

## **Appendix 1**

# **Sand & Gravel Site Assessment Methodology**

## Introduction and Background

- 1.1 This proposed methodology for assessing potential sites for sand and gravel extraction in Derbyshire and Derby takes account of information in the consultation paper, “Towards a Strategy for Providing an Adequate and Steady Supply of Sand and Gravel” and its supporting paper, both published in April 2015. Any comments made to this consultation, which are relevant to the methodology, were taken into account in the preparation of this paper. Further comments received during the 2016 Rolling Consultation were also taken into account. The methodology has also been revised to be in accordance with the Hard Rock Sites Methodology, which was published for consultation in 2017. This has mainly involved alterations to the layout and organisation of the criteria and has not altered the overall approach or the outcome of the assessments to any significant extent. It has also been updated to take account of the most recent Government policy in the National Planning Policy Framework (2019) and the National Planning Practice Guidance (2014).
- 1.2 The assessment methodology also takes account of information in the Local Aggregate Assessment 2019.
- 1.3 The National Planning Policy Framework (NPPF) sets out that mineral planning authorities (MPAs) should make provision for the continued extraction of mineral resources of local and national importance. Sand and gravel is an aggregate mineral of both local and national importance, of which there are proven resources in Derbyshire and Derby. In terms of aggregate, the NPPF states that MPAs must plan for a steady and adequate supply through the preparation of a Local Aggregate Assessment (LAA), which will identify the amount of aggregate that will be required to be provided over the Plan period. The Derbyshire, Derby and Peak District LAA (2019) has identified a need for a further 8.27 million tonnes of sand and gravel to be provided from Derbyshire and Derby over the Plan period to 2036. The Minerals Local Plan (MLP) will allocate sites to provide for this.
- 1.4 Table 1 below sets out the criteria that have been used in assessing each site, in order to help achieve the objectives of the Plan. These criteria cover a wide range of environmental, social and economic considerations and relate to aspects and impacts of mineral development that are covered in the NPPF, NPPG and other relevant guidance and information. We have also had regard to the sustainability appraisal scoping report in developing the criteria.

- 1.5 Initially, the MPA sought to identify those broad areas where extraction would be most suitable and sustainable by undertaking a 'strategic areas' evaluation. The evaluation exercise concluded that there should be no specific preference set out in the assessments for mineral working in the Trent, Derwent or Lower Dove Valleys. It concludes that an assessment of all the economic, social and environmental factors, using a comparative method of scored comparison will ensure that all sites are considered on an equal footing in this respect, regardless of their general location within the river valleys.
- 1.6 The NPPF does not indicate a preference for whether allocated sites should be new greenfield sites or extensions to existing sites. The National Planning Practice Guidance explains this further, setting out that all sites should be treated on their own merits, taking account of the need for the specific mineral; economic considerations (such as being able to continue to extract the resource, retaining jobs, being able to utilise existing plant and other infrastructure), and positive and negative environmental impacts (including the feasibility of a strategic approach to restoration). At the Issues and Options stage, people expressed overall support for allocating extensions rather than new sites. This general preference has continued through subsequent consultation exercises.
- 1.7 Having taken this latest guidance into account, together with public opinion expressed on this issue, we have included in this site assessment methodology criteria that favour the sites which would best utilise existing infrastructure, retain jobs, avoid sterilisation of mineral resources, and take account of cumulative impact and potential for strategic restoration.

### **Stage 1 - Evidence Gathering**

- 1.8 A desktop analysis has been carried out initially for each site, which collected a significant amount of the information in order to assess a number of the criteria, before all sites were visited to assess those criteria which require further more detailed attention and also to verify some desktop data.
- 1.9 We have also taken advice from appropriate statutory bodies such as the Environment Agency, Natural England, Historic England and East Midlands Airport, as well as consulting in-house specialists on issues including ecology, landscape and the historic environment.

## **Stage 2 – Identifying Major Constraints**

- 1.10 Any sites that are found to have major infrastructural or environmental constraints, which mean they are unlikely to be able to be worked, will be ruled out of the assessment. This includes issues such as lack of economic mineral, whether the site could be accessed without causing undue harm or disruption to the area, incompatibility with policies and proposals in District/Borough Local Plans (Under the Duty to Co-operate, we liaise with District/Borough Councils and this will detect where this is an issue) and whether the site is able to be delivered during the Plan period.
- 1.11 Government guidance in the National Planning Policy Framework (NPPF) states that sites that are included for development in a Local Plan should be realistic, deliverable and achievable. It is important, therefore, to ensure that sites which are not considered to be deliverable are filtered out of the process at an early stage. This includes sites that have been put forward by the minerals industry which are unlikely to be worked until after the end of the Plan period (2036).

