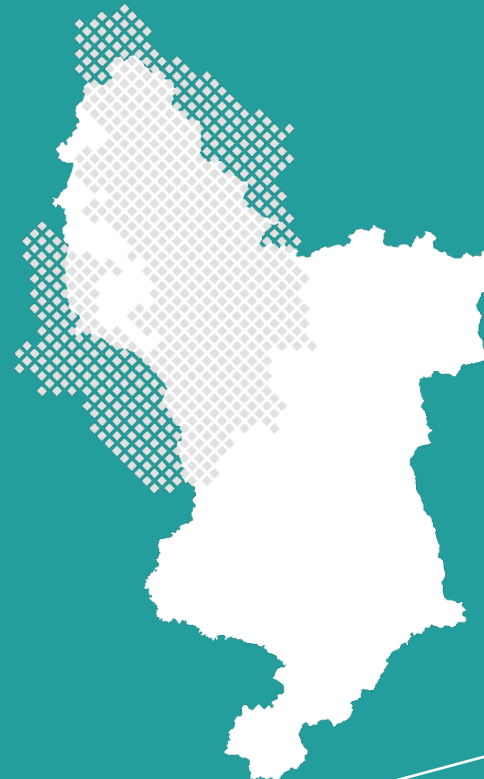


# Derbyshire and Derby Minerals Local Plan (2022-2038) Sustainability Appraisal



## Non-Technical Summary

January 2023



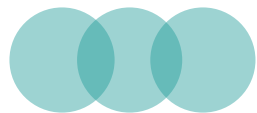
Derby City Council



**DERBYSHIRE**  
County Council

**AECOM**

Delivering a  
better world



**AECOM**

Delivering a  
better world



# Contents

Introduction .....	2
Scoping .....	3
Influencing Plan Development.....	7
Appraisal Findings.....	10
Mitigation and Monitoring .....	15

Spatial data and maps presented in this document contain Ordnance Survey data © Crown copyright and database right 2022. Contains public sector information licensed under the Open Government Licence v3.0.



# Introduction

This is a Non-Technical document which concisely summarises the Sustainability Appraisal for the Derbyshire and Derby Minerals Local Plan (2022-2038). The plan covers the geographical county of Derbyshire (including Derby), excluding that part which lies within the Peak District National Park.

The plan sets out its strategic priorities for minerals development through its vision and objectives. It includes strategic policies to address those priorities, including policies to enable the supply of important minerals and, where necessary, it identifies specific sites for mineral working. The plan also includes a set of non-strategic development management policies aimed at avoiding, minimising and mitigating the adverse impacts of minerals development.

Planning authorities are required by law to prepare local development documents setting out strategic priorities for the development and use of land in their area and strategic policies to address those priorities. Derbyshire County Council and Derby City Council are the mineral and waste planning authorities for the area.



Derbyshire is a county which contains eight local authority areas (High Peak, Derbyshire Dales, North East Derbyshire, Chesterfield, Amber Valley, South Derbyshire, Derby and Erewash), alongside an area of the Peak District National Park. The area has a population of over 550,000 (Census, 2021) and is predominantly rural, with the main urban areas of Derby and Chesterfield located in the south and north west of the County respectively. Derbyshire (excluding Derby) has a population of 796,000 (Census, 2021) and Derby has a population of 261,100. Manchester can be found to the north west of the County, Sheffield to the north and Nottingham to the south/south east.



# Scoping



## Process summary

A scoping exercise was carried out to establish the key sustainability issues and objectives for the plan area. The topics which have been 'scoped in' for consideration within this sustainability appraisal are listed below.

