

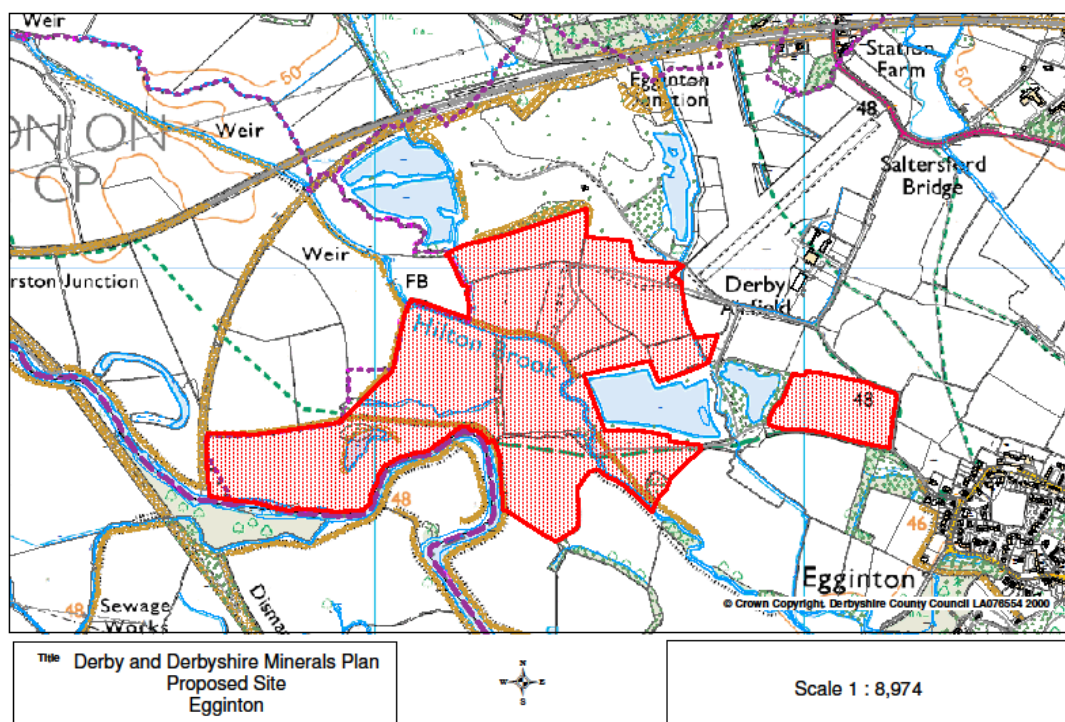
APPENDIX 2

SITE ASSESSMENTS

Egginton

Location and General Description of Site

This is a proposed extension to a dormant site. Technically, therefore, the suggested site has been considered as a new site. It is an allocation in the current Minerals Local Plan. This 40 hectare site is located immediately to the west of Egginton and to the north-east of the River Dove. Derby Airport is located immediately to the north/north-east of the site. Restored former mineral workings are to the north/north-west of the site with the railway line beyond. The site is open in nature and of level terrain, being located partially within the floodplain of the River Dove and Hilton Brook. The majority of the site is currently in agricultural use as pasture land. Although close to the western edge of Egginton village, the site is not easily visible from this settlement because of a line of mature hedgerow trees and an area of dense woodland screening to the south-east of the site.



Resources (yield, annual output, depth of deposit)

It is estimated that the site could yield **1.8 million tonnes** of sand & gravel from an extraction area of **31 hectares**, with an estimated annual output of **280,000 tonnes**, and an estimated lifespan of **7-8 years** of working.

End Use of, and Market for, Mineral

The company intends that the product would be used as aggregate, concreting and building sand, and sold to outlets and builders merchants, generally within a 25 mile radius of the site.

Timing and Phasing

The company has indicated that this site would replace the Mercaston operation and is unlikely, therefore, to be brought forward during the Plan period.

Plant and Access Arrangements

A new processing plant would need to be constructed within the site. Permission for the intended plant on the adjacent site expired in 2007. Access for the previous working was gained onto the A5132 at Saltersford Bridge, from which lorries would then travel to the A38 and A50. This permission has now expired.

Site History

Planning permission was originally granted in 1960 for the extraction of sand & gravel on the area immediately to the north and east of this proposed extension. The area was extended under a planning permission in 1968. Gravel has been won from about half of the permitted site, but there has been no extraction for some considerable time and the site is now dormant in legal terms. The extracted mineral was processed off-site. The infilling of the voids with fuel ash has been progressing and the area has been restored gradually to agricultural use, together with some wooded areas for wildlife.

In 1992, permission was granted for an on-site processing plant and a concrete batching plant on an area of backfilled land immediately to the south of the railway line. This permission has expired without having been implemented.

SITE ASSESSMENT

Economic Considerations

1.1 Need for the Mineral

Some evidence to support the need for additional reserves to maintain supply throughout the Plan period

ASSESSMENT (+)

Existing Infrastructure

1.2 This proposal would require new quarry infrastructure.

ASSESSMENT (-) New quarry infrastructure

1.3 Location of Site to Market Areas

The site is well located to serve the market areas for the product.

ASSESSMENT (+)

1.4 Employment

A new operation but is unlikely to result in job losses elsewhere

ASSESSMENT (-) New operation but no related job losses

Resources: Yield

1.5 The company estimates that 1.8 million tonnes of material would be extracted from an area of around 31 hectares. This equates to around 56,000 tonnes per hectare.

ASSESSMENT (+) Yield of 50,000 – 75,000 tph

ECONOMIC TOTAL 13/18

Social Considerations

Duration of Mineral Extraction

1.6 Extraction is likely to be for 7-8 years.

ASSESSMENT (++) Short-term 0-10 years

Visual Intrusion (Properties and Rights of Way)

1.7 The site is in a very secluded location and has very few visual receptors. There are no residential properties from which the site can be seen. There are farm storage buildings alongside the other buildings associated with the airfield. These lie about 100m to the east of the site. It is well screened to the north by dense woodland and also from Egginton village to the east by areas of woodland. However, there is a public footpath/bridleway, which runs through the southern section of the site, from which several parts of the site are visible.

ASSESSMENT (+) The site has few visually sensitive receptors but large parts of the site will be visible from them

Noise

1.8 Around half of Egginton village lies within 500m of SA06 but none within 500m of SA05. The extensive wooded areas adjacent to the site may mitigate to some extent any adverse noise impact that the workings may have on the area.

ASSESSMENT (-) The site has some noise sensitive receptors within 500m of the boundary of the site

Nuisance Dust

1.9 There are some sensitive receptors within 500m of the site.

ASSESSMENT (-) The site has some high/medium dust sensitive receptors within 500m of the boundary of the site.

Dust - Air Quality/Human Health

1.10 The site does not lie within 1000m of an Air Quality Management Area.

ASSESSMENT (+) Site does not lie within 1000m of an AQMA

Transport – Export Route

1.11 Access to the proposed plant site would be direct onto the A5132 at Saltersford Bridge.

ASSESSMENT (+) The site has direct access to an A road

Transport – Sustainable Transport Options

1.12 The operator has confirmed that processed material would be transported from the site by road.

ASSESSMENT (-) Road Transport proposed

1.13 **Transport – Safe and Effective Access**

It is likely that an access could be provided to acceptable standards but no details have been provided.

ASSESSMENT (n/a)

Transport – Local Amenity

- 1.14 HGVs would not have to travel through any residential areas to reach the strategic highway network. Only a small number of individual properties would be affected along the route.

ASSESSMENT (++) 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)

Cumulative Impact

- 1.15 There are no significant impacts of present mineral extraction in the area but there has been extraction in the past

ASSESSMENT (-) There are not any current mineral workings in the area but there have been workings in the past

Airport Safeguarding Birdstrike Issue – Potential Risk to Aircraft Safety

- 1.16 This site lies outside the 13km zone for East Midlands Airport but inside the 3km zone for Derby Airport adjacent to the site. Only light aircraft use this airport but due to the proximity to the site this will still be an important consideration.

ASSESSMENT (-) Site lies in an area where there is a high potential risk of birdstrike

SOCIAL TOTAL 27/41

Environmental Considerations

Water Environment – Flooding

- 1.17 The site lies within the highest flood zone 3.

ASSESSMENT (--) Site lies within Flood Zone 3 highest risk of flooding

Water Environment – Groundwater

- 1.18 The site does not lie within a Groundwater Source Protection Zone.

ASSESSMENT (+)

Water Environment – Aquifer Protection

- 1.19 This site lies on a secondary aquifer.

ASSESSMENT (-)

Ecology - Existing impacts from mineral extraction

- 1.20 Previous sites reclaimed by nature – essentially no impact.

ASSESSMENT (--) Only localised, limited impacts associated with mineral extraction within or adjacent to the site

Ecology - UK, regional and local BAPs priority habitats and species

- 1.21 Complex of habitats very characteristic of the Dove valley i.e. oxbows with open water, wet woodland, potential veteran crack willows, alder, ditches, osier beds, Hilton Brook with in-stream and marginal habitats. All priority habitats which need assessment against WS criteria. Good for waders.

ASSESSMENT (--) Extensive areas of positive ecological value, including UK priority habitats or species which should be considered for protection/conservation

Ecology - Ecological coherence/Natural Areas, Wildlife Corridors/Linkages

- 1.22 High internal coherence and with surrounding areas, strong affinity with river, many characteristic habitats of the natural area.

ASSESSMENT (--) The proposed site accords with the established habitats over a wider area and habitat pattern is strong

Ecology - Habitat Creation

- 1.23 Existing habitats are intact and make a strong contribution to priority biodiversity targets for conservation. There is no requirement for biodiversity enhancement within the site.

ASSESSMENT (--) 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

Landscape - Existing Impact of mineral extraction

- 1.24 The site is located to the east of Hilton and lies outside the Sherwood Sandstone area. There are only localised moderate impacts from mineral extraction in the immediate locality and these are not visually apparent when on site.

ASSESSMENT (-) There are only localised, low impacts associated with past mineral extraction

Landscape - Strength of Landscape Character

- 1.25 This site strongly accords with the established character of the *Riverside Meadows*. The landscape is intact and in good condition. Key characteristics include small fields of unimproved pasture, watercourse trees, pollarded willows, potential veteran trees, large dense mixed species hedgerows and an oxbow lake.

ASSESSMENT (--) The site accords with the established landscape character and is in good condition

Historic Environment - Designated Sites & settings

- 1.26 None known in the area.

ASSESSMENT (+) No perceivable impact on a designation

Historic Environment – Archaeological Environment

- 1.27 Contiguous blocks of ridge and furrow surviving. No known artefacts in usual sense but Egginton Common gravels known to contain Palaeolithic hand axes in some numbers and are an important source for finds of this period. Palaeochannels present in the western half of site including former oxbow with standing water.

ASSESSMENT (--) Extensive, visible and interpretable earthworks and known archaeology with high potential for buried remains

Historic Environment - Historic Landscape

- 1.28 Many of the current field boundaries are present on the 1849 tithe map but they may be much earlier enclosures of open fields.

ASSESSMENT (--) Evidence of multi period landscape and intact field pattern

Best and Most Versatile Agricultural Land

- 1.29 None of this site lies within an area where more than 60% of the land is likely to be best and most versatile agricultural land.

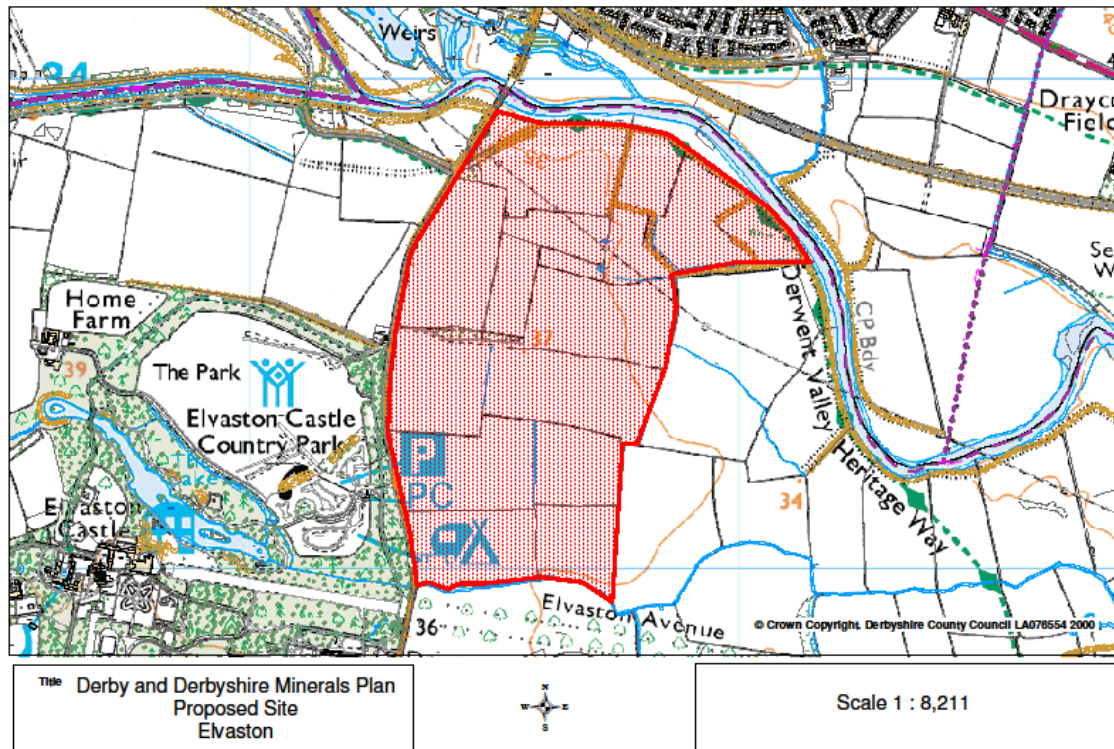
ASSESSMENT (++) Site lies within an area where there is a low likelihood of bmv land

ENVIRONMENTAL TOTAL = 22/50 (L)

Elvaston

Location and General Description of Site

The 50 ha site is proposed by Tarmac as an extension to the existing quarry. It is located to the north-west of the site, which received planning permission in 2013, and would continue the westerly movement of Elvaston Quarry along the Derwent Valley. The site boundaries are well defined, its eastern boundary following the western boundary of the recently permitted area, its northern boundary follows the River Derwent, its western boundary follows the B5010 and its southern boundary follows an existing hedgerow.