## **Stage 3 – Detailed Assessment**

- 1.12 An assessment has been undertaken for each of the suggested sites using the criteria set out in Table 1 below.

## **Stage 4 - Analysis of Results**

- 1.13 In order to consider which sites are most suitable to allocate in the Minerals Local Plan, the following method has been used:
- 1.14 For each of the criteria, we have set out the scale of impacts against which to measure the effects of working each site. We have categorised the impacts into those factors that would favour the selection of the site for working and those that would count against selecting the site for working. We have assigned scores to the factors to enable the evaluation process to be used as a mechanism to aid the understanding of the comparative merits of the sites; a score of 4 for major positive factors in favour of allocation down to a score of 1 for major negative factors against allocation. We took the decision to use positive scores even for the negative factors because it is easier to compare results which are all positive rather than results for some of the sites being negative and others positive.

++ Major positive factor in favour of allocation (4 points)

+ Positive factor in favour of allocation (3 points)

- Negative factor against favouring an allocation (2 points)
  - Major negative factor against favouring an allocation (1 point)
- 1.15 When the sites have been assessed, the scores for the criteria for the social and economic categories have been added to produce a total for each of these categories. For the environmental criteria, the scoring from an environmental matrix has been used. This combines both the site assessment work and the strategic environmental sensitivity work.
- 1.16 For each category, the sites have been ranked, so the lowest scoring site (i.e. with the least potential for allocation) achieves a ranking of '1'. Where two sites have the same score, the difference has been split (so if two sites have an economic score of 9, and would have been ranked 2<sup>nd</sup> and 3<sup>rd</sup>, these have both been assigned a ranking of 2.5). Where three sites get the same score, all sites have been allocated the middle ranking, i.e. if the sites which are ranked 6, 7 and 8 scored the same, all three have been assigned a ranking of 7.
- 1.17 These economic, social and environmental rankings have then been added together to provide an overall score – theoretical maximum 24; minimum 3. This has determined the overall potential for working each site. Sites with high potential have been deemed as potential allocations in this Minerals Local Plan. Sites in the medium category may have the potential to be considered as allocations if there are insufficient sites with high potential to meet the remaining requirement for sand and gravel over the Plan period or, during the Plan period, monitoring indicates that the allocated sites are not being, or will not be, delivered as anticipated. Sites assessed as having low potential are unlikely to be considered for allocation in the Plan.

### **Explanatory Note**

#### **None/Few/Some/Many**

- 1.18 For some indicators the Assessment provides an indication of the number of properties affected by a criterion by using the general terms none, few, some and many. These general terms have been assigned numbers to provide an indication of the number of properties involved.

None – 0, Few – 1-5, Some – 6-19, Many 20+

#### **Sensitive Receptors**

For some indicators the Assessment refers to impacts on sensitive receptors; examples of such receptors are set out below:

- Visual sensitive receptors: Residences, Retirement Homes, Hospitals, Community Facilities, Hotels, Footpath/Trail users etc.
- Noise Sensitive receptors: Residences, Retirement Homes, Hospitals, Schools, Places of Worship, Offices, Farms, Hotels etc.
- Dust Sensitive receptors: Residences, Retirement Homes, Hospitals, Schools, Farms, Hotels, some industries such as food processing, hi-tech etc.

## Site Assessment Criteria

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
<b>Economic Criteria</b>						
Need for the mineral	01	To maximise the potential economic benefits of mineral operations to a sustainable economy in the Plan area and other parts of the Country	1.The provision for a steady and adequate supply of minerals will be delivered by the identification and maintenance of future supply requirements in line with national planning policy and locally agreed estimates. This will include the figures identified in the Local Aggregate Assessment and maintaining adequate landbanks for other minerals and the provision of an adequate number of sites to deliver the identified supply requirement.	NPPF requires that local plans should plan for an adequate and steady supply of industrial minerals. Additionally, for aggregates, NPPF sets out specific requirements for providing a stock of permitted reserves (land bank). Is there an identified need for additional reserves to maintain supply throughout the Plan period?	++ + --	Detailed evidence to support the need for additional reserves to maintain supply throughout the Plan period Some evidence to support the need for additional reserves to maintain supply throughout the Plan period Insufficient evidence to support the need for additional reserves to maintain supply throughout the Plan period
Existing Infrastructure	02	To achieve a more efficient use of natural resources and infrastructure, minimise the production of waste and increase reuse, recycling and recovery of waste in Derby and Derbyshire.	3.This includes developing locational policy which encourages new or extended minerals developments in locations as near as possible to where they will be used and which can be delivered using the most sustainable transport links. The locational policy will be developed with regard to the restrictions which are imposed by choices being limited to where mineral resources are present and to sites which are genuinely deliverable.	Mineral processing plant/infrastructure can be expensive to develop and therefore NPPG states that economic considerations such as the utilisation of existing plant and infrastructure should be taken into account in considering the suitability of new sites and extensions to existing sites. Is there existing infrastructure that would be utilised by the proposed operation to process the mineral?	+ -	Yes existing infrastructure exists on or adjacent to the site No new infrastructure would be required to process the mineral

