To minimise effects of traffic on the environment	0	It is considered unlikely that additional traffic would be generated by the proposed extraction site. Traffic movements are therefore similarly unlikely to significantly increase local pollutant concentrations.
10. To maintain / improve air quality	+	Air Quality near the site is currently good; Mid Suffolk District Council has not declared any Air Quality Management Areas.
11. Promote effective restoration and appropriate after-use of sites	?	No restoration proposals were submitted by the site promoter.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is proposed for minerals extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is proposed for minerals extraction.

SA Objectives	Sustainability Impact	Commentary
15. To move treatment of waste up the waste hierarchy	?/-	There will be no reject materials associated with extraction as the proposal is for a wet working. No additional restoration proposals were submitted.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	There are a number of residential properties within 250m of the site, including Bethel Farm on Mendham Low road to the north, and properties adjacent to the B1123 to the south; the closest being Priory farm and Priory lodge to the south. These properties are also located in close proximity to an operational poultry farm.
17. To meet the housing needs of the population	+	There are no adopted or draft plan proposals that conflict with the proposed site. At the time of writing there are no known planning applications which affect the site.
18. To minimise production of noise at quarries	?	Standard mitigation measures such as the use of earth screening bunds will be required along with additional stand-off buffer.
19. To maintain and improve recreation and amenity	--	PRoWs run across the low lying graving marshes. These would have to be diverted across other parts of the marsh to make the proposal acceptable, and would likely require bridges to be constructed across many drainage ditches (4 bridges exist at present).
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16) there are no additional impacts expected regarding human health and wellbeing.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The Site Assessment Report indicates that 14 additional jobs would be created.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is for a temporary mineral extraction with no conflicts between identified investment opportunities of allocated employment land.



SA Objectives	Sustainability Impact	Commentary
24. To promote efficient movement patterns in the County (where possible)	--	<p>Lorries would use the B1123 and B1116 (which are not part of the Suffolk Lorry Route Network) to gain access to the west via Wells Lane to the A143 and vice versa to return to the site. To gain access to the A143 travelling east lorries would route via the B1123, the B1116 into Harleston, turn right onto Spirkett's Lane, then right onto the Mendham Lane to the junction with the A143 and vice versa to return to the site. There is a restricted road width on B1123 (4.8M) substandard junctions at B1123/B1116, and there is no right turn on to Spirkett's Lane and Wells Lane/ A143.</p>

Grove Farm, Stowmarket

Table 71: Site appraisal: Grove Farm, Stowmarket

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	-	The site is within a Source Protection Zone.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	?	The site is within Grade 3 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	-	There will be impacts on a Special Landscape Area including loss of characteristic features such as valley floor grassland and dykes as well as residential amenity and visual impacts should be avoided or minimised.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	-	There are important ecological constraints both within (including river valley grazing marsh) and in close proximity to the proposed development (including County Wildlife Sites and Local Nature Reserves). Those sites of interest within the site should be removed from the proposal and those areas external to the site must be adequately safeguarded.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	There is 2 Grade II* listed building called Creeping Hall off nearby Mill Lane. Phase 1 (Creeping Hall) has cropmarks of pre-modern field boundaries (CRP 017, CRP 012), a trackway (CRP 016), a medieval moated site (CRP 001) and ring ditches (CRP 002, CRP 008) are visible on aerial photography. Phase 2 (Land S & W of Grove Farm) has cropmarks of premodern field boundaries and ring-ditches are visible on aerial-photography. Phase 3 (SW of Watering Farm) has a group of two large ring ditches (CRM 014, CRM 065) the ploughed down remains of Bronze-Age burial mounds, is recorded from within the site boundary, along with evidence of both Roman and Medieval occupation (CRM 028, CRM 072). Crop marks of pre-modern field boundaries, a possible Causewayed Enclosure, and Parallel ditches, are viable on aerial

SA Objectives	Sustainability Impact	Commentary
		photography. Phase 4 (Land S of Hill Farm) has crop marks of two ring ditches (CRP 003, CRM 017) and a sub-rectangular enclosure (CRP 005). Phase 5 (Land N of A14) has several features of probably prehistoric date, including cropmarks of two ring ditches (CRP 003, CRM 017). In all cases (phases) the impact on the listing of several listed buildings also need to be considered. Also, The British Geological Survey records the presence of deposits, which have the potential for Palaeolithic faunal, environmental, and possible artefactual remains.
8. To minimise flood risk	-	The site includes a relatively large proportion of land within Flood Risk Zone 2 in the south and to the west.
9. To minimise effects of traffic on the environment	?/-	The site is anticipated to generate 80 HGV movements per day, and therefore traffic emissions are unlikely to significantly increase local pollutant concentrations. There is a risk of cumulative impacts with the adjacent concrete plant, however, it is anticipated that some mineral would be used in the concrete plant which would reduce the number of vehicle trips associated with both sites.
10. To maintain / improve air quality	+	Air Quality at the site is currently good; Mid Suffolk District Council has not declared any Air Quality Management Areas.
11. Promote effective restoration and appropriate after-use of sites	++	Restoration is intended to be to agricultural land. The proposal also includes UK BAP priority habitats for biodiversity gain.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is proposed for minerals extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is proposed for minerals extraction.
15. To move treatment of waste up the waste hierarchy	?	The Site Assessment Report indicates that overburden, reject minerals and silt would be used in restoration. Although this does not strictly adhere to the notion of moving waste treatment up the waste hierarchy, it is necessary to restore mineral voids. The material used does not ensure the importation of minerals and increases in waste miles.

SA Objectives	Sustainability Impact	Commentary
Social		
16. To minimise the impacts arising from the minerals and waste developments on where people live	-	Phase 3 of the proposed quarry abuts the village envelope of Jacks Green as designated in the MSDC Local Plan. There are a number of residential properties within 250m of the site (including properties adjacent to Stowmarket Road, Mill Lane, and Fen Lane), the closest being within a few meters of the site boundary.
17. To meet the housing needs of the population	?	In preparation for an emerging joint local Plan Babergh and Mid Suffolk published the "Babergh and Mid Suffolk Public Site Submissions" in April 2017. This includes a submission which encroaches on Phase 3 of the proposal for mineral extraction and a further submission that abuts Phase 3. There are no known planning applications that affect the site at the time of writing.
18. To minimise production of noise at quarries	?	The use of standard mitigation measures such as the use of earth screening bunds are needed, alongside additional stand-off buffer areas.
19. To maintain and improve recreation and amenity	--	There are a number of Public Rights of Way affected by this proposed extraction in both east and west areas. Creting St Mary FP59 (East Area) runs along the site boundary. Creting St Mary FP3 runs through the site. The Gipping Valley path runs along the southern edge of the site and there are a number of paths affected, Creting St Mary FP2 (East Area), Creting St Peter FP23, Badley FP27. Creting St Peter FP16 runs alongside the site boundary. Creting St Peter FP14 runs through and along the boundary of the site. Creting St Peter FP28 & FP27 form part of the site boundary. They are both existing concrete tracks. Badley FP26 & Creting St Peter FP15 runs along the edge of the site.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16), no additional impacts have been highlighted regarding human health and wellbeing.
Economic		
21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	?	The MSDC Core Strategy includes the Mill Lane Proposal which abuts the proposed minerals site. The Mill Lane site is intended for B1 (business) B2 (general industrial) and B8 (storage or distribution) uses. The intended route to the highway for quarry traffic is via this development and the quarry is not considered to be incompatible with the proposed uses. The aggregates processing and loading area abuts the Mill Lane site.

SA Objectives	Sustainability Impact	Commentary
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is for a temporary mineral extraction with no conflicts between identified investment opportunities of allocated employment land.
24. To promote efficient movement patterns in the County (where possible)	?/-	The proposed road access would involve the construction of a new road to join the A1120 at the Tesco's roundabout. The A1120 is defined as a Local Access Lorry Route in the Suffolk Lorry Route Network to this location. The new road would also form part of an industrial area which is planned for the area of land closest to the roundabout.

Folly Farm, Tattingstone

Table 72: Site appraisal: Folly Farm Tattingstone (TA1(b))

SA Objectives	Sustainability Impact	Commentary
	Waste Recycling (TA1(b))	

Environmental

1. To maintain or improve quality of surface water and groundwater	0	There are no known constraints regarding surface or groundwater.
2. To maximise the efficient use of water	N/A	N/A
3. To maintain/improve soil quality/resources	+	The site is currently Grade 4 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	--	Regarding the permanent waste recycling proposal, the Site Assessment Report states that there is no justification for the permanent retention of waste recycling operations beyond the life of landfill operations in the open countryside, largely due to the area being designated as a Special Landscape Area.
5. To reduce greenhouse gas emissions and	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.

SA Objectives	Sustainability Impact	Commentary
	Waste Recycling (TA1(b))	
enhance energy efficiency		
6. To conserve/enhance biodiversity or geodiversity	-	There are no statutory designated habitat sites within 250m of the extension site boundary. Despite this there is the potential for impacts upon nature conservation interest including Stour & Orwell SPA, Stour Estuary SSSI, Brantham Bridge Meadows CWS, watercourses, European Protected Species (Bats), Priority Species, and Priority Habitats. These impacts should be adequately assessed and where necessary mitigation proposed.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	?	No historic buildings are in proximity to the site that can be identified as being affected. There has been no systematic archaeological investigation of this large site.
8. To minimise flood risk	0	The whole site is in Flood Risk Zone 1.
9. To minimise effects of traffic on the environment	0	Access to the site would be via the existing quarry access roads. The number of HGVs generated by the proposals will be similar to that generated by the existing quarry.
10. To maintain / improve air quality	+	Air quality near the Site is currently good; the closest Air Quality Management Area is located over 8km northeast of the Site, in Ipswich.
11. Promote effective restoration and appropriate after-use of sites	0	There will be no impact as a result of the intended waste management facility.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	+	The proposal will have minor positive impacts associated with recycling activities.

SA Objectives	Sustainability Impact	Commentary
	Waste Recycling (TA1(b))	
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	0	There will be no impact as a result of the intended waste management facility.
15. To move treatment of waste up the waste hierarchy	++	The inclusion of an industrial, commercial and waste recycling facility as part of the wider site allocation can be seen to actively move the treatment of waste up the waste hierarchy.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	-	There are a number of residential properties within 250m of the eastern Site boundary, including properties adjacent to the A137. Folly Farm House also lies approximately 225m from the southwest corner of the Site boundary. This property also lies within 200m of the southern boundary of the existing Folly Farm Quarry. It is assumed that there is the potential for waste to be odorous related to the industrial, commercial and waste recycling site proposed.
17. To meet the housing needs of the population	?/-	There are no adopted plan proposals that conflict with the proposed site. The "Babergh and Mid Suffolk Public Site Submissions" (April 2017) forming part of the preparation of a combined Local Plan includes a submission (reference SS0336) which refers to the proposed permanent retention of waste recycling facilities. It is considered that the waste recycling activities should cease when the adjacent landfill activities come to an end.
18. To minimise production of noise at quarries	?	The nature of operations at the permanent waste recycling proposal is likely to require additional mitigation in reflection of the proximity to residential properties.
19. To maintain and improve recreation and amenity	?/-	The site boundaries should be so arranged to ensure a nearby bridleway (Tattingstone BR 37A) is unobstructed. Part of a PRow (Tattingstone FP 37) is within the site. This should either be accommodated, or a temporary extinguishment order sought.
20. To protect and enhance human health and wellbeing	+	Suffolk County Council's Highways team raise no objection to this site subject to no increase in traffic volumes (with subsequent impacts regarding safety). There are no additional issues regarding human health and wellbeing.

SA Objectives	Sustainability Impact	Commentary
	Waste Recycling (TA1(b))	

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	It can be expected that jobs would be secured through the part of the proposal that includes a permanent waste recycling facility.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	+	The retention of the waste management facility is for a permanent use, with resultant minor positive implications.
24. To promote efficient movement patterns in the County (where possible)	?	The established road access to the site utilises the C426 to access the A137 which is classed as a Zone Distributor Lorry Route under the Suffolk Lorry Route Network.

Wangford Quarry Extensions (WA1: Hill Farm & WA2: Southern Extension)

Table 73: Site appraisal: Wangford Quarry (WA1, WA2)

SA Objectives	Sustainability Impact		Commentary
	Hill Farm (WA1)	Southern Extension (WA2)	

Environmental

1. To maintain or improve quality of surface water and groundwater	-	-	All sites are at a high risk of groundwater flooding and are underlain by a minor aquifer. There are areas of predicted surface water flooding for the sites. The sites also fall within SPZ Zones.
2. To maximise the efficient use of water	N/A	N/A	N/A

SA Objectives	Sustainability Impact		Commentary
	Hill Farm (WA1)	Southern Extension (WA2)	
3. To maintain/improve soil quality/resources	?	?	For all sites the agricultural land classification is Grade 3b or lower.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	--	--	<p>Hill Farm – Inside AONB with likely impact on designation. Hill Farm is unacceptable in landscape terms because of the potential impact of working the exposed site on the wider Area of Outstanding Natural Beauty and Henham Park</p> <p>Southern Extension – Inside AONB with likely impact on designation</p>
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	--	--	<p>Hill Farm – Potential impacts upon nature conservation interest including Suffolk Coast & Heaths AONB, Minsmere-Walberswick SPA, Minsmere-Walberswick Heaths & Marshes SSSI, Wangford Marshes CWS, Suffolk Coast NNR, Hen Reedbeds (SWT Site), Reydon Wood (SWT Site), Groundwater Source Protection Zone (River Wang, Wolsey's creek, River Blyth), European Protected Species (Otters, Bats), Priority Species (Bittern, Water Vole, Barn Owl), other protected Species (Badger), Priority Habitats (REEDBEDS, Grazing Marshes) need to be adequately assessed and where necessary mitigation proposed. The Site Assessment Report identifies significant concerns regarding the above impacts from the County Council's Ecology specialists.</p> <p>Southern Extension – The Site Assessment Report indicates that there will be a similar list of constraints as Hill Farm (above), however potentially more damaging.</p>
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	-	?	<p>Hill Farm – Evidence for prehistoric, Roman, and Medieval occupation, including three Medieval wells (WNF 011) is recorded on the County Historic Environment Record (HER) from the earlier phases of extraction. Cropmarks of linear ditches (WNF 054), and a ring ditch (WNF 002) are recorded from within the proposed extraction site. High potential for Palaeolithic and Mesolithic remains, indicated in association with Lowestoft formation deposits, as demonstrated by finds</p>

SA Objectives	Sustainability Impact		Commentary
	Hill Farm (WA1)	Southern Extension (WA2)	
			<p>of flint axe and a Mesolithic quartz mace head (WNF 011) on similar deposits from the earlier phases of extraction, lying immediately south. The impact on the setting of Grade II listed Henham Park (NHLE 1000557) also needs to be addressed.</p> <p>Southern Extension – No historic buildings are in proximity to the site that can be identified as being affected. The site occupies a favourable topographic location for early occupation and ritual activity. Cropmarks if linear ditches and curvilinear enclosures (WNF 022) are recorded on the County Historic Environment Record (HER). Previous phases of extraction revealed extensive evidence of prehistoric and Medieval (WNF 023) occupation. Archaeological trenched evaluation identified a number of features with archaeological interest (WNF 029).</p>
8. To minimise flood risk	-	-	<p>Hill Farm – The site would be bounded by Flood Risk Zone 2 and 3 at the western edge, additionally including a small percentage of the site within these Flood Risk Zones.</p> <p>Southern Extension – The site includes a relatively large area of land within Flood Risk Zones 3 and 2 at the southern boundary and also permeating the site centrally from the south.</p>
9. To minimise effects of traffic on the environment	0	0	For all proposals the traffic generation is anticipated to be the same as for the existing Wangford Quarry.
10. To maintain / improve air quality	+	+	<p>Hill Farm – Air Quality near the site is currently good; Waveney District Council has not declared any Air Quality Management Areas.</p> <p>Southern Extension – Air quality near the site is good; Waveney District Council has not declared any Air Quality Management Areas.</p>
11. Promote effective restoration and appropriate after-use of sites	?	++	<p>Hill Farm – No restoration proposals submitted.</p> <p>Southern Extension – Restoration would be for biodiversity gain.</p>

SA Objectives	Sustainability Impact		Commentary
	Hill Farm (WA1)	Southern Extension (WA2)	
12. Avoid sterilisation of minerals resources	N/A	N/A	N/A
13. Promote sustainable economic use of natural resources	++	++	The sites are intended for mineral extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	++	The sites are intended for mineral extraction.
15. To move treatment of waste up the waste hierarchy	?	?	In all cases, silt and reject minerals would be used in restoration. This can be seen to move the treatment of waste up the waste hierarchy in line with the proximity principle.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	?	<p>Hill Farm – There are a number of residential properties within 250m of the site; including Hill Farm immediately to the south of the site boundary, and properties on Hill Farm and Norfolk Road to the north of the site.</p> <p>Southern Extension – There are two cottages within 250m of the site, approximately 200m east of the site boundary, south of Halesworth Road.</p>
17. To meet the housing needs of the population	+	+	There are no adopted or draft plan proposals that conflict with the proposed sites. At the time of writing there are no known planning applications which affect the sites.
18. To minimise production of noise at quarries	?	+	<p>Hill Farm – The proposal will require standard mitigation measures such as the use of earth screening bunds. Additional standoff buffer areas will be required at Hill Farm.</p> <p>Southern Extension – The proposal will require standard mitigation measures such as the use of earth screening bunds.</p>
19. To maintain and improve recreation and amenity	+	+	No public rights of way or bridleways are affected.