The northern part of the site, south of the River Derwent and directly north-east of Elvaston Castle, comprises unimproved pasture and remnant hedgerows. The central area is predominantly arable fields with improved pasture to the south. There are occasional scattered trees of varying age and condition, a group of willows and evidence of lost hedgerows. Hedgerow condition is very variable.

Resources (yield, annual output, depth of deposit)

It is proposed to work some 1,500,000 tonnes of sand and gravel from a net excavation area measuring 40ha i.e. an estimated yield of tonnes per hectare 37,500 tph. The average depth of the deposit is 2.5 metres.

Timing and Phasing

The company estimates that the annual output of the plant would be around 300,000 tpa. The estimated yield figure of 1,500,000 tonnes gives a lifespan for the site of approximately 5 years. The proposed timings of the workings are currently unknown.

Plant and Access Arrangements

The site would be worked as the current site but with an extended conveyor system to serve this area. The site would be worked through the existing plant, which would need to be refurbished, and utilising existing access arrangements. Access to the plant site would be gained via a new conveyor tunnel to be constructed under Ambaston Lane and via an over ground conveyor through 'Elvaston Avenue' and across a culvert to be constructed over Ambaston Brook. All lorries would leave the plant site via the existing access road and would turn right, onto London Road, joining the main road network at Thulston Roundabout. No delivery vehicles would pass through Shardlow, or travel on Ambaston Lane or the B5010 to Borrowash.

Relevant History

Elvaston Quarry is the extension of a working established in the late 1960s when permission was granted for the extraction of minerals from land at Sawley Road, Draycott. Since that time workings have extended progressively westwards along the Derwent valley. The most recent workings have taken place at Bellington Hill to the south-west of Ambaston village; permission to work this site and to erect a new processing plant was granted in 1988. Extraction was completed in 1998, and most of the site is being restored to agriculture following infilling with quarry and imported wastes. The area to the north of these workings to the west of Ambaston was permitted in August 2013, and is yet to be started. It will yield around 1.8 million tonnes of sand and gravel.

SITE ASSESSMENT

Economic Considerations

Need for the Mineral

- 1.1 Detailed evidence provided to support the need for additional reserves to maintain supply throughout the Plan period

ASSESSMENT (++) Detailed evidence provided to justify the need for the material

Existing Infrastructure

- 1.2 This proposal would utilise the existing quarry infrastructure.

ASSESSMENT (+) Use of existing quarry infrastructure

- 1.3 **Location of Site to Market Areas**

The site is well located to serve its intended market

ASSESSMENT (+) Well located to serve market

- 1.4 **Employment**

The operation would use existing employees from the existing quarry

ASSESSMENT (+) Retention of employees

Resources/Yield

- 1.5 This site is likely to yield 1.5 million tonnes of sand and gravel from an extraction area of 40 hectares. This equates to 37,500 tph.
ASSESSMENT (-) Yield 25,000 – 50,000 tph

ECONOMIC TOTAL = 15/18

Social Considerations

- 1.6 **Duration of Mineral Extraction**
The site would be in production for around 5 years.
ASSESSMENT (++) Short term 0-10 years.

Visual Intrusion (Properties and Rights of Way)

- 1.7 Some properties on the southern edge of Borrowash, some 200m away, may have views across the northern part of the site from their upper floors. The northern section of the site would also be visible from the footpath between Borrowash Bridge and Ambaston village, which lies some 1000m from the south-eastern site boundary. Beechwood camp/caravan site which lies some 200m to the south of the site would be screened by trees/hedgerows on its northern boundary. There are open views from several residential properties and the main entrance to Elvaston Castle and Country Park which lie immediately across the road which forms the western boundary. Overall, the site has some visual receptors which have views of several parts of the site.
ASSESSMENT (-) The site has some visually sensitive receptors and/or some parts of the site will be visible

Noise

- 1.8 Noise would be generated by the operations to be carried out at the site, chiefly from soil and overburden movement, sand and gravel extraction and transportation from the site to the existing processing plant by conveyor.
- 1.9 The nearest noise sensitive properties are the residential dwellings and Elvaston Castle and Country Park immediately to the west and Beechwood Caravan Park which lies approximately 200m to the south. Properties on the southern edge of Borrowash lie some 200m to the north across a busy railway line. Properties in Elvaston village lie some 300 – 500m of the southern boundary.
ASSESSMENT (+)The site has a few noise sensitive receptors within 200m of the boundary of the site and some within 500m

Dust

- 1.10 Dust tends not to be a major problem associated with the extraction of river gravels due to the wet nature of the mineral, which acts as a natural dust suppressant. The nearest dust sensitive properties are those referred to in the noise section, which lie very close to the western and southern boundaries. Other sensitive properties include those on the southern edge of Borrowash, which lie some 200m to the north and properties in Elvaston village which lie some 300 – 500m from the southern boundary.
ASSESSMENT (+)The site has no or few high/medium dust sensitive receptors within 100m of the boundary of the site and some within 400m

Dust - Air Quality/Human Health Impacts

- 1.11 The site does not lie within or within 1000m of any designated Air Quality Management Areas in which air quality objectives are not being met, which so far in Derby and Derbyshire have been associated with road traffic pollution.

ASSESSMENT (+) The site does not lie within 1000m of an AQMA.

Transport – Export Route

- 1.12 The mineral would be delivered to markets by road. All lorries would leave the site via the existing access road and would turn right, onto London Road, joining the main road network at Thulston Roundabout. No delivery vehicles would pass through Shardlow or travel on Ambaston Lane or the B5010 to Borrowash.

ASSESSMENT (+) The site has direct access to an A road

Transport – Sustainable Transport Options

- 1.13 The company has confirmed that the processed material would be transported to and from this site by road.

ASSESSMENT (-) Road transport proposed

- 1.14 **Transport – Safe and Effective Access**

Use of the existing access and access road would be acceptable provided there would be no increase in number of lorry movements.

ASSESSMENT (++) Existing approved access to current highway standards

Transport – Local Amenity

- 1.15 All mineral would be transported from the site to market by road. All lorries would leave the site via the existing access road and would turn right, onto London Road, joining the main road network at Thulston Roundabout. No delivery vehicles would pass through Shardlow, or travel on Ambaston Lane or the B5010 to Borrowash.

ASSESSMENT (++) 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)

Cumulative Impact

- 1.16 There are existing mineral workings in the area and there have been for a significant number of years.

ASSESSMENT (--) Impacts from past and existing mineral workings

Airport safeguarding

- 1.17 Consultation with East Midlands Airport has established the degree to which the suggested site poses a potential risk to aircraft safety taking into account how the airport operates. This site is within the 13 km safeguarding zone around the airport lying some 7-8 kilometres to the north east of the airport and under a flight path. East Midlands Airport have indicated that this site lies within an area where there is a high potential risk of birdstrike.

ASSESSMENT (-) Site lies within an area where there is a high potential risk of birdstrike

SOCIAL TOTAL = 31/41

Environmental Considerations

Water Environment

- 1.18 The site is situated on a Minor Aquifer but is not within a Groundwater Source Protection Zone. Given that the site is located adjacent or near to a water course or other surrounding water features, i.e. the River Derwent, it would require dewatering. A detailed EIA would be required detailing the effects of this de-watering on the surrounding water environment and what mitigation measures, if any, are required to deal with any adverse impacts. Correct pollution prevention procedures would need to be followed to prevent contamination of groundwater and the surrounding water environment.
- 1.19 The site lies within the floodplain of the Derwent, in a Flood Zone 3 where there is a high risk of flooding and therefore a flood risk assessment would be required by the EA. The assessment would need to cover as a minimum:
- That the physical integrity of any watercourses will be safeguarded by allowing adequate margins between the banks of the watercourse and excavation unless circumstances allow for the 'stand-off strip' to be worked
 - That the effectiveness of local land drainage systems will be preserved
 - That the functioning of the natural floodplain will be preserved

Water Environment - Flooding

- 1.20 The site lies within the Trent floodplain within Flood Zone 3 where there is a high risk of flooding.
ASSESSMENT (--) The site lies within flood zone 3 where there is a high probability of flooding.

Water Environment – Groundwater

- 1.21 The site lies outside a groundwater protection zone.
ASSESSMENT (+) The site lies outside a groundwater protection zone.

Water Environment – Aquifer

- 1.22 Site lies on a secondary Aquifer.
ASSESSMENT (-) Site lies on a secondary Aquifer.

Ecology

Presence or absence of existing impacts from mineral extraction

- 1.23 None.
ASSESSMENT (--) None, or insignificant, impacts from mineral extraction on habitats within or adjacent to the site

Presence or absence of priority habitats and species

- 1.24 Semi-improved pasture and remnant hedgerows adjacent to River Derwent. Arable fields in centre, improved pasture to south. Occasional scattered trees of varying age and condition, a group of willows and evidence of and lost hedgerows. Hedgerow condition very variable. No records.
ASSESSMENT (-) Some areas of positive ecological value including UK priority habitats and species which should be considered for protection/conservation

Ecological coherence: Natural Areas, Wildlife Corridors, Linkages

- 1.25 Few characteristics that accord with the priority habitats of the Natural Area. Coherence with river though cut off by flood bank, and with similar landscapes to east.
ASSESSMENT (-) 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

Habitat Creation

- 1.26 Site offers some opportunities to create or enhance habitats within its boundaries but does not make linkages to wider area. A very sensitive site for East Midlands Airport, providing a major constraint in designing acceptable restoration of landscape and biodiversity which is also sustainable.

ASSESSMENT (+) 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.

Landscape and Visual Amenity

Existing Impacts from mineral extraction

Landscape – Existing Impacts from Minerals Extraction

- 1.27 The proposed site is located in the strategic area to the east of Hilton. The Landscape Character Area data records the immediate area as having insignificant or no impacts associated with mineral extraction.

ASSESSMENT (--) There are insignificant impacts associated with past mineral working.

Landscape - Strength of Landscape Character

- 1.28 The northern part of the site directly south of the River Derwent and north-east of Elvaston Castle comprises of unimproved pasture with remnant hedgerows. The central area is predominantly arable fields with improved pasture to the south. There are occasional scattered trees of varying age and condition, a group of willows and evidence of lost hedgerows. Hedgerow condition is very variable. The proposed site has a few characteristics that accord with the established character of the *Riverside Meadows* and the condition is generally poor.

ASSESSMENT (+) The proposed site has few characteristics that accord with the established landscape character and the condition is poor and the enhancement of the landscape would be beneficial

Historic Environment

Designated sites & settings

- 1.29 Elvaston Castle Country Park is situated across the road from the site's western boundary and forms a well-used and valuable local recreational amenity. The Castle and Gardens are Grade II* Listed Buildings. The Eastern Avenue, which adjoins the southern boundary is an integral component of the gardens. Working is likely to impact on the setting of the Castle, Park and Gardens.

ASSESSMENT (--) Impact on a Grade I or II* designation, SAM and/or its setting

Archaeological Environment

- 1.30 Some remnants of ridge and furrow adjacent to the river vestigial remains elsewhere of once very extensive open fields. Known palaeochannels adjacent to the river which may have considerable potential. No known sites or finds.

ASSESSMENT(+) Occasional or localised earthworks (may not be visually evident) and/or known archaeology with limited potential for buried remains

Historic Landscape Character

- 1.31 Pattern established by 1776 but altered thereafter and only remnant of original remains.

ASSESSMENT(+) Remnant field patterns with significant boundary loss.

Best and most versatile agricultural land

- 1.32 According to DEFRA's Predictive Agricultural Land Classification Map the site lies in an area where 20% to 60% of the land is likely to be classed as bmv.

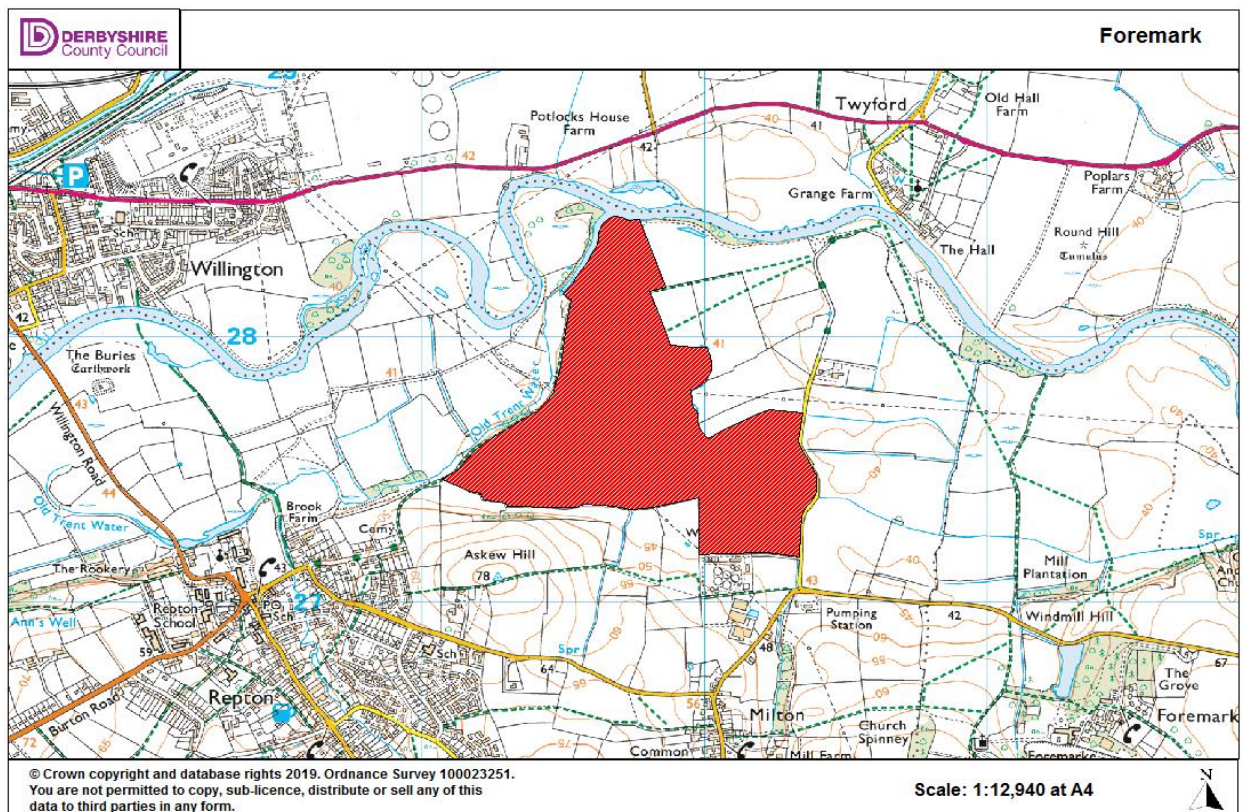
ASSESSMENT (+) The site lies in an area where there is a moderate likelihood of 'best and most versatile' agricultural land

ENVIRONMENTAL TOTAL = 28/50 (M)

Foremark

Location and General Description of Site

The site is located in the Trent Valley, to the south of the River Trent. Repton lies just to the south west of the site. It measures around 70 ha. It is in agricultural use, primarily for arable but with a very small area on the west of the site used for livestock grazing. Its boundaries are defined mainly by fencing and hedgerows. Meadow Lane, a track which serves two dwellings and the water treatment works forms the eastern boundary. Old Trent Water, an ancient route of the River Trent runs along the western boundary of the site. Internal boundaries are defined by hedgerows and some mature trees. Two areas of more dense vegetation are located within the site. Meadows Farm, in the south west of the site is no longer used for residential purposes, now only being used for agricultural storage.