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
Location of Site to Market Areas	03	To achieve a more efficient use of natural resources and infrastructure, minimise the production of waste and increase reuse, recycling and recovery of waste in Derby and Derbyshire.	3.This includes developing locational policy which encourages new or extended minerals developments in locations as near as possible to where they will be used and which can be delivered using the most sustainable transport links. The locational policy will be developed with regard to the restrictions which are imposed by choices being limited to where mineral resources are present and to sites which are genuinely deliverable.	Market areas vary greatly for minerals depending on their type from international, national or more local. Where relevant, an assessment will be made on the appropriateness of the location of the site for its intended market. Is the site appropriately located in relation to the market it is intended to serve?	+ _	The site is well located to serve its intended market The site is not well located to serve its intended market
Employment	04	To maximise the potential economic benefits of mineral operations to a sustainable economy in the Plan area and other parts of the Country	2.Delivering sustainable minerals development will be achieved by the combined implementation of all the policies and proposals of the new Plan. This will include policies to direct the location of new and extended mineral extraction sites to areas which can help deliver the economic, social and environmental principles of sustainable development and by ensuring the more efficient exploitation and use of primary mineral resources by minimising waste, maximising levels of secondary and recycled aggregates and the reuse of all other minerals.	The minerals industry can provide an important source of local employment. NPPG states that economic considerations such as the retention of jobs should be taken into account in considering the suitability of new sites and extensions to existing sites. Would the proposal create new jobs? Would the proposal lead to the retention of jobs at a currently operational site? Would the proposal create new jobs but lead to job losses elsewhere?	++ _	A new operation which would result in the creation of new jobs The continuation of an operation leading to the retention of existing jobs or a new operation which would result in the creation of new jobs but which would result in job losses elsewhere.



Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
Yield of mineral	05	To maximise the potential economic benefits of mineral operations to a sustainable economy in the Plan area and other parts of the Country	1.The provision for a steady and adequate supply of minerals will be delivered by the identification and maintenance of future supply requirements in line with national planning policy and locally agreed estimates. This will include the figures identified in the Local Aggregate Assessment and maintaining adequate landbanks for other minerals and the provision of an adequate number of sites to deliver the identified supply requirement.	NPPF requires that local plans should plan for an adequate and steady supply of industrial minerals. In order to assess whether a site will meet an identified need it is important to determine the scale and nature of the promoted mineral resource. Does the site contain a viable mineral resource which would contribute towards the overall requirement over the Plan period? What are the number of tonnes per hectare?	++ + - --	>75,000 tph 50,000 – 75,000 tph 25,000 – 50,000 tph < 25,000 tph
<b>Social Criteria</b>					18	
Duration of mineral extraction	06	To protect, maintain and improve the health and well-being of Derby and Derbyshire's people and communities.	5. The Plan will minimise the potential adverse impacts of minerals development on local communities in the area by protecting their existing amenity, quality of life, social fabric and health. Particular emphasis will be given to the need to prevent further cumulative impacts. This will include developing locational policy to ensure the appropriate separation between minerals sites and the places where people live and work, policies which promote the highest standards of design and operation and setting out criteria to ensure that only acceptable development	NPPF requires the cumulative impact of proposals to be taken into account. The duration of the operation should be a consideration as it will affect the overall scale of impact on local communities. What is the intended timeframe for working the site in addition to any existing permitted reserves?	++ + - --	Short-term 0-10 years Medium-term 11-20 years Long-term 21-30 years Very long-term 31+ years