## Sustainability Appraisal Themes

- Biodiversity
- Water
- Soil
- Waste
- Minerals
- Transportation and air quality
- Climatic factors, flooding and energy
- Heritage
- Landscape
- Communities and health
- Economy and housing

## Sustainability Appraisal Framework

The scoping stage establishes the baseline position and policy context for the sustainability appraisal. This helps to identify the key issues that should be the focus of attention, and the methodologies to be used to undertake the appraisal. These form a framework which provides a way in which the sustainability effects of the minerals plan and alternatives can be identified and analysed based on a structured and consistent approach. The following information details the sustainability appraisal objectives under each theme / topic.

### Biodiversity



Derbyshire and Derby has a rich natural environment with a high proportion of land designated for nature and landscape conservation.

There is a need to achieve appropriate reclamation on former minerals sites as they can contribute towards biodiversity-led restoration and habitat enhancement.

### Water



The ecological and biological status of river and lake water bodies across the Plan area need to be improved.

The water resources of Derbyshire and Derby, including that in the aquifers, are under stress and need appropriate protection from pollution and over- abstraction.

### Soil



Loss of the best and most versatile agricultural land and greenfield sites should be avoided, and locational decisions should seek to protect the extent, openness and quality of the Green Belt where appropriate.

### Waste



The amount of residual household waste generated per household in Derbyshire and Derby is higher than the East Midlands average. Furthermore, the amount of residual household waste sent for reuse, recycling or composting is lower than the East Midlands average.

Waste management facilities and infrastructure is required throughout Derbyshire and Derby that will deal with waste arisings and facilitate waste management in accordance with the proximity principle and in the most appropriate locations.

Communities in some remoter western areas of Derbyshire have comparatively limited access to waste processing facilities and services due to the relatively low population density and associated infrastructure.

### Minerals



The Minerals Local Plan is required to provide for a steady and adequate supply of minerals to meet anticipated needs over the plan period.

The negative effects of minerals operations should be minimised through careful location and the positive effects should be maximised.

# Scoping



The prudent, efficient and sustainable use of minerals should be ensured, as far as practicable.

It is important that mineral resources within Derbyshire and Derby are safeguarded as far as possible.

There is a need to protect and enhance the overall quality of the environment once extraction has ceased, through the highest standards of restoration and aftercare.

## Transportation and air quality



Derbyshire and Derby experience significant traffic congestion within urban areas, and on the strategic road network. The impacts of transportation in relation to the mining and quarrying industry in particular is a significant problem.

There is a need to increase the number of minerals and waste transport movements in Derbyshire and Derby made by rail and provide sensitive routing for material transfer vehicles.

Certain areas of Derbyshire and Derby already suffer from unacceptable levels of air pollution; especially those covered by air quality management areas related to high traffic flows.

There is a continuing need to reduce CO2 emissions from transport.

## Climatic factors, flooding and energy



Greenhouse gas emissions, associated with minerals and waste activities, including transport and methane produced from landfill sites, contribute to global warming.

Some local authorities in Derbyshire and Derby are not performing well in terms of CO2 emissions from industrial and commercial activity. There is the potential to promote energy from waste options, and also other technologies that increase the energy efficiency of minerals and waste operations.

A number of areas towards the south of Derbyshire and Derby are at significant risk of flooding, and this situation is likely to worsen with climate change.

Mineral reclamation (e.g. gravel extraction) may offer positive benefits by reducing flood risk in certain locations.

The majority of energy usage in Derbyshire and Derby is sourced from fossil fuels. This is generated outside of Derbyshire and Derby.

## Heritage



Development that would affect designated heritage assets should be avoided or the conflict minimised. This is especially important where the asset is of national or international significance, such as the World Heritage Site.





# Scoping



There are a number of heritage assets located in Derbyshire and Derby that are on the 'Heritage at Risk' Register. It is important that these assets are protected and where possible, enhanced in the future.

Minerals sites play a role in the upkeep of heritage assets through continued supply of local building materials.

## Landscape



The integrity of sensitive areas of landscape should be protected and enhanced in the future.

Minerals and waste operations (including associated transport infrastructure) can have a negative impact on the landscape and visual amenity. Sensitive location and design however can avoid or minimise the effects.

