



Non - Technical Summary

Proposed Sand & Gravel Quarry with Progressive Restoration Using Site Derived & Imported Inert Material to Agricultural Parkland, Public Access & Nature Enhancement

Lea Castle Farm, Wolverley

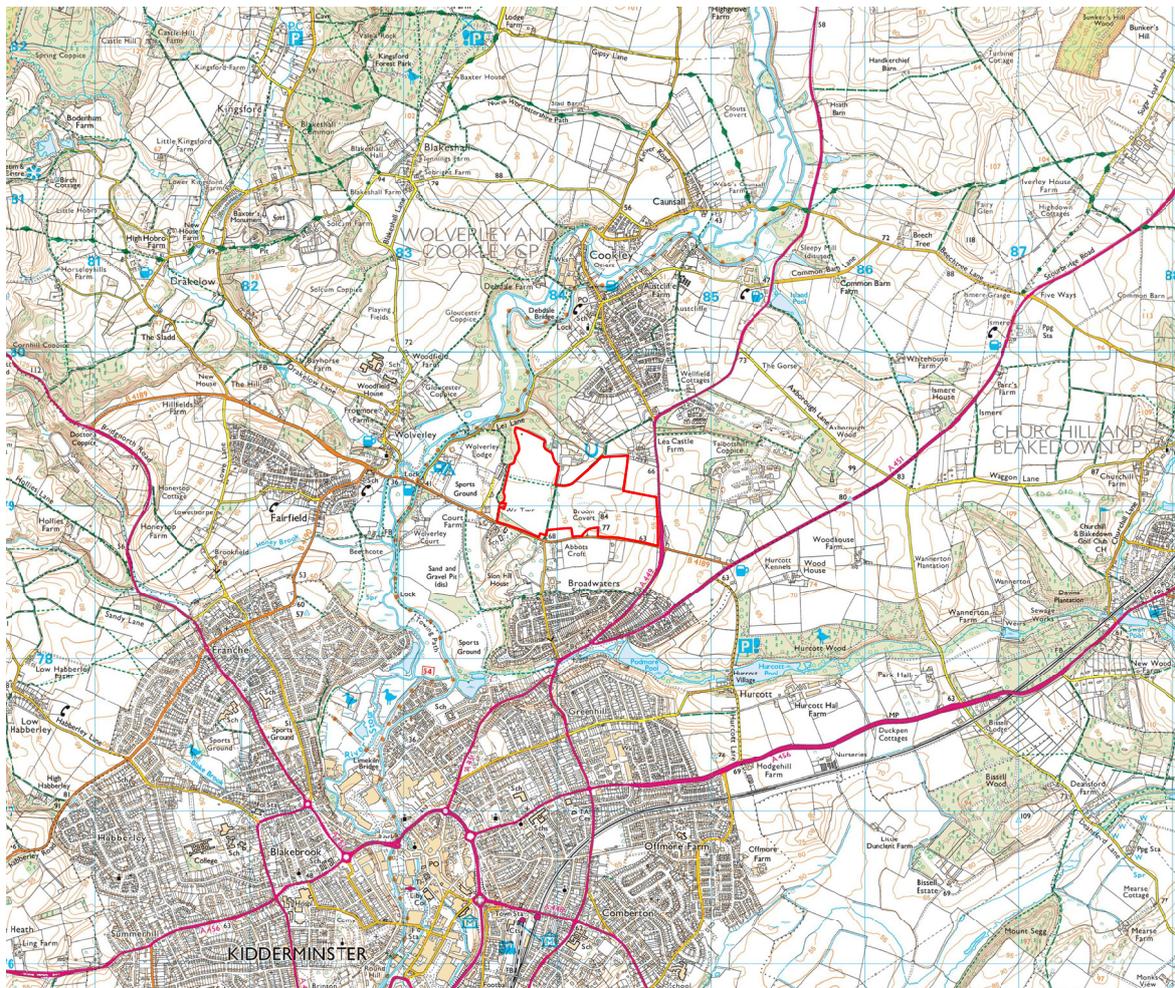
December 2019

NRS Aggregates Ltd



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Lea Castle Farm: Site and Surroundings