Timing and Phasing

The company views this site as the long term replacement for Shardlow and therefore the working conditions and the resulting level of reserves at Shardlow impacts directly on the timing of the commencement of this operation. Working would commence after reserves have been exhausted at Shardlow. It is estimated currently that existing permitted reserves at Shardlow will be exhausted by 2029. The operator estimates

that the annual output of the plant would be around 500,000 tpa. The estimated yield figure of 5 million tonnes gives a lifespan for the site of approximately 10 years.

Plant & Access Arrangements

A temporary bridge is proposed across the River Trent in the north west of the site. This would enable the material to be hauled to a new plant site proposed off the A5132 just to the south of the former Willington Power Station. The A5132 provides good links to the A50/A38/M1. Quarry vehicles would be expected to travel east to join the A50 to avoid travelling through Willington.

Planning History

None.

SITE ASSESSMENT

Economic Considerations

Need for the Mineral

- 1.1 Some evidence has been provided to support the need for additional reserves to maintain supply throughout the Plan period.

ASSESSMENT (+) Some evidence provided.

Existing Infrastructure

- 1.2 This proposal would require new quarry infrastructure.

ASSESSMENT (-) New quarry infrastructure.

Location of Site to Market Areas

- 1.3 The site is well located in relation to the markets for the product.

ASSESSMENT (+) The site is well located to serve its intended market.

Employment

- 1.4 This would be a replacement operation which is likely to lead to the transfer of jobs as a result of the closure of another quarry.

ASSESSMENT (-) Replacement of an existing operation leading to the retention of existing jobs elsewhere.

Resources/Yield

- 1.5 This site would yield around 5 million tonnes of sand and gravel from an extraction area of 72 hectares. This equates to 70,000 tph.

ASSESSMENT (+) Yield 50,000-75,000 tph.

ECONOMIC TOTAL 13/18

Social Considerations

Duration of Mineral Extraction

- 1.6 It is proposed that the site will be in production for 10 years.

ASSESSMENT (++) Short term 0-10 years

Visual Impact (Properties and Rights of Way)

- 1.7 The site is relatively secluded in the wider landscape, but is visible from some surrounding locations. The north-eastern part of the site may be visible from some properties in Twyford village, which have open views across the river, particularly during winter and also potentially from the A5132. Individual properties close to the site include two residences which lie some 150–200m from the eastern boundary along Meadow Lane and a nursing home which lies 200m from the eastern boundary. The nursing home whilst close to the eastern boundary of the site is well screened by trees within its curtilage. A well-used public footpath/green lane passes through the site on its western and northern side adjacent to Old Trent Water, and workings would be prominent from this. There is a further footpath over Askew Hill to the south of the proposed allocation site that provides elevated views into the easternmost parts of the site adjacent to the Milton water treatment works. There would also be potential views of the southern part of the site from some locations on the road from Repton to Foremark.

ASSESSMENT (-) The site has some visually sensitive receptors and/or some parts of the site will be visible from them.

Noise

- 1.8 Noise is likely to be generated by the operations to be carried out at the site, chiefly from soil and overburden movement, sand and gravel extraction and transportation of raw mineral within the site by conveyor or dump trucks to a processing plant. Additional noise would be created by vehicles transporting the processed mineral from the site to the end users. The nearest noise sensitive properties are the nursing home and two dwellings, which lie close to the eastern boundary of the site. Brook Farm and surrounding residences on Monsom Lane lie within 300–500 m of the south-eastern boundary.

ASSESSMENT (+) The site has a few noise sensitive receptors within 200m and some within 500m of the boundary of the site

Dust

- 1.9 Dust tends not to be a major problem associated with the extraction of river gravels due to the wet nature of the mineral which acts as a natural dust suppressant. The nearest dust sensitive property is the nursing home which lies some 50 metres from the eastern boundary of the site. Brook Farm and surrounding residences along Monsom Lane lie within 300–500 m of the south-eastern boundary.

ASSESSMENT (+) The site has a few high/medium dust sensitive receptors within 100m of the boundary of the site and some within 400m

Dust - Air Quality/Human Health Impacts

- 1.10 The site does not lie within any designated Air Quality Management Areas or within 1000m of an AQMA in which air quality objectives are not being met, which so far in Derby and Derbyshire have been associated with road traffic pollution.

ASSESSMENT (+) The site does not lie within 1000m of an AQMA.

Transport – Export Route

- 1.11 Access to the site would be from the A5132 which provides good links to the A50/A38/M1.

ASSESSMENT (++) The site has direct access onto the strategic road network

Transport – Sustainable Transport Options

- 1.12 The company has confirmed that the processed material would be transported to and from this site by road.

ASSESSMENT (-) Road transport proposed

Transport - Safe and Effective Access

- 1.13 It is likely that a safe access could be achieved to the site from the A5132.

ASSESSMENT (-) No existing access, but subject to agreement with local highway authority, a new access is likely to be acceptable.

Transport – Local Amenity

- 1.14 Access would be direct on to the A5132.

ASSESSMENT (++) 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)

Cumulative Impact

- 1.15 There are existing mineral workings in the area and have been for a significant number of years.

ASSESSMENT (--) There is a concentration of mineral workings and other commercial activity in the area which currently have, or have had, impacts either concurrently or successively over a long period of time.

Airport Safeguarding – Birdstrike

- 1.16 We have established in consultation with East Midlands Airport the degree to which the suggested sites pose a potential risk to aircraft safety, taking into account how the airport operates. The site lies on the very edge of the 13km birdstrike safeguarding zone around East Midlands Airport, however, it lies almost directly in line with the approach track flown by easterly arriving aircraft. As arriving aircraft fly slowly and descend gradually, they would be at relatively low altitudes at this distance from the airport. In view of this, East Midlands Airport considers this site to be within an area where there is a high potential risk of birdstrike.

ASSESSMENT (--) Site lies within an area where there is a high potential risk of birdstrike

SOCIAL TOTAL 29/41

Environmental Considerations

Water Environment – Flood Risk

- 1.17 The site lies within the Trent floodplain within flood zone 3 where there is a high risk of flooding. A Flood Risk Assessment is required for this site.

ASSESSMENT (--) The site lies within flood zone 3 where there is a high probability of flooding.

Water Environment – Groundwater

- 1.18 Part of the south eastern corner falls into SPZ3.

ASSESSMENT (+) Part of the site lies within groundwater source protection zone 3.

Water Environment – Aquifer

- 1.19 Parts of the site lie on a principal aquifer

ASSESSMENT (--) Site lies on a principal aquifer.

Ecology - Presence or absence of existing impacts from mineral extraction

- 1.20 Neither the application site nor its immediate surroundings have been affected by minerals extraction, nor is minerals extraction evidenced in the wider area. Recent consents will bring working south of the river and to within around 1km of the site, whilst the nearest sites otherwise are the older part of Willington, and Swarkestone Quarry, each around 2km away.

ASSESSMENT (--) None, or insignificant, impacts from mineral extraction on habitats within or adjacent to the site

Ecology - Presence or absence of priority habitats and species

- 1.21 The site is dominated by arable farming, and historic mapping would suggest that agricultural intensification has resulted in the removal of some internal hedges previously present on site.

Whilst the majority of the habitats present within the likely extraction areas are not especially notable, the occurrence of a Local Wildlife Site within the site, and the potential presence of notable plant species and protected species (riparian mammals) within the site are significant.

However, it is the habitats associated with the Old Trent Water that may be of particular concern, as part of these habitats would be adversely affected by the proposed site access. The ecological value of these areas, their potential to support protected or notable species, and the likelihood of direct and indirect impacts would require further careful consideration.

The proposed access route would also impact on habitats on the north side of the Trent, again including a potential LWS (Willington Heronry) and areas of more mature vegetation. Again, the acceptability and desirability of the proposals in relation to these habitats would require careful consideration.

The remnant hedgerows on site do contain some hedgerow trees, and in some instances may be associated with ditches or watercourses, and would merit further attention, perhaps in relation to the potential presence of protected (e.g. otter and water vole) and notable (e.g. notable plant) species.

ASSESSMENT (-) Some areas of positive ecological value including UK or local priority habitats or species which should be considered for protection/conservation

Ecology - Ecological coherence: Natural Areas, Wildlife Corridors/Linkages

- 1.22 Although the habitats within the likely extraction area are mostly dominated by arable farming, the habitats associated with the Local Wildlife Site, Old Trent Water, and habitats north of the River Trent are much more in accordance with the positive ecological features we might hope to find in this area. The severance of ecological connectivity, perhaps through the construction of the access route across Old Trent Water, across the R. Trent, and then through habitats on the far side of the river, would be notable. The prevalence of records for otter along the river in the Willington/Repton/Twyford area, as well as up the Old Trent Water, shows the importance and value of connectivity in these areas currently.

ASSESSMENT (--/-) The proposed site accords with the established habitats over a wider area and habitat pattern is strong/ few features within the site but encompassed by landscapes which have ecological coherence

Ecology - Habitat Creation

- 1.23 Site working could afford the opportunity for appropriate habitat creation in this areas, perhaps especially through wetland and wet grassland creation within the vicinity of the river. More large scale wetland creation, particularly towards the southern extent of the site near Willington would be incongruous with existing habitats however. Future extensions, whether east or west of this site would likely necessitate the retention of the means of access, perpetuating impacts and habitat severance along the river valley and Old Trent Water, and would to some degree limit the ability to restore the northern end of the site (i.e. nearest the river) for some period into the future.

ASSESSMENT (+/-) 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.

Landscape - Existing impacts from mineral extraction

- 1.24 The proposed site allocation is somewhat removed from existing quarry sites in the valley and as such there is no evidence of existing and past mineral working within the site or in local views of the site. The LCA data records the immediate area as having insignificant or no impacts associated with mineral extraction. The infrastructure for this site would need to be developed.

ASSESSMENT (--) There are insignificant impacts associated with past mineral working

Landscape - Strength of Landscape Character

- 1.25 This typically flat floodplain landscape is clearly evident but is now defined by large arable fields enclosed by hedgerows. Hedgerows are in variable condition and lack significant trees. There is a significant tree belt towards the east of the proposed allocation site, which appears to be in good condition. The overall condition of the site is poor and the character of the landscape is declining. However, the proposed site compound and access route is located on the other side of the River Trent in a landscape where the strength of character is high and has significant features such as trees, earthworks and boundaries that would be affected by the proposal.

ASSESSMENT (+/-) 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)

Historic Environment - Designated sites & settings

- 1.26 The proposed plant location south of the former Willington Power Station impacts directly on MDR4368, a cropmark site including the cursus ditch of the Neolithic Potlock cursus. This is nationally important, schedulable quality archaeology: the monument is scheduled further east (east of Frizams Lane) and has been considered nationally important and agreed to preserve in situ around Potlocks Farm. South and east of Old Trent Water (the bulk of the proposed extraction area) is less sensitive (almost entirely arable) but still falls within the setting of the designated monuments and extraction here will impact upon the experience of the nationally important assets at Repton within their floodplain setting.

ASSESSMENT (--) Impact on a Grade I or II* designation, SM and/or its setting.

Historic Environment - Archaeology

- 1.27 Within the proposed access road footprint are earthwork remains of boundary ditches, banks and platforms (MDR14500) of probably medieval/post-medieval date. Within the extraction site itself there is little or no surviving earthwork archaeology because of arable cultivation – numerous ridge and furrow sites are recorded on the HER but these appear to be largely ploughed out. There is substantial evidence for palaeo-channels (from aerial photographs and LiDAR) suggesting an exceptionally rich geo-archaeological and palaeo-environmental resource within the site. There is also potential for typical prehistoric/Roman-British archaeology (as per most gravel sites in the Trent Valley) and remains associated with the Viking encampment (though less likely here than west of Old Trent Water). The proposed plant location south of the former Willington Power Station impacts directly on MDR4368, a cropmark site including the cursus ditch of the Neolithic Potlock cursus. This is nationally important, schedulable quality archaeology: the monument is scheduled further east (east of Frizams Lane) and has been considered nationally important and agreed to preserve in situ around Potlocks Farm (recent decision to revoke extant minerals consent here) and south of the former power station (in the context of the existing DCO for development of a new power station and pipeline). This site should therefore be assessed as though scheduled.

ASSESSMENT (--) Extensive, visible and interpretable earthworks and/or known archaeology with high potential for buried remains.

Historic Environment – Historic Landscape

- 1.28 The landscape reflects post-medieval enclosure of the medieval open fields and floodplain; the floodplain is likely to have been enclosed later, hence more regular enclosures. Roughly half the proposed extraction area has experienced significant (31-75%) boundary loss to create large arable fields, and in general these have rebuilt hedgerows not preserving any early boundary features or planting. Fringe areas in the east and south of the site preserve more boundaries (less than 30% loss) with better boundary features.