SA Objectives	Sustainability Impact		Commentary
	Hill Farm (WA1)	Southern Extension (WA2)	
20. To protect and enhance human health and wellbeing	+	+	Aside from those impacts identified above (Sustainability Objective 16), there are no additional identified impacts on human health and well-being.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	0	0	The Site Assessment Report indicates that 3 jobs would be safeguarded.
22. To maintain/improve existing infrastructure	N/A	N/A	N/A
23. Promote sustainable investment in the County	0	0	The proposals are temporary with no proposed conflict with any identified investment opportunities or employment allocations.
24. To promote efficient movement patterns in the County (where possible)	?	?	The sites are located to the north of the existing processing plant site. The existing processing plant site access utilizes the U1628 to the A12, which is classed as a Strategic Lorry Route in the Suffolk Lorry Route Network. May require a contribution towards replacement of the bridge.

Wordwell Quarry

Table 74: Site appraisal: Wordwell Quarry

SA Objectives	Sustainability Impact	Commentary
Environmental		
1. To maintain or improve quality of surface water and groundwater	?	The site is not within a Source Protection Zone; however it is within a principle chalk aquifer.
2. To maximise the efficient use of water	N/A	N/A

SA Objectives	Sustainability Impact	Commentary
3. To maintain/improve soil quality/resources	+	The site is within Grade 4 agricultural land.
4. To maintain/improve the quality and local distinctiveness of landscapes/townscapes	--	The proposal would result in the loss of the long-established river valley environment within a designated Special Landscape Area.
5. To reduce greenhouse gas emissions and enhance energy efficiency	0	No impact identified at this stage. Impacts would only be identifiable at the planning application stage and in adherence to relevant Plan policies.
6. To conserve/enhance biodiversity or geodiversity	--	The site lies adjacent to Breckland Farmland SSSI and Breckland SPA, which are sensitive to nitrogen deposition. There is the potential for significant adverse impacts upon nature conservation interest including Breckland SPA, Breckland Forest SSSI, Thetford Forest CWS, Culford Park and Lake, RNR, SWT Reserve, European Protected Species (Bats), Priority BAP Species, Other Protected Species (Stone Curlew, Woodlark, Nightjar), Priority Habitats. There is a threat of loss of existing flora and fauna within the river valley environment that are not found the wider dryer surrounding area.
7. To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings	--	The site is within 150m of a Grade I Listed Building. The site also has an extremely high potential for heritage assets with archaeological interest relating to a wide range of periods. Substantial evidence for occupation of later prehistoric, Roman, Anglo-Saxon and Medieval date (WSW 026, WRW 061), from the vicinity, and derived principally from artefact scatters and metal-detecting finds, is recorded on the County Historic Environment Record database (HER) and national PAS database. The very large numbers of finds and extensive spread across fields to both east and west of the proposed extraction site, is suggestive of substantial Roman to Medieval settlement, which may include structural remains and cemeteries. A deserted Medieval Village (WRW 003) is recorded immediately east of All Saints church, and the line of a Roman Road (WSW 069) forms the southern boundary of part of the site, and crosses the south-west quadrant.
8. To minimise flood risk	-	The site contains a significant percentage of the overall site size that is Flood Risk Zone 3 at the western boundary, with smaller areas of Flood Risk Zone 2.

SA Objectives	Sustainability Impact	Commentary
9. To minimise effects of traffic on the environment	0	It is considered unlikely that additional traffic generated by the proposed extraction site will significantly increase local pollutant concentrations.
10. To maintain / improve air quality	+	Air Quality near the site is currently good; the closest Air Quality Management Area is located approximately 19.5km southwest of the site; in Newmarket.
11. Promote effective restoration and appropriate after-use of sites	-	Restoration would be to agriculture at a lower level than those currently. This has been assessed as having negative impacts associated with the current landscape designation.
12. Avoid sterilisation of minerals resources	N/A	N/A
13. Promote sustainable economic use of natural resources	++	The site is proposed for minerals extraction.
14. Ensure a steady and adequate supply of minerals to meet the needs of the society	++	The site is proposed for minerals extraction.
15. To move treatment of waste up the waste hierarchy	?	Restoration would be at a lower level, with comparatively less landfilling of material than would otherwise be expected from restoration to original levels. This adheres to the notion of moving the treatment of waste up the waste hierarchy.

Social

16. To minimise the impacts arising from the minerals and waste developments on where people live	?/-	A number of residential properties lie within 250m of the proposed site boundary. This includes properties to the North of Ingham road which are bounded to the northeast and northwest by the proposed quarry site.
17. To meet the housing needs of the population	+	There are no adopted plan proposals that conflict with the proposed site. There are no planning applications that conflict with the proposed site.
18. To minimise production of noise at quarries	?	Assuming standard mitigation measures such as the use of earth screening bunds along with an additional stand-off buffer.



SA Objectives	Sustainability Impact	Commentary
19. To maintain and improve recreation and amenity	--	The proposed site severs two public footpaths. This affects Wordwell FP3/West Stow FP1 and Wordwell FP2/ West Stow FP4. These are keen links to the east of the forest and linking to Wordwell church.
20. To protect and enhance human health and wellbeing	+	Aside from those impacts highlighted above (Sustainability Objective 16) there are no additional impacts expected regarding human health or wellbeing.

Economic

21. To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment	+	The Site Assessment Report indicates that there would be 6 jobs created.
22. To maintain/improve existing infrastructure	N/A	N/A
23. Promote sustainable investment in the County	0	The proposal is for a temporary mineral extraction with no conflicts between identified investment opportunities of allocated employment land.
24. To promote efficient movement patterns in the County (where possible)	?	The proposed road access to the site would utilise the C631 which is not part of the Suffolk Lorry Route Network to access the A1101. When travelling along the C631 the, quarry traffic would pass the West Stow Country Park and some isolated residential properties.

11. Cumulative Impacts of the Local Plan Allocations

11.1 Introduction

This section explores the cumulative and synergistic impacts of the Plan's site allocations. For the purposes of identifying these impacts, groups of sites have been looked at on a thematic basis relating to the Sustainability Objective topics.

The conclusions section of this report outlines any general thematic issues arising from the Plan's preferred site allocations as a whole.

11.2 The Preferred Site Allocations

The preferred site allocations are broadly sufficiently distanced in line with the Spatial Strategy of Policy GP3. Despite this, there are two broad areas which experience more than a single site allocation in relatively close proximity that may give rise to cumulative impacts. These are:

- The north / north-west of the County: Allocations for mineral extraction at WO1 - Worlington (quarry extensions), CA1, CA2, CA3 - Cavenham (quarry extensions / waste management) and WS1 - Sizewell A Nuclear Power Station (management of waste arising from the decommissioning of Sizewell A together with other waste from sister stations); and
- South west of Ipswich: Allocations for mineral extraction at BS1 - Belstead (land at Brockley Wood), TA1 - Tattingstone (Folly Farm) and WH1 - Wherstead (Pannington Hall Quarry).

The following section explores the cumulative impacts of the Plan's preferred allocations in these broad areas, per Sustainability Objective / theme.

11.3 The Cumulative and Synergistic Impacts of the Plan's Allocations

11.3.1 The North West of the County (WO1, CA1, CA2, CA3 & WS1)

Table 75: Cumulative Impacts of Site Allocations WO1, CA1, CA2, CA3 & WS1

Sustainability Objective	Site Allocation						
	CA 1	CA 2	CA 3	WO1(a)	WO1(b)	WO1(c)	WS1
1 – Surface water / groundwater	-	-	-	?	?	?	-
2 – Water use	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3 – Soils	?/+	?/+	?/+	+	+	+	+
4 – Landscape / townscape	?	?	0	?	?	?	?/-
5 – Emissions / energy efficiency	0	0	0	0	0	0	0
6 – Biodiversity / Geodiversity	-	-	-	-	-	-	?
7 – Historic environment	-	-	0	?	?	?	?/-
8 – Flood risk	-	-	-	?	0	0	?
9 – Traffic impacts	0/?	0/?	0/?	0	0	0	0
10 – Air quality	+	+	+	+	+	+	+
11 – Restoration / after use	++	0	++	+	+	+	0
12 – Mineral resources	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13 – Economic use of resources	++	+	0	++	++	++	0
14 – Minerals supply	++	0	0	++	++	++	0
15 – Waste	-	++	-	?/-	?/-	?/-	?/-
16 – Public nuisance	?/-	?	?/-	+	+	+	+
17 – Housing needs	+	+	+	+	+	+	+
18 – Noise	?	?	?	+	+	+	+

Sustainability Objective	Site Allocation						
	CA 1	CA 2	CA 3	WO1(a)	WO1(b)	WO1(c)	WS1
19 – Recreation & amenity	?/-	?/-	?/-	+	+	+	?/-
20 – Health and well-being	+	+	+	+	+	+	+
21 – Economic growth / jobs	+	+	+	0	0	0	+
22 - Infrastructure	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23 – Investment	0	0	0	?	?	?	0
24 – Transport	+	+	+	?/-	?/-	?/-	+

Sustainability Objective 1: To maintain or improve quality of surface water and groundwater

The Cavenham proposals are within Source Protection Zones 1 and 3, and the Worlington proposals are within principle and secondary aquifers. From a broad strategic point of view, there are not considered to be any cumulative or synergistic impacts regarding this Sustainability Objective for the allocations in the north west of the County.

No impact

Sustainability Objective 2: To maximise the efficient use of water

At this stage, and relevant to the strategic purpose of allocating land within a Local Plan, there is not a suitable amount of information regarding the use of water submitted alongside proposals to assess proposals against this Sustainability Objective. It is also considered that there would be no cumulative impacts associated with water use as these would be more relevant to individual planning applications, and not related to the principle of development on the land submitted. As such, no cumulative impacts are highlighted.

No impact

Sustainability Objective 3: To maintain/improve soil quality/resources

The quality of soils in both allocations (and all proposed extensions and uses within these areas), is highlighted as being of low quality. The Worlington proposals are within Grade 4 agricultural land and the Cavenham proposals are in Grade 3 agricultural land. There will be no cumulative or synergistic impacts associated with the loss of the best and most versatile agricultural land in the north west of the County as a result of these allocations.

No impact



Sustainability Objective 4: To maintain / improve the quality and local distinctiveness of landscapes/ townscapes

The Plan's Site Assessment Reports indicate that are different sensitive features relevant to those proposals at Cavenham and Worlington. Uncertain impacts are highlighted for each individually, however Cavenham's potential impacts relate to the Brecks, whilst Worlington's are less holistic and related to individual features on the sites proposed. The Site Assessment Reports also indicate that in each case, suitable mitigation would be capable. As such no cumulative impacts have been highlighted resulting from the Plan's allocation in the south west of the County.

No impact

Sustainability Objective 5: To reduce greenhouse gas emissions and enhance energy efficiency

At this stage, and relevant to the strategic purpose of allocating land within a Local Plan, there is not a suitable amount of information regarding energy efficiency measures submitted alongside proposals to assess proposals against this Sustainability Objective. It is also considered that there would be no cumulative impacts associated with energy efficiency as these would be more relevant to individual planning applications, and not related to the principle of development on the land submitted. As such, no cumulative impacts are highlighted.

No impact

Sustainability Objective 6: To conserve/enhance biodiversity or geodiversity

At this stage and at the broad strategic level it is difficult to identify any specific cumulative impacts regarding biodiversity / geodiversity that could be apparent cumulatively through these site allocations. Nevertheless, negative individual impacts are highlighted for all proposals in this broad area, regarding potential impacts on the Breckland SPA and the Breckland SAC. This identified, significant negative impacts can not be ruled out cumulatively and a precautionary approach should be adopted in this SA and the assessment of environmental effects. The Plan's Habitats Regulation Assessment (HRA) indicates that there would be no likely significant effects resulting from the Plan as a whole (including site allocations), however indicates that project-level HRA would be needed of individual proposals at the planning application stage.

**Potential
for
significant
negative
impacts**



Sustainability Objective 7: To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings

Neither collection of sites at Cavenham and Worlington has been identified as having impacts on Historic Buildings. Regarding archaeology, both sites have been identified as having potential impacts on below ground deposits; however neither has been identified as being a specific barrier to development on the site boundaries submitted. The potential issues highlighted for each group of sites are not related, as indicated by the individual assessments. As such, no cumulative impacts have been highlighted.

No impact

Sustainability Objective 8: To minimise flood risk

The Cavenham proposals include a small percentage of Flood Risk Zones 2 and 3 within the proposed site areas. Of the Worlington site proposals, only Site 20a (WO1(b)) includes any potential flood risk issues associated with a water body on site. These identified water bodies are not interlinked. There will be no cumulative impacts regarding the Plan's allocations in the north west of the County, where mitigation (if needed) will be required on a site by site basis.

No impact

Sustainability Objective 9: To minimise effects of traffic on the environment

There will be no cumulative impacts on the environment associated with traffic movements at Worlington and Cavenham in accumulation. Despite this, there may be cumulative impacts associated with those proposals at Cavenham (CA1, CA2 and CA3 unison) should this combination of sites exceed 100 movements a day. For this reason, uncertain impacts are associated with the Cavenham sites and highlighted within this cumulative impact assessment. It should be noted however that any permissions regarding these proposals would have to adhere to the Plan's General Environmental Criteria policy (GP4) and site assessment policies which address transport and access and air quality, as well as national requirements for supplementary information regarding transport assessments.

**Uncertain
Impacts**

Sustainability Objective 10: To maintain/ improve air quality

Aside from those potential air quality impacts associated with Sustainability Objective 9, there will be no holistic / cumulative impacts associated with Air Quality Management Areas. This is due to both groups of sites being suitably distanced from any such designations and also their location to the Suffolk Lorry Route Network.

No Impact



Sustainability Objective 11: Promote effective restoration and appropriate after-use of sites

The Cavenham sites related to mineral extraction and infilling have been assessed as having a significant positive impact on restoration, with proposals intended to ensure biodiversity gain. The Worlington sites have been identified as being restored to agriculture to near original ground levels. These have been assessed as having positive impacts. There are no apparent positive impacts associated with these restoration proposals cumulatively, due to the different intentions regarding after use. There is the potential for minor positive cumulative impacts through both schemes committing to restore voids for biodiversity gain and contributing to wider Green Infrastructure networks, however this is no criticism of the Worlington proposals.

No impact

Sustainability Objective 12: Avoid sterilisation of minerals resources

The nature of minerals and waste development being proposed in a single Plan is such that the sterilisation of resources is avoided at the Plan level. For that reason no impacts have been highlighted for all proposals individually and cumulatively.