Landscape restoration proposals of former minerals sites provide an opportunity to enhance and improve landscape quality.

## Communities and health



It will be important to continue to respond to the greater demands placed on resources and minerals and waste infrastructure from an increasing population in Derbyshire and Derby.

There is a need to improve the overall skills levels of Derbyshire and Derby's workforce.

In terms of barriers to community services the most deprived areas are predominantly in the urban east of the county.

It is important that leisure and recreational sites are protected from new minerals and waste developments.

Opportunities should be taken to enhance health and well-being through proposals for the sensitive restoration and after use of mineral sites.

## Economy and housing



Ensure Derbyshire and Derby provides sufficient mineral resources to meet demand - through aggregates, other minerals and protecting mineral resources.

There is a need to ensure that minerals and waste development does not act as a constraint to residential development.

The Minerals Plan should seek to have a direct positive impact on local economic activity and employment opportunities and supporting infrastructure.

The decline of coal mining and traditional manufacturing in the north-east of Derbyshire has led to a concentration of areas where there are higher levels of unemployment and deprivation.

The industrial structure of both Derbyshire's and Derby's economies remain heavily dependent upon the manufacturing sector.





# Influencing Plan Development



## Options

The consideration of options to address plan issues is one way of shaping the plan approach, and this has been undertaken at several stages as the plan has been prepared.

## Vision and objectives appraisal

An appraisal of the draft vision and objectives was undertaken at earlier stages of the SA process. The findings were presented in an interim SA Report (July, 2013). Along with these findings and feedback from consultation, the vision and objectives were amended.

A compatibility assessment was undertaken where the objectives of the Plan were compared to those in the sustainability appraisal. The findings demonstrated that broadly speaking, the Plan objectives were mostly compatible with the SA objectives and were likely to have a positive relationship. No objectives were found to be wholly incompatible, as it was considered that negative effects could be avoided or mitigated. However, it is not possible to be certain about this at a high level of comparison.

# Options Appraisal

The initial stages of the Minerals Plan development involved consultation on a series of issues and options. SA was undertaken on the options, and the findings were taken forward to the 'rolling consultation' stage of plan development, which involved further consideration of options for specific plan issues.

An important stage was the appraisal of emerging strategies for mineral resources, where the SA provided an initial indication of effects associated with plan approaches. Where reasonable options existed, these were also appraised through the SA process. A summary of the headline findings of the appraisal for different plan elements is provided below.

**Aggregate crushed rock** The emerging plan approach was considered to have positive effects in terms of 'waste and minerals' and 'employment and housing'. No negative effects were identified.

**Brick and Fireclay** Positive effects likely in terms of 'waste and minerals' and 'employment and housing', regardless of the approach taken. A specific site allocation at Mouselow was considered to have mainly neutral effects on the remaining SA topics, with greater uncertainty associated with a criteria-based approach.

**Building Stone** Allocating sites would provide greater certainty of effects, and these would likely be positive with regards to several SA topics. However, there would likely be negative effects in terms of 'heritage and landscape', 'communities and health', 'air quality and transport'. A criteria-based approach is difficult to predict effects for accurately.

**Coal** In terms of identifying areas for future extraction of coal, the effects are mostly negative (across most of the SA Topics apart from minerals and energy) where there is greater support for coal extraction by identifying specific allocations.

**Hydrocarbons** The emerging strategy largely echoed national policy, and therefore effects were mostly neutral.

**Industrial limestone** In broad terms, positive effects were predicted on 'waste and minerals', as the primary principle is to secure a steady and stable supply of industrial limestone. However, an approach that relies solely upon allocations is likely to fall short, given that there is uncertainty about the level of need required, the complexity of the market (e.g. changing specifications) and a lack of information about potential site options or areas of search.