VOLUME 2: Non-Technical Summary

1.0 INTRODUCTION

- 1.1 This document is a Non-Technical Summary (NTS) of an Environmental Statement that has been submitted to Worcestershire County Council by NRS Aggregates Limited (the Proposed Mineral Operator). It relates to a planning application for the phased extraction of sand and gravel at Lea Castle Farm with progressive restoration using site derived and imported inert material to agricultural parkland, public access and nature enhancement.
- 1.2 NRS Aggregates Ltd. is a family run supplier of products and services for the building and construction industry. The company has over 25 years of operational experience. Having grown steadily, the company currently supply over 1million tonnes of aggregate per annum to customers throughout Staffordshire, Worcestershire and Warwickshire.
- 1.3 The NTS describes and illustrates a non-technical language the proposed extension area involving initial works and a sequence of five phases, alongside a description and assessment of the potential environmental impacts that may result from the proposals. It also describes the mitigation and restoration operations proposed as part of the scheme, which are designed to alleviate any adverse effects and enhance the Site's and the local area's environmental and amenity benefits, and Green Infrastructure.
- 1.4 The Site at Lea Castle Farm has been promoted within the Worcestershire Minerals Local Plan. The site's appropriateness for mineral extraction was considered by Worcestershire County Council who held public consultations and consulted with statutory bodies within 2016/2017. The Site was allocated a Preferred Area Status within the Third Stage Consultation of the Worcestershire Minerals Local Plan (Reference Land North of Wolverley Road – D026-2397).
- 1.5 Preferred Area Status is defined as:
- “areas of known resources where planning permission might reasonably be anticipated. Such areas may also include essential operations associated with mineral extractions”.*
- 1.6 The most recent Worcestershire Minerals Local Plan Publication Version Consultation Document has Lea Castle Farm located within an area of search for Sand and Gravel within the North West Worcestershire Strategic Corridor.

2.0 THE SITE AND SURROUNDINGS

- 2.1 The Site is located ~0.35km north of Kidderminster Broadwaters, ~0.7km east of Wolverley and 0.37km south west of Cookley. It lies immediately north of the B4189 Wolverley Road and west of the A449 Wolverhampton Road. The submitted Site Application Area is defined by the red line boundary overleaf and comprises:

- The proposed Planning Application Area of ~46 hectares of which there are two separate areas of mineral extraction of ~26 hectares in total: the western area being ~12.5 Hectares and at the eastern end being ~13.5 Hectares.

2.2 Within a 2km radius of the Site there are a number of residential areas including within the villages of Cookley, Wolverley, Fairfield and the northern areas of Kidderminster as well as individual properties. There are also a number of environmental and historic designations.

2.3 There are no designated monuments within or immediately adjacent to the site.

Heritage - Three Grade II listed buildings exist within the immediate study area, including Sian House, ~250m to the south of the site, North Lodges, ~250m to the north of the site, and Wolverley Court, located ~500m to the south west. The Wolverley and Staffordshire Canal Conservation Area is located to the west.

Ecological – In respect of statutory designated sites, there are none within the application site, but there are seven within a 3km radius.

Landscape – The local landscape does not have a statutory landscape designation but it is within the Green Belt and there are 13 trees covered by Tree Preservation Orders.

2.4 There are also recreational/leisure facilities and activities which take place in proximity to the Site including the playing fields at Brown Westhead Park, horse-riding facilities at Lea Castle and Keepers Cottage Equestrian Centres, and public rights of way.

2.5 The Site once formed a part of parkland associated with Lea Castle House. The house was demolished c. 1945 and the landscape deteriorated.



Shell and Auger Drilling

3.0 GEOLOGY

3.1 The Site has been extensively assessed for its potential for a mineral extraction. Investigations included reviewing published geological maps, and undertaking borehole drilling, combined with the assessment of both historical drilling results and trial pitting. This has been carried out by geological consultants, NRS Aggregates Ltd. (the Site operators), and Duo (the mineral plant suppliers) to ensure the mineral deposit is determined, the product range is fully understood, and the proposed processing plant is correct to avoid any mineral sterilisation. The geology comprises both River Terrace Sand and Gravel of the River Severn and weathered Sherwood Sandstone (solid sand).