No impact

Sustainability Objective 13: Promote sustainable economic use of natural resources

The nature of minerals and waste development is such that the sustainable economic use of natural resources is ensured. For that reason, there will be positive impacts associated with the majority of mineral extraction activities as well as those that seek to move the treatment of waste up the waste hierarchy, primarily regarding recycling and re-use. Cumulatively however there are no location specific benefits identified through any specific allocations, with impacts more appropriate to identify at the whole Plan level.

No impact

Sustainability Objective 14: Ensure a steady and adequate supply of minerals to meet the needs of the society

There will be positive impacts associated with those proposals that are associated with mineral extraction at both locations.

**Positive
Impacts**

Sustainability Objective 15: To move the treatment of waste up the waste hierarchy

The proposals in the north west of the County involve both mineral extraction and waste management in the form of an inert waste recycling and treatment at Cavenham (CA2). This latter mentioned proposal can be seen to actively move the

No impact



treatment of waste up the waste hierarchy; however the restoration proposals of other specific site proposals, in addition to the infilling (disposal) operations at Cavenham (CA3) can be seen to ensure that inert waste is not recycled or re-used. That identified, there are no perceived impacts resulting from infilling at the sites cumulatively. There will therefore be no cumulative impact resulting from the proposals in the north west of the County. Adherence to this Sustainability Objective is more relevantly explored of the Plan as a whole.



Sustainability Objective 16: To minimise the impacts arising from the minerals and waste developments on where people live

The individual site assessments of those proposals at Worlington identify that there are no residential properties within 250 metres of the site boundaries in all instances. Potential negative impacts have been highlighted for those proposals at Cavenham however, with those sites promoted for mineral extraction and infilling in particular being less than 250 metres from some residential properties. Despite this, these two proposals are unlikely to impact on the same properties due to their location within the wider site area. Nevertheless, this SA takes a precautionary approach and uncertain cumulative impacts are highlighted at this stage. It should be noted however that in each instance, the Site Assessment Report indicates that suitable mitigation is possible with bunding and stand-off buffers in all instances and on an individual site by site basis. This is also extended to the relevant site allocation policies within the Plan.

**Uncertain
impacts**

Sustainability Objective 17: To meet the housing needs of the population

There are no adopted plan proposals that conflict with any of the proposed sites. At the time of writing there are also no known planning applications which affect any of the proposed sites at both locations. As such, no cumulative impacts have been highlighted.

No impact

Sustainability Objective 18: To minimise production of noise at quarries

Regarding the Worlington extension proposals, the individual site appraisals state that assuming standard mitigation measures are incorporated, such as the use of earth screening bunds, then these sites will be acceptable. This indicates that there will be no impacts cumulatively with each other or in consideration of the Cavenham proposals. Regarding the Cavenham proposals, it has been identified that stand-off buffers will be required for all proposals, with no identified cumulative effects. It should be additionally noted that any impacts identified individually have been assessed without the consideration of any policy requirements of the Plan. Planning permission is unlikely to be granted without the mitigation of such impacts

No impact



as identified in Policy GP4 and the relevant site allocation policies within the Plan.



Sustainability Objective 19: To maintain and improve recreation and amenity

There are no impacts related to the proposals at Worlington, with no Public Rights of Way, bridleways or by-ways identified on or in close proximity to any of the sites. Regarding Cavenham, a byway exists on and in close proximity to the wider site which should be retained on its definitive alignment with the southern end should be fenced from the rest of the site. This does not relate however to the sites in unison, and so cumulative impacts are not identified related to this Sustainability Objective.

No impact

Sustainability Objective 20: To protect and enhance human health and wellbeing

Aside from the impacts and measures outlined above (Sustainability Objectives 16 and 18), there are not anticipated to be any additional impacts on human health and well-being associated with the current operational status of the two broad site locations or any of the extensions / proposals associated with them. As such, no cumulative impacts have been highlighted.

No impact

Sustainability Objective 21: To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment

The site proposals are unlikely to create a significant amount of new employment opportunities through their operation individually or cumulatively in the local area. Although a small amount of jobs will be created, no cumulative impacts are highlighted for this Sustainability Objective.

No impact

Sustainability Objective 22: To maintain/improve existing infrastructure

The Sustainability Appraisal Framework for site appraisals highlights that this Sustainability Objective is not considered relevant to the assessment of site proposals. As such, no cumulative impacts are highlighted.

No impact

Sustainability Objective 23: Promote sustainable investment in the County

The site proposals are not expected to have any significant impacts on investment in the County due to their temporary nature, relevant to mineral extraction. The Worlington proposals have been highlighted as potentially conflicting with a potential future route for a Mildenhall bypass. This area has been flagged up by West Suffolk planners as an area of interest in the past for the relief road corridor.

**Uncertain
impacts**

Overall, uncertain impacts have been highlighted for this Sustainability Objective.



Sustainability Objective 24: To promote efficient movement patterns in the County (where possible)

The distance between the two sites indicates that there would be no cumulative impacts associated with access or increases in traffic flows from the proposals at Cavenham and Worlington.

No impact

11.3.2 South West of Ipswich (BS1, TA1 & WH1)

Table 76: Cumulative Impacts of Site Allocations BS1, TA1 & WH1

Sustainability Objective	Site Allocation		
	BS1	TA1	WH1
1 – Surface water / groundwater	?	0	?
2 – Water use	N/A	N/A	N/A
3 – Soils	?/-	+	?
4 – Landscape / townscape	?	-	-
5 – Emissions / energy efficiency	0	0	0
6 – Biodiversity / Geodiversity	?	-	-
7 – Historic environment	-	?	?
8 – Flood risk	?	0	0
9 – Traffic impacts	0	0	?/-
10 – Air quality	+	+	+
11 – Restoration / after use	+	++	+
12 – Mineral resources	N/A	N/A	N/A
13 – Economic use of resources	++	++	++
14 – Minerals supply	++	++	++

Sustainability Objective	Site Allocation		
	BS1	TA1	WH1
15 – Waste	?/-	?/-	?/-
16 – Public nuisance	?/-	?	+
17 – Housing needs	+	?	+
18 – Noise	?	+	+
19 – Recreation & amenity	+	?/-	-
20 – Health and well-being	+	+	+
21 – Economic growth / jobs	+	0	+
22 - Infrastructure	N/A	N/A	N/A
23 – Investment	0	0	0
24 – Transport	?	?	+

Sustainability Objective 1: To maintain or improve quality of surface water and groundwater

The Belstead proposal is within Source Protection Zone 2, however there are no groundwater issues surrounding the Tattingstone proposal. Regarding the Wherstead allocation, the Site Assessment Report (for the site) indicates that during excavation there is likely to be a risk to groundwater and controlled water. For these reasons, uncertain impacts have been highlighted the first and latter of these sites individually. From a broad strategic point of view, there are not considered to be any cumulative or synergistic impacts regarding this Sustainability Objective for these allocations, however it is recommended that the Environment Agency are consulted to offer further guidance on any possible impacts on a more detailed site level.

No impact

Sustainability Objective 2: To maximise the efficient use of water

At this stage, and relevant to the strategic purpose of allocating land within a Local Plan, there is not a suitable amount of information regarding the use of water submitted alongside proposals to assess proposals against this Sustainability Objective. It is also considered that there would be no cumulative impacts associated with water use as these would be more relevant to individual planning

No impact



applications, and not related to the principle of development on the land submitted. As such, no cumulative impacts are highlighted.



Sustainability Objective 3: To maintain/improve soil quality/resources

The quality of soils in Tattingstone and Wherstead is highlighted as being of relatively low quality (Grade 4 and Grade 3 respectively). The Belstead allocation however is within Grade 2 agricultural land. There will be no cumulative or synergistic impacts associated with the loss of the best and most versatile agricultural land in the north west of the County as a result of these allocations.

No impact

Sustainability Objective 4: To maintain / improve the quality and local distinctiveness of landscapes/ townscape

The Plan's Site Assessment Reports indicate that are different sensitive features relevant to the proposal at Belstead and those at Tattingstone and Wherstead. Uncertain impacts are highlighted for Belstead and negative impacts for Tattingstone and Wherstead due to their location within a (and the same) Special Landscape Area. In response to these impacts at Tattingstone and Wherstead, and the need to assess impacts in this SA on a 'policy off' basis for comparison purposes, negative impacts have been highlighted for the implications on landscape in this broad area, although these should not be significant in terms of the lifespan of activity in each instance. In response to this, it should be noted that these impacts are only temporary, in line with the life of the extraction activities. Long term landscape impacts are more relevant for discussion below in regard to restoration proposals (Sustainability Objective 12).

Negative impacts

Sustainability Objective 5: To reduce greenhouse gas emissions and enhance energy efficiency

At this stage, and relevant to the strategic purpose of allocating land within a Local Plan, there is not a suitable amount of information regarding energy efficiency measures submitted alongside proposals to assess proposals against this Sustainability Objective. It is also considered that there would be no cumulative impacts associated with energy efficiency as these would be more relevant to individual planning applications, and not related to the principle of development on the land submitted. As such, no cumulative impacts are highlighted.

No impact



Sustainability Objective 6: To conserve/enhance biodiversity or geodiversity

At this stage and at the broad strategic level it is difficult to identify any specific cumulative impacts regarding biodiversity / geodiversity that could be apparent cumulatively through these site allocations. Negative individual impacts are highlighted for all of the allocations identified in this broad area. Belstead has uncertain impacts associated with the Brockley and Old Hall Woods CWS, as well as protected species and habitats. Tattingstone has negative impacts due to potential effects on the Stour & Orwell SPA, the Stour Estuary SSSI, the Brantham Bridge Meadows CWS, and protected species. Wherestead has negative impacts due to potential effects on the Freston and Cutler's Wood SSSI, CWS ancient woodland and protected species. At this stage negative impacts can not be ruled out cumulatively and a precautionary approach has been adopted in this SA and the assessment of environmental effects. The Plan's Habitats Regulation Assessment (HRA) indicates that there would be no likely significant effects resulting from the Plan as a whole (including site allocations), however indicates that project-level HRA would be needed of individual proposals at the planning application stage.

Negative impacts

Sustainability Objective 7: To preserve or enhance historical buildings/sites, archaeological sites and other culturally important buildings

Although a Grade II* listed building (Bentley Hall) would require further assessment associated with the Belstead allocation, neither of the other allocations in this broad area have been identified as having impacts on Historic Buildings. Regarding archaeology, all sites have been identified as having potential impacts on below ground deposits; however none have been identified as being a specific barrier to development on the site boundaries submitted. The potential issues highlighted for each group of sites are not related, as indicated by the individual assessments. As such, no cumulative impacts have been highlighted.

No impact

Sustainability Objective 8: To minimise flood risk

All of the sites are within Flood Risk Zone 1, although the Belstead site does include a drain associated with the A12. There will be no cumulative impacts regarding the Plan's allocations in this broad area.

No impact



Sustainability Objective 9: To minimise effects of traffic on the environment

As existing extraction sites, this combination of sites is not considered to have any significant increase in HGV movements as a result of allocated extensions. Allocations at Belstead and Tattingstone are not perceived to have any individual impact; however Wherstead may see an increase in HGV movements beyond those that currently exist. It is however understood that extraction will follow on from the permitted workings, and therefore this is unlikely to be the case. There will therefore be no cumulative impact on this Sustainability Objective, with any impacts being associated with the proposal at Wherstead alone.

No Impact

Sustainability Objective 10: To maintain/ improve air quality

Aside from those potential air quality impacts associated with Sustainability Objective 9, there will be no holistic / cumulative impacts associated with Air Quality Management Areas. This is due to both groups of sites being suitably distanced from any such designations and also their close proximity to the Suffolk Lorry Route Network.

No impact

Sustainability Objective 11: Promote effective restoration and appropriate after-use of sites

All the sites in this broad area are allocated for mineral extraction. The Belstead allocation has been assessed as having a significant positive impact on restoration, with proposals intended to ensure biodiversity gain. The Tattingstone site has been identified as being restored to agriculture as has the Wherstead allocation. These have been assessed as having positive individual impacts. There are no apparent positive impacts associated with these restoration proposals cumulatively, due to the different intentions regarding after use. There is the potential for minor positive cumulative impacts through all schemes committing to restore voids for biodiversity gain and contributing to wider Green Infrastructure networks, however this is not a criticism of either the Tattingstone or Wherstead Worlington proposals.

No impact

Sustainability Objective 12: Avoid sterilisation of minerals resources

The nature of the minerals extraction allocations in a plan-led system is such that the sterilisation of resources is avoided. For that reason no impacts have been highlighted for all proposals individually and cumulatively.

No impact



Sustainability Objective 13: Promote sustainable economic use of natural resources

The nature of minerals and waste development is such that the sustainable economic use of natural resources is ensured. For that reason, there will be positive impacts associated with the majority of mineral extraction activities as well as those that seek to move the treatment of waste up the waste hierarchy, primarily regarding recycling and re-use. Cumulatively however there are no location specific benefits identified through any specific allocations, with impacts more appropriate to identify at the whole Plan level.

No impact

Sustainability Objective 14: Ensure a steady and adequate supply of minerals to meet the needs of the society

There will be positive impacts associated with those proposals that are associated with mineral extraction at all locations / allocations.

**Positive
Impacts**

Sustainability Objective 15: To move the treatment of waste up the waste hierarchy

All three of the allocations are for mineral extraction and with that in mind this Sustainability Objective is largely not relevant. Despite this, in order to capture themes of sustainability, assessment against this objective incorporates where the inert wastes will come from in order to restore the subsequent voids. With this in mind, there can be perceived negative impacts associated with the importation of waste for backfilling purposes in two of three sites in this broad area (with the exception of Tattingstone which will use silt as a reject material from prior extraction activity) however this is not an effect that is relevant to specific areas within the County and is instead an inevitable factor of all mineral development.

No impact

Sustainability Objective 16: To minimise the impacts arising from the minerals and waste developments on where people live

The individual site assessment of those proposals at Wherstead identifies that there are no residential properties within 250 metres of the site boundary. Potential negative impacts have been highlighted for the proposal at Belstead however, with the site being less than 250 metres from some residential properties, the closest being 100m from the site. Uncertain impacts are highlighted for the proposal at Tattingstone, with again a number of residential properties within 250m of the site boundary/proposed access road however some screening exists. Regarding these two latter site allocations, it is unlikely that proposals will impact on any of the same properties due to their location within the wider site area. There will therefore be no cumulative impacts at this stage. It should be noted that in each instance, the Site Assessment Report indicates that suitable mitigation is possible with bunding and stand-off buffers in all instances and on an individual site by site basis, with

No impact



additional monitoring required at Belstead.



Sustainability Objective 17: To meet the housing needs of the population

At Tattingstone, a proposed site has been submitted at Tattingstone Heath through a call-for-sites to be considered for allocation within the Babergh and Mid Suffolk Local Plan. This site is in proximity to the proposed quarry extension, however is not allocated at this stage. Regarding the Plan allocations at Belstead and Wherstead, there are no adopted plan proposals that conflict with any of the proposed sites. At the time of writing there are also no known planning applications which affect any of the proposed sites at both locations. As such, no cumulative impacts have been highlighted.

No impact

Sustainability Objective 18: To minimise production of noise at quarries

Regarding the Tattingstone and Wherstead proposals, the individual site appraisals state that assuming standard mitigation measures are incorporated, such as the use of earth screening bunds, then these sites will be acceptable. This indicates that there will be no impacts cumulatively with each other. Regarding the Belstead proposal, it has been identified that a stand-off buffer will be required and this is extended to the relevant site allocation policies. The sites are not expected to have any cumulative impacts. It should be noted that any planning permission is unlikely to be granted without the mitigation of noise impacts as identified in Policy GP4.

No impact

Sustainability Objective 19: To maintain and improve recreation and amenity

There are no impacts related to the proposal at Belstead, with no Public Rights of Way, bridleways or by-ways identified on or in close proximity to any of the sites. Uncertain and uncertain/negative impacts have been highlighted individual for Wherstead and Tattingstone associated with potential impacts on a number of Public Rights of Way (PRoW). Although no specific impacts from both sites relate to any single PRoW, the wider network could be affected should any temporary extinguishment orders be sought or any PRoW require diversion. For this reason, uncertain cumulative impacts have been highlighted regarding this Sustainability Objective.