**Cumulative impacts** Effects are difficult to predict, but policies that seek to address cumulative impacts are likely to have positive effects upon sustainability factors as they seek to ensure that new developments in combination with existing and planned developments do not have significant negative effects upon the environment, communities or the economy.

**Safeguarding mineral resources** The proposed approach would have positive implications by ensuring a steady supply of minerals for economic development. It would also help to ensure that the need for mineral imports was minimised, which would reduce carbon emissions.





# Options Appraisal

## Restoration of hard rock: Carboniferous Limestone Quarries

The benefits of having a clear restoration strategy (rather than having a criteria based policy) were discussed. Positive effects would likely arise in terms of 'biodiversity', 'heritage and landscape' 'communities and health' and 'economy and housing'. It was also considered most appropriate to devise a number of restoration strategies that are predicated on the landscape character within which they sit, rather than applying the same approach to all parts of the plan area.

**Sand and Gravel** The policy approach identifies that the shortfall in sand and gravel will be met through the allocation of sites. Though there is a preference for extensions, this does not rule out new sites if they are demonstrably sustainable. As such, an appraisal of each site option has been undertaken to determine more accurately what the effects of the strategy for sand and gravel will be (see site appraisals).

**Restoration of the Trent River Valleys** The approach sets a standard for the restoration of sand and gravel sites, which will give the minerals industry certainty about the standard of restoration and aftercare expected. Restoration activities are likely to have positive effects on a range of topics through environmental improvement and recreation activities, particularly; 'biodiversity', 'waste and minerals', 'heritage and landscape' 'communities and health', and 'local economy and housing'.

**Sustainability principles** The emerging sustainability principles considered together were predicted as likely to have positive effects across all of the sustainability topics. A potential negative effect was

identified in relation to biodiversity, as some level of harm could be acceptable.

**Vein Minerals** It is difficult to predict the extent of effects as no firm criteria are established, and the policy is also high-level, and not site specific. Nevertheless, positive implications are likely for all of the SA topics given that the emerging policy is flexible and the proposed site assessment criteria wide-ranging in coverage of possible issues.

**Restoration and Aftercare** Restoration activities are likely to have positive effects on a range of topics through environmental improvement and recreation activities, particularly; 'biodiversity', 'land and water resources', 'heritage and landscape' 'communities and health', and 'climatic factors'.





# Appraisal Findings

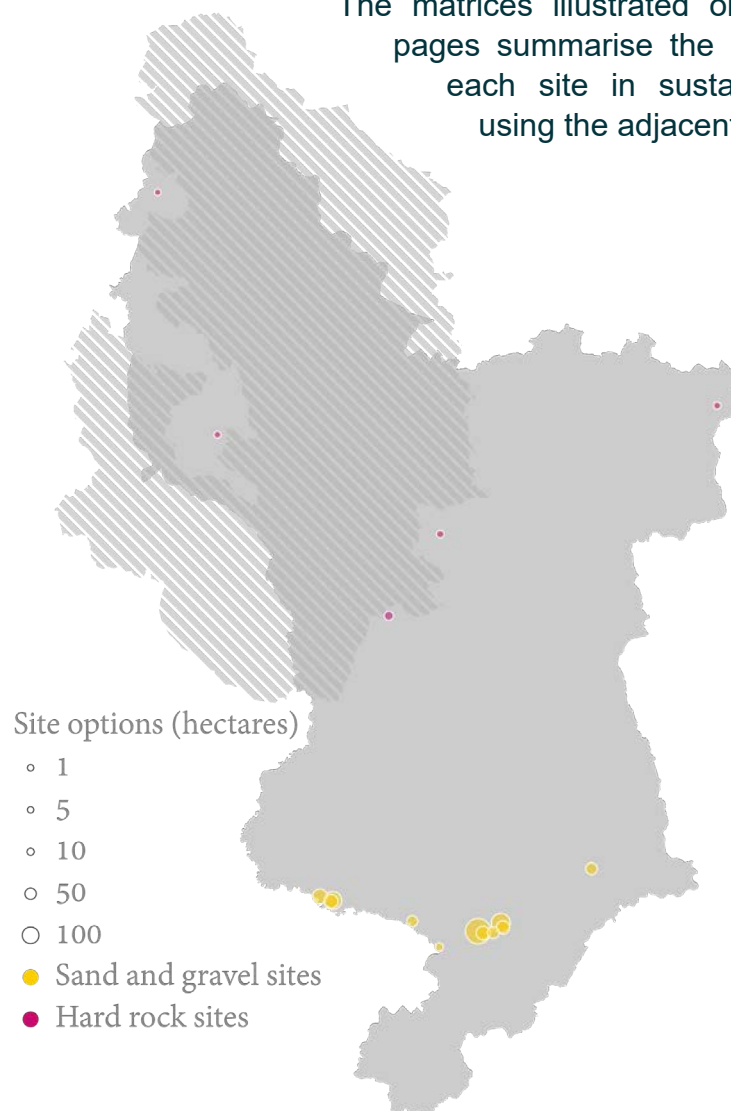
	Uncertain	?
Major positive	✓	✓
Minor positive	✓	
Neutral	/	
Minor negative	✗	
Major negative	✗	✗