ASSESSMENT (+/-) Remnant field patterns with significant boundary loss/Recognisable field patterns with some boundary loss

Best and most versatile agricultural land

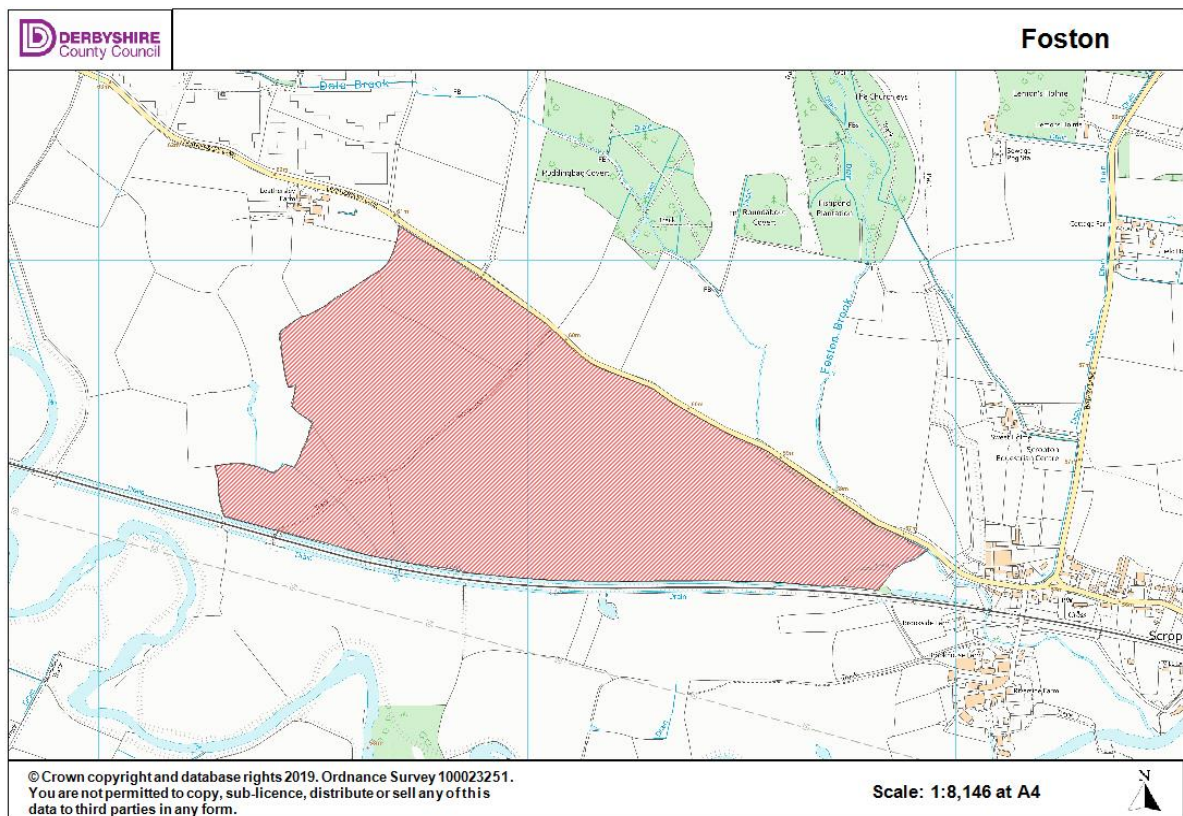
- 1.29 According to DEFRA's Predictive Agricultural Land Classification Map the majority of the site lies in an area where less than 20% is likely to be bmv.
ASSESSMENT (++) Low areas where less than 20% of the land is likely to be bmv)

ENVIRONMENTAL TOTAL = 24/50 (L)

Foston

Location and General Description of Site

This is a greenfield site, representing a new operation for the extraction of sand & gravel. This generally level site is situated to the south of the A50, to the west of Scropton village and to the south of Foston. Leathersley Lane forms its northern boundary and the railway line forms its southern boundary. It is about 71 hectares in size and is currently in agricultural use, predominantly as arable land. There are boundary hedgerows with mature, mainly, oak trees. A public footpath runs parallel to Leathersley Lane through part of the site.



Resources (yield, annual output, depth of deposit)

The site is anticipated to yield about 3.1 million tonnes of sand and gravel from deposits that are 4m in depth with 1.1m of overburden. The extraction area would be about 70 hectares, yielding around 44,290 tonnes per hectare.

Timing and Phasing

Production would take place over an estimated 6 year period.

Plant and Access Arrangements

A new access would be created onto Leathersley Lane. The processing plant is proposed to be located off Leathersley Lane. It would have an estimated normal operating capacity of around 500,000 tonnes per annum.

Planning History

There is no relevant mineral planning history for this site. It is the first time that this site has been considered, lying in the western part of the river valleys, where significant large scale mineral extraction has not taken place.

SITE ASSESSMENT

Economic Considerations

Need for the Mineral

1.1 Some evidence has been provided which shows the need for additional reserves from this site to help to maintain supply throughout the Plan period.

ASSESSMENT (+) Some evidence has been provided which shows the need for additional reserves to maintain supply throughout the Plan period

Existing Infrastructure

1.2 This proposal would require new quarry infrastructure.

ASSESSMENT (-) New quarry infrastructure would have to be developed for the operation

Location of Site to Market Areas

1.3 The site is well located to serve the market areas for the product.

ASSESSMENT (+) The site is well located to serve its intended market.

Employment

1.4 This site is intended to replace an existing operation in Staffordshire which is likely to retain existing jobs.

ASSESSMENT (-) Replacement of an existing operation leading to the retention of existing jobs

Resources: Yield

1.5 The site would yield about 44,290 tonnes of sand and gravel per hectare.

ASSESSMENT (-) Yield of 25,000 – 50,000 tph

ECONOMIC TOTAL 12/18

Social Considerations

Duration of Mineral Extraction

1.6 It is proposed that the operation would last for around six years.

ASSESSMENT (++) Short term operation.

Visual Intrusion (Properties and Rights of Way)

1.7 Although Leathersley Farm is located approximately 185m to the NW and Scropton is approx. 190m to the east, the site is generally well contained by existing vegetation. Two residential properties on the western edge of Scropton lie about 200m from the eastern edge of the site and are the only properties that may have direct views onto a

proportion of the site (the eastern third of the site). Views of the site are predominantly from Leathersley Lane and Brooms Lane and the railway, which runs along the southern boundary of the site. A public footpath also runs parallel to Leathersley Lane through part of the site from where views of the site would be evident. Views from Foston and the A50 to the north are obscured by dense woodland. Tutbury Castle and grounds, which is a scheduled monument and lies on higher ground to the south, could, potentially, have distant views of the site. Overall, there are some/few visual receptors and potentially large parts of the site would be visible given the lack of internal hedegrows.

ASSESSMENT (+/-) The site has some/few visually sensitive receptors but large parts (or more than one part) of the site will be visible from them.

Noise

- 1.8 Leathersley farm and a few residential properties on the western side of Scropton are situated within 200m of the site. A larger number of residential properties on the western side of Scropton also lie within 500m of the site, although the woodland to the east of the site may reduce the effects of noise on these properties.

ASSESSMENT (+) The site has a few noise sensitive receptors within 200m of the boundary of the site and some within 500m

Dust

- 1.9 Leathersley Farm is situated close to the western boundary of the site but the prevailing wind is likely to take dust away from here. A number of properties in the village of Scropton are within 400m of the site. Scropton lies to the east of the site, downwind of the site. The topography is level but there is some tree cover on this eastern boundary which could suppress dust.

ASSESSMENT (+) The site has no or few high/medium dust sensitive receptors within 100m of the boundary of the site and some within 400m

Dust - Air Quality/Human Health Impact

- 1.10 There are no Air Quality Monitoring Areas near the site.

ASSESSMENT (+) Site does not lie within 1000m of an AQMA

Transport – Export Route

- 1.11 The site only has access to a minor road (Leathersley Lane), and it is proposed that the material would be taken in a westerly direction to the A50 at Sudbury roundabout.

ASSESSMENT (--) The site has direct access to a minor road

Transport – Sustainable Transport Options

- 1.12 The proposed operator expects that all material would be transported by road using HGVs.

ASSESSMENT (-) Road transport proposed

Transport - Safe and effective access to and from the site

The operator proposes a new access to the site off Leathersley Lane.

- 1.13 **ASSESSMENT (-) No existing access by subject to agreement with local highway authority, a new access is likely to be acceptable.**

Transport – Local Amenity

- 1.14 Any adverse effects on residential amenity would be limited. Quarry traffic would only pass Leathersley Farm en-route to the A50.
ASSESSMENT (+) 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)

Cumulative Impact

- 1.15 Apart from the small borrow pits developed during the construction of the A50 there are no significant impacts of past or present mineral extraction in the area but there are other commercial operations in the area which, together with the proposed mineral working, would impact on the area.
ASSESSMENT (-) There are not any current mineral workings in the area but there is other commercial activity in the area

Airport Safeguarding

- 1.16 This site lies outside the birdstrike safeguarding zones for East Midlands Airport and Derby Aerodrome in an area of low risk for birdstrike.
ASSESSMENT (++) The site lies within an area where there is a low potential risk of birdstrike

SOCIAL TOTAL 30/41

Environmental Considerations

Water Environment – Flood Risk

- 1.17 The site lies within a flood zone 3, which has the highest probability of flooding. EA has highlighted concerns regarding flood protection measures on the site which may be compromised as a result of the scheme.
ASSESSMENT (--) Site lies within flood zone 3 - high probability of flooding

Water Environment – Groundwater

- 1.18 None of this site lies within a Groundwater Protection Zone.
ASSESSMENT (+) Site lies outside a Groundwater Protection Zone

Water Environment – Aquifer Protection

- 1.19 This site lies on a secondary aquifer.
ASSESSMENT (-) Site lies on a secondary aquifer

Ecology - Existing impacts from mineral extraction.

- 1.20 Neither the application site nor its immediate surroundings have been affected by minerals extraction, nor is minerals extraction evidenced in the wider area.
ASSESSMENT (--) Only localised, limited impacts associated with mineral extraction within or adjacent to the site

Ecology - UK, regional and local BAPs priority habitats and species

- 1.21 The site is dominated by arable farming, and historic mapping would suggest that agricultural intensification has resulted in the removal of many internal hedges previously present on site.

The remnant hedgerows on site do contain some hedgerow trees which may be of some interest, although the hedgerows otherwise appear to be intensively managed. Small areas of semi-natural habitat may persist at the southern end of the site, although there are no notable habitats or designated sites recorded within or immediately adjacent to the site.

Protected and notable species records are very limited within and around the site, with only one old record for water vole seemingly relevant

ASSESSMENT (+) 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.

Ecology - Ecological coherence/Natural Areas, Wildlife Corridors/Linkages

- 1.22 Being dominated by arable farming, the site is both consistent with other land uses widespread in the valley, and largely devoid of habitats which would be associated with and contribute positively to the ecological coherence of this area.

The ecological value of hedgerows within the site appears constrained by agricultural practices, and these hedgerows do not appear to form strong ecological corridors to habitats beyond the site boundary.

ASSESSMENT (+)The proposed site has few characteristics that accord with the established habitats over a wider area and its internal ecological coherence is poor.

Ecology - Habitat Creation

- 1.23 In the absence of previous minerals working, there is no context for large-scale wetland creation at this site, and any wetland habitats created here would lack connectivity to other wetland sites. On the other hand, the comparatively remote location of the site would likely limit the availability of fill material to achieve dry restoration.

ASSESSMENT (+)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.

Landscape - Existing Impact of Mineral Extraction

- 1.24 There is no evidence within the immediate or wider vicinity of the site of past or present mineral extraction.

ASSESSMENT (--) There are insignificant impacts associated with past mineral working

Landscape - Strength of Landscape Character

- 1.25 The proposed allocation is located within the Riverside Meadows LCT; a landscape typically farmed as permanent pasture. Evidence suggests that there has been significant boundary loss as a result of agricultural intensification and today this site is comprised of a small number of very large arable fields. Hedgerows are well managed but lack hedgerow trees.

ASSESSMENT (+) The proposed site has few characteristics that accord with the established landscape character and the condition is poor

Historic Environment - Designated Sites & Settings

- 1.26 Leathersley Farmhouse (Grade II Listed) is 210m from the western end of the site.

ASSESSMENT (-) Impact on Grade II Listed Building/Registered Historic Park and Garden, Conservation Area and/or its setting

Historic Environment – Archaeology

- 1.27 There are two records for cropmarks within the site, suggestive of Iron Age/Romano-British field systems and enclosures. A number of palaeo-channels are also mapped. Two records of ridge and furrow appear to be ploughed out. The Dove Valley is associated with deep alluvial deposits which can blanket archaeological and palaeo-environmental remains, so the surface-visible resource may underestimate the true extent and complexity of buried remains.

ASSESSMENT (-) Frequent, visible and interpretable earthworks and/or some known archaeology with significant potential for buried remains

Historic Environment - Historic Landscape

- 1.28 Very large arable fields with significant boundary loss.

ASSESSMENT (++) Historic field pattern largely gone.

Best and Most Versatile Agricultural Land

- 1.29 This site lies within an area where less than 20% of the land is likely to be best and most versatile agricultural land.

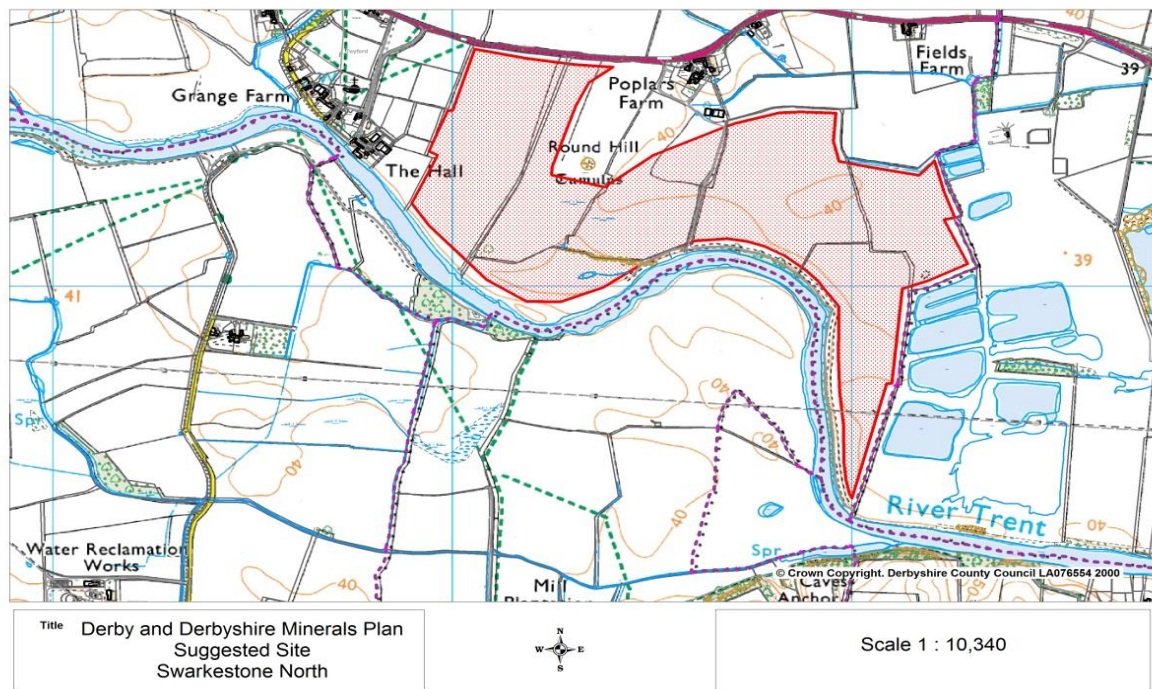
ASSESSMENT (++) The site lies within an area where there is a low likelihood of bmv land

ENVIRONMENTAL TOTAL = 34/50 (H)

Swarkestone North

Location and General Description of Site

This is a proposed extension to the active Swarkestone Quarry. The site is 100 hectares in size and is situated between the existing pit to the east and Twyford village to the west. The River Trent forms the southern boundary of the site and the A5132 the northern boundary. It is generally level, open terrain, being within the floodplain of the River Trent. It is currently in



agricultural use with a mix of arable and grazing uses.