- 3.2 The proposed working resource is ~ 3million tonnes of mineral. The workable deposit comprises both sand and gravel and solid sand. The sand and gravel deposit is brown to orange-brown quartzite sands with fine to course rounded gravel. The weathered solid sand is comprised mainly of fine to medium grained quartz sand with occasional gravel units present. It is estimated that there is a total potential saleable reserve of 1.57million tonnes of sand and gravel and 1.43 million tonnes of solid sand within a total extraction area of 25.7hectares.



Bore Hole Sample 1



Bore Hole Sample 2

4.0 NEED, SOCIO ECONOMIC & ALTERNATIVE CONSIDERATIONS

- 4.1 The National Planning Policy Framework (NPPF) acts as the overarching national guidance for the planning system. It emphasises the importance of minerals and ensuring that there is a significant supply to provide the infrastructure, buildings, energy and goods that the country needs.
- 4.2 The NPPF identifies that minerals can only be worked where they are found and provides guidance on assessing the potential for environmental impact from development.
- 4.3 The landbank of mineral in Worcestershire (the permitted tonnage available) is currently at/or below the minimum 7 years reserve figure required. It is currently further depleting and looking forward there will be a significant under allocation or shortfall.
- 4.4 There are a very limited number of alternative sand and gravel and solid sand quarries within Worcestershire. The closest quarry supplying sand and gravel in the county is located ~ 24 miles away at Clifton Quarry (operated by Tarmac), near Severn Stock in the south of the county. The closest supplies of potential solid sand are at Wildmoor, ~ 10 miles to the east of Kidderminster. The quarry is operated by Salop Sand and Gravel (SS&G), with the majority of the sand being utilised internally by this company. SS&G have submitted a planning application for a new quarry at Chadwich Lane, located in proximity to, and to

supply to, Wildmoor Quarry. Cemex have a quarry further south at Ryall.

- 4.5 There is also an existing demand for mineral in the local area, which is currently having to be supplied from distance with associated economic and environmental costs. Alternative supply quarries are very limited.
- 4.6 Lea Castle Farm also offers an ideal location to supply mineral to meet future demand, including helping to meet construction materials requirements from a number of permitted residential sites within the local area. This includes the former Lea Castle Hospital site, and also proposed residential/commercial developments at Lea Castle Village and Kidderminster East.