Significance

## Site appraisal

The Council devised site appraisal methodologies to assess the constraints and opportunities associated with site options for sand and gravel, and hard rock sites (see below). A wide range of criteria have been used, covering all of the key sustainability issues.

The matrices illustrated on the following pages summarise the performance of each site in sustainability terms, using the adjacent impact scale.



# Site Appraisal Findings

## Sand and Gravel Sites

		Willington	Swarkestone North	Swarkestone South	Elvaston	Foremark	Foston	Egginton	Twyford	Foremark 2	Foston 2	Sudbury
Biodiversity Ecology	Existing impacts	Green	Green	Yellow	Red	Red	Red	Red	Green	Red	Red	Red
	Priority species and habitats	Red	Yellow	Yellow	Yellow	Red	Yellow	Red	Green	Yellow	Green	Yellow
	Ecological coherence	Red	Green	Green	Yellow	Red	Yellow	Red	Yellow	Red	Green	Red
	Habitat creation	Yellow	Green	Green	Green	Red	Yellow	Red	Green	Yellow	Green	Yellow
Land and water resources	Soil - Best and most versatile agricultural land	Green	Yellow	Green	Green	Green	Green	Green	Yellow	Green	Green	Green
	Water environment- Groundwater	Green	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Green
	Water environment - Aquifer protection	Yellow	Yellow	Red	Yellow	Yellow	Yellow	Yellow	Red	Red	Yellow	Yellow
	Existing Infrastructure	Green	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Waste and minerals	Location of site	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Landscape and visual amenity- Existing infrastructure	Green	Green	Yellow	Yellow	Red	Red	Red	Yellow	?	?	Red
	Landscape - Strength of existing landscape character	Red	Green	Green	Green	Red	Green	Red	Yellow	Yellow	Green	Yellow
	Landscape - Visual impact	?	Green	?	Yellow	Red	Yellow	Yellow	/	/	/	/
	Landscape - Existing impacts from mineral extraction	Green	Green	Yellow	Red	Red	Red	Yellow	Yellow	Red	Red	Red
	Historic environment - Designated sites and settings	Red	Red	Yellow	Red	Yellow	Green	Green	Red	Red	Yellow	Red