Resources (yield, annual output, depth of deposit)

It is estimated that this site would yield **4.5 million tonnes** of sand and gravel from deposits with an average depth of **4 metres**. Deposits have been classified as being of medium to high quality. The operator estimates that the annual output would be **300,000 tonnes** over a **15 year** period.

End Use of, and Market for, Mineral

The processed material would be used in the manufacture of ready mixed concrete, pipes, roof tiles, slabs and other concrete products, to markets which are generally within a 25 mile radius of the site.

Timing and Phasing

The operations could begin on completion of the current quarry around 2020, with the site having an estimated lifespan of approximately 15 years.

Plant and Access Arrangements

It is proposed to utilise the existing processing plant and access road. The access joins the A5132 and lorries would generally then travel east onto the A514 before

joining the A50. The normal operating capacity of the processing plant would be 300,000 tonnes of material per annum.

Relevant History

A planning application is currently under consideration for the extraction of 250,000 tonnes of sand and gravel from the north eastern part of this site. The whole area was assessed by the MPA in 1993 for inclusion in the current adopted Minerals Local Plan but was not carried forward for further consideration because the permitted site contained sufficient reserves to sustain production at this operation for that Plan period, which was to 2006.

SITE ASSESSMENT

Economic Considerations

Need for the Mineral

- 1.1 Detailed evidence to support the need for additional reserves to maintain supply throughout the Plan period

ASSESSMENT (++) Detailed evidence provided to justify the need for the material

Existing Infrastructure

- 1.2 This proposal would utilise the existing quarry infrastructure.

ASSESSMENT (+) Use of existing quarry infrastructure

- 1.3 **Location of Site to Market Areas**

The site is well located to serve its intended market

ASSESSMENT (+) Site is well located to serve its market

- 1.4 **Employment**

The operation is likely to use existing employees from the existing quarry

ASSESSMENT (+) Retention of employees

Resources/Yield

- 1.5 It is estimated that this site would yield 4.5 million tonnes of sand and gravel from an extraction area of 70 hectares. This equates to over 64,000 tph.

ASSESSMENT (+) Yield of 50,000-75,000 tph

ECONOMIC TOTAL 16/18

Social Considerations

- 1.6 **Duration of Mineral Extraction**

The operation is expected to last for 15 years.

ASSESSMENT (+) Medium term 11-20 years.

Visual Intrusion (Properties and Rights of Way)

- 1.7 There are several properties from which the site is visible. There are properties in Twyford to the north-west and several individual residential properties to the north of the site including Poplars Farm, which stands adjacent to the northern site boundary. Part of the site is also visible from properties in Ingleby to the south.

ASSESSMENT (-) The site has some visually sensitive receptors and/or some parts of the site will be visible from them

Noise

- 1.8 A few properties to the north and west lie within the 200m noise contour and some within 500m of the site. Properties in Twyford may be affected by working, although this could be minimised by omitting the smaller grazing fields adjacent to Twyford from the allocation and creating a noise attenuation bund on this western boundary. The main source of noise would be the processing plant. However, this would remain in its current location, which would mean only those properties that are already affected would continue to be affected, albeit for a longer period.

ASSESSMENT (+)The site has no or few noise sensitive receptors within 200m of the boundary of the site and some within 500m

Dust

- 1.9 Some properties lie within 400m of the site. Sand and gravel is normally wet worked, with the result that dust is not a significant issue with this type of mineral extraction. The processing plant would remain in its current location and, therefore, it is likely that the working of this site would not exacerbate the current situation which conforms to environmental standards.

ASSESSMENT (-)The site has no or few high/medium dust sensitive receptors within 100m of the boundary of the site and some within 400m

Dust - Air Quality/Human Health

- 1.10 The site does not lie within 1000m of an AQMA.

ASSESSMENT (+) The site does not lie within 1000m of an AQMA

Transport – Export Route

- 1.11 The operator has confirmed that the proposed extension would utilise the access of the existing adjacent operation which is direct onto the A5132. The Highways Authority (Derbyshire County Council) has assessed this as being acceptable in principle, provided there is not a material increase in vehicle movements.

ASSESSMENT (+) The site will be accessed by an A road

Transport – Sustainable Transport Options

- 1.12 The company has confirmed that the processed material would be transported to and from this site by road.

ASSESSMENT (-) Road transport proposed

Transport - Safe and Effective Access to and from the Site

- 1.13 **ASSESSMENT (++) Existing approved access to current highway standards**

Transport – Local Amenity

- 1.14 HGVs would travel directly onto the A5132 on the northern edge of Barrow Upon Trent to reach the A50 from the site, and it appears that some also exit the A50/A38 and travel through Willington village to the existing site and vice versa.

ASSESSMENT (++) 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)

Cumulative Impact

- 1.15 There are existing mineral workings in the area and have been for a significant number of years .

ASSESSMENT (--) Impacts from past and existing mineral workings

Airport Safeguarding Birdstrike Issue – Potential Risk to Aircraft Safety

- 1.16 This site lies within the 13km birdstrike safeguarding zone for East Midlands Airport and, lying almost directly in line with the approach track flown by easterly arriving aircraft, is considered to be in a critical area for birdstrike.

ASSESSMENT (--) Site lies in an area where there is the highest potential risk of birdstrike

SOCIAL TOTAL 28/41

Environmental Considerations

Water Environment - Flooding

- 1.17 The site lies within the floodplain of the River Trent, within flood zone 3 where there is a high probability of flooding. A Flood Risk Assessment has been accepted for this area and works are on-going. The EA has stated that consideration should be given to extraction from the stand-off strip, allowing widening of the river and the creation of a braided channel.

ASSESSMENT (--) The site lies within flood zone 3 - high probability of flooding

Water Environment – Groundwater

- 1.18 This site lies outside a groundwater protection zone.

ASSESSMENT (+) The site lies outside a groundwater protection zone

Water Environment – Aquifer Protection

- 1.19 This site is on a secondary aquifer.

ASSESSMENT (-) Site lies on a secondary aquifer

Ecology - Existing Impacts from Mineral Extraction.

- 1.20 Eastern boundary currently very unnatural with open water and reed beds. Could be improved.

ASSESSMENT (+) Localised, but moderate to high, impacts on habitats

Ecology - UK, regional and local BAPs priority habitats and species

- 1.21 Majority of site is arable land with localised improved pasture adjacent to Twyford and possibly semi-improved in field by river with palaeochannels. Limited mature/veteran trees in centre of the site. No records = Priority habitats very limited.

ASSESSMENT (-) Some areas of positive ecological value, including UK or local priority habitats or species which should be considered for protection/conservation

Ecology - Ecological coherence/Natural Areas, Wildlife Corridors/Linkages

- 1.22 Very limited features characteristic of Natural Area and very limited coherence internally or with adjacent areas east or west.

ASSESSMENT (+) The site has few characteristics that accord with the established habitats over a wider area and its internal coherence is poor

Ecology - Habitat creation

- 1.23 Wetland nature reserve being developed to the immediate east. Priority habitats could be created providing valuable net biodiversity gains as long as existing riverside habitats of palaeochannels and semi-improved grassland retained.

ASSESSMENT (++) The site offers excellent opportunities to create or enhance UK priority habitats within the site and offers biodiversity benefit over a wider area

Landscape - Existing Impacts from mineral extraction

- 1.24 The proposed site is located east of Hilton and lies outside the Sherwood Sandstone area. There are localised high impacts associated with previous mineral extraction particularly to the east of this site.

ASSESSMENT (+) There are localised, moderate to high impacts associated with past mineral extraction

Landscape - Strength of Landscape Character

- 1.25 This site crosses two LCTs but is poorly representative of each. The majority of the land is down to arable with some localised pasture associated with smaller fields adjacent to Twyford and immediately adjacent to the River Trent. Hedgerows are generally poor, in some places missing and generally species poor (visual observation). There is a general lack of tree cover associated with field boundaries and the river. Trees are mostly associated with the semi-improved areas near the river. The overall condition of the site is average to poor. There is an isolated burial mound and some localised ridge and furrow (poor condition) within the site.

ASSESSMENT (+) The proposed site has few characteristics that accord with the established landscape character and the condition is poor

Historic Environment - Designated Sites & settings

- 1.26 An upstanding scheduled Round Barrow lies within the site area. Consideration will need to be given to the setting of this monument.

ASSESSMENT (--) Impact on a Grade I or II * designation, SM and/or its setting

Historic Environment – Archaeological Environment

- 1.27 Cropmarks are recorded north and south of the scheduled monument. Localised palaeochannels are present and evident along the southern fringe of the site, visible as existing stream line.

ASSESSMENT (+) Occasional or localised earthworks and/or known archaeology with limited potential for buried remains

Historic Environment - Historic Landscape

- 1.28 Earlier field pattern recognisable but considerable enlargement of fields in 20th century.

ASSESSMENT (+) Remnant field patterns with significant boundary loss

Best and Most Versatile Agricultural Land

- 1.29 A significant proportion of the site lies within an area where more than 60% of the land is likely to be best and most versatile agricultural land.

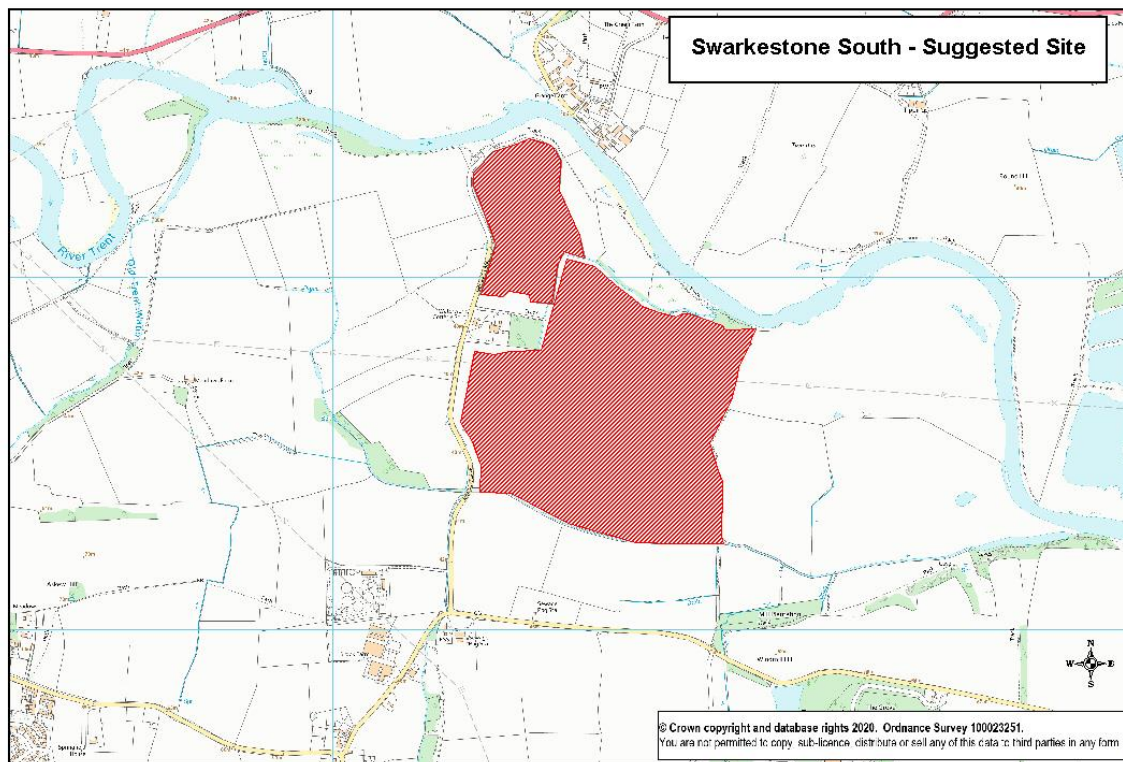
ASSESSMENT (-) Site lies within an area where there is a high likelihood of bmv land

ENVIRONMENTAL TOTAL – 33/50 (H)

Swarkestone South

Location and General Description of Site

This is an extension to the existing active Swarkestone Quarry. The 79 hectare site is situated to the west of the existing Swarkestone Quarry, to the south of the River Trent. The western boundary is formed by a private access road and the southern boundary by a brook. Repton village is situated to the south-west and Ingleby and Foremark villages to the south-east. Being within the floodplain of the River Trent, the terrain is generally flat and open. It is in agricultural use, predominantly as pasture land, with a number of hedgerows and mature/semi-mature hedgerow trees.



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Resources (yield, annual output, depth of deposit)

Taking account of proposed stand offs, the proposed extraction area would be around 70 hectares. It has been estimated that the site would yield saleable reserves of over 2.5 million tonnes of sand and gravel from deposits that average 3.5 metres in depth. Annual output is estimated at 300,000 tonnes. The lifespan of the site is estimated at around 8-9 years.

End Use of, and Market for, Mineral

The company has stated that the material would be used in the production of ready mixed concrete, pipes, roof tiles, kerbs, slabs and other concrete products. Markets for the end products would generally be within a 25 mile radius of the site.

Timing and Phasing

Operations are likely to commence once the current permitted area to the east of the site has been worked out. This is likely to be in around 10 years' time. Given the quantity of deposit and proposed annual extraction rates, it is estimated that operations at this site would then last 8-9 years.