Uncertain impact

Sustainability Objective 20: To protect and enhance human health and wellbeing

Aside from the impacts and measures outlined above (Sustainability Objectives 16 and 19), there are not anticipated to be any additional impacts on human health and well-being associated with the current operational status of the broad site

No impact



allocations or any of the extensions / proposals associated with them. As such, no cumulative impacts have been highlighted.



Sustainability Objective 21: To achieve sustainable levels of prosperity and economic growth and offer everyone an opportunity for employment

The site proposals are unlikely to create a significant amount of new employment opportunities through their operation individually or cumulatively in the local area. Although a small amount of jobs will be created, no cumulative impacts are highlighted for this Sustainability Objective.

No impact

Sustainability Objective 22: To maintain/improve existing infrastructure

The Sustainability Appraisal Framework for site appraisals highlights that this Sustainability Objective is not considered relevant to the assessment of site proposals. As such, no cumulative impacts are highlighted.

No impact

Sustainability Objective 23: Promote sustainable investment in the County

The site proposals are not expected to have any significant cumulative impacts on investment in the County.

No impact

Sustainability Objective 24: To promote efficient movement patterns in the County (where possible)

The access arrangements of the three sites in this broad area are such that no distributing roads would serve more than one site. As such there are unlikely that there would be any cumulative impacts associated with access, however it is possible that those allocations at Tattingstone and Wherstead would increase traffic flows on the A137.

No impact

12. Conclusions and Recommendations

12.1 Introduction

This section explores the overall impacts of the Plan's policy content and site allocations. This includes minerals policy, waste policy and the allocation of both small sites and large sites for minerals excavation and waste disposal.

This section draws upon the cumulative assessment of all of the above parts of the Plan. With this in mind, it can be representative of the sustainability of the Plan as a whole. Impacts are identified for each of this SA's Sustainability Objectives, which have been identified as relevant to the county's characteristics, and also the context of the Plan that this SA appraises. Recommendations are also made, per sustainability objective / theme.

12.2 Impacts per Sustainability Objective / Theme

12.2.1 Surface water and groundwater

- The Plan has been identified as having **negative impacts** on groundwater associated with the allocation of a number of sites within Source Protection Zones. Impacts are not significant however, through such requirements to address such impacts being prevalent in relevant site allocation policies.

12.2.2 Water use

- There are **no impacts** emanating from the Plan regarding the sustainable use of water resources. It is considered that this issue is more relevant to the operation of permanent facilities and the detailed planning applications submitted to the Minerals and Waste Planning Authority.

12.2.3 Soil quality

- The Plan does not make any significant commitments to the protection of the best and most versatile agricultural land and as such there will be **uncertain impacts** at this stage. This is understandable however, where mineral deposits lie where they exist and in consideration of the constraints within the County surrounding ecological designations such as SSSIs and inland Natura 2000 sites.

12.2.4 Landscapes

- The Plan's policies will have **positive long term outcomes** regarding landscapes and biodiversity, due to the enhancements that are encouraged through such activities in the long term associated with aspirations regarding restoration.

- A number of negative impacts are associated with the Plan's site allocations regarding Special Landscape Areas and in some cases Areas of Outstanding Natural Beauty. For this reason, **negative effects** can not be ruled out at this stage. It should be noted however that a number of the site allocation policies include specific measures as to the mitigation measures needed for each allocation, where relevant.

12.2.5 Energy efficiency

- There are **no impacts** emanating from the Plan regarding energy efficiency. It is considered that this issue is more relevant to the operation of permanent facilities and detailed planning applications submitted to the Minerals and Waste Planning Authority.

12.2.6 Biodiversity / geodiversity

- In the absence of any specific policy regarding biodiversity that sets out the requirements for forthcoming applications, **uncertain impacts** arise from the Plan's policies in general. Regarding sites, **negative impacts** can not be ruled out cumulatively following a precautionary approach adopted in this SA regarding the assessment of such environmental effects. The Plan's Habitats Regulation Assessment (HRA) does not highlight any likely significant effects on Natura 2000 sites, provided that project-level HRA is undertaken on a number of qualifying sites. This is pertinent in additional consideration of high growth in the County in line with the need for district level development plans to objectively assess their housing needs; there could be some significant in-combination effects as a result.

12.2.7 The historic environment

- The protection of the historic environment is sought within the Plan's general environmental criteria policy (GP4) and is a key consideration in the selection of sites as demonstrated in a series of Site Assessment Reports that form part of the Plan's evidence base. The SA identifies a number of positive impacts within the assessment of the Plan's policies, however many of these can be considered secondary. The Plan at this stage introduces a number of site allocation specific requirements regarding archaeology, however further work might be required of developers in submitting planning applications that identifying and where relevant mitigate impacts on historic assets and their settings. As such there are **uncertain impacts** as a result of the Plan as a whole.

12.2.8 Flood risk

- The Plan does not specifically include a policy regarding flood risk, and as such the impacts are not considered to be significantly positive. Despite this, flood risk is included within the general environmental criteria policy (GP4) and national policy further includes a planning context as to what is and what is not acceptable. The Plan's site assessment methodology, as evidenced by Site Assessment Reports for

all allocated and non-allocated sites submitted for consideration includes flood risk as a key consideration. General **positive impacts** have been highlighted for the Plan as a whole regarding minimising flood risk.

12.2.9 Traffic impacts on the environment

- The Plan seeks to minimise traffic impacts on the environment and the SA identifies a number of positive impacts regarding this Sustainability Objective in the assessment of the Plan's policies. The Plan's site assessment methodology factors in expected HGV movements and the traffic impacts of each individual proposal / allocation. Further sustainable transport modes are promoted and safeguarded where necessary. There will be **positive impacts** resulting from the Plan as a whole on the minimisation of traffic impacts on the environment.

12.2.10 Air quality

- The Plan's policies have been identified as having **uncertain impacts** regarding air quality. It should be noted that this SA identifies such impacts, related to vehicle emissions specifically, as predominantly associated with the cumulative effects of co-locating waste management facilities in industrial areas, landfill sites during restoration or existing mineral extraction sites. This may see increases in HGV movements in those areas that already experience HGV movements; however these impacts should be balanced with a requirement to minimise impacts throughout the Plan and utilise existing infrastructure.

12.2.11 Restoration and after-use

- The Plan will have **significant positive impacts** on restoration and after-use by encouraging biodiversity gain and where this is not viable a return to agriculture. The Plan's allocations can be seen as having broadly positive impacts regarding aspirations surrounding restoration and after-use.

12.2.12 Avoiding the sterilisation of mineral resources

- The Plan includes mechanisms to safeguard deposits and includes safeguarded existing facilities within the policy map. Policy exists to further safeguard the Plan's allocations. There will be **significantly positive impacts** regarding avoiding the sterilisation of mineral resources.

12.2.13 Economic use of natural resources

- **Positive impacts** have been identified throughout the Plan regarding the economic use of resources both in the nature of mineral planning and also waste, associated with a high-level focus on recycling and re-use and moving the treatment of waste up the waste hierarchy.

12.2.14 Minerals supply

- There will be **significant positive impacts** regarding increasing minerals supply. This is in line with the County's growth needs through a number of flexible and pragmatic policies regarding extraction. Forecasts in supply over the plan period are in alignment with the required methodologies of national guidance. The Plan's site allocations adhere to ensuring a consistent supply of minerals over the Plan period in line with the supply figure identified in Policy MP1 including a sufficient buffer or 'safety margin' of 31%.

12.2.15 The waste hierarchy

- Only a single new waste management facility (Sizewell A Nuclear Power Station) is identified within the Plan in line with there being no identified capacity gap for the treatment of many wastes in the plan area. Despite this, co-located facilities with are supported in many instances in line with the lifetime of minerals operations, including allocated waste management facilities at Cavenham. Impacts on this Sustainability Objective are not significantly positive regarding the Plan's waste management policies due to the inherent need to backfill mineral voids to restore landscapes, although it should be noted that the Plan's waste policies do seek to minimise disposal in favour of recycling and re-use in the first instance. There will be **positive impacts** on this objective overall.

12.2.16 Impacts on the public

- The policy appraisals in this SA indicate that there will be **no impacts** on the majority of the social objectives in line with a desire to minimise impacts in the first instance, and also promote effective co-location through a series of Policy approaches for different facility types and minerals and waste development in general. This stance on minimisation rather than avoidance reflects the fact that much mineral and waste development is likely to have some degree of perceived negative impact on where people live, is carried forward within the Plan's site allocations, with no negative impacts highlighted within this SA and the ease of effective mitigation factored into the site selection process.

12.2.17 Meeting housing needs

- The Plan rightly focuses on the interests of waste management and ensuring minerals supply throughout the Plan period. This primarily supports the development industry by nature, however mechanisms are included within the Plan to ensure that planned development, either minerals and waste or housing, do not significantly conflict. Whereas any minerals or waste Plan is always likely to conflict to some degree with some housing schemes due to the sustainability benefits of co-location, adherence to the proximity principle and a need to ensure effective transport movements, the Plan's allocations can be seen to not conflict with any housing proposals in any district development plans or pending / committed applications at the

time of writing. Policy MP1 ensures a suitable 'safety margin' of 31% to ensure that there is a sufficient supply of sand and gravel to support any unplanned growth; this is particularly important in regard to the proposed change to the NPPF in the form of a standardised methodology for calculating housing needs in the County and nationally, which is likely to see a significant increase in housing requirements. There will be **positive impacts** on this Sustainability Objective at the 'whole Plan' level.

12.2.18 Noise

- **Positive impacts** have been highlighted in the assessment of the Plan's policies regarding the minimisation of noise; however it should be noted that such impacts are predominantly associated with the cumulative effects of co-locating waste management facilities in industrial areas, landfill sites during restoration or existing mineral extraction sites. This is an approach that enables positive social and economic impacts by ensuring development that requires HGV movements are concentrated and can utilise existing infrastructure. Noise impacts can be considered more relevant to specific sites on a case by case basis and such impacts are identified in all relevant site allocation policies. It should also be noted that noise impacts have been a key consideration throughout the site selection process. As a result, more positive impacts can be seen to emanate from the consideration of the site allocations against the Plan's relevant policy criteria and this 'two pronged' approach to minimising noise impacts at the site selection and eventual planning application stages ensures that negative impacts are unlikely to occur through the operation of facilities or extraction activities.

12.2.19 Recreation and amenity

- Policy GP4 requires applicants to demonstrate that there would be no significantly adverse impacts on Public Rights of Way or neighbouring land-uses. This goes some way to ensuring that recreation and amenity is protected throughout the Plan area from mineral and waste activities. The Plan's allocations have numerous impacts on Public Rights of Way, bridleways and by-ways that are identified on or in close proximity to any of the sites. Despite this, the Plan's site assessment methodology, as evidenced in a number of Site Assessment Reports (for all allocated and non-allocated sites) identifies such impacts and assesses the ease of specific mitigation needed with criteria existing in site allocation policies within the Plan. There will therefore be **no impact** on recreation and amenity relevant to the context of the Plan and resulting from the Plan as a whole.

12.2.20 Human health and well-being

- The assessment of the Plan's policies identifies a number of minor positive impacts regarding human health and well-being; however this is in consideration of less focused impacts due to separate Sustainability Objectives regarding air quality, noise, traffic impacts and general public nuisance. The Plan's site assessment methodology, as evidenced in an individual Site Assessment Report for each site submitted for

consideration explores a number of site specific impacts that can fall within this objective on a case-by-case basis, such as the impacts of mud on road that can be caused by operations and the suitability of local access roads in terms of accident histories. Such considerations are reiterated within the Plan's site allocation policies. This approach, in addition to the list of criteria included within Policy GP4, ensures that there will be **no impact** on this Sustainability Objective.

12.2.21 Economic and employment growth

- Ensuring a supply of minerals throughout the plan period significantly supports economic growth throughout the plan area. In addition, the minerals and waste industries provide a number of employment opportunities. Specifically relevant to the Plan content, there will be generally **uncertain impacts** regarding economic growth and investment in the County; there is a possibility that the prevalence of co-locating new waste management facilities in employment areas would make investment in them less attractive for more traditional employment uses, however this is not a criticism of the Plan's general approach in line with national guidance. This is an inherent secondary reality associated with the benefits of co-locating new facilities however **positive impacts** can be associated with the Plan's allocations (and policies) that seek to locate temporary waste management facilities at mineral extraction sites and those that are being backfilled through phased restoration.

12.2.22 Maintain / improve existing infrastructure

- The Plan as a whole will not have significant impacts on maintaining and improving existing infrastructure. Whereas the Plan seeks to sustainably utilise existing infrastructure in the first instance (through co-location and directing sites to existing Strategic Lorry Routes in accordance with the Spatial Strategy of Policy GP3), and Policy exists to support infrastructure projects in the Plan area. There will be **positive impacts** on this Sustainability Objective resulting from the Plan as a whole.

12.2.23 Sustainable investment

- As stated in the conclusions regarding Sustainability Objective 21, there will be generally **uncertain impacts** regarding investment in the County. This is related to the possibility that the prevalence of co-locating new waste management facilities in employment areas would make investment in them less attractive for more traditional employment uses. This is not a criticism of the Plan's general approach in line with national guidance and is an inherent secondary reality associated with the benefits of co-locating new facilities.

12.2.24 Efficient / sustainable movement patterns

- The Plan's Spatial Strategy (GP3) seeks to allocate and permit mineral extraction and waste management facilities that are well related to the Suffolk Lorry Route Network (or rail network or navigation). This can be seen as a commitment that has influenced

the selection of sites with allocations responding well to being in close proximity to this network. The Plan's allocations therefore relate well to this element of the Spatial Strategy and the Plan will have generally **significant positive** impacts as a result.

12.3 Recommendations made at this Regulation 19 stage

The following recommendations have been made for specific plan policies:

12.3.1 Minerals Policies

- Policy MP5: Cumulative environmental impacts and phasing of workings - It is recommended at this stage that the Policy include the findings / recommendations of the HRA regarding project-level HRA requirements for both the Plan's site allocations and also any new mineral extraction proposals.

12.3.2 Waste Policies

- Policy WP13: Mining or excavation of landfill waste - At the Preferred Options stage, the SA made the following recommendation: 'supporting text could be included in future Plan iterations that explains the Council's position regarding the compatibility of such schemes with landscape policy. In addition, supporting text could also set out the position regarding the backfilling the voids created by such excavation.' At this stage, the recommendations have not been factored into the Plan. As such, the recommendations remain valid at this Regulation 19 stage.

12.3.3 The Local Plan's Proposed Minerals and Waste Sites

- Policy MS1: Barham - It is recommended that the Policy be expanded to seek the submission of an appropriate impact assessment regarding the Grade I listed medieval church of St Mary to accompany any planning application, with mitigation measures included where relevant.
- Policy MS2: Barnham - The Policy could seek the submission of an appropriate impact assessment regarding listed buildings, with mitigation measures included where relevant.
- Policy MS2: Barnham - It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'natural history interests', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.
- Policy MS4: Cavenham - It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.
- Policy MS5: Layham - It is recommended that the Policy include reference to the



presence of the AONB 300m of the site in the landscape criterion and seek relevant assessment and possible mitigation requirements as a result.

- Policy MS5: Layham - The Policy does not include the requirement for an archaeological investigation and possible appropriate mitigation and the inclusion of such a requirement is recommended in light of the appraisal of the site within Section 10 of this Report and the Council's independent site assessment.
- Policy MS6: Tattingstone - It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interests', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.
- Policy MS7: Wangford - It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.
- Policy MS10: Worlington - It is recommended that the Policy add further detail regarding the specific assessment requirements of work related to 'nature conservation interest', for instance whether there is a need for a project-level HRA to be undertaken to accompany any forthcoming planning application.
- Policy WS1: Sizewell A Nuclear Power Station - It is recommended that the policy includes that any forthcoming applications be accompanied by a suitable assessment and where relevant mitigation measures regarding surface water flooding.