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
			proposals are allowed and which incorporate appropriate mitigation measures.			
Visual impact	07	To protect, maintain and improve the health and well-being of Derby and Derbyshire's people and communities.	5.The Plan will minimise the potential adverse impacts of minerals development on local communities in the area by protecting their existing amenity, quality of life, social fabric and health. Particular emphasis will be given to the need to prevent further cumulative impacts. This will include developing locational policy to ensure the appropriate separation between minerals sites and the places where people live and work, policies which promote the highest standards of design and operation and setting out criteria to ensure that only acceptable development proposals are allowed and which incorporate appropriate mitigation measures.	NPPF requires that mineral operations do not have unacceptable adverse visual impacts. Visual intrusion covers impact of the workings in relation to visually sensitive receptors e.g. nearby communities, PROW users. The Assessment makes a judgement on the visual impact of working on 'sensitive receptors'. The assessment takes into account as far as possible; proximity to sensitive receptors, topography of site and existing screening measures.	++ + _ --	The site has few or no visually sensitive receptors and/or only small parts of the site will be visible from them. The site has few visually sensitive receptors but large parts (or more than one part) of the site will be visible from them. The site has some visually sensitive receptors and/or some parts of the site will be visible from them. The site has many visually sensitive receptors and/or large parts (or more than one part) of the site will be visible from them.

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
Noise	08	To protect, maintain and improve the health and well-being of Derby and Derbyshire's people and communities.	5.The Plan will minimise the potential adverse impacts of minerals development on local communities in the area by protecting their existing amenity, quality of life, social fabric and health. Particular emphasis will be given to the need to prevent further cumulative impacts. This will include developing locational policy to ensure the appropriate separation between minerals sites and the places where people live and work, policies which promote the highest standards of design and operation and setting out criteria to ensure that only acceptable development proposals are allowed and which incorporate appropriate mitigation measures.	NPPF requires that mineral operations do not have unacceptable adverse noise impacts. At the planning application stage it is likely that a Noise Assessment study will need to be undertaken. At this stage however it is possible to indicate where noise might be an issue by assessing the number of noise sensitive receptors and their distance from the site. The IAQM study <sup>1</sup> has been used to classify receptors as having high/medium/low sensitivity to dust. In the absence of detailed information about the sources of noise the site boundary has been used from which to measure potential impacts. The assessment takes into account the number of 'noise sensitive receptors' within 200 and 500m of site.	++ + - --	The site has no noise sensitive receptors within 500m of the boundary of the site The site has no or few noise sensitive receptors within 200m of the boundary of the site and some within 500m The site has no or few noise sensitive receptors within 200m of the boundary of the site and many within 500m The site has many noise sensitive receptors within 200m of the boundary of the site
Dust	09	To protect, maintain and improve the health and well-being of Derby and Derbyshire's people and communities.	5.The Plan will minimise the potential adverse impacts of minerals development on local communities in the area by protecting their existing amenity, quality of life, social fabric and health. Particular emphasis will be given to the need to prevent further cumulative impacts. This will include developing locational policy to ensure the appropriate separation between minerals sites and the places where people live and work, policies which promote the highest	NPPF requires that mineral operations do not have unacceptable adverse dust impacts. NPPG sets out further guidance on this matter. At the planning application stage it is likely that a Dust Assessment Study will need to be undertaken. At this stage, however, it is possible to indicate where dust might be an issue by assessing the number of dust sensitive receptors and their distance from the site. In the absence of detailed information about the sources of dust the site boundary has been used from which to measure potential impacts.	++ + - --	The site has no high/medium dust sensitive receptors within 400m of the boundary of the site The site has no or few high/medium dust sensitive receptors within 100m of the boundary of the site and some within 400m The site has no or few high/medium dust sensitive receptors within 100m of the boundary of the site and many within 400m The site has many high/medium dust sensitive receptors within 100m of the boundary of the site

<sup>1</sup> Guidance on the Assessment of Mineral Dust Impacts for Planning, IAQM, May 2016 (v1.1)

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
			standards of design and operation and setting out criteria to ensure that only acceptable development proposals are allowed and which incorporate appropriate mitigation measures.	<p>Dust arising from a quarry can reduce amenity in the local community due to visible dust plumes and dust soiling. The generally coarser dust that leads to these effects may, therefore, be referred to as 'dis-amenity dust'. The smaller dust particles can remain airborne longer, potentially increasing local ambient concentrations of suspended particulate matter (e.g. PM10 and to a lesser extent PM2.5), which is associated with a range of health effects. Mineral site impacts are more likely to result in PM10 particulates rather than PM2.5 matter.</p> <p>The IAQM study<sup>2</sup> states that adverse dust impacts are uncommon beyond 400m of hard rock quarries. The greatest potential for high rates of dust deposition and elevated PM10 concentrations will be within 100m of a source and this can include both large (&gt;30um) and small dust particles. Intermediate sized particles (10um to 30um) may travel up to 400m, with occasional elevated levels of dust deposition and PM10 possible. Particles of less than PM10 have the potential to persist beyond 400m but with minimal significance due to dispersion. These bands have been used to define indicators for assessment.</p>		
Dust - Air Quality/Health Impacts	10	To protect, maintain and improve the	5.The Plan will minimise the potential adverse impacts of minerals development on local	NPPG advises that additional measures to control PM10s might be necessary if the actual source of the emission is in close	+ - --	Site does not lie within 1000m of an AQMA Site lies within 1000m of an AQMA Site lies within an AQMA