Plant and Access Arrangements

The company proposes that the existing processing plant would be used and that the existing access road onto the A5132 would also be used. No details of the intended arrangements for transporting the mineral across the River Trent are known at this stage. The company estimates that there would be about 110 lorry movements per day from/to the site.

Site History

There is no relevant mineral planning history for this specific site but a planning application for the extraction of 2.5 million tonnes of sand and gravel from the site immediately to the east was approved in March 2019.

SITE ASSESSMENT

Economic Considerations

Need for the Mineral

- 1.1 Detailed evidence provided to support the need for additional reserves to maintain supply throughout the Plan period
ASSESSMENT (++) Detailed evidence provided to justify the need for the material

Existing Infrastructure

- 1.2 This proposal would utilise the existing quarry infrastructure.
ASSESSMENT (+) Use of existing quarry infrastructure

Location of Site to Market Areas

- 1.3 The site is well located to serve its intended market.
ASSESSMENT (+) Well located to serve market

Employment

- 1.4 The operation would use existing employees from the existing quarry
ASSESSMENT (+) Retention of employees

Resources/Yield

- 1.5 It is estimated that this site would yield c2.5 million tonnes of medium/high quality material from an extraction area of 70 hectares. This equates to around 36,000 tonnes per hectare.
ASSESSMENT (-) Yield of 25,000 – 50,000 tph

ECONOMIC TOTAL = 15/18

Social Considerations

1.6 Duration of Mineral Extraction

It is proposed that the site will be in production for 8-9 years.

ASSESSMENT (++) Short term 0-10 years

Visual Intrusion (Properties and rights of way)

- 1.7 Properties at Twyford have partial views across the river of part of the site. A residential nursing home adjoins the site to the west and has open views of the western part of the site. There are also views from Anchor Church (historic feature) to the south-east of the site boundary and from a few properties in Ingleby and Foremark, including Foremark Preparatory School. The undulating topography to the south screens the majority of site from Repton and Milton. Overall, the site has a number of properties from which the site is visible. In addition, a footpath runs along the eastern boundary of the site and this forks to the north-west through the site. The majority of the site is visible from these public rights of way.

ASSESSMENT (-) The site has some visually sensitive receptors and some parts of the site will be visible from them

Noise

- 1.8 All properties in Twyford, the nearby nursing home, and two properties adjacent to the south-west boundary lie within 500m of the site. It is recognised that the principal source of noise would be from the processing plant, which would remain in its existing location. Further work would be required to assess the potential impact of working the site on properties close to the site.

ASSESSMENT (+) The site has no or few noise sensitive receptors within 200m of the boundary of the site and some within 500m

Dust

- 1.9 All properties in Twyford, Foremark, the nursing home and two properties adjacent to the south-west boundary lie within 500m of the outer boundary of the site. There is the potential, therefore, for dust to be a problem. It is recognised that the material would be extracted in a wet condition, which would reduce significantly the potential for this to be a significant issue. However, the removal of the topsoil in the early stages of working has the potential to create some dust, but this will depend to a significant extent on the weather conditions leading up to, and during, this operation.

ASSESSMENT (+) The site has no or few high/medium dust sensitive receptors within 100m of the boundary of the site and some within 400m

Dust - Air Quality/Human Health Impacts

- 1.10 The site is not located within 1000m of an Air Quality Management Area.

ASSESSMENT (+) The site does not lie within 1000m of an AQMA

Transport - Export Route

- 1.11 The site would use the existing access onto the A5132 and from there lorries would use the A50 or A38.

ASSESSMENT (+) The site would be accessed from an A road

Transport – Capacity for Sustainable Transport Options

- 1.12 Processed material would be transported by road.
ASSESSMENT (-) Road transport proposed
- Transport – Safe and Effective Access**
- 1.13 Use of the existing access and access road would be acceptable provided there would be no increase in number of lorry movements.
ASSESSMENT (++) Existing approved access to current highway standards
- Transport – Local Amenity**
- 1.14 Lorries would go directly on to the A5132 from the quarry.
ASSESSMENT (++) 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)
- Cumulative Impact**
- 1.15 There are existing mineral workings in the immediate area and have been for a significant number of years.
ASSESSMENT (--) Impacts from past and existing mineral workings
- Airport Safeguarding Birdstrike Issue – Potential Risk to Aircraft Safety**
- 1.16 This site lies within the 13km birdstrike safeguarding zone for East Midlands Airport and, lying almost directly in line with the approach track flown by easterly arriving aircraft, is considered to be in a critical area for birdstrike.
ASSESSMENT (--) The site lies in an area where there is the highest potential risk of birdstrike

SOCIAL TOTAL = 30/41

Environmental Considerations

- Water Environment - Flooding**
- 1.17 The site lies within the Trent floodplain within flood zone 3 where there is a high probability of flooding. A Flood Risk Assessment has been accepted for this area and works are on-going in this respect. The EA has set out that consideration should be given to extraction from the stand-off strip, allowing widening of the river and the creation of a braided channel.
ASSESSMENT (--) Site lies within flood zone 3 high probability of flooding
- Water Environment - Groundwater**
- 1.18 Part of the south-western section of the site lies within a groundwater source protection zone. Given that the site is located adjacent to a water course and near other surrounding water features, it would require dewatering. A detailed EIA will be required detailing the effects of this de-watering on the surrounding water environment and what mitigation measures, if any, are required to deal with any adverse impacts. Correct pollution prevention procedures will need to be followed to prevent contamination of groundwater and the surrounding water environment.
ASSESSMENT (-) Site lies within a groundwater protection zone 2

Water Environment – Aquifer Protection

- 1.19 This site lies on a principal aquifer.
ASSESSMENT (--) Site lies on a principal aquifer

Ecology - Existing impacts from mineral extraction.

- 1.20 None internally. The river separates this site from existing workings to the NE.
ASSESSMENT (-) Only localised, limited impacts associated with mineral extraction within or adjacent to the site

Ecology - UK, regional and local BAPs priority habitats and species

- 1.21 Extensive arable, improved and semi-improved pasture. Hedgerows intact and close cut, but species poor, lacking notable hedgerow trees. Prominent trees and mixed species hedge (oak and some poor ash) associated with green lane in the centre of the site. Stream running west to east, lined with mature alder/willow. Some palaeochannels in improved pasture. Limited extent but valuable characteristic habitats of Natural Area.
ASSESSMENT (-) Some areas of positive ecological value, including UK or local priority habitats or species which should be considered for protection/conservation

Ecology - Ecological coherence/Natural Areas, Wildlife Corridors/Linkages

- 1.22 Overall coherence is limited due to the size of fields and limited features.
Site has very limited habitats characteristic of Natural Area
ASSESSMENT (+) The proposed site has few characteristics that accord with the established habitats over a wider area and its internal ecological coherence is poor.

Ecology - Habitat creation

- 1.23 Habitats would not be well linked to wider area.
ASSESSMENT (+) 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.

Landscape and Visual Amenity - Existing Impact

- 1.24 The proposed site is located in the eastern part of the river valley and lies outside the Sherwood Sandstones area. Locally, there are insignificant impacts associated with previous mineral extraction, although there are existing and previous workings across the River Trent to the east.
ASSESSMENT (-) There are only localised, low impacts associated with past mineral extraction

Landscape and Visual Amenity - Strength of Landscape Character

- 1.25 The site, directly south of the River Trent and north of Foremark, is poorly representative of the established character of the Riverside Meadows LCT with large parts of the site now down to arable or improved pasture. Hedgerows are mostly intact and close cut, generally species poor and lacking in notable hedgerow trees. The most prominent trees (oak and some poor quality ash) are associated with the green lane that dissects the site and connects to the river. There is some localised ridge and furrow and palaeochannels within areas of improved pasture and a small section of mixed species hedgerow associated with the green lane. Overall, the landscape

character is weak although there are some attractive features, some of which are in good condition.

ASSESSMENT (+) The proposed site has few characteristics that accord with the established landscape character and the condition is poor

Historic Environment - Designated Sites & settings

- 1.26 Grade II Listed 'Anchor Church' is close to the site, with designed views over the extraction site associated with the cave's re-interpretation within the 18th century park at Foremark Hall.

ASSESSMENT (-) Impact on a Grade II designation, conservation area and/or its setting.

Historic Environment – Archaeological Environment

- 1.27 Possibly some remnant ridge and furrow and parish boundary. Extensive and visible palaeochannels within the site.

ASSESSMENT (-) Frequent, visible and interpretable earthworks and/or some known archaeology

Historic Environment - Historic Landscape Character

- 1.28 The early field pattern has largely gone but some boundaries remain.

ASSESSMENT (+) Remnant field patterns with significant boundary loss

Best and Most Versatile Agricultural Land

- 1.29 The site has similar proportions of land where there is either likely to be less than 20% bmv or between 20% and 60%. A small part in the south-western section of this site lies within an area where more than 60% of the land is likely to be best and most versatile agricultural land.

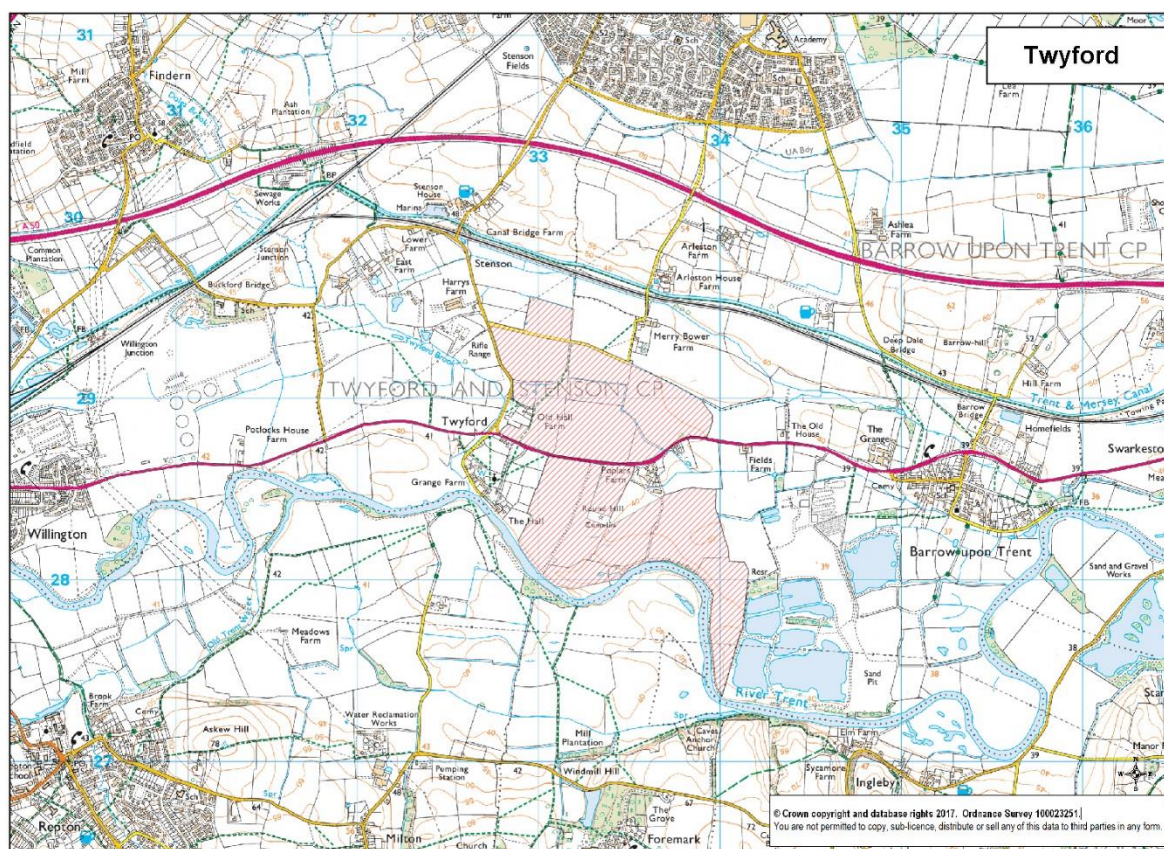
ASSESSMENT (+) The site lies in an area where there is a moderate likelihood of bmv land

ENVIRONMENTAL TOTAL 29/50 (M)

Twyford

General Description of Site

This would be a new site operated by Cemex as a replacement for their Willington site, which will have run out of reserves by 2025. The site is 159 hectares in size. It is situated to the north and east of Twyford, either side of the A5132. Tarmac's Swarkestone Quarry lies to the east of the site. The River Trent forms the southern boundary of the site. It is generally level, open terrain, being within the floodplain of the River Trent. It is currently in agricultural use with a mix of arable and grazing uses. Hedgerows and occasional fencing with a few mature trees form the internal field boundaries of the site.



Resources (yield, annual output, depth of deposit)

It is estimated that this site would yield around 6.25 million tonnes of sand and gravel from deposits with an average depth of 4 metres. Deposits have been classified as being of medium to high quality. The operator estimates that the annual output would be 300,000-350,000 tonnes over an 18-20 year period.

End Use and Market

The processed material would be used in the manufacture of ready mixed concrete, pipes, roof tiles, slabs and other concrete products, to markets which are generally within a 25 mile radius of the site.

Timing and Phasing

The operations could begin on completion of Willington Quarry around 2025, with the site having an estimated lifespan of approximately 20 years.

Plant and Access Arrangements

There are currently two options for the plant and access arrangements. Option 1 is to locate the plant on the eastern side of the site just to the north of the A5132, with access direct on to the A5132. Lorries would then be expected to travel east onto the A514 before joining the A50. Option 2 proposes the plant site in the north western corner of the site, with an internal access road running directly south through the site to join the A5132. The normal operating capacity of the processing plant would be 300,000-350,000 tonnes of material per annum, with an anticipated 109 HGV movements per day.

Planning History

The area to the south of the A5132 was assessed by the MPA in 1993 for inclusion in the current Minerals Local Plan but was not carried forward for further consideration because the permitted site at Swarkestone Quarry contained sufficient reserves to sustain production at that operation for that Plan period, which was to 2006. The area to the south of Twyford Road was again assessed in 2011 for inclusion in the current review and is proposed to be included as a preferred allocation in the draft Plan.

SITE ASSESSMENT

Economic Considerations

1.1 Need for the Mineral

There is a need for further sand and gravel to maintain a steady and adequate supply over the Plan period to 2036.

ASSESSMENT (+) Some evidence has been provided which shows the need for additional reserves to maintain supply throughout the Plan period.

Existing Infrastructure

1.2 This proposal would require new quarry infrastructure to be developed.

ASSESSMENT (-) New quarry infrastructure would have to be developed for the operation.