13. Next Steps

13.1 Consultation on the Regulation 19 Local Plan and Sustainability Appraisal Environmental Report

This Environmental Report will be subject to consultation alongside the Minerals and Waste Local Plan. There are three statutory consultees that are required to be consulted for all Sustainability Appraisal and Strategic Environmental Assessment documents. These are:

- The Environment Agency;
- Natural England; and
- Historic England.

In addition to these, consultation will seek to engage the wider community in order to encompass comprehensive public engagement. Suffolk County Council may additionally wish to invite comments from focussed groups, relevant stakeholders and interested parties.

13.2 Submission of the Local Plan and Relevant Core Documents and Examination in Public

Subject to any proposed modifications, the Council will submit the Plan to the Planning Inspectorate and Secretary of State ahead of a formal Examination in Public of the soundness of the Plan. This will include this SA and other legally required documents.

Post examination and pending any further work required regarding soundness identified by the examiner / inspector, the Council will go about formally adopting the Plan. This will require an Adoption Statement which will outline those monitoring indicators most appropriate for future monitoring of the Plan in line with Regulation 16 of the Environmental Assessment of Plans and Programmes Regulations 2004.

13.3 Post-Adoption Statement

Once a plan or programme has been adopted, the Strategic Environmental Assessment (SEA) Directive requires those responsible for preparation, to provide the public and the Consultation Bodies with information on how environmental considerations and consultation responses are reflected in the plan or programme, the reason for choosing the plan or programme as adopted in light of reasonable alternatives and how its implementation will be monitored in the future.

The Environmental Assessment of Plans and Programmes Regulations 2004 states that as soon as reasonably practicable after the adoption of a plan or programme for which an environmental assessment has been carried out under these Regulations, the responsible authority shall demonstrate the following:



- (a) how environmental considerations have been integrated into the plan or programme;*
- (b) how the environmental report has been taken into account;*
- (c) how opinions expressed in response to -*
 - (i) the invitation referred to in regulation 13(2)(d);*
 - (ii) action taken by the responsible authority in accordance with regulation 13(4),**have been taken into account;*
- (d) how the results of any consultations entered into under regulation 14(4) have been taken into account;*
- (e) the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and*
- (f) the measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme.*

Post-adoption, a future report will be provided report is to address these requirements related to the adoption of the Suffolk County Council Minerals & Waste Local Plan.



14. Monitoring

The significant sustainability effects of implementing a Local Plan must be monitored in order to identify unforeseen adverse effects and to be able to undertake appropriate remedial action. The Sustainability Framework contained in this report includes suggested indicators in order to monitor each of the Sustainability Objectives, however these may not all be collected due to limited resources and difficulty in data availability or collection.

Guidance stipulates that it is not necessary to monitor everything included within the Sustainability Framework, but that monitoring should focus on significant sustainability effects, e.g. those that indicate a likely breach of international, national or local legislation, that may give rise to irreversible damage or where there is uncertainty and monitoring would enable preventative or mitigation measures to be taken.

Upon adoption Local Plans will be accompanied by an Adoption Statement which will outline those monitoring indicators most appropriate for future monitoring of the Plan in line with Regulation 16 of the Environmental Assessment of Plans and Programmes Regulations 2004.

Appendix I

Plan Policies and Alternatives and Reasons for Selection / Rejection

General Policies

Policy	Reasons for Selection	Alternative	Reasons for Rejection
Policy GP1	Reflecting national guidance, Policy GP1 has been included as it sets out the County Council's interpretation of decision making in the context of sustainable development.	None considered reasonable	N/A
Policy GP2	<p>Proposed minerals and/or waste development should take into account climate change issues. The Minerals Product Association for example has calculated the average figure for the amount of carbon dioxide (CO₂) produced per tonne of sand and gravel of 3.5kg of CO₂/t of sand and gravel. A significant factor for minimising CO₂ is the use of the latest modular plant which complies with lower emission limits.</p> <p>Waste development can for example contribute to reducing methane (CH₄) by capturing and utilizing landfill gas to generate electricity. Policy GP2 below sets out the criteria for the consideration of proposals for climate change mitigation and adaption.</p> <p>For these reasons, the Policy has been included.</p>	None considered reasonable	N/A
Policy GP3	The following factors have been considered in drafting the key diagram and spatial strategy and can be seen as the reasons for	Alternative 1: Retain previous Local Plan Policy	The previous Local Plan Policy indicated that (for Minerals as per the Minerals Core Strategy) <i>'Preference will be given to aggregate sites in Suffolk located in the broad belt that</i>

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	<p>selecting the Spatial Strategy as included within Policy GP3:</p> <p>a) minerals can only be worked where they occur;</p> <p>b) crushed rock is imported, primarily by rail from outside of the County via rail heads located along the lines than run between Newmarket and Ipswich;</p> <p>c) marine borne crushed rock is landed at wharves at Ipswich and Lowestoft docks;</p> <p>d) marine dredged sand and gravel aggregates are landed at Ipswich docks;</p> <p>e) aggregates are landed at Ipswich docks are exported by rail;</p> <p>f) aggregates recycling facilities should be located with suitable access to the road network and in proximity to centres of population and therefore sources of waste;</p> <p>g) in the past landfill dependant on temporary waste management uses followed minerals extraction, whereas waste is increasingly being managed at permanent facilities that are located with suitable highways access in proximity to centres of population and therefore sources of waste;</p> <p>h) the Suffolk Lorry Route Network provides a recognised hierarchy of routes and aims to promote safety, protect amenity and avoid poorly located sites;</p> <p>i) significant areas of the county are within the statutory landscape designations of the</p>		<p><i>follows the A14 stretching from east of Ipswich to the western extremity of the county and other areas identified on the accompanying plan, where geological information suggests the existence of viable deposits of sand and gravel.' The Waste Core Strategy includes a Spatial Strategy regarding 'where individual sites are well related to the Suffolk Lorry Route Network, centres of population and sources of waste and do not have adverse impacts upon features of environmental importance or endanger human health.'</i></p> <p>The previous Spatial Strategies can be considered unaligned in accordance with co-located minerals and waste activities / management and for that reason the alternative has been rejected in favour of an approach that factors in a wider range of considerations, including access to the strategic lorry network (and other sustainable transport nodes), the key sources of waste and growth as well as environmental concerns.</p>
		Alternative 2: To provide for the best possible geographic dispersal of sand and gravel across the County	The Alternative does not factor in a wide range of considerations, such as the high level of ecological and landscape constraints within the County, as well as locating activities in proximity to key centres of population and growth. For this reason the alternative has been rejected in favour of the preferred Policy approach.
		Alternative 3: A spatial strategy based on sites with the least amount of environmental impacts	Although a significant factor in the selection of the preferred Spatial Strategy of the Policy, a pure reliance on such areas can not be expected to ensure the delivery of the required supply of minerals by extracting where they occur, or adhere to notions of the proximity principle and

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	<p>Norfolk & Suffolk Broads, the Suffolk Coast & Heaths and Dedham Vale Areas of Outstanding Natural Beauty;</p> <p>j) significant areas of the east and west of the County within statutory ecological designations of Ramsar, Special Protection Areas, Special Areas of Conservation and Sites of Special Scientific Interest;</p> <p>k) the assumption is that future patterns of development including house building will be concentrating on existing centres of population.</p>		a desire to locate activities close to the sources of waste arising and planned growth. For this reason, the alternative has been rejected in favour of the preferred Policy approach.
		Alternative 4: A spatial strategy based on the strategic road network only	The alternative represents a singular consideration for the broad locations of minerals and waste activities, however does not consider a wider range of considerations such as environmental constraints and locating activities in proximity to the main sources of waste and supply of minerals (i.e. in accordance with planned growth). For this reason, the alternative has been rejected in favour of the preferred Policy approach.
		Alternative 5: The previous Preferred Options policy wording	The Policy has changed since the Preferred Options stage, with reference to individual sites being in close proximity to <i>major</i> centres of population and where sites do not have <i>potentially significant</i> adverse impacts. In accordance with the recommendations of the SA at the Preferred Options stage, <i>major</i> centres of population were considered more strategically important as focuses for minerals and waste activities than more general growth locations (and better related to positive outcomes regarding the sources of waste and planned growth). Additionally, <i>potentially significant</i> adverse impacts would better reflect a balance of sustainability considerations in reflection of heightened levels of growth required in the County District / Borough level. This considers better mitigation solutions being viable throughout the plan period and the unlikelihood that all potential sites

Policy	Reasons for Selection	Alternative	Reasons for Rejection
			would have positive or neutral economic, social and environmental outcomes. For these reasons, the alternative has been rejected in favour of the preferred Policy approach.
Policy GP4	The supporting text for the Policy within the Plan states that, 'it is not the intention of the County Council to restate other policy documents or legislation within this policy, but to provide a general list of issues that would be appropriate to be taken into account when reaching a decision upon a particular planning application. This list has been derived from the issues that the NPPF, NPPW and PPG indicate should be taken into account.' For this reason, the Policy as worded has been selected as the most appropriate.	None considered reasonable	N/A

Minerals Policies

Policy	Reasons for Selection	Alternative	Reasons for Rejection
Policy MP1	The Plan states that Policy MP1 states that the County Council will allocate sites containing 9.300 Mt of sand and gravel. Analysis of the submitted information in the relevant Site Assessment Reports indicates that these sites in total contain 14.770 Mt. However, taking into account the proposed start dates and levels of production at new sites, it is estimated that at least 2.59 Mt of the 14.770 Mt will still remain to be worked which reduces the resources likely to be worked within the plan period	Alternative 1: To plan for a higher indicative figure than the identified 10 year rolling sales as calculated (>12.180 Mt over the plan period / representing a higher indicative buffer of 31%)	The alternative would result in a buffer of over 31%, which is considered above what can be reasonably expected to be required to meet planned growth in the County over the Plan period. For this reason the alternative has been rejected.
		Alternative 2: To plan for an indicative lower figure than the identified 10 year rolling sales as calculated (<12.180	The alternative would result in a no buffer / a buffer of less than 31%, which is considered too low a safety margin when considering the uncertainties of future demand for sand and gravel and potential future

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	to 12.180 Mt. This would leave a safety margin of 31% which is not considered excessive when considering the uncertainties of future demand for sand and gravel and potential future problems that might arise that prevent one or more of the proposed sites from being developed. For this reason, the Policy has been selected.	Mt over the plan period / representing a lower buffer than 31% / no buffer)	problems that might arise that prevent one or more of the Plan's proposed sites from being developed. For this reason, the alternative has been rejected.
Policy MP2	Please see Appendix II.	Pease see Appendix II.	N/A
Policy MP3	The Policy regarding borrow pits has been included due to the demand for sand and gravel for identified construction projects. The Policy allows the principle of borrow pits close to construction projects and connected to that project by routes which do not use the public highway to minimise public impacts as per National Planning Practice Guidance on the planning for mineral extraction in plan making and the application process.	None considered reasonable	N/A
Policy MP4	The Plan states that, 'from time to time proposals are made for the creation of reservoirs or flood alleviation schemes that involves the extraction of sand gravel and its removal from site. These reservoirs besides providing water storage capacity can also be a significant source of sand and gravel to supply the general market.' For the purposes of thoroughness in including policy considerations for all potential minerals activities, the Policy has been included.	Alternative 1: To remove the policy and rely solely on the general environmental criteria policy (GP4).	The alternative has been rejected in favour of thoroughness in including policy considerations for all potential minerals activities.

Policy	Reasons for Selection	Alternative	Reasons for Rejection
Policy MP5	<p>The Plan states that, <i>'Minerals can only be worked where they occur, which is not everywhere. Where viable minerals deposits are present, sometimes more than one minerals company may wish to exploit them at sites which are located closely. This can multiply the impacts of operations to an extent that they become unacceptable. This policy aims to provide clarity as to how the County Council will consider such circumstances.'</i></p> <p>For this reason the Policy has been included / selected.</p>	None considered reasonable	N/A
Policy MP6	<p>The Plan states that, <i>'progressive working and restoration refers to the working of a quarry in phases. For example, some phases of the quarry might be as yet undisturbed. One phase of the quarry would be having the soils and overburden stripped off to reveal the underlying sand and gravel. Another phase would be subject to sand and gravel extraction operations. One phase would be having the soils and overburden replaced following sand and gravel extraction. Another phase would be under a five-year aftercare period following the replacement of the soils. In this way, the area of land actively being worked for sand and gravel is only a part of the overall site at any one time.'</i></p> <p>This approach can be considered to be less intensive and therefore less intrusive on any nearby receptors. For this reason, the Policy has been included.</p>	None considered reasonable	N/A

Policy	Reasons for Selection	Alternative	Reasons for Rejection
Policy MP7	The Policy seeks an outline strategy which sets the general parameters of the proposed action required to bring the restored land up to the required standard for the intended after-use. For this reason the Policy has been selected.	None considered reasonable	N/A
Policy MP8	The Plan states that, ' <i>minerals can only be worked where they occur, which normally within the open countryside. Ancillary development such as concrete batching plants and asphalt plants would not normally be allowed in the open countryside in the absence of adjacent minerals workings and therefore should be removed once minerals extraction has ceased.</i> ' For this reason, the Policy as worded has been selected and included within the Plan.	None considered reasonable	N/A
Policy MP9	The Plan states that, ' <i>as important as proposing new minerals development is safeguarding existing, planned or potential facilities from other forms of competing development.</i> ' A key principle of sustainable development is to maximise sustainable transportation and to minimise transportation in the first instance. For this reason the Policy has been included and selected.	Alternative 1: To not include safeguarding criteria (as stated in the policy) and allow the relevant authority to treat each proposal / application on a case by case basis.	The Plan is a strategic document that seeks to ensure a steady supply of minerals until the end of the plan period and the safeguarding of sustainable transportation practices. In order for this to be ensured, the safeguarding of port and rail facilities and facilities for the manufacture of concrete and asphalt has been included and the alternative rejected.
Policy MP10	The Plan states that, ' <i>the County Council has defined the Minerals Safeguarding Areas (MSAs) based upon sand and gravel resource information provided by the British Geological Survey. The Minerals Consultation Areas</i>	Alternative 1: That the County Council will safeguard those Minerals Safeguarding Areas located within the Minerals Consultation	An alternative of minimising the qualifying threshold for consultation to 1 hectare (as opposed to 5 hectares in the Policy approach) was rejected as it represented a less pragmatic approach to the County's growth needs. For instance, the alternative

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	<i>(MCAs) are slightly larger because a buffer of 250 metres has been added around the edges. This additional buffer is designed to avoid potential sterilisation issues arising because of conflicts with potentially sensitive land-uses such as proposed residential development.</i> For this reason, the Policy has been selected and included within the Plan.	Areas identified on the Proposals Map from proposed development in excess of 1 hectare which is not in accordance with the Development Plan.	could lead to a scenario where planning applications for only small levels of growth are consulted on and opposed despite not having a significant effect on future minerals supply.