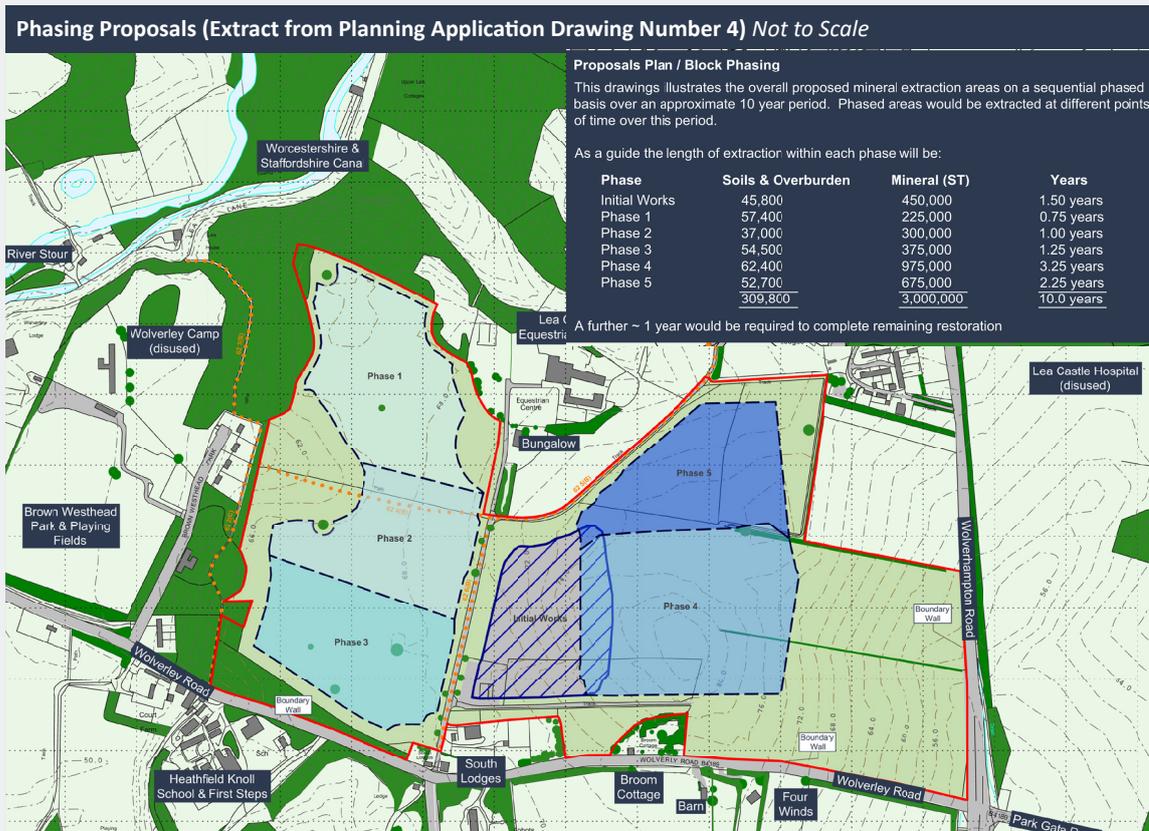
5.0 THE PROPOSED DEVELOPMENT

- 5.1 The application is for the extraction, processing and sale of ~300,000 tonnes of sand and gravel per annum, which would provide ten years of supply into local and Midlands markets. The development will also include the enhancement of the site and the local landscape setting, including: agricultural parkland; the provision of ~2.3km of new routes of public footpaths; cycleways and bridleways; pocket parks; strengthening of the existing woodland planting; and diversifying habitats to promote biodiversity. Management agreements will be established to ensure the restoration and enhancement measures are financially sustainable and permanent.
- 5.2 The development will involve a temporary new vehicle access onto the B4189 Wolverley Road, the establishment of a plant site for mineral processing along with progressive phased working and restoration.
- 5.3 The proposed hours of working will be restricted to between 0700 to 1900 Monday to Friday, and between 0700 to 1300 on Saturdays. There will be no Sunday or Bank Holiday working.
- 5.4 There will be no blasting or recycling operations.
- 5.5 0.6 million m³ of inert materials will be brought into the Site e.g. soils and clay to help create the final restoration levels.
- 5.6 Eleven full time jobs will be created with a further 20+ work opportunities provided in connection with transportation and employment of local trades.

6.0 DEVELOPMENT PHASING

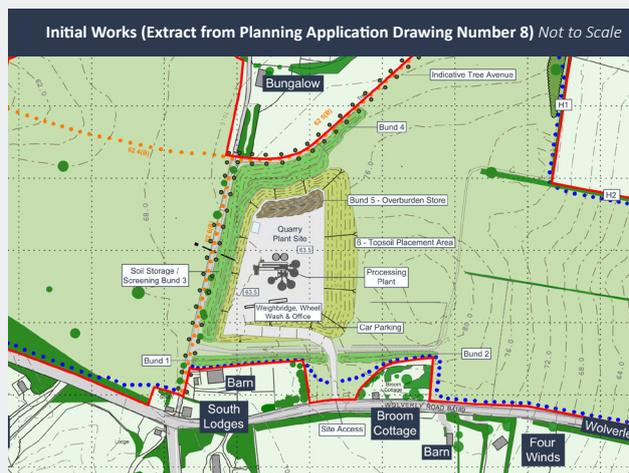
- 6.1 The extraction and restoration of the site will **not** take place simultaneously over the whole application area at one time. It will be phased ensuring the minimum disturbance of land and length of time where land is not utilised for agriculture, wildlife or amenity uses.