<sup>2</sup> IAQM -'Guidance on the Assessment of Mineral Dust Impacts for Planning (May 2016v1.1)

Criteria	Criteria Ref.	Interim SE/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
		health and well-being of Derby and Derbyshire's people and communities.	communities in the area by protecting their existing amenity, quality of life, social fabric and health. Particular emphasis will be given to the need to prevent further cumulative impacts. This will include developing locational policy to ensure the appropriate separation between minerals sites and the places where people live and work, policies which promote the highest standards of design and operation and setting out criteria to ensure that only acceptable development proposals are allowed and which incorporate appropriate mitigation measures.	<p>proximity to any residential property or sensitive use. PM10s make up a small proportion of dust emitted from most mineral workings but can travel up to 1km.</p> <p>NPPG sets out an assessment framework for analysing the impacts of PM10s. The initial step is to ascertain if sensitive receptors lie within 1km of the site activity and/or PM10 levels are likely to exceed Air Quality Objectives (AQO). These objectives relate to the protection of human health and include maximum levels of PM10s. A detailed analysis of dust sources and/or PM10 levels would need to be undertaken at the planning application stage.</p> <p>We do, however, know the location of Air Quality Management Areas which are designated because Air Quality Objectives) are not being met. Unacceptable levels of PM10s are one factor that may result in the establishment of an Air Quality Management Area to address the problem. The presence of an AQMA is an indicator that air quality is poor which might constrain the location of additional dust generating development. Given that PM10s can travel up to and over 1000m, this distance has been used as a cut-off point.</p>		
Transport – Export route (vehicular)	11	To minimise traffic levels, journey lengths the number of road traffic	3.This includes developing locational policy which encourages new or extended minerals developments in locations as near as possible to where they will be used and which	What is the main export route (vehicular) from the site?	++ + -	Direct onto the strategic road network (I.e. and A class road or a road that is a designated freight route. Direct onto a B class road with short haul to strategic road network

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
		related accidents, and to encourage sustainable forms of transport in Derby and Derbyshire.	can be delivered using the most sustainable transport links. The locational policy will be developed with regard to the restrictions which are imposed by choices being limited to where mineral resources are present and to sites which are genuinely deliverable.		--	Direct onto a B class road but with long haul to strategic road network Direct on to minor roads unsuitable for HGVs
Transport - Capacity for sustainable transport options	12	To minimise traffic levels, journey lengths the number of road traffic related accidents, and to encourage sustainable forms of transport in Derby and Derbyshire.	8.The Plan will seek to minimise and mitigate the risk of flooding, both on site and elsewhere, as well as the impacts of climate change arising from minerals developments. This will include the development of locational policy to avoid inappropriate locations and encouraging well designed and operated developments that make provision for the management of water, minimise the use of machinery emissions and transport, the most appropriate location and use of processing plant and by securing appropriate forms of restoration which address how sites interact with their surroundings in the longer term.	NPPF promotes the use of alternatives to road transport provided that they are environmentally preferable. This helps to reduce carbon emissions thus reducing the impacts on the climate. Is an alternative mode of transport to road proposed?	++ + -	All material would be transported by rail or canal Some material would be transported by rail or canal All material would be transported by road
Transport - Safe and effective access to and from the site	13	To minimise traffic levels, journey lengths the number of road traffic related accidents, and to encourage sustainable forms of	3.This includes developing locational policy which encourages new or extended minerals developments in locations as near as possible to where they will be used and which can be delivered using the most sustainable transport links. The locational policy will be developed with regard to the restrictions which are imposed by choices being	What are the existing or proposed access arrangements for the site?	++ - --	Existing approved access to current highway standards Existing approved access not to current highway standard but no pattern of existing collisions or congestion at access location or no existing access , but subject to agreement with local highway authority new access likely to be accepted Existing approved access not to current highway standard and current pattern of existing collisions or congestion at access location or no existing access and subject to agreement with local highway authority new access unlikely to be acceptable.