Waste Policies

Policy	Reasons for Selection	Alternative	Reasons for Rejection
Policy WP1	The Plan states that, <i>'the policy indicates the levels of waste management development that is expected over the Plan period to 2036. The figures are derived from the SWS and further detail is available within that document. The figures are not limits but are indicative. Although there is not an immediate identified shortfall in waste management facilities when the need arises the following policies are in place.'</i> The NPPW requires that Waste Planning Authorities, including Suffolk County Council, should identify sufficient opportunities to meet the identified needs for their area for the management of waste streams. For this reason, the Policy has been included.	Alternative 1: To plan for lower indicative waste arisings, based on an assumption of improving technologies in recycling and re-use.	The alternative scenario has been rejected as it does not indicate the findings of the Suffolk Waste Study (2017). The SWS indicates that LACW arisings will potentially rise to 0.470 Mt per annum in 2036 from 0.397Mt in 2015, but otherwise all other waste streams / types are projected to decrease over the plan period. This is reflected within the Policy, and for this reason the alternative has been rejected.
		Alternative 2: To plan for higher indicative waste arisings, to meet the possibility of unplanned growth in the County.	The alternative scenario has been rejected as it does not indicate the findings of the Suffolk Waste Study (2017). The SWS indicates that LACW arisings will potentially rise to 0.470 Mt per annum in 2036 from 0.397Mt in 2015, and the Policy reflects this upper scenario. For this reason, the alternative has been rejected.
Policy WP2	Sizewell A Nuclear Power Station is currently undergoing decommissioning. This involves the treatment and temporary storage of radioactive waste. The reactor has been de-fuelled	None considered reasonable	N/A

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	already with the fuel being transported off site to Sellafield. Other less radioactive materials remain on site. Policy WP16 specifically refers to applications for the treatment and storage of waste at Sizewell Nuclear Power Station and has been included should proposals for the importation of radioactive waste from elsewhere be submitted.		
Policy WP3	The Policy includes relevant criteria for the purpose of directing waste management facilities to those areas that are potentially suitable for waste development within the County. It seeks to direct new development to sites that would benefit from compatible co-location, or are otherwise brownfield, underused or in uses that would minimise public nuisance. For that reason, the Policy has been selected.	Alternative 1: To rely on an Areas of Search process to identify broad suitable locations through a plan-led system to which all proposals must be located.	An Areas of Search based approach can be expected to give rise to some benefits regarding certainty to strategic waste development and conformity to the overall spatial strategy; however it should be noted that no shortfalls in capacity are identified throughout the plan period that would warrant such an approach. For that reason, the alternative has been rejected.
Policy WP4	The Plan acknowledges that HWRCs are required to be accessible to the public and in close proximity to Key Centres of Population and growth. The Policy ensures that future demand is likely to be met through outlining exceptions to those broad sites included within Policy WP3 and has been included as a result.	Alternative 1: To delete the policy	The Alternative scenario would see HWRCs directed to land as per Policy WP3, however in reflection of a strategic need for such facilities to meet any future planned or unplanned growth in the County, the alternative has been rejected in order to set out exceptions as to potential future delivery. The Policy approach indicates that household waste recycling centres may be acceptable on other sites (i.e. those not specific to Policy WP3) provided these are consistent with Policy GP4 and are accessible to the public.
Policy WP5	The Plan states that, <i>'open air composting is a cost-effective way of recycling green waste so long as it is carefully sited and managed. It involves the piling</i>	Alternative 1: the Preferred Options approach of allowing the principle of open windrow composting	The Alternative has been rejected in favour of an approach that does not allow the extension of operational timeframes at landfill sites, regardless of any exception criteria. This ensures

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	<p><i>of green waste in windrows in the open air to promote aerobic degradation. The windrows must be turned regularly, turned to prevent over-heating and anaerobic conditions forming which can give rise to odours.'</i></p> <p>For that reason a specific Policy as to the locational criteria of open windrow composting facilities is included within the Plan.</p>	<p>facilities at landfill sites, with a criteria-based approach regarding environmental impacts, the proximity principle and delays in restoration.</p>	<p>that landfill operations and importantly restoration proposals are not delayed.</p>
Policy WP6	<p>The Plan states that, '<i>In-vessel composting facilities promote aerobic degradation of organic waste including green waste and/or food waste within tunnels that have forced air pumped into and extracted out of them and then discharged to the atmosphere via bio-filters that remove odours.'</i></p> <p>For that reason a specific Policy as to the locational criteria of in-vessel composting facilities is included within the Plan.</p>	<p>Alternative 1: To not allow such facilities to be co-located at landfill sites</p>	<p>The Alternative has been rejected in favour of an approach that allows the temporary co-location of facilities with similar waste streams and similar social impacts.</p>
Policy WP7	<p>The Plan states that, '<i>Anaerobic digestion facilities promote anaerobic degradation of organic wastes such as animal wastes, energy crops, and vegetable tailings. The process involves introducing the feedstock into a tank of bacteria rich slurry. This process produces methane gas that is normally used to drive a diesel generator and export the electricity to the grid. The main advantage of this over composting is that electrical power is produced.'</i></p> <p>For that reason a specific Policy as to the locational criteria of anaerobic</p>	<p>Alternative 1: To not allow such facilities to be co-located at landfill sites</p>	<p>The Alternative has been rejected in favour of an approach that allows the temporary co-location of facilities with similar waste streams and similar social impacts.</p>

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	digestion facilities is included within the Plan.		
Policy WP8	The Plan states that, <i>'The recycling of construction, demolition of excavation waste makes a significant contribution to meeting aggregates demand and lessen pressure on land won and marine dredged sources. Although a sustainable source of aggregates the local environmental impacts of the recycling sites are akin to traditional quarries.'</i> For that reason a specific Policy as to the locational criteria of anaerobic digestion facilities is included within the Plan.	Alternative 1: the Preferred Options approach of allowing the principle of proposals for recycling or transfer of inert and construction, demolition and excavation waste facilities at landfill sites, with a criteria-based approach regarding environmental impacts, the proximity principle and delays in restoration.	The Alternative has been rejected in favour of an approach that does not allow the extension of operational timeframes at landfill sites, regardless of any exception criteria. This ensures that landfill operations and importantly restoration proposals are not delayed.
Policy WP9	The Plan states that, <i>'The main function of a waste transfer facilities is to facilitate the efficient transportation of waste by sorting loads from small collection vehicles such as skip lorries and reloading onto much larger lorries including articulated lorries for onward transportation. Materials recycling facilities are where recyclable wastes are separated into their different types for onward transportation to recyclers. The remaining waste called residual waste is either sent to landfill or a treatment facility such as an energy from waste facility. End of life vehicle facilities remove potential pollutants from vehicles, remove the usable parts and sent the scrap items off to recyclers. Electronic equipment recovery facilities sell on the products for</i>	None considered reasonable	N/A

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	<i>re-use, recycle or deposit.</i> For the reason that such a Policy moves the treatment of waste up the waste hierarchy, a specific Policy as to the locational criteria of such facilities is included within the Plan.		
Policy WP10	The Plan states that, <i>'Energy from Waste (EfW) is one such (residual waste treatment) technology, which involves the controlled combustion of waste and the use of the waste heat for electricity generation and sometimes a district heating system. Many much EfW smaller systems use waste to supply heat to help dry out other wastes such as plasterboard. Another technology is Mechanical and Biological Treatment (MBT) whereby waste is macerated and placed in a large hall and turned by a bucket wheel. This composting has the effect of reducing the volume by 50% or more and reducing the biodegradation potential of the residue.'</i> For the reason that such a Policy moves the treatment of waste up the waste hierarchy, a specific Policy as to the locational criteria of such facilities is included within the Plan.	Alternative 1: To only consider residual waste treatment facilities with a capacity of less than 100,000 tonnes annual throughput.	The alternative has been rejected due to the scenario not allowing small facilities that cover the various residual waste treatment technologies. Due to the benefits of such treatment (although it should be noted that it is not preferable to recycling and composting), it would not be prudent to limit operation size. Further, any potential perceived impacts arising from such treatment would be minimal from smaller facilities that are co-located or temporary.
Policy WP11	The Plan states that, <i>'proposals for the disposal of inert waste are important for the restoration of former minerals workings. It can allow a much more satisfactory landform to be achieved and provide a more suitable growing medium on sites where soils are very thin or of poor quality.'</i> For this reason,	<div>Alternative 1: To delete the policy in line with moving such waste up the waste hierarchy.</div> <div>Alternative 2: To accept no landraising proposals in favour of transporting material to restore mineral</div>	<div>The alternative, although seeking to move waste up the waste hierarchy, would not allow the restoration of former minerals workings and has been rejected as a result.</div> <div>The alternative represents a more restrictive approach to landraising, maximising the potential for restoring landscapes to original levels. Despite this however, this approach will likely</div>

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	a 'locational criteria based' Policy has been included within the Plan.	voids to original levels.	lead to the added transportation of waste to fill such voids and could be seen to restrict recycling or re-use should commitments be made to restore in this regard. For this reason, the alternative has been rejected.
Policy WP12	The Plan states that, <i>'even though such proposals are much rarer than in the past due to raised levels of recovery, proposals for the disposal of non-hazardous waste by landfilling or landraising may be made in connection with existing non-hazardous sites.'</i> For this reason, a Policy that sets out the necessary criteria for additional void space or areas of landraising for the deposit of non-hazardous or hazardous waste has been included for Plan flexibility.	Alternative 1: To delete the policy in line with moving such waste up the waste hierarchy	The Plan includes such a policy to ensure flexibility in being able to dispose of non-hazardous and hazardous waste by landfilling of landraising should no alternative form of waste management be made available to meet the need. For that reason, the alternative has been rejected.
		Alternative 2: To accept no landraising proposals in favour of transporting material to restore mineral voids to original levels.	The alternative represents a more restrictive approach to landraising, maximising the potential for restoring landscapes to original levels. Despite this however, this approach could lead to the added transportation of waste to fill such voids and could be seen to restrict recycling, composting or recovery. For this reason, the alternative has been rejected.
Policy WP13	The Plan states that, <i>'the mining or excavation of putrescible and/or inert waste has the potential to give rise to significant environmental issues. In the case of putrescible waste, this potentially could result in the rapid release of leachate, landfill gas, and odours. The mining or excavation of waste may also disturb previously restored sites or delay the final restoration of sites. Considering the above it is therefore concluded that there are only certain circumstances where waste mining or excavation are justified.'</i> For this reason, a 'criteria based' Policy has been included within the	Alternative 1: To not have a policy on the mining or excavation of landfill waste.	The alternative has been rejected as the general Policy WP3 criteria (as would apply were there not a specific Policy on the minimising or excavation of landfill waste within the Plan) can not be seen as appropriate specifically to this type of waste management activity.

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	Plan in order to minimise such impacts.		
Policy WP14	The Plan states that, <i>'with increasing populations and water quality standards there is continuing investment being made into waste water treatment. Although changes made to permitted development rights have sought to remove the need for planning applications for very small developments there are still applications that need to be determined.'</i> For this reason, a specific Policy on waste water treatment is included within the Plan.	None considered reasonable	N/A
Policy WP15	The Plan states that, <i>'hazardous waste travels considerable distances to specialised facilities so that the Country is truly interdependent. Volumes are small compared to the main waste streams.'</i> For this reason, Policy as to the storage, processing & treatment of hazardous waste is included within the Plan in order to reduce and maintain low levels of 'waste miles' for this waste stream.	None considered reasonable	N/A
Policy WP16	The Plan states that, <i>'Sizewell A Nuclear Power Station had two Magnox reactors and generated electricity between 1966 and 2006. Sizewell A is currently undergoing decommissioning. The most recent waste related planning application determined was for a Fuel Element Debris (FED) facility. Sizewell B Nuclear Power Station has a single Pressurised Water Reactor (PWR) and started generating electricity in 1995</i>	Alternative 1: Permission for nuclear or radioactive waste treatment or storage will not be favoured and the Councils will seek to ensure that any nuclear wastes continue to be disposed of and/or reprocessed at	The alternative has been rejected as it would not seek to reduce and maintain low levels of 'waste miles' for this waste stream regarding its initial treatment and storage.

Policy	Reasons for Selection	Alternative	Reasons for Rejection
	<i>and is planned to continue generating until 2035. The most recent waste related planning application determined was for a dry fuel store.</i> For this reason, Policy as to the treatment and storage of radioactive waste at Sizewell nuclear power stations is necessary for inclusion within the Plan.	appropriate national facilities	
Policy WP17	Policy WP17 sets out the criteria for the consideration of the design of waste management facilities. This policy is important particularly when large facilities such the Energy from Waste Facility at Gt Blakenham are planned, because such a large building is a significant feature in the landscape and so an attractive design is desirable. The Policy is therefore included within the Plan to minimise such impacts.	None considered reasonable	N/A
Policy WP18	The safeguarding of waste sites is necessary to protect them from other forms of development which might either directly in indirectly impact upon waste development. Likewise, applications for new development in the proximity to existing or proposed waste development should take into account any potential conflicts. For this reason, the Policy is included within the Plan.	Alternative 1: To safeguard all existing permanent permissions only.	The alternative has been rejected as it does not consider the importance of the Plan's waste allocation of Sizewell A Nuclear Power Station for the management of waste arising from the decommissioning of Sizewell A together with other waste from sister stations in accordance with national policy to share waste facilities. The Plan does not identify a waste capacity gap, and thus it is important that existing and allocated, temporary and permanent sites of all scales are safeguarded in order to ensure no incompatible development occurs that could give rise to a need for new facilities to be required within the plan period.
		Alternative 2: To safeguard all existing permanent	The Plan does not identify a waste capacity gap, and thus it is important that existing and allocated, temporary



Policy	Reasons for Selection	Alternative	Reasons for Rejection
		permissions and site allocations with a size/capacity of strategic importance only.	and permanent sites of all scales are safeguarded in order to ensure no incompatible development occurs that could give rise to a need for new facilities to be required within the plan period.

Appendix II

Summary of Effects of Site Options and Reasons for Selection / Rejection

Waste Management Facilities

SA Objective	Site Allocation			Alternatives			
	CA2	CA3	WS1	BM1	BE1	GB1	TA1(b)
1	-	-	-	-	?	-	0
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	?/+	?/+	+	+	+	+	+
4	?	0	?/-	-	?	?	--
5	0	0	0	0	0	0	0
6	-	-	?	-	-	--	-
7	-	0	?/-	-	?	?	?
8	-	-	?	0	0	0	0
9	0/?	0/?	0	0	0	-	0
10	+	+	+	+	?	?	+
11	0	++	0	-	0	0	0
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	+	0	0	+/0	+	+	+
14	0	0	0	0	0	0	0
15	++	-	?/-	-	++	?	++
16	?	?/-	+	?/-	?/-	+	-
17	+	+	+	?/-	+	+	?/-
18	?	?	+	?	?	?	?

SA Objective	Site Allocation			Alternatives			
	CA2	CA3	WS1	BM1	BE1	GB1	TA1(b)
19	?/-	?/-	?/-	+	+	?	?/-
20	+	+	+	+	+	+	+
21	+	+	+	+	+	?	+
22	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23	0	0	0	0	+	?	+
24	+	+	+	--	--	+	?

Site	Preferred / Rejected?	Reasons for Selection / Rejection
CA2	Preferred	There are no overriding constraints to the development of the site and the proposal forms part of a co-located facility at Cavenham which limits potential wider impacts on the public.
CA3	Preferred	There are no overriding constraints to the development of the site and the proposal forms part of a co-located facility at Cavenham which limits potential wider impacts on the public.
WS1	Preferred	The Plan proposal relates to the management of waste arising from the decommissioning of Sizewell A together with other waste from sister stations in accordance with national policy to share waste facilities. It is important to note that Sizewell A is already benefiting from sharing waste management facilities at Bradwell Nuclear Power Station in Essex. Whilst there are no such proposals at the present time to share facilities at Sizewell it is considered prudent to have policies in place if such a proposal is put forward in the future.
BM1	Rejected	The site has been rejected at this stage as the proposed access arrangements are considered unsuitable.
BE1	Rejected	The proposal has been rejected as the proposed access arrangements are unsuitable for lorries.
GB1	Rejected	The development of this site would result in the loss of a Site of Special Scientific Interest and a large area of a County Wildlife Site. There are no firm proposals that have been submitted at this stage to be able to assess the potential impacts. If and when firm proposals have been developed they should be assessed against the criteria based policies to be included in the Plan.

TA1(b)	Rejected	There is no justification for the permanent retention of waste recycling operations beyond the life of landfill operations in the open countryside that is also designated as a Special Landscape Area.
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Minerals Extraction Sites

SA Objective	Site Allocation												Alternatives											
	PA1	PA1	PA1	CA1	LA1	TA1	WA3	WE1	WH1	WO1(a)	WO1(b)	WO1 (c)	UE1(a)	UE1(b)	UE1(c)	UC1	UC1	ME1	ST1	WA1	WA2	WE1		
1	-	-	?	-	-	0	-	-	?	?	?	?	-	-	-	0	0	-	-	-	-	?		
2	N/A																							
3	?	+	?/ -	?/ +	+	+	?	?/ -	?	+	+	+	?	?	?	?/ -	?/ -	+	?	?	?	+		
4	-	-	?	?	-	-	-	?	-	?	?	?	--	--	-	-	--	--	-	--	--	--		
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6	-	-	?	-	?	-	-	?	-	-	-	-	-	--	-	-	-	--	-	--	--	--		
7	-	-	-	-	?	?	?	?	?	?	?	?	-	-	-	-	-	--	-	-	?	--		
8	?	-	?	-	0	0	0	0	0	?	0	0	0	-	?	0	0	-	-	-	-	-		
9	?	0	0	0/ ?	0	0	0	0	?/ -	0	0	0	0	0	0	0	0	0	?/ -	0	0	0		
10	+	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
11	+	?/ +	+	++	++	++	?	++	+	+	+	+	+	++	?	++	?/ +	?	++	?	++	-		
12	N/A																							
13	+	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++		
14	+	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++	++		
15	-	?	?/ -	-	?/ -	?/ -	?	?	?/ -	?/ -	?/ -	?/ -	?	?	?	?	?/ -	?/ -	?	?	?	?		