6.2 This is described and can be seen in the following Progressive Working and Restoration Scheme:



Initial Works

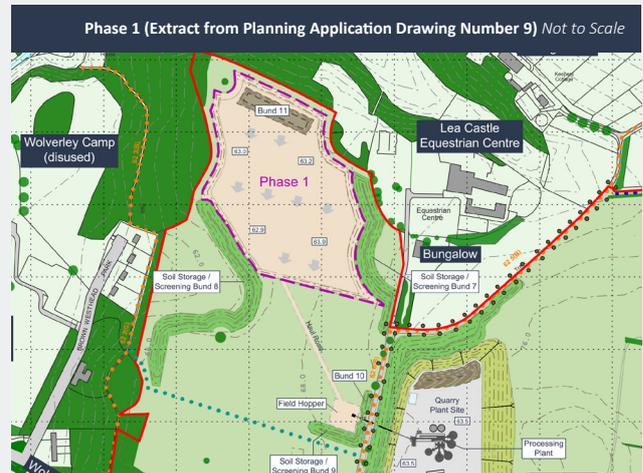
6.3 Works will commence with the creation a short internal road into the proposed plant site. Soils will be stripped from the plant site area. Soils will be used to create soil storage and screening bunds around the plant site. These bunds will be seeded and/or planted and maintained. Mineral from the southern half of the plant site will be extracted and removed. This will allow the mineral processing plant to be constructed at a low level ~ 7m below current ground levels. Both the low-level plant site and bunding will help to screen this part of the operation. Mineral processing will take place before mineral is sold and transported off site.



6.4 Other Initial Works activities will include the creation of ~ 1.8km of new public access away from local roads and the connectivity of sections of the existing PROW network both north-south and east-west. Approximately 200 avenue trees will be planted to help recreate the Lea Castle parkland along with approximately 1000 trees and shrubs within the north eastern corner of the site. New lengths of hedgerow will be planted with existing hedgerows strengthened.

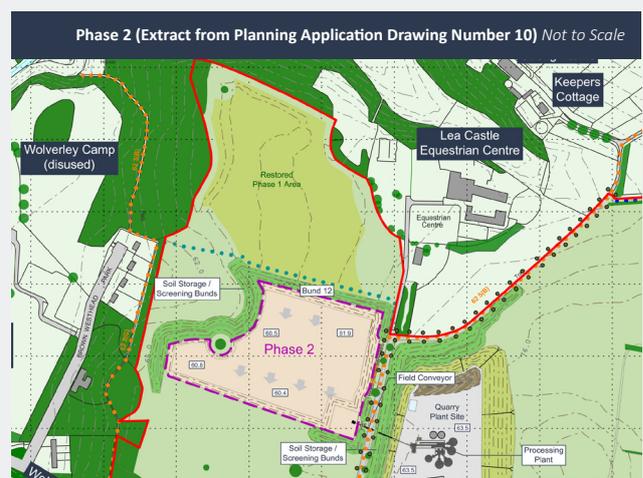
Phase 1

- A short section of FP62 6(B) will be temporarily diverted (~ one week) to allow the installation of a mineral conveyor to transport mineral from the western area of the Site to the plant site for processing.
- Footpath FP62 4(B) will be temporarily diverted approximately 120m south, still off FP62 6(B).
- Progressive soil stripping will take place. Soils will be placed in temporary storage bunds, grass seeded and maintained.
- Mineral will be extracted by an excavator and transported to the western field hopper by dump truck, where it will be taken by conveyor to the plant site for processing and sales.
- During Phase 1, imported restoration materials will be placed and utilised to help progressively restore extracted land initially in the northern area of Phase 1 in combination with regrading works. Land progressively restored to final formation levels will receive the directly stripped soils from the southern area of Phase 1 and Phase 2.
- Restored land will be seeded and/or planted in accordance with the Concept Restoration Scheme landuses. All restored land will be placed into aftercare and managed.