Criteria	Criteria Ref.	Interim SE/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
		transport in Derby and Derbyshire.	limited to where mineral resources are present and to sites which are genuinely deliverable.			
Transport – Local Amenity	14	To protect, maintain and improve the health and well-being of Derby and Derbyshire's people and communities.	5.The Plan will minimise the potential adverse impacts of minerals development on local communities in the area by protecting their existing amenity, quality of life, social fabric and health. Particular emphasis will be given to the need to prevent further cumulative impacts. This will include developing locational policy to ensure the appropriate separation between minerals sites and the places where people live and work, policies which promote the highest standards of design and operation and setting out criteria to ensure that only acceptable development proposals are allowed and which incorporate appropriate mitigation measures.	NPPF requires that mineral operations do not have unacceptable adverse traffic impacts. The movements of minerals and importation of fill material for restoration can generate large volumes of traffic, mainly heavy goods vehicle (HGVs). Such traffic can impact on communities causing problems such as public safety, noise and vibration, air pollution and visual intrusion. These problems are most severe where HGVs use roads unsuited to their weight and size, where they pass through sensitive areas and at the access to the site from the public highway. Will associated mineral traffic pass through sensitive areas on the way to the strategic road network?	++ + – – –	HGVs would have to pass no sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes) HGVs would have to pass few sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes) HGVs would have to pass some sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes) HGVs would have to pass many sensitive receptors between the site and the start of the local strategic network (A Class Road or designated freight routes)
Cumulative Impact	15			Cumulative impact arises not only from successive mineral operations in the same area, but also coupled with other types of commercial activity, which may have an impact on an area over time.	+ –	There are no significant impacts of past or present mineral extraction or other significant commercial activity in the area There are not any current mineral workings in the area but there have been workings in the recent past and there is other commercial activity in the area
Birdstrike – Airport Safeguarding	16			What is the potential risk of birdstrike? We have established in consultation with EMA the degree to which the suggested sites pose a potential risk to aircraft safety taking into account how the airport operates. We have also taken into account	+ – – –	Site lies within an area where there is a low potential risk of birdstrike Site lies within an area where there is a medium potential risk of birdstrike Site lies in an area where there is a high potential risk of birdstrike

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				the potential impact on the smaller Derby Aerodrome near Egginton		
<b>Environmental Criteria</b>						
Water Environment – Flood Risk	17	Limit vulnerability to flooding taking account of climate change	8.The Plan will seek to minimise and mitigate the risk of flooding, both on site and elsewhere, as well as the impacts of climate change arising from minerals developments. This will include the development of locational policy to avoid inappropriate locations and encouraging well designed and operated developments that make provision for the management of water, minimise the use of machinery emissions and transport, the most appropriate location and use of processing plant and by securing appropriate forms of restoration which address how sites interact with their surroundings in the longer term.	NPPF requires that mineral operations do not have unacceptable adverse impacts on flood risk. The EA designates flood zones which are susceptible to different risks of flooding. Zone 1 has the lowest probability of flooding and Zone 3 the highest. NPPG advises that a risk-based sequential test should be applied to proposals with the aim of steering new development to areas at the lowest probability of flooding. It classifies land uses according to their vulnerability to flooding; sand and gravel workings are classed as water compatible development which is appropriate development in zones 1, 2 and 3a. However, mineral working should not increase flood risk elsewhere and needs to be designed, worked and restored accordingly. It sets out that it may be possible to locate ancillary facilities such as processing plant and offices in areas at lowest flood risk. Sequential working and restoration can be designed to reduce flood risk by providing flood storage and attenuation.	++ + - --	Site lies within flood zone 1- lowest probability of flooding Site lies within flood zone 2- medium probability of flooding Site lies within flood zone 3a- high probability of flooding Site lies within flood zone 3b- functional flood plain