SA Objective	Site Allocation												Alternatives									
	BA1	BN1	BS1	CA1	LA1	TA1	WA3	WE1	WH1	WO1(a)	WO1(b)	WO1(c)	UE1(a)	UE1(b)	UE1(c)	UC1	UC4	ME1	ST1	WA1	WA2	
16	?	?	?/-	?/-	?	?	?/-	?	+	+	+	+	?/-	?/-	?/-	?/-	?/-	?/-	-	?/-	?	?/-
17	?	+	+	+	?	?	+	?	+	+	+	+	+	+	+	+	+	+	?	+	+	+
18	+	?	?	?	+	+	+	?	+	+	+	+	?	?	?	?	?	?	?	?	+	?
19	?	?/-	+	?/-	?/-	?/-	+	?/-	-	+	+	+	?	+	--	+	-	--	--	+	+	--
20	+	?	+	+	+	+	+	?	+	+	+	+	+	+	+	+	+	+	+	+	+	+
21	+	+	+	+	0	0	0	0	+	0	0	0	+	+	+	+	+	+	?	0	0	+
22		N/A																				
23	0	0	0	0	0	0	0	0	0	?	?	?	0	0	0	0	0	0	0	0	0	0
24	?	?	?	+	?	?	?	+	+	?/-	?/-	?/-	?/-	?/-	--	--	?	--	?/-	?	?	?

Site	Preferred / Rejected?	Reasons for Selection / Rejection
BA1	Preferred	These 2 sites were previously included in the Suffolk Minerals Specific Site Allocations DPD but no planning application was received due to the prevailing economic conditions. There are no overriding constraints to the development of these sites.
BN1	Preferred	<p>This is a proposed extension to an existing quarry that was originally granted planning permission to supply the construction of the A11 Elveden bypass. Although the soils were stripped from the surface and formed into a screening bund the sand and gravel was not required for the A11 construction.</p> <p>Triangular Plantation, the river valley between Triangular Plantation and the dismantled railway, and the parcel north of Elveden Road should all be excluded from further consideration. This is because of the potential impacts upon landscape, ecology, public rights of way, and archaeology. These constraints reduced the area under consideration to that which is depicted on the Constraints Map.</p>

		Additional geological testing carried out since the submission of the original geological testing has revealed no economic sand and gravel reserves under Hunwellspring Plantation, the two fields to the south of Hunwellspring Plantation and the field to the north of Triangular Plantation. These supplementary geological results reduced the area under consideration. There are no overriding constraints to the development of the remaining areas.
BS1	Preferred	There are no overriding constraints to the development of the site.
CA1	Preferred	There are no overriding constraints to the development of the site. Adequate mitigation will however be required to make the proposed development acceptable.
LA1	Preferred	The proposed development represents an extension to the existing long-standing sand and gravel quarrying operations at Rands Hall Pit, Layham. This site was previously included in the Suffolk Minerals Specific Site Allocations DPD but no planning application was received due to the prevailing economic conditions. There are no overriding constraints to the development of the proposed sand quarry extension.
TA1	Preferred	The proposal is an extension to the area currently being quarried for sand. Restoration would involve the backfilling with inert waste (mainly soils and clays) to previous ground levels. There are no overriding constraints to the development of the proposed sand quarry extension.
WA3	Preferred	<p>Although located within an AONB, the NPPF provides guidance in respect of development within the AONB:</p> <p>b) NPPF paragraph 116 indicates that planning permission for major development (which would include sand and gravel extraction) should be refused except in exceptional circumstances and where it can be demonstrated that it is in the Public Interest.</p> <p>The Site Assessment Report states that, 'having appraised the proposed site within the context of the NPPF and other material considerations it was considered justified to include the Lime Kiln Farm within the Plan because of the following exceptional reasons:</p> <p>a) the existing quarry at Wangford has been in operation for several decades and is an important part of the local economy;</p> <p>b) there is a shortage of gravel in the market area served by this quarry and the proposed extension contains an unusually high percentage of gravel compared to most other quarries;</p> <p>c) the market area includes both Ipswich and Norwich and the gravel from Wangford is used to supplement the sand rich deposits from other quarries within the market area;</p> <p>d) processing is able to produce a regular spherical gravel grade product which can be used for specialist uses such as filter beds;</p> <p>e) there are no other acceptable proposed sites within the north-east area of Suffolk;</p>

		<p>f) alternative sources such as crushed rock, recycled aggregates and marine dredged sand and gravel are unable to provide a suitable alternative due to availability or economic viability; and</p> <p>g) it is considered that in the impact upon the wider AONB, recreation within the area, and the nearby residential properties and ecological designations could be moderated to an acceptable extent.</p>
WE1	Preferred	This site represents a proposed extension to an area currently being quarried for sand and gravel. Restoration would involve the backfilling with inert waste (mainly soils and clays) to previous ground levels. There are no overriding constraints to the development of the proposed sand and gravel quarry extension or the backfilling with inert wastes.
WH1	Preferred	The proposed development represents an extension to the permitted sand and gravel quarrying operations at Pannington Hall Quarry, Wherstead. Planning permission was granted a number of years ago and the planning permission has been implemented and also renewed recently. There are no overriding constraints to the development of the proposed sand quarry extension.
WO1(a)	Preferred	The site is an extension to the existing operations at Bay Farm Quarry, Worlington. There are no overriding constraints to the development of the proposed quarry extension.
WO1(b)	Preferred	The site is an extension to the existing operations at Bay Farm Quarry, Worlington. There are no overriding constraints to the development of the proposed quarry extension.
WO1(c)	Preferred	The site is an extension to the existing operations at Bay Farm Quarry, Worlington. There are no overriding constraints to the development of the proposed quarry extension.
HE1(a)	Rejected	There is an overriding constraint to the site in the form of an unacceptable impact upon an AONB.
HE1(b)	Rejected	There is an overriding constraint to the site in the form of an unacceptable impact upon an AONB.
HE1(c)	Rejected	The site has an unsuitable access with a poor accident record and the cost of rectifying the junction is likely to be prohibitive. Parts of the site would also have an unacceptable impact upon an AONB.
HG1	Rejected	The site has been rejected as it is considered that the proposed access arrangements to and from the A12 are unacceptable in terms of highway safety as the existing slip roads are substandard and are unlikely to be able to be improved without considerable expense beyond the scope of this proposed site. In addition, no case has been made to allow working with the Dedham Vale Area of Outstanding Natural Beauty.
HO1	Rejected	The western part of the site would have an unacceptable impact upon the adjacent AONB. Additionally there was an unacceptable lack of geological



		information and inadequate information regarding the site access arrangements submitted.
ME1	Rejected	The proposal has been rejected as there are overriding constraints to the development of this site in terms of highways, landscape, ecology and archaeology.
ST1	Rejected	The site was rejected as, after having taken into account all of the site constraints, there is considered insufficient land suitable to provide a viable minerals resource.
WA1	Rejected	Hill Farm would have an unacceptable impact upon the AONB, Henham Park and potentially also the adjacent site of local nature conservation interest
WA2	Rejected	The Southern Extension would have an unacceptable impact upon the AONB and potentially also the adjacent sites of international, European, national and local nature conservation interest.
WD1	Rejected	The site proposal has been rejected as significant constraints have been identified in terms of ecology, archaeology, landscape and amenity.

Appendix III

Consultation Comments at the Preferred Options (Regulation 18) Stage

The following consultation comments were made regarding the SA during the previous Preferred Options (Regulation 18) stage consultation. These are outlined in the following table, alongside responses and any necessary changes / actions that have been carried out within the preparation of this Regulation 19 Submission Draft SA as a result.

Table 77: Regulation 18 Consultation Representations and actions

Number / Respondent	Representation	Response / action
SM/32 Verity	Support	Noted.
SM/202 Tarja Burtal	Belstead Quarry 2020 proposal I object quite simply as I do not believe the infrastructure will be able to cope with the increased traffic of lorries operating in the area. The old A12 and the Swann Hill area are already unable to sustain the current level of rush hour traffic.	Noted. This is not considered a specific comment on the SA.
SM/220 Robert Ayers	As I resident of Cavenham village I have a concern over the proposed expansion of Marston's pit at Cavenham and the backfilling of quarried areas, which I understand will lead to a near doubling of the current volume of large lorries through Cavenham and Tuddenham villages. I am concerned about the impact this will have and would urge planners to seek alternative routes for the lorries. Perhaps an extension/re-surfacing of the track that currently runs from the Cavenham road to a sewage works, which could be connected to the Higham Road, eliminating the need for lorries to enter Tuddenham or Cavenham, and giving access to the A14 with limited impact.	Noted. This is not considered a specific comment on the SA.

Number / Respondent	Representation	Response / action
E/108 Charlie Christensen, The Environment Agency	Additionally objective 8 of the Sustainability Appraisal to minimise flood risk only includes a key indicator relating to fluvial flooding. We would also like to see this incorporate surface water, coastal and groundwater flood risk.	The necessary amendments have been made and factored into the SA at this Regulation 19 stage.
E/78 James Meyer, Suffolk Wildlife Trust	<p>Sustainability Appraisal (SA) Document</p> <p>Section 2.3.3 – As set out in our comments on the Issues and Options consultation draft) our letter of 6th February 2017), bullet point 1 describes the different types of nature conservation site designations.</p> <p>However, it appears to confuse the international designations. By way of clarification, Ramsar, Special Protection Area (SPA) and Special Area of Conservation (SAC) are separate designations with different qualifying criteria and designated under different legislation. Potential impacts on Ramsar sites, SPAs and SACs must all be assessed through the Habitats Regulations Assessment (HRA) process (see section below).</p> <p>We recommend that this bullet point is reworded to correctly identify the types of designations, the legislation they are designated under and their hierarchy.</p> <p>Section 3.2 (Table 4) – We query the statements under Objective 6 that there are no “statutory habitat sites within 250m” of the site options. A number of the preferred site options have statutory nature conservation sites (SPAs, SACs, Ramsar sites, NNRs or SSSIs) on or within 250m of them and therefore this statement is incorrect. It is also unclear why 250m has been used as the trigger distance for assessing impacts on statutory designated sites?</p>	<p>Section 2.3.3 - The necessary amendments have been made and factored into the SA at this Regulation 19 stage.</p> <p>Section 3.2 – The table, to which this comment relates, responds to the methodology which quantifies the impacts highlighted within the appraisal of sites. No action required.</p> <p>Objective 11 – Restoration to original conditions is included as ‘positive’ in line with the pre-existing conditions of voids. Positive impacts remain relevant in order to offer a range of possible impacts within the SA.</p>

Number / Respondent	Representation	Response / action
	Also, in relation to Objective 11 restoration to the original condition of the site would be a "Neutral" impact not a "Positive" one.	
E/87 Chris Hemmingsley, Brett	<p>Sustainability Appraisal</p> <p>Having reviewed the Sustainability Appraisal, we wish to highlight some concerns with the results. This is mainly in the form of some inconsistencies in approach and also some typographical areas within the Sustainability Appraisal.</p> <p>Dealing with the typographical errors first, with regard to Layham Quarry there are a number of errors within Table 40 on page 161 where the level of impact is not reflective of the individual assessment on page 179. For example, for Objective 1: Table 40 states no impact, where on page 179 it is stated the site will have a negative impact. Furthermore, the site at Wangford has three separate allocations for varying uses but when looking at Table 40 only one of the uses is included for comparison. To allow for an objective comparison to be made for the sites and to ensure that the most appropriate sites are allocated we would request that Table 40 be reviewed to ensure that the correct level of impact is stated and that all site allocations are included.</p> <p>Our concerns on the inconsistencies in approach are between each Site Selection Report and the Sustainability Appraisal, of particular interest to Brett:</p> <p>Barham Quarry</p> <p>Within the Site Selection report the comments on landscape state that site is acceptable with recommendations for further working and restoration. The Sustainability Appraisal states, however, that there will be a negative impact upon a Special Landscape Area. We suggest</p>	<p>Noted. The typographical errors have been rectified within the SA at this stage.</p> <p>The landscape impacts highlighted for Barham reflect a 'policy off' appraisal. The introduction of site specific policies within the Plan represents a 'policy on' appraisal within the SA at this stage, which reflects that the landscape is capable of long-term restoration / mitigation.</p> <p>The landscape and biodiversity impacts at Grove Farm have been rectified in order to ensure a consistency in approach.</p> <p>Impacts for SO23 have not been included as there is not a comparable level of information across all sites in order to quantify impacts on a consistent basis.</p> <p>Impacts for SO24 reflect the consistent utilisation of the information presented within Site Assessment Reports undertaken and have not been amended.</p>

Number / Respondent	Representation	Response / action
	<p>that the score within the Sustainability Appraisal be amended to having a neutral impact.</p> <p>Grove Farm</p> <p>Landscape: the Site Selection Report recommends that the extent of the site should be modified to make it acceptable with potential impacts on the Special Landscape Area. The Sustainability Appraisal states that the site will have a Significant Negative impact due to the Special Landscape Area. We consider that the impact at Grove Farm within a local landscape designation is being given greater weight than other sites that are being allocated that lie within national landscape designations.</p> <p>Biodiversity: the Site Selection report identifies that the site lies in close proximity to County Wildlife Sites and Local Nature Reserve. The Sustainability Report states that Grove Farm will have a Significant Negative impact upon biodiversity. Again, the score seems disproportionate particularly when considered that sites have been allocated within and in close proximity to European and nationally designated sites.</p> <p>SA Objective 23, Sustainable investment: the Sustainability Appraisal gives no recognition that Grove Farm is located adjacent to Poundfield Products, concrete products specialists. Circa 70,000 tonnes per annum of sand and gravel won from Grove Farm would (if allocated and approved) be supplied direct to the Poundfield Products facility.</p> <p>SA Objective 24, Promote efficient movement: as above the Sustainability Appraisal provides no consideration to the proximity to Poundfield Products and the positive impact that taking 70,000</p>	



Number / Respondent	Representation	Response / action
	tonnes per annum direct to site would have on HGV movements.	

Appendix IV

Quality Assurance Checklist

The Quality Assurance Checklist shows where in this Environment Report the requirements as set out in the SEA Directive (annex 1), the Quality Assurance Checklist from the Department of Communities and Local Government document: 'A Practical Guide to the Strategic Environmental Assessment Directive (figure 25) (2006)' are covered. It shows compliance with legislation and best practice and directs to where in this Report the requirements are met.

Table 78: Quality Assurance Checklist

SEA Directive Requirements	Where covered in this SA Environmental Report...
General	
a) an outline of the contents, main objectives of the plan, and relationship with other relevant plans and programmes;	Section 1 and Annex A.
b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan;	Section 2.4 and Annex B.
c) the environmental characteristics of areas likely to be significantly affected;	Section 2.4 and Annex B.
d) any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC;	Section 2.4 and Annex B.
e) the environmental protection objectives, established at international, Community or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation;	Section 2.2 and Annex A.
f) the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape	Sections 4, 5, 6, 7, 8, 9, 10, 11 and 12

SEA Directive Requirements	Where covered in this SA Environmental Report...
and the interrelationship between the above factors (these effects should include secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary, positive and negative impacts);	
g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan;	Sections 4, 5, 6, 7, 8, 9, 10, 11 (within relevant sub-sections entitled 'Proposed Mitigation Measures / Recommendations') and Section 12.
h) an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;	Sections 4, 5, 6, 7, 8, 9, 10, 11 (within relevant sub-sections entitled 'Alternatives Considered Throughout the Plan-making Process'), Appendix I, Appendix II and Sections 2.3.15 and 3.2.1.
i) a description of the measures envisaged concerning monitoring;	Section 14 and Section 3.1.
j) a non-technical summary of the information provided under the above headings.	A Non-Technical Summary has been included at the start of the Environmental Report.