Phase 2

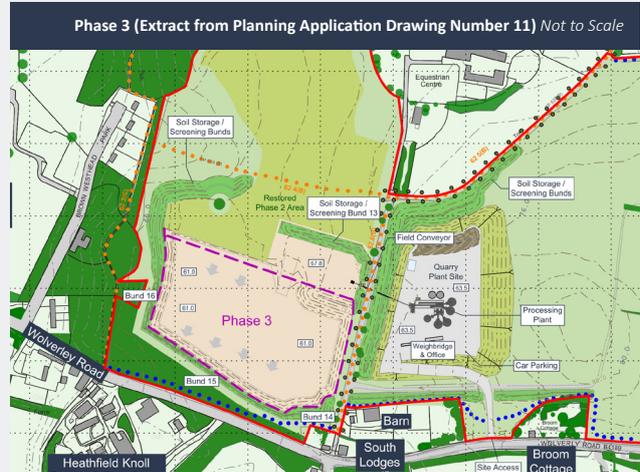
- Sequential soil stripping will take place in a southerly direction with soil either being placed to create temporary soil storage and screening bunds or placed directly for restoration within the previously extracted Phase 1.
- FP 62 6(B) will be diverted to the north of Phase 2.
- Mineral will be extracted, transported to the western field hopper, conveyed to the plant site, processed and sold.



- Progressive restoration will continue utilising both site soils and imported inert materials. All restored land will be placed in Aftercare and managed.

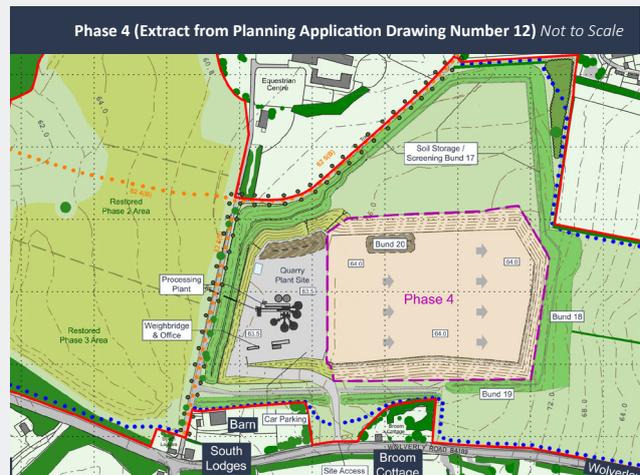
Phase 3

- FP 62 6(B) will be reinstated along its original route.
- Sequential soil stripping will take place in a southerly direction with soils either being placed to create temporary soil storage and screening bunds or placed directly for restoration within the previously extracted Phase 2.
- Mineral will be extracted, transported to the western field hopper, take by conveyor to the plant site, processed and sold.
- Progressive restoration will continue utilising both site soils and imported inert materials. All restored land will be placed in Aftercare and managed.



Phase 4

- The restoration of land within Phase 3 and the removal of the conveyor and conveyor tunnel will take place.
- Soils will be progressively stripped from Phase 4 and placed in temporary soil storage and screening bunds. Bunds will be seeded and maintained. As soils will be stripped progressively, the later areas of the phase will provide the soils to help restore areas of this Phase which will have been extracted. All restored land will be placed in Aftercare and managed.
- Mineral will be extracted, transported by dump truck to the plant site, processed and sold.



Phase 5

- Soils will be progressively stripped and initially utilised along with imported inert material to restore land in Phase 4.

7.0 RESTORATION

- 7.1 The aim of the progressive restoration scheme is the creation of a High Quality Agricultural Parkland, reflecting that of the lost/demolished Lea Castle parkland grounds.
- 7.2 The restoration proposals have been developed in consultation with the development team, the landowner and parties interested in wildlife, amenity, wellbeing and farming. This ensures that the scheme works within its physical, social and environmental parameters to best achieve a holistic green infrastructure approach. The scheme will create a landscape which can be sustainably managed for the benefit of both the landowner and the local community.
- 7.3 The progressive nature of the phasing scheme ensures that disturbed land is kept to a minimum and each phase of extraction is only temporarily disturbed before work commences to restore the land to the proposed uses within the final restoration scheme.
- 7.4 The table below shows the current land uses within the Site and the proposed restoration land uses.