# Site Appraisal Findings

		Willington	Swarkestone North	Swarkestone South	Elvaston	Foremark	Foston	Egginton	Twyford	Foremark 2	Foston 2	Sudbury
Air quality and transport	Historic environment - Archaeology	Yellow	Green	Yellow	Green	Red	Green	Red	Red	Red	Yellow	Green
	Historic environment - Historic landscape character	Red	Green	Green	Green	Red	Green	Red	Green	Yellow	Green	Yellow
	Distance to market	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Mode of transport	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	Climatic factors - Water environment - Flood risk	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red
Communities and health	Transport - Local amenity	Green	Yellow	Green	Green	Red	Green	Green	Green	Green	Green	Green
	Air quality/human health - Proximity to AQMA	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
	Nuisance dust - Proximity to sensitive receptors	Green	Yellow	Green	Yellow	Red	Yellow	Yellow	Yellow	Green	Green	Green
	Noise - sensitive receptors	Green	Yellow	Green	Yellow	Red	Yellow	Yellow	Green	Green	Green	Green
	Visual intrusion - Properties and rights of way	Green	Yellow	Yellow	Yellow	Red	Yellow	Green	Yellow	Yellow	Yellow	Yellow
	Local Employment and housing - Employment	Green	Green	Green	Green	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Green



# Site Appraisal Findings



## Hard Rock Sites

	Aldwark South	Ashwood Dale	Mouselow	Parish Quarry	Whitwell
<b>Biodiversity</b>					
Ecology - existing impacts from mineral extraction	Yellow	Yellow	Yellow	Yellow	Green
Ecology - BAP priority species and habitats	Yellow	Green	Green	Green	Green
Ecology - Ecological coherence	Green	Green	Green	Yellow	Green
Ecology - Habitat creation	Green	Green	Green	Green	Green
Geodiversity - Geological and geomorphological features	Green	Green	Green	Green	Green
<b>Land and water resources</b>					
Soil - Best and most versatile agricultural land	Green	Green	Green	Green	Yellow
Water environment - Groundwater	Green	Green	Green	Green	Green
Water environment - Aquifer protection	Red	Red	Yellow	Yellow	Red
<b>Waste and minerals</b>					
Use of mineral resources	Green	Green	Green	Green	Green
Quality / Yield of minerals	Green	Green	Green	Green	Green
Existing Infrastructure - Is there existing infrastructure on site?	Green	Green	Green	Yellow	Green
Conservation of resources – Likelihood if site not allocated	Green	Green	Green	Yellow	Green
Location of site – Proximity to intended market	Green	Green	Green	Green	Green
<b>Heritage and landscape</b>					
Landscape - Strength of existing landscape character	Red	Yellow	Yellow	Yellow	Green
Landscape - Existing impacts from mineral extraction	Yellow	Yellow	Green	Green	Yellow
Landscape - Impact on the Peak District National Park	Red	Yellow	Green	Green	Green
Historic environment - Designated sites and settings	Green	Green	Green	Green	Green
Historic environment - Archaeology	Green	Green	Green	Green	Green
Historic environment - Historic landscape character	Yellow	Yellow	Green	Red	Green

## Air quality and transport

	Aldwark South	Ashwood Dale	Mouselow	Parish Quarry	Whitwell
<b>Air quality and transport</b>					
Air quality/human health – Proximity to AQMA	Green	Green	Green	Green	Green
Transport - Export Route	Green	Green	Green	Red	Green
Transport - Capacity for sustainable transport options	Yellow	Yellow	Yellow	Yellow	Yellow
<b>Climatic factors</b>					
Water environment - Flood risk	Green	Green	Green	Green	Green
<b>Communities and health</b>					
Transport - Safe and effective access to site	Green	Yellow	Green	Yellow	Green
Duration of mineral extraction	Red	Red	Yellow	Yellow	Yellow
Transport - Local amenity	Green	Green	Green	Yellow	Green
Nuisance dust – Proximity to sensitive receptors	Green	Yellow	Yellow	Green	Yellow
Noise - Proximity to sensitive receptors	Green	Yellow	Yellow	Yellow	Yellow
Visual intrusion – Sensitive receptors	Red	Yellow	Yellow	Red	Yellow
<b>Local Employment and housing</b>					
Employment – New and existing jobs	Green	Green	Green	Green	Green

# Appraisal of the Plan

## Appraisal of the Plan

The Pre Submission Plan (January 2023) has been appraised against the eight SA Topics. The effects have been determined through professional opinion, taking account of the current and projected baseline position established through the scoping process.