Objectives and context

The plan/strategy's purpose and objectives are made clear.	Sections 4, 5, 6, 7, 8, 9, 10, 11
Environmental issues and constraints, including international and EC environmental protection objectives, are considered in developing objectives and targets.	Sections 2 and 3 and Annexes A and B
SEA objectives, where used, are clearly set out and linked to indicators and targets as appropriate.	Section 3.1.
Links with other related plans, programmes and policies are identified and explained.	Section 2.2 and Annex A.
Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.	Section 3.3

SEA Directive Requirements	Where covered in this SA Environmental Report...
Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report.	Consultation has been undertaken alongside the Plan at all relevant statutory stages.
The assessment focuses on significant issues.	Sections 4, 5, 6, 7, 8, 9, 10, 11 (within relevant sub-sections entitled 'Significant, Temporal and Secondary Effects').
Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit.	Sections 2.3.15 and 3.2.1.
Reasons are given for eliminating issues from further consideration.	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process'.
Realistic options are considered for key issues, and the reasons for choosing them are documented.	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process'.
Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant.	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process'.
The environmental effects (both adverse and beneficial) of each alternative are identified and compared.	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process'.
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process'.

Baseline information

Relevant aspects of the current state of the plan area (including social and economic characteristics) and their likely evolution without the plan are described.	Section 2.3 and Annex B.
Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan.	Section 2.3 and Annex B.
Difficulties such as deficiencies in data or methods are explained.	Section 2.3.14

SEA Directive Requirements	Where covered in this SA Environmental Report...
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Prediction and evaluation of likely significant environmental effects

Effects identified include wider sustainability issues (employment, housing, transport, community cohesion, education etc.) in addition to the types listed in Annex 1(f) of the SEA Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape).	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process' (within relevant sub-sections entitled 'Significant, Temporal and Secondary Effects').
Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed.	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process' (within relevant sub-sections entitled 'Significant, Temporal and Secondary Effects').
Likely secondary, cumulative and synergistic effects are identified where practicable.	Sections 4, 5, 6, 7, 8, 9, 10, 11 entitled 'Alternatives Considered Throughout the Plan Making Process' (within relevant sub-sections entitled 'Significant, Temporal and Secondary Effects').
Inter-relationships between effects are considered where practicable.	Sections 8, 11 and 12.
The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds.	Sections 4, 5, 6, 7, 8, 9, 10, 11 (within relevant sub-sections entitled 'Significant, Temporal and Secondary Effects'). Sections include assessment of cumulative and synergistic impacts and draw on the Plan's specific evidence base and baseline information.

Mitigation measures

Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan are indicated.	Sections 4, 5, 6, 7, 8, 9, 10, 11 (within relevant sub-sections entitled 'Proposed Mitigation Measures / Recommendations') and Section 12.3.
Issues to be taken into account in project consents are identified	Sections 4, 5, 6, 7, 8, 9, 10, 11 (within relevant sub-sections entitled 'Proposed Mitigation Measures / Recommendations') and Section 12.3.

The Environmental Report

Is clear and concise in its layout and presentation	The SA is clear and concise.
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SEA Directive Requirements	Where covered in this SA Environmental Report...
Uses simple, clear language and avoids or explains technical terms	The SA uses simple, clear language and avoids or explains technical terms, with a non-technical summary.
Uses maps and other illustrations where appropriate	The SA uses tables and the use of colour coding / symbols to help identify and illustrate impacts.
Explains the methodology used	Section 3.
Explains who was consulted and what methods of consultation were used	<p>Section 13.1 and Appendix III. Additional information will be supplied at the relevant post-Adoption Statement stage. Information regarding the consultation of the SA has been included within the Council's Regulation 22 Statement at the Submission stage.</p> <p>Consultation has been and will be undertaken alongside the Plan at all relevant statutory stages. The environmental authorities and public are to be given 'an early and effective opportunity' within appropriate time-frames to express their opinion. This includes the specific notification of the consultation documents and timeframes to those persons or bodies on the 'consultation databases' of the Council. This reflects those persons or bodies who have commented on the SA in previous consultation stages.</p>
Identifies sources of information, including expert judgement and matters of opinion	Sections 4, 5, 6, 7, 8, 9, 10 and 11
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.	A separate Non-Technical Summary has been included.

Consultation

The SEA is consulted on as an integral part of the plan-making process.	Consultation has been and will be undertaken alongside the Plan at all relevant statutory stages.
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity	Consultation has been and will be undertaken alongside the Plan at all relevant statutory stages. The SA will be made available for comment in accordance with the consultation procedures of the

SEA Directive Requirements	Where covered in this SA Environmental Report...
within appropriate time frames to express their opinions on the draft plan and Environmental Report.	Council. This includes the specific notification of the consultation documents and timeframes to those persons or bodies on the 'consultation databases' of the Council. This reflects those persons or bodies who have commented on the SA in previous consultation stages.

Decision-making and information on the decision

The environmental report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme.	Appendix III. Consultation comments have been considered throughout the plan-making and SA processes, including those that identify new options for consideration. These have been factored into the SA for appraisal where relevant.
An explanation is given of how they have been taken into account.	Appendix III details responses and actions to individual consultation comments received to date.
Reasons are given for choosing the plan as adopted, in the light of other reasonable options considered.	Appendix I and Appendix II

Monitoring measures

Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	Section 14 outlines the approach to monitoring, which will be undertaken as part of the Council's existing monitoring arrangements. A post-Adoption Statement will include more detailed monitoring arrangements once the Plan is adopted.
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	Section 14 outlines the approach to monitoring, which will be undertaken as part of the Council's existing monitoring arrangements. An Adoption Statement will include more detailed monitoring arrangements once Plans are adopted.
Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.)	To be addressed in a post-Adoption Statement once Plans are adopted.
Proposals are made for action in response to significant adverse effects.	To be addressed in a post-Adoption Statement once Plans are adopted.

Appendix V

Recommendations taken forward throughout the Sustainability Appraisal process

The SA and plan-making process should be iterative, with recommendations and mitigation measures suggested in the appraisal of the Plan for consideration by the plan-makers. This Appendix sets out the iterative process that has been undertaken in the formulation of the Plan as it is presented at this Regulation 19 Submission Draft stage.

The following table outlines those recommendations and suggested mitigation measures that have been presented within past iterations of the SA at the Issues and Options and Preferred Options Regulation 18 stages. The table outlines the relevant policy and stage in the process that each recommendation was made in the accompanying SA. The final column outlines the specific SA recommendation and whether the Plan has been amended / factored in the recommendation at this stage.

Policy	Stage	Recommendation & Outcome
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Vision, Aims and Objectives & General Policies

Aims and Objectives	Preferred Options	At the Preferred Options Plan stage, the SA made the recommendation that reference to aspirations regarding restoration and after-use for net or future sustainability benefits are included. At this stage, it can be considered that this recommendation is suitably reflected within Policy Objectives 5 and 7 and additionally within the Plan Vision.
Policy GP2: Climate change mitigation and adaptation	Issues and Options	At the Issues and Options stage, the SA stated that, <i>'it is recommended that the policy wording surrounding the reduction of emissions is expanded to explicitly include traffic emissions. Although there is the caveat for the inclusion of travel plans where necessary, the overall policy working focusses primarily on emissions from any new minerals and waste developments but the impacts of the vehicles transporting the materials should also be clearly factored in when assessing the impact on climate change.'</i> At the Preferred Options stage, it was considered that the wider Plan adequately seeks to reduce vehicle emissions through considerations stated in specific transport related Plan policies.
Policy GP3: Spatial strategy	Preferred Options	At the Preferred Options stage, the SA recommended that <i>'the (then) Policy's reference to 'centres of population' relate to 'Key Centres for Growth' in relation to the main destination of minerals post-extraction, and the main sources of waste in the Plan area.'</i> This recommendation has been factored into the Policy at this Regulation 19 stage. A further recommendation at that stage was <i>'the Policy includes a preference will be made to those sites that will 'not have an adverse</i>

Policy	Stage	Recommendation & Outcome
		<i>impact.' This might not be possible in consideration of the County's significant amount of environmental designations and the nature of minerals and waste development / management; it might be more realistic that sites with 'acceptable' impacts are included within the policy, with reference to the ability to mitigate.'</i> This recommendation has also been factored into the Policy at this Regulation 19 stage.
Policy GP4: General environmental criteria	Preferred Options	At the Preferred Options stage, the SA stated that, <i>'the Policy could however strengthen the position of the MPA / WPA in setting out in more detail what would constitute an acceptable impact relevant to each theme. In addition, the setting of designated and non-designated historic environment assets should also be protected alongside the asset itself in each instance.'</i> At this stage, these recommendations can be considered to have been suitably factored into the Policy, with reference to the settings of heritage assets included. Regarding a definition of what constitutes an 'acceptable impact' some of the relevant policy criteria have been expanded as well as the Plan's inclusion of site specific policies for Plan allocations.

Minerals Policies

Policy MP3: Borrow Pits	Preferred Options	At the Preferred Options stage, the SA made a recommendation regarding the policy possibly extending the timescales of extraction beyond what is needed to serve projects, in so far as this requirement is not explicit. It added that, <i>'this could lead to unnecessary long term environmental impacts. It is recommended that a criterion regarding timescales is included within the Policy.'</i> It is considered that the policy ensures the appropriate balance of weighing up the economic benefits of such schemes with their potential environmental impacts. Although the recommendation has not been factored into the Policy, it should be acknowledged that the nature of all extraction is temporary and borrow pits are specifically connected to the construction of specific projects with no viable (or little economic) use after that project has been completed.
Policy MP5: Cumulative environmental impacts and phasing of workings	Preferred Options	At the Preferred Options stage, the SA recommended that <i>'cumulative impacts are considered not just in accumulation of other mineral sites, but all other development proposals regardless of type.'</i> This recommendation has been factored into the Policy at this stage.
Policy MP6: Progressive working and restoration	Preferred Options	At the Preferred Options stage, the SA recommended <i>'that the Plan's supporting text set out to what level landscapes should be restored in line with local characteristics, the availability of sufficient material for backfilling and the implications this has regarding compliance with moving waste up</i>

Policy	Stage	Recommendation & Outcome
		<p><i>the waste hierarchy.</i> This recommendation has not been factored into the Policy; however the nature of extraction and any need for subsequent backfilling creates subsequent conflicts with moving waste up the waste hierarchy and potentially reducing waste miles should importation be needed for restoration to existing / pre-extraction levels. In reflection of a wider holistic view of both strategic minerals and waste planning at the plan-level, this recommendation is not extended to this SA at the Regulation 19 stage.</p> <p>The Preferred Options SA also recommended that, <i>‘although aspirational, the Policy could be expanded to factor in Green Infrastructure and networks in the context of restoration throughout the County.’</i> This recommendation has been included within the Policy through the encouragement that links be provided to surrounding habitats.</p>

Waste Policies

Policy WP1: Management of waste (Mt)	Preferred Options	At the Preferred Options stage, the SA made the following recommendations: <i>‘The Policy could benefit from including a statement that waste arising forecasts may be updated through monitoring arrangements and any future Plan reviews within the plan period.’</i> This recommendation has not been made within the Policy or supporting text at this stage, however it can be considered that both the monitoring arrangements outlined within Appendix 2 of the Plan, in addition to the Minerals & Waste Planning Authority’s statutory monitoring requirements ensure that this previous recommendation is now not necessary for re-inclusion.
Policy WP5: Open Air Compositing	Preferred Options	At the Preferred Options stage, the SA recommended (for Policy WP6) that <i>‘the position of the co-location of in-vessel composting facilities at landfill sites during restoration is clarified for either consistency with Policy WP5, or the difference in approach is explained in the supporting text.’</i> This recommendation has been factored into the Policy of WP5, with a common approach to co-located composting facilities at landfill sites during their operation and restoration.
Policy WP6: In-vessel composting facilities	Preferred Options	At the Preferred Options stage, the SA recommended that <i>‘the position of the co-location of in-vessel composting facilities at landfill sites during restoration is clarified for either consistency with Policy WP5, or the difference in approach is explained in the supporting text.’</i> This recommendation has been factored into the Policy of WP5, with a common approach to co-located composting facilities at landfill sites during their operation and restoration.
Policy WP8: Proposals for	Preferred Options	At the Preferred Options stage, the SA made the following recommendation: <i>‘although generally compatible, the policy ensures that</i>

Policy	Stage	Recommendation & Outcome
recycling or transfer of inert and construction, demolition and excavation waste		<p><i>recycling facilities are not located to the detriment of the function and operation of existing more traditional employment land. Despite this, the policy or supporting text could include commentary to the effect that such proposals should be compliant with the general development principles of LPA policy, particularly if such industrial areas are proposed for allocation in Local Plans.</i> At the current stage, the Policy has not factored in this recommendation. Although the initial recommendation can still be considered valid for holistic purposes, it is acknowledged within this SA that such a recommendation is not necessarily within the specific remit of the Plan, and that the adopted Minerals and Waste Local Plan will form part of each LPA's suite of development plan documents. As such, there should be no conflicts between the Policy and any related policies within any LPA Local Plans once adopted.</p> <p>It was also recommended within the Preferred Options SA that <i>'the Plan set out the difference between policies (WP8) and MP5 and the need for two policies in the Plan regarding recycling or transfer of inert and construction, demolition and excavation waste.'</i> This recommendation has been factored into the Plan, with Policy MP5 being deleted. A notable change from the Preferred Options Plan to the Regulation 19 Plan is that previous Plan Policy MP5: Recycled aggregates, has been deleted. At the Preferred Options stage, the Policy was worded as follows – <i>'The County Council will encourage temporary aggregates recycling facilities at minerals and landfill sites and encourage the siting of permanent recycling facilities near to the source of raw material and at locations which maximise the use of recycled aggregate e.g. in urban fringe locations or brownfield sites. Proposals should also comply with the environmental criteria Policy GP4.'</i> The position of the Council within the Regulation 19 Plan is reflected in paragraphs 5.11-5.12 of the Plan. These paragraphs state, <i>'(5.11) The types of facilities where recycled aggregates are produced vary from purpose built fixed installations to temporary operations on construction sites. The latter does not require planning permission separately from the County Council. Although the SWS does not indicate a specific capacity gap for aggregates recycling facilities in Suffolk, a proposal for such a facility is included at in the Plan at Cavenham Quarry. (5.12) If, in the future proposals for aggregates recycling facilities requiring planning permission are made, then there are criteria based policies included within the Plan.'</i></p>
Policy WP11: Approval of sites for disposal of inert waste by landfilling or landraise	Issues and Options	<p>At the Preferred Options stage, the Policy factored in an Issues and Options SA recommendation that stated that, <i>'the Policy could benefit however from supporting text to outline the Council's stance on restoration levels associated with landfilling, and the subsequent stance on landraising proposals for disposal and for landscape engineering purposes.'</i></p>



Policy	Stage	Recommendation & Outcome
Policy WP12: Disposal of non-hazardous or hazardous waste by landfilling or landraise	Issues and Options	At the Preferred Options stage, the Policy factored in an Issues and Options SA recommendation that stated that, <i>'the Policy could benefit however from supporting text to outline the Council's stance on restoration levels associated with landfilling, and the subsequent stance on landraising proposals for disposal and for landscape engineering purposes.'</i>
Policy WP13: Mining or excavation of landfill waste	Preferred Options / Submission Draft	At the Preferred Options stage, the SA made the following recommendation: <i>'supporting text could be included in future Plan iterations that explains the Council's position regarding the compatibility of such schemes with landscape policy. In addition, supporting text could also set out the position regarding the backfilling the voids created by such excavation.'</i> At this stage, the recommendations have not been factored into the Plan. As such, the recommendations remain valid at this Regulation 19 stage.



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