1.3 Location of Site to Market Areas

The site is well located to serve its intended market.

ASSESSMENT (+) Site is well located to serve its market

1.4 Employment

This is the replacement of an existing operation at Willington Quarry, which is likely to use employees from this quarry.

ASSESSMENT (+) Retention of employees from an existing operation

Resources/Yield

- 1.5 It is estimated that this site would yield 6.25 million tonnes of sand and gravel from a proposed extraction area of 159 hectares. This equates to 39,300 tph.
ASSESSMENT (-) Yield of 25,000-50,000tph

ECONOMIC TOTAL 13/18

Social Considerations

Duration of Mineral Extraction

- 1.6 The operation is expected to last for 18-20 years.
ASSESSMENT (+) Medium term 11-20 years.

Visual impact (Properties and Rights of Way)

- 1.7 There are several properties from which the site is visible. Black Dub and Old Hall Farm and Cottage are located on the boundary of the site and would have open views across the site from windows and the residential curtilage. There are also properties in Twyford and several individual residential properties along the A5132. The northern section of the site would also be visible from the hamlet of Arleston. The southern part of the site is also visible from properties in Ingleby to the south of the site. There is a footpath crossing the northern part of the site in a generally north south orientation and there are roads to the south, west and north of the site. The area to the south of the A5132 would be visible from the road and Poplars Farm adjacent to the site boundary although there is no public access to this area. On balance the site is judged to have some to many visual receptors able to view large parts of the site.
ASSESSMENT (-) The site has some visually sensitive receptors and some parts of the site will be visible from them.

Noise

- 1.8 A few properties along the A5132, as well as a few in Twyford and Arleston lie within the 200m noise contour and some lie within 500m of the site. The main source of ongoing noise would be the processing plant. This is likely to be located to the north of the A5132 but this has not yet been confirmed.
ASSESSMENT (+) The site has a few noise sensitive receptors within 200m of the boundary of the site and some within 500m

Dust

- 1.9 Sand and gravel is normally wet worked, with the result that dust is not normally a significant issue with this type of mineral extraction. However, given that there are potential implications, this issue is covered. A few (about 5) residential properties are situated within 100m of the site and some within 400m.
ASSESSMENT (-)The site has some high/medium dust sensitive receptors within 100m of the boundary of the site and some within 400m

Dust - Air Quality/Human Health

- 1.10 The site does not lie within 1000m of an AQMA.
ASSESSMENT (+) The site does not lie within 1000m of an AQMA

Transport – Export Route

- 1.11 The operator has proposed two options for the location of the access, both of which would be onto the A5132.

ASSESSMENT (+) The site will be accessed by an A road

Transport – Sustainable Transport Options

- 1.12 The company has confirmed that the processed material would be transported from this site by road.

ASSESSMENT (-) Road transport proposed

Transport - Safe and Effective Access to and from the Site

- 1.13 Two options have been proposed regarding the access to the site. Option 1 is for the site to be accessed from the A5132 at the north eastern part of the site. Option 2 proposes access from the A5132 on the western side of the site.

ASSESSMENT (-) No existing approved access but subject to agreement with local highway authority new access is likely to be acceptable

Transport – Local Amenity

- 1.14 Access would be direct on to the A5132.

ASSESSMENT (++) 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)

Cumulative Impact

- 1.15 There are existing mineral workings and other commercial activity in the area and have been for a significant number of years.

ASSESSMENT (--) There is a concentration of mineral workings and other commercial activity in the area, which currently have, or have had, impacts over a long period of time.

Airport Safeguarding

- 1.16 This site lies within the 13km birdstrike safeguarding zone for East Midlands Airport and, lying almost directly in line with the approach track flown by easterly arriving aircraft, is considered to be in a critical area for birdstrike.

ASSESSMENT (--) Site lies in an area where there is the highest potential risk of birdstrike

SOCIAL TOTAL 29/41

Environmental Considerations

Water Environment – Flood Risk

- 1.17 The site lies within the floodplain of the River Trent, within flood zone 3 where there is a high probability of flooding. A Flood Risk Assessment has been accepted for this area and works are on-going. The EA has stated that consideration should be given to extraction from the stand-off strip, allowing widening of the river and the creation of a braided channel.

ASSESSMENT (--) The site lies within flood zone 3 - high probability of flooding

Water Environment – Groundwater

1.18 This site lies outside a groundwater protection zone.

ASSESSMENT (+) The site lies outside a groundwater protection zone

Water Environment – Aquifer Protection

1.19 Part of this site is on a principal aquifer.

ASSESSMENT (--) Site lies on a principal aquifer

Ecology - Existing Impacts from Mineral Extraction.

1.20 The proposed allocation includes land both to the north and the south of the A5132 Twyford Road. To the north of this road, neither the potential allocation nor its immediate surroundings have been affected by minerals extraction. However, south of Twyford Road the potential allocation lies in close proximity to the existing Swarkestone Quarry and its recent small, short term extension area west of the processing plant. This part of the potential allocation site would also be located closer to – although separate to and on the opposite bank to - the most recently consented Swarkestone Quarry extension south of the river.

ASSESSMENT (+/-) Localised, but moderate to high, impacts on habitats/ Only localised, limited impacts associated with mineral extraction on habitats within or adjacent to the site

Ecology - UK, regional and local BAPs priority habitats and species

1.21 Both parts of the site are currently dominated by arable farming, and historic mapping would suggest that agricultural intensification has resulted in the removal of many internal hedges previously present on site. However, at least north of Twyford Road, the hedges that are present appear of reasonable condition and maturity and would merit further survey. These hedges are associated with frequent hedgerow (and occasional in-field) trees, often (and perhaps unusually for this area?) consisting of oaks. Hedgerows and internal field boundaries also appear associated with watercourses or ditches, which again would merit further consideration. These habitats could be of priority habitat value but this cannot be known without further survey work. Outside of the site, the Twyford Green Grassland complex is a Local Wildlife Site previously identified for its unimproved grassland interest, although it is not known whether these habitats retain their interest and condition. There also appear to be multiple records for notable species – particularly otter, but also notable plant species - in close proximity to the southern part of the site. These records do however mostly appear to relate to land outside of the potential allocation, on the other side of the river.

ASSESSMENT (+/-) 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

Ecology - Ecological coherence/Natural Areas, Wildlife Corridors/Linkages

1.22 Being dominated by arable farming, the site is both consistent with other land uses widespread in the valley, and largely devoid of habitats which would be associated with and contribute positively to the ecological coherence of this area. The obvious exception is hedgerows and ditches/watercourses, which are present through the site

especially north of Twyford Road, and link to comparable habitats beyond the site boundary.

The southern part of the potential allocation would however take minerals working in close proximity to the river and the associated riparian habitats – a strong ecological corridor - for some considerable distance, perhaps equating to c 1.9km of river/ river bank.

ASSESSMENT (+) The site has few characteristics that accord with the established habitats over a wider area and its internal coherence is poor

Ecology - Habitat creation

- 1.23 The northern part of the site, being somewhat distant from the river, would not seem like a natural candidate for a water-based restoration scheme. The value of a wet restoration would be somewhat restricted because of the absence of similar waterbodies immediately adjacent to the site, and such a restoration might also be incompatible with existing landscape character(?)

However, a restoration to original ground levels in this area may prove challenging, depending on the availability of fill. If a dry restoration can be achieved, there may be pressure to restore to current land uses and create agricultural land of limited ecological value

Habitat creation should seize opportunities to retain and enhance hedgerows and mature trees, to provide a framework for site restoration.

South of Twyford Lane, the site offers greater potential to support habitat creation, likely focussing on appropriate wetland creation, to strengthen the ecological value of the river corridor and add to the habitats provided (or to be delivered) within Swarkestone Quarry, both north and south of the river. That said, other constraints (airport safeguarding, depth of void left after working, restoration of setting to scheduled monument etc) may prevent site restoration from creating the most noteworthy habitat types (e.g. reedbeds, wetlands with extensive shallows and extensive areas of species rich grassland), as has proved to be the case within the existing sites.

ASSESSMENT (+) 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.

Landscape - Existing Impacts of Mineral Extraction

- 1.24 The proposed allocation site is located to the north and south of the A5132, east of Twyford. Within the site and from surrounding lanes there is very little evidence of past or present mineral working although from the A5132 at the easternmost end of the site there is evidence of the screening bunds around the Swarkestone Quarry complex. Overall these impacts are judged to be low and localised within the context of the proposed allocation site. Developed as a new site would add cumulatively with existing impacts associated with the Swarkestone Quarry site.

ASSESSMENT (-) There are only localised, low impacts associated with past mineral extraction.

Landscape - Strength of Landscape Character

- 1.25 To the north of the proposed allocation site is located within the Lowland Village Farmlands LCT described as a mixed farming landscape with arable crops and improved pasture. Towards the river the Lowland Village Farmlands give way to the Riverside Meadows LCT typically a pastoral landscape associated with the river. The

site is generally consistent with the characteristics of each LCT with small to medium fields enclosed by hedgerows with scattered hedgerow trees, although boundary loss is more evident to the south of the A5132. Field boundaries and trees in the area to the north of Twyford Road are generally in good condition.

Wet restoration of land to the north of Twyford Road would be at odds with the character of the river terraces and would create features that do not naturally link to existing habitats.

ASSESSMENT (-/--) The proposed site generally accords with the established landscape character (or in part) but the condition could be enhanced/The proposed site accords with the established landscape character and is in good condition

Historic Environment - Designated Sites & settings

- 1.26 Indirect (setting) impacts: the (north) site is immediately adjacent to the Twyford Conservation Area at its SE corner, and also immediately adjacent to Grade II* and Grade II Listed Buildings (Old Hall Cottage and Old Hall Farmhouse respectively). Both sites border immediately on the scheduled 'Round Hill' henge and barrow, forming its setting in terms of landscape and below-ground archaeology. The Scheduled Monument at Round Hill will have implications on both the extractable area of this site and on any restoration scheme. A suitable buffer to extraction will be necessary to conserve the landscape setting of the monument and its archaeological setting in terms of associated remains below-ground. The restoration scheme would need to re-establish an appropriate dry/floodplain setting for the monument: although a naturalistic mosaic of wet/dry habitats would be acceptable, setting the monument among substantial water bodies would not. Similar considerations might apply to the Listed Buildings at Old Hall Farm.

ASSESSMENT (--) Impact on a Grade I or II * designation, SM and/or its setting.

Historic Environment – Archaeology

- 1.27 There are numerous records for cropmarks on Derbyshire HER, covering almost the entire northern site and large parts of the southern site. These include field systems, trackways/droeways, enclosures, a pit alignment, linear boundaries and some possible ring ditches, and are likely to represent a below-ground archaeological record dating between the Bronze Age and Romano-British period. Alluvium may conceal further archaeology particularly within the southern site. The northern site is largely under arable crop and retains no earthworks; the southern site within the floodplain has 6 records for earthworks – principally ridge and furrow – although some areas have subsequently been converted to arable with consequent loss of significance. The site also has some broad palaeochannel features mapped suggesting a significant palaeo-environmental resource.

ASSESSMENT (--) Extensive, visible and interpretable earthworks and/or known archaeology with high potential for buried remains.

Historic Environment - Historic Landscape

- 1.28 In general the site is characterised by post 1650 regular enclosure with significant boundary loss creating very large fields. An area of earlier enclosure may survive around Old Hall Farm, and the more irregular field pattern in the SE part of the site may be of earlier origin though again the fields are much enlarged.

ASSESSMENT (+) Remnant field patterns with significant boundary loss

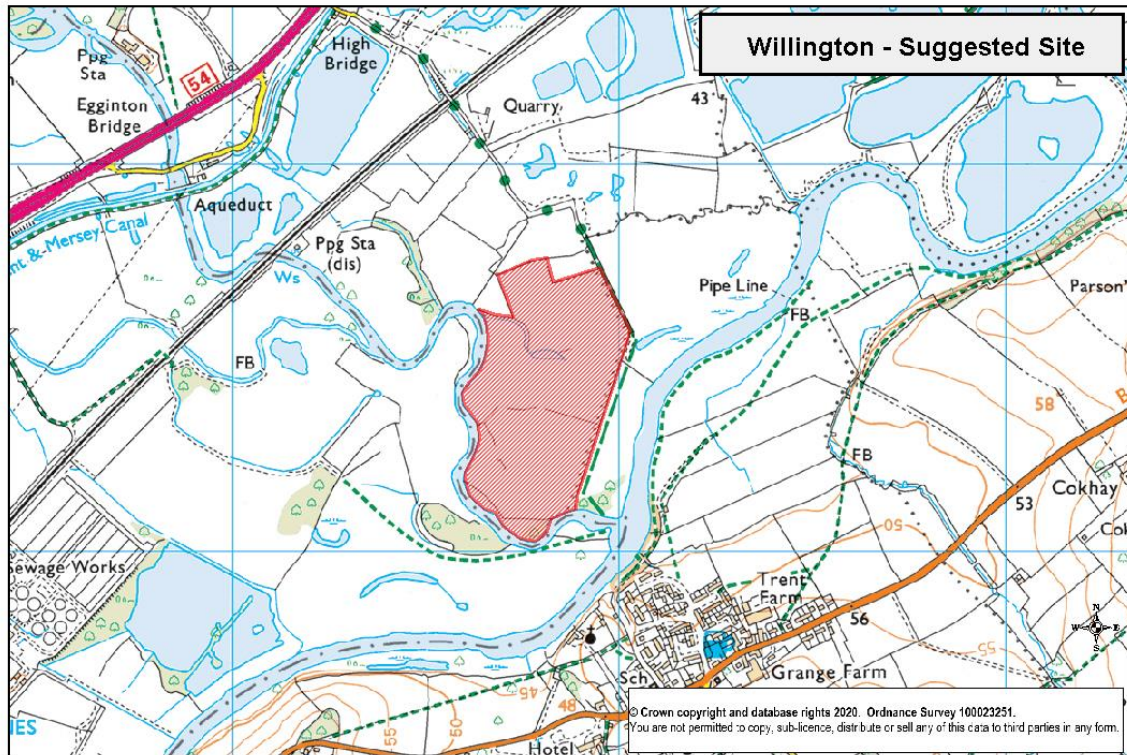
- 1.29 **Best and Most Versatile Agricultural Land**
A significant proportion of the site lies within an area where more than 60% of the land is likely to be best and most versatile agricultural land.
ASSESSMENT (-) Site lies within an area where there is a high likelihood of bmv land.