Table 1 : Restoration Landuse Comparison

| Landuses | Current Site Landuses | Proposed New Permanent Site Landuses resulting from the Proposed Development |
|--|-----------------------|--|
| <i>Agricultural land</i> | 43.78 Ha | 32.26 Ha |
| <i>Woodland</i> | 1.12 Ha | 4.54 Ha |
| <i>Hedgerows</i> | 439 linear metres | 1,018 linear metres |
| <i>Species rich acidic grassland</i> | Nil | 8.1 Ha |
| <i>Avenue tress / Individual trees</i> | 14 N° | 200 N° |
| <i>Pocket Parks</i> | Nil | 5 N° |
| <i>Public Footpaths / Bridleways</i> | 1.47 km | 3.78 km |
| <i>Tracks</i> | 1.1 Ha | 1.1 Ha |
| TOTALS (Area) | 46 Ha | 46 Ha |

- 7.5 Please note the species rich acidic grassland will be managed under an agricultural regime to create and maintain it. The quality of the vegetation will also be improved in respect of its native diversity and structure and its subsequent potential to create a variety of habitats promoting Biodiversity.
- 7.6 Pocket parks will be established and will include areas to both relax or physically train along with social/ historical and educational information regarding the site and the local area.
- 7.7 As part of the proposals ~ 2.3km of new public rights of way will be delivered. These routes will be established for use by foot, as bridleways and as cycleways.

7.8 All restored land will be placed into Aftercare management and maintained. This is to be secured by planning conditions and legal agreement.

8.0 THE SCOPE OF THE ENVIRONMENTAL ASSESSMENT

8.1 In June 2018, Worcestershire County Council provided a Scoping Opinion on aspects of the proposed quarry development which require baseline information and assessment within an Environmental Impact Assessment. This document is submitted with the Planning Application. The following information is a summary of the various findings.

8.2 Landscape Character and Visual Aspects

8.2.1 The Application Site is located within the National Character Area 66 Mid Severn Sandstone Plateau and defined by Worcestershire County Council within the Landscape Character Assessment of Worcestershire as “Sandstone Estatelands”. The typical landscape type is described as an open rolling landscape with occasional low escarpments characterised by an ordered pattern of large arable fields, straight roads and estate plantations, hedgerows bounding fields under a planned enclosure pattern. Within this landscape there are planned and discrete woodland land blocks, isolated farmsteads and discrete settlement clusters. Parkland features and associated ornamental planting also occurs.

8.2.2 The Site formed a part of the wider Lea Castle Estate - a house and parkland of ~220 hectares built around 1762 and demolished in 1945. Land within the Site boundary reflects the typical landscape type, but it is degraded. Although there is a strong woodland element running along the south west, western and north western boundaries of the site it is relatively species poor with much sycamore. Parkland trees and woodland have been lost including Broom Culvert, avenue trees and parkland trees and other planting blocks along with sections of hedgerow. The walled boundary along the southern and eastern sides of the site which is not listed does remain in place along with gate and entrance lodges. It is assessed that the sensitivity of this landscape type to change associated with this type of mineral and restoration development is ‘Medium’. It is not a unique landscape nor is it highly designated and it is also degraded within the site itself.

8.2.3 The proposed development will change areas of the site landform both during the operational period and at final restoration. The introduction of a new short section of access road, a processing plant along with soil storage and screening bunds and mineral extraction areas will result in changes to the landscape character. These operational elements and features will, however, be temporary and small in scale and nature. The extraction process of soil stripping, removal of mineral, placement of inert materials, regrading and replacement of soils will also be limited and sequential at any one phase of the development.

8.2.4 It is assessed that the magnitude of the effect of the proposals during the quarry’s operational

period is 'Medium' and that 'No Significant Adverse Effects' to landscape character will occur during this period.

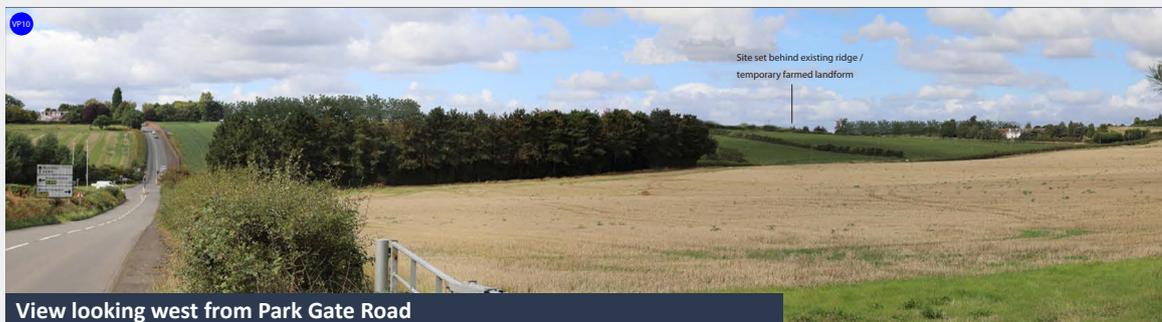
8.2.5 Visually, the proposed extraction area is generally contained and well-screened from potential external views. From the south it is set behind an existing wall, woodland, agricultural / other built structures and existing landform. From the west it is set behind woodland and rising ground. From the north it is set behind intervening higher ground and vegetation structure. From the east the proposed extraction area would be set within a ridge of higher ground. These general points do not mean that there would be no views of the site activities from external visual receptors but that these views may be limited and/or restricted.