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Water Environment – groundwater	18	To protect, maintain and improve the health and well-being of Derby and Derbyshire's people and communities.	8.The Plan will seek to minimise and mitigate the risk of flooding, both on site and elsewhere, as well as the impacts of climate change arising from minerals developments. This will include the development of locational policy to avoid inappropriate locations and encouraging well designed and operated developments that make provision for the management of water, minimise the use of machinery emissions and transport, the most appropriate location and use of processing plant and by securing appropriate forms of restoration which address how sites interact with their surroundings in the longer term.	NPPF requires that mineral operations do not have unacceptable adverse impacts on groundwater. The EA designates Groundwater Source Protection Zones for important groundwater abstraction sources such as wells, boreholes and springs used for drinking water supply, and defines them according to the groundwater travel time to an abstraction. It is important within these Zones not to interrupt the flow or to pollute the groundwater. In principle, source protection zones 1 are the most important to protect form harmful development.	++ + – --	Site lies outside a groundwater protection zone Site lies within a groundwater protection zone 3 Site lies within a groundwater protection zone 2 Site lies within a groundwater protection zone 1
Water Environment - aquifer protection	19	To protect, maintain and improve the health and well-being of Derby and Derbyshire's people and communities.	8.The Plan will seek to minimise and mitigate the risk of flooding, both on site and elsewhere, as well as the impacts of climate change arising from minerals developments. This will include the development of locational policy to avoid inappropriate locations and encouraging well designed and operated developments that make provision for the management of water, minimise the use of machinery emissions and transport, the most appropriate location and use of processing plant and by securing appropriate forms of restoration which address how sites	NPPF requires that mineral operations do not have unacceptable adverse impacts on groundwater. Permeable rock deposits that store groundwater are known as aquifers. The EA designates two types of aquifer, superficial drift and bedrock deposits. Aquifers are further classified as Principal or Secondary. Principal aquifers usually provide a high level of water storage and may support water supply and/or river base flow on a strategic scale. Consequently they require the greatest protection from development that might be harmful to them.	+ – --	Site lies on a Non Aquifer Site lies on a Secondary Aquifer Site lies on a Principal Aquifer

Criteria	Criteria Ref.	Interim SE/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
			interact with their surroundings in the longer term.			
Ecology – existing impacts from mineral extraction	20	To protect, maintain and enhance biodiversity and geodiversity in Derby and Derbyshire, ensuring no net loss of important sites, habitats or species.	6.The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on protected wildlife or geodiversity sites. Distinctions should be made between the hierarchy of international, national and locally designated sites. So that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks. Is there a presence or absence of existing impacts from mineral extraction?	++  + - --	Over a wide area habitats have been fragmented by mineral extraction or habitats of limited quality have been created through mineral extraction but have potential to make a major contribution to biodiversity targets Localised but moderate to high impacts Only localised, limited impacts associated with mineral extraction on habitats within or adjacent to the site None or insignificant impacts from mineral extraction on habitats within or adjacent to the site
Ecology – UK, regional and local BAP priority species and habitats	21	To protect, maintain and enhance biodiversity and geodiversity in Derby and Derbyshire, ensuring no net loss of important sites, habitats or species.	6. The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on protected wildlife or geodiversity sites. Distinctions should be made between the hierarchy of international, national and locally designated sites. So that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks. Is there a presence or absence of existing priority habitats and species as identified by UK, regional and local BAPs?	++  + - --	Extensive areas of degraded or biodiversity poor habitats that provide a context for possible allocation with an emphasis on habitat creation contributing to UK priority habitats Some areas of degraded or biodiversity poor habitats that provide a context for possible allocation with an emphasis on habitat restoration or creation contributing to UK and local priority habitats Some areas of positive ecological value including UK or local priority habitats or species which should be considered for protection/conservation Extensive areas of positive ecological value including UK priority habitats or species which should be considered for protection/conservation

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
Ecology – ecological coherence: Natural Areas/ Wildlife Corridors/linkages	22	To protect, maintain and enhance biodiversity and geodiversity in Derby and Derbyshire, ensuring no net loss of important sites, habitats or species.	6.The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on protected wildlife or geodiversity sites. Distinctions should be made between the hierarchy of international, national and locally designated sites. So that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks. Does the site have strong ecological coherence?	++ + – – –	The proposed site no longer accords with the established habitats over a wider area. The proposed site has few characteristics that accord with the established habitats over a wider area and its internal ecological coherence is poor OR coherence of the wider area is poor The proposed site generally accords with the established habitats over a wider area (or in part) but the condition of habitats is poor OR few features within the site but encompassed by landscapes which have ecological coherence The proposed site accords with the established habitats over a wider area and habitat pattern is strong
Ecology – Habitat Creation	23	To protect, maintain and enhance biodiversity and geodiversity in Derby and Derbyshire, ensuring no net loss of important sites, habitats or species.	6.The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on protected wildlife or geodiversity sites. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks. Does the site provide opportunities for habitat creation?	++ + – – –	The proposed site offers excellent opportunities to create or enhance UK priority habitats within the site and offers biodiversity benefit over a wider area e.g. by enhancing a habitat corridor. The site offers some opportunities to create or enhance UK or local priority habitats within its boundaries, making overall habitat gain, but may not make appropriate linkages to wider area. Existing habitats are intact and habitat creation would only provide limited biodiversity enhancement within the site or the wider area. Existing habitats are intact and make a strong contribution to priority biodiversity targets for conservation and there is strong ecological coherence within the site; habitat creation would not enhance the site or the wider area.