ENVIRONMENTAL TOTAL 26.5/50 (M)

Willington

Location and General Description of Site

This is a proposed extension to the currently active Willington pit. This 18 hectare site is located in the Trent Valley on the Derbyshire/Staffordshire border, one mile to the south-west of the village of Willington. It is currently in agricultural use, predominantly for grazing livestock.



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Resources (yield, annual output, depth of deposit)

This site is estimated to have a yield of approx. 0.8 million tonnes of sand & gravel from deposits between 3m and 6m in depth. Assuming an extraction area (taking account of stand-offs) of around 15 hectares, yield per hectare would be around 53,000 tonnes. There is an average overburden of 1.5m depth. It would have a lifespan of around 3-4 years. This equates to an annual output from the site of around 250,000-300,000 tonnes.

Timing and Phasing

The operator states that production could commence in 2023 and would enable the quarry to remain productive after the completion of operations within the existing quarry area. The proposed development, including restoration, would be completed in an estimated 3-4 years.

Plant and Access Arrangements

All operations for the existing quarry and the proposed extension would continue to be accessed using the existing long access road to the A5132. The existing processing plant on the adjacent operational site would also be used for the duration of the proposed extension period.

Site History

Mineral extraction in the vicinity of the site has been undertaken in a piecemeal manner by a number of operators since the 1960s, although it is only since the late 1980s that the site has developed into a permanent quarry with associated infrastructure. Permissions for the extraction of sand and gravel from land off High Bridge Lane and to the south-west of Castle Way were granted in 1966 and 1991 respectively and these areas have now been worked out. The former area is now the location of the quarry plant and silt lagoons. A Planning application for sand and gravel extraction on a 34 hectare site adjacent to this proposal was approved in September 2016.

SITE ASSESSMENT

Economic Considerations

Need for the Mineral

- 1.1 Detailed evidence to support the need for additional reserves to maintain supply throughout the Plan period.

ASSESSMENT (++) Detailed evidence provided to justify the need for the material

Existing Infrastructure

- 1.2 This proposal would utilise the existing quarry infrastructure.

ASSESSMENT (+) Use of existing quarry infrastructure

Location of Site to Market Areas

- 1.3 The site is well located to serve its intended market.

ASSESSMENT (+) Site is well located to serve its market

Employment

- 1.4 The operation would use existing employees from the existing quarry.

ASSESSMENT (+) Retention of employees

Resources/Yield

- 1.5 The company estimates that the site would yield around 0.8 million tonnes of sand and gravel from an extraction area of 15 hectares. This equates to around 53,000 tonnes per hectare.

ASSESSMENT (+) 50,000 – 75,000 tph

ECONOMIC TOTAL 16/18

Social Considerations

Duration of Mineral Extraction

- 1.6 The site is estimated to be worked over a period of 3-4 years.

ASSESSMENT (++) Short-term 0-10 years

Visual Intrusion (Properties and Rights of Way)

- 1.7 This site cannot be seen easily from any residential or other property, although some properties in Newton Solney may have views of the southernmost part of the site from across the river. The north-western part may be seen from the railway and the majority of the site is visible from High Bridge Lane (a green lane and public footpath) which follows the eastern boundary of the site. Overall, the site has few visual receptors, but large parts of the site are visible from public routes.

ASSESSMENT (+) The site has few visually sensitive receptors but large parts of the site will be visible from them

Noise

- 1.8 There are only a small number of individual residential properties to the north of the site along the A38 but it is not considered that they would be affected to any greater degree than they are by the current operation, which operates within the required noise guidelines.

ASSESSMENT (+) The site has few noise sensitive receptors within 500m of the boundary of the site

Dust

- 1.9 There are only a small number of individual residential properties within 500m of the site, but the moist nature of the material on extraction and methods of working would reduce the impact of dust in any case.

ASSESSMENT (+) The site has few medium/dust sensitive receptors within 500m of the boundary of the site

Air Quality/Human Health

- 1.10 There are no Air Quality Management Areas in the vicinity of this site.

ASSESSMENT (+) Site does not lie within 1000m of an AQMA

Transport- Export Route

- 1.11 There is an existing access/haul road from the site through previous working areas to the A5132. This will continue to be used.

ASSESSMENT (+) The site will be accessed by an A road

Transport – Capacity for Sustainable Transport Options

- 1.12 The operator has confirmed that the processed material would be transported by road.

ASSESSMENT (-) Road transport proposed

- 1.13 **Transport - Safe and effective access to and from the site**

ASSESSMENT (++) Existing approved access to current highway standards

Transport – Local Amenity

- 1.14 HGVs would pass directly on to an A road to reach the main market areas.

ASSESSMENT (++) HGVs would have to pass no sensitive receptors between the site and the start of the local strategic network

Cumulative Impact

- 1.15 There are existing mineral workings in the area and have been for a significant number of years

ASSESSMENT (--) Impacts from past and existing mineral workings

Airport Safeguarding Birdstrike Issue – Potential Risk to Aircraft Safety

- 1.16 This site lies outside the EMA 13km zone but partly inside the Derby Aerodrome 3km zone.

ASSESSMENT (+) The site lies within an area where there is a medium potential for birdstrike

SOCIAL TOTAL 32/41

Environmental Considerations

Water Environment – Flooding

- 1.17 The site lies within an area classified as Flood Zone 3. Such areas have the highest probability of flooding. A Flood Risk Assessment is being considered for this site by the EA.

ASSESSMENT (--) Site lies within flood zone 3 - high probability of flooding

Water Environment – Groundwater

- 1.18 This site does not lie within a Groundwater Protection Zone.

ASSESSMENT (+) Site lies outside a groundwater protection zone

Water Environment – Aquifer Protection

- 1.19 This site lies on a secondary aquifer.

ASSESSMENT (-) The site lies on a secondary aquifer.

Ecology – Existing Impacts from Mineral Extraction

- 1.20 Widespread impacts on north-east side, but major losses have been/will be arable land.

ASSESSMENT (+) Localised, but moderate to high, impacts on habitats

Ecology - UK, regional and local BAPs priority habitats and species

- 1.21 Significant area of unimproved pasture, dense watercourse trees, and pollarded willows, water filled channels. There are mature trees on High Bridge Lane, including a rare black poplar, a former stream course, willows and alders.

ASSESSMENT (--) Extensive areas of positive ecological value, including UK priority habitats or species which should be considered for protection/conservation

Ecology - Ecological Coherence/Natural Areas, Wildlife Corridors/Linkages

- 1.22 Area is cut off from similar habitat by railway and other workings but internally has strong coherence and strong coherence with the Rivers Trent and Dove. There is a good assemblage of characteristic features of the Natural Area in a quiet area.

ASSESSMENT (--) The site accords with the established habitats over a wider area and habitat pattern is strong

Ecology - Habitat Creation

- 1.23 Existing habitats are intact and there is a limited requirement for biodiversity enhancement within the site.

ASSESSMENT (-/--) 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

Landscape - Existing Impacts of Mineral Extraction

- 1.24 The site is located east of Hilton and lies outside the Sherwood Sandstone area. There is a high, widespread impact from existing mineral extraction on the north-east section of the site, although it does not impact on the majority of the site.

ASSESSMENT (+) There are localised, moderate to high, impacts associated with past mineral extraction

Landscape - Strength of Landscape Character

- 1.25 South-west of Willington and south of the Trent and Mersey Canal and railway line, the site strongly accords the established landscape character. There has been some loss of hedgerows and arable land in the north-east section. However, there is still a significant section of intact unimproved pasture, dense watercourse trees, and pollarded willows. There is a green lane/ bridleway on the eastern boundary of the site. There is a visually distinct former stream course and parish boundary lined with willows and alders (potential veterans). There are linear water areas adjacent to the river, which are possibly cut off oxbow lakes. The site accords with the established *Riverside Meadows* landscape character and is generally in good condition.

ASSESSMENT (-) The site accords with the established landscape character and is in good condition

Historic Environment - Designated sites & settings

- 1.26 St Mary's Church, Newton Solney (Grade II* Listed), is 325m away on the southern side of the Trent. Monk's Bridge (Scheduled Monument) is 340m to the north. From this asset the extraction site would be experienced across an already-extracted area and the railway line.

Because of the nature of the intervening area I judge that the proposed extraction area would not impact upon Monk's Bridge or Monk's Flood Bridge. It is likely that the assets at the northern edge of Newton Solney (church and conservation area) will experience impacts from the proposed extraction site.

ASSESSMENT (-) (Impact on a Grade I or II* designation , SAM and/or its setting), because of potential impacts to St Mary's Church, Newton Solney (Grade II* Listed).

Historic Environment – Archaeological Environment

- 1.27 Fairly extensive areas of visible ridge and furrow. Several known palaeochannels with a major channel still containing areas of water. Major potential for well-preserved organic remains.

ASSESSMENT (-) Frequent, visible and interpretable earthworks and some known archaeology with significant potential for buried remains

Historic Environment - Historic Landscapes

- 1.28 Field pattern suggestive of enclosure of strip fields and relatively unchanged since mid-19th century. Field pattern could be much earlier.

ASSESSMENT (--) Evidence of multi period landscape and intact field pattern

Best and Most Versatile Agricultural Land

- 1.29 The majority of this site lies within an area where 20%-60% of the land is likely to be best and most versatile agricultural land (bmv).

ASSESSMENT (+) The site lies within an area where there is a moderate likelihood of bmv land

ENVIRONMENTAL TOTAL = 23.5/50 (L)

Analysis of Assessment Scores

The scores for all the criteria for the social and economic categories have been added to produce a total for each category, as set out in the assessments above. For the environmental criteria, the scoring from the environmental matrix set out below has been used. This combines both the site assessment work (set out above) and the strategic environmental sensitivity mapping work (set out in a separate paper, “A Methodology to Map Environmentally Sensitive Areas in the Trent Valley”).

For each category, the sites were then ranked, so the lowest scoring site achieves a ranking of ‘1’ (i.e. low potential for mineral working). Where two sites scored the same, the difference was split (so for example if two sites had an economic score of 17, and would have been ranked 2nd and 3rd, they have been assigned a ranking of 2.5). Where three sites got the same score, all sites were allocated the middle ranking; for example, if three sites scored the same and are 4, 5 and 6 in the ranking order, they have all been assigned the middle ranking of 5.

The economic, social, and environmental rankings were then added together to provide an overall score – theoretical maximum 21, minimum 3. This has determined the overall potential for working each site. Sites with high potential are 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 in the “High” category to meet the remaining requirement, or if during the Plan period, monitoring indicates that the allocated sites are not being, or will not be, delivered as anticipated. Sites with low potential will not be considered for allocation in the plan, and are likely to be protected from mineral extraction over the Plan period.

Ref.	Site	Economic score	Economic ranking	Social score	Social ranking	Environment score	Environment ranking	Combined ranking total	Overall potential for working
SG02	Swarkestone North	16	7.5	28	2	12	8	17.5	High
SG04	Elvaston	16	7.5	31	7	4	4.5	19	High
SG01	Willington	15	5.5	32	8	2	2.5	16.5	High
SG05	Swarkestone South	15	5.5	30	5.5	4	4.5	15.5	High
SG03	Twyford (incl. Swarkestone N)	13	3	29	3.5	8	7	13.5	Medium
SG06	Foston	12	1	30	5.5	6	6	12.5	Medium
SG08	Foremark	13	3	29	3.5	2	2.5	9	Medium
SG07	Egginton	13	3	27	1	1.5	1	5	Low

Low potential for working= 3-8
Medium potential for working = 9-14

Environmental Scoring System

The background to the strategic environmental sensitivity work is set out in the paper “A Methodology to Map Environmentally Sensitive Areas in the Trent Valley”.

Site Assessment		Strategic Sensitivity Assessment							
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3)	Zones 2 and 3 (2.5)	Zone 3 (dark red) (2)	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)	
		High (3)	12	10.5	9	7.5	6	4.5	3
		Medium (2)	8	7	6	5	4	3	2
Low (1)	4	3.5	3	2.5	2	1.5	1		

Swarkestone North

Site Assessment	High (3)	12	10.5	9	7.5	6	4.5	3
	Medium (2)	8	7	6	5	4	3	2
	Low (1)	4	3.5	3	2.5	2	1.5	1
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3)	Zones 2 and 3 (2.5) Sensitivity	Zone 3 (dark red) (2)	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)
		Strategic			Assessment			

Twyford

Site Assessment	High (3)	12	10.5	9	7.5	6	4.5	3
	Medium (2)	8	7	6	5	4	3	2
	Low (1)	4	3.5	3	2.5	2	1.5	1
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3)	Zones 2 and 3 (2.5) Sensitivity	Zone 3 (dark red) (2)	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)
		Strategic			Assessment			

Swarkestone South

Site Assessment	High (3)	12	10.5	9	7.5	6	4.5	3
	Medium (2)	8	7	6	5	4	3	2
	Low (1)	4	3.5	3	2.5	2	1.5	1
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3)	Zones 2 and 3 (2.5)	Zone 3 (dark red) (2)	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)

Elvaston

Site Assessment		Strategic Sensitivity Assessment							
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3)	Zones 2 and 3 (2.5)	Zone 3 (dark red) (2)	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)	
		High (3)	12	10.5	9	7.5	6	4.5	3
		Medium (2)	8	7	6	5	4	3	2
Low (1)	4	3.5	3	2.5	2	1.5	1		

Foremark

Site Assessment	High (3)	12	10.5	9	7.5	6	4.5	3
	Medium (2)	8	7	6	5	4	3	2
	Low (1)	4	3.5	3	2.5	2	1.5	1
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3)	Zones 2 and 3 (2.5)	Zone 3 (dark red) (2)	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)
Strategic Sensitivity Assessment								

Foston

Site Assessment	High (3)	12	10.5	9	7.5	6	4.5	3
	Medium (2)	8	7	6	5	4	3	2
	Low (1)	4	3.5	3	2.5	2	1.5	1
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3)	Zones 2 and 3 (2.5)	Zone 3 (dark red) (2)	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)
		Strategic Sensitivity Assessment						

Egginton

Site Assessment	High (3)	12	10.5	9	7.5	6	4.5	3
	Medium (2)	8	7	6	5	4	3	2
	Low (1)	4	3.5	3	2.5	2	1.5	1
		Zone 1 (pink) (4)	Zones 1 and 2 (3.5)	Zone 2 (medium red) (3) Strategic	Zones 2 and 3 (2.5) Sensitivity	Zone 3 (dark red) (2) Assessment	Zones 3 and 4 (1.5)	Zone 4 (purple) (1)