Overall, the Plan is predicted to have more positive effects than negative. The positive effects are also likely to be more significant. The key features of the Plan that generate positive effects are summarised below.

Restoration and aftercare policies are likely to contribute significant positive effects to biodiversity enhancement and recreational opportunities. There should also be benefits in terms of landscape restoration, management of pollution and flood risk.

A proactive approach to identifying a steady supply of minerals is taken, whilst encouraging and supporting greater use of secondary materials. This should lead to significant positive effects on waste and minerals, and also knock on benefits for the economy and housing.

SA Topic 1	SA Topic 2	SA Topic 3	SA Topic 4	SA Topic 5	SA Topic 6	SA Topic 7	SA Topic 8
Biodiversity Fauna and Flora	Land and water resources	Waste and minerals	Heritage and landscape	Air quality and transport	Climatic factors and energy	Communities and health	Local employment and housing
✗	✓ / ✗ / ?		✓ / ✗	✓ / ✗		✗	

Requirements to submit a statement demonstrating how climate change issues have been addressed should lead to benefits with regards to carbon emissions, adaptation to climate change and flooding.

Several policies seek to manage environmental impacts, but there could still be residual negative effects as a result of new quarrying activity, with temporary negative effects on biodiversity, health / communities, transport and air quality.

There is a desire to move towards more sustainable movements of waste and minerals, which could have some minor positive effects, but these are countered by increased HGV movements.

There could be short term negative effects on heritage assets and landscape, but in the longer term benefits could arise in relation to restoration activities.

The Plan is likely to have a significant positive effect.	
The Plan is likely to have a minor positive effect.	✓
The Plan is likely to have a negligible / neutral effect.	—
The Plan is likely to have a mixture of positive and negative effects	✓ / ✗
The Plan is likely to have a minor negative effect	✗
The Plan is likely to have a significant negative effect	
It is uncertain what effect the Plan will have on the SA objective(s).	?





# Mitigation and Monitoring

## Recommendations

Where negative effects have been identified through the appraisal process, mitigation measures have been considered and recommended to help minimise such effects. Where enhancement is considered possible, appropriate measures have also been recommended.

Recommendations have been made throughout the SA process as the Plan has developed, and the Council's have taken them into consideration when drafting and finalising policies.



# Monitoring

There is a requirement to identify monitoring measures for tracking any significant effects identified in the SA. The monitoring measures are outlined below; these will be finalised once the Plan is adopted.

## Biodiversity

Significant positive effects are predicted relating to the long term benefits associated with restoration and the principle of a net gain in biodiversity.

- Net gain/loss in biodiversity
- Restoration scheme progress

## Minerals and waste

The Plan is predicted to have significant positive effects by seeking to ensure a steady supply of minerals.

- Performance against land bank targets.
- Performance against mineral supply targets/projections.

## Climatic factors and energy

The Plan seeks to ensure that proposals minimise greenhouse gas emissions and build resilience to climate change, which are significant positive effects.

- Emissions generated by minerals facilities (on site and transportation).

## Communities and health

Significant positive effects are predicted to reflect the community benefits that ought to be secured at locations identified for extensions and new sites.

- Number of new jobs benefiting nearby communities
- Amount and type of recreational facilities secured through restoration

## Economy and housing

The Plan is predicted to have significant positive effects as minerals are important to support economic growth.

- It is difficult to measure effects upon the delivery of housing and economic growth.



**AECOM** Delivering a better world

© 2023 AECOM Limited. All Rights Reserved. This document has been prepared by AECOM Limited ("AECOM") for sole use of our client in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Spatial data and maps presented in this document contain Ordnance Survey data © Crown copyright and database right 2022. Contains public sector information licensed under the Open Government Licence v3.0.