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
Landscape-existing impacts from mineral extraction	24	To protect, conserve and enhance the quality, local distinctiveness and enjoyment of Derby and Derbyshire's diverse landscapes, green infrastructure, townscape character, and cultural heritage	6. The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on the landscape character of an area. What are the existing impacts on the landscape from any nearby mineral extraction?	++ + - --	There are widespread, moderate to high impacts associated with past mineral extraction There are localised moderate to high impacts associated with past mineral extraction There are only localised, low impacts associated with past mineral extraction There are insignificant impacts associated with past mineral working
Landscape – Strength of Landscape Character	25	To protect, conserve and enhance the quality, local distinctiveness and enjoyment of Derby and Derbyshire's diverse landscapes, green infrastructure, townscape character, and cultural heritage	6. The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on the landscape character of an area. Is the character of the landscape strong and visually coherent?	++ + - --	The proposed site no longer accords with the established landscape character and the restoration of a 'new' landscape is required (Restore/create) The proposed site has few characteristics that accord with the established landscape character and the condition is poor (Enhance) The proposed site generally accords with the established landscape character (or in part) but the condition could be enhanced (Conserve and enhance) The proposed site accords with the established landscape character and is in good condition (Conserve)
Historic Environment – designated sites and settings	26	To protect, conserve and enhance the quality, local distinctiveness and enjoyment of Derby and	6.The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential	NPPF requires that mineral operations do not have unacceptable adverse impacts on the historic environment. It requires that heritage assets are conserved in a manner appropriate to their significance, and places great weight on the conservation of designated heritage assets.	+ - --	No perceivable impact on a designation and/or its setting Impact on Grade II Listed Building/Registered Historic Park and Garden, Conservation Area and/or its setting Impact on Grade I or II* Listed Building/Registered Historic Park and Garden, Scheduled Monument, World Heritage Site and/or its setting.

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
		Derbyshire's diverse landscapes, green infrastructure, townscape character, and cultural heritage	adverse impacts of minerals developments.	Would working the site impact on a designated heritage asset/site and/or its setting?		
Historic Environment – Archaeology	27	To protect, conserve and enhance the quality, local distinctiveness and enjoyment of Derby and Derbyshire's diverse landscapes, green infrastructure, townscape character, and cultural heritage	6.The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on the historic environment including archaeological assets. What is the archaeological importance of the site?	++ + – --	Little or known earthworks and/or known archaeology with low potential for buried archaeology Occasional or localised earthworks (may not be visually evident) and/or known archaeology with limited potential for buried remains Frequent, visible and interpretable earthworks and/or some known archaeology with significant potential for buried remains Extensive, visible and interpretable earthworks and/or known archaeology with high potential for buried remains.

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
Historic Environment – historic landscape	28	To protect, conserve and enhance the quality, local distinctiveness and enjoyment of Derby and Derbyshire's diverse landscapes, green infrastructure, townscape character and cultural heritage.	6.The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that mineral operations do not have unacceptable adverse impacts on the historic environment including historic landscape character. Is the historic character of the landscape strong?	++ + – --	Historic field pattern largely gone Remnant field patterns with significant boundary loss Recognisable field patterns with some boundary loss Evidence of multi-period landscape and/or intact field pattern (as indicated by 1st edition OS or earlier)
Best and Most Versatile Agricultural Land	29	To protect, conserve and enhance air, water and soil quality, minimise light and noise pollution and land instability.	6.The Plan will conserve and enhance the areas' natural and built environment, including its distinctive landscapes, habitats, wildlife and other important features by avoiding, minimising and mitigating potential adverse impacts of minerals developments.	NPPF requires that the long term potential of the best and most versatile agricultural should be safeguarded from the impacts of mineral working.  At this stage we do not have detailed working and restoration proposals to assess how much BMV land will be affected, neither do we have detailed information about the location of BMV land. We have decided to use DEFRA's predictive agricultural land classification map to indicate whether the site lies within an area where there is a high, moderate or low likelihood of BMV land being present. In principle areas of BMV land should be protected.	++  -  --	The site lies within an area where there is a low likelihood of bmv land (less than 20% of the land is likely to be bmv).  The site lies within an area where there is a moderate likelihood of bmv land (20-60% of the land is likely to be bmv).  The site lies within an area where there is a high likelihood of bmv land (more than 60% is likely to be bmv).

Criteria	Criteria Ref.	Interim SEA/SA Objective	Draft Plan Objectives	Considerations	Scale of impact	Indicators
				<p>What is the likelihood of the site containing best and most versatile (BMV) agricultural land?</p>		