8.2.6 Adjacent to and within the site there are three sections of PROW from which users will be able to observe the site. There are also residential receptors at the Bungalow, South Lodge, Broom Cottage, Four Winds, Castle Barns and properties off Broom Westhead Park Road, along with users of the two local equestrian centres, where varying degrees of the proposed development may be observed. Visual mitigation and enhancement measures will however be used to mitigate and limit the 'potential' views, including: tree and shrub planting; avenue planting; temporary soil screening bunds, which will be grass seeded and maintained; agricultural hay bales; and the direction of mineral extraction to prevent / reduce visual disturbance. It is also proposed to place the mineral plant site a minimum of 7m below existing ground levels to help to screen it.



Loss of Avenue Trees

8.2.7 Based upon the existing contained and screened nature of the proposed mineral extraction areas and the proposed mitigation and enhancement measures, it is assessed that 'No Significant Temporary or Permanent Adverse Visual Effects' will be received by local residents or users of the site.



View looking west from Park Gate Road

8.2.8 The restoration scheme has been designed to achieve topographical and landform features, which reflect those of the existing site and local area. The progressive restoration will reinstate an area of Broom Culvert wood, sections of hedgerow and understory planting to existing woodland. The proposals will also reintroduce both avenue trees and agricultural parkland planting. It will provide ~2.3 km of new public access routes connecting with the wider PROW network. The land will be agriculturally managed and include the creation of acid grassland communities. The progressive and final restoration of the site is considered to offer Significant Beneficial Effects to enhance both public amenity and wellbeing value, and habitat creation to promote biodiversity, along with strengthening typical elements and features which define the Sandstone Estatelands.



8.3 Ecology/ Biodiversity

8.3.1 A range of ecological surveys have been undertaken to examine the habitats and species present within the Site and its locality. These have included: Extended Phase 1 Habitat Surveys, Hedgerow and Flora Surveys, Bird Surveys, Bat Activity Surveys, Badger, Field, Dormouse Surveys and Reptile Surveys.

8.3.2 There are no statutory designated ecology sites on the Site. Five Statutory designated sites are located within 2km of the centre of the Site. These are Hurcott Wood Local Nature Reserve, Hurcott and Podmore Pool Site of Special Scientific Interest (SSSI), Hurcott Pasture SSSI, Stourvale Marsh SSSI and Puxton Marshes SSSI.

8.3.3 The Site itself contains semi-improved neutral grassland, improved grassland, arable/ other agricultural land, limited sections of hedgerow and hard standing areas. There are also woodland blocks within and adjacent to the Site's south western, western and north western boundaries. Baseline surveys and assessments conclude that the quality of the habitats and the species of existing



Acidic Grassland

flora and fauna is relatively low and limited. It is assessed that the proposed operational development will not result in any significant adverse impact to habitat or site/ local ecology. It is assessed that the progressive and final restoration proposals for the Site will result in potential 'Significant Benefit' in the form of new habitat creation and the potential for Biodiversity. The restoration scheme will create ~8.1 hectares of managed acid grassland, and a national and county biodiversity Action Plan Target Habitat. Approximately 8,500 new native trees and shrubs will be planted, along with 200 avenue trees. This vegetation will provide both important wildlife habitats and corridors and opportunities to provide a new environment to encourage species such as Dormice to spread within the area, including the planting of appropriate species such as Hazel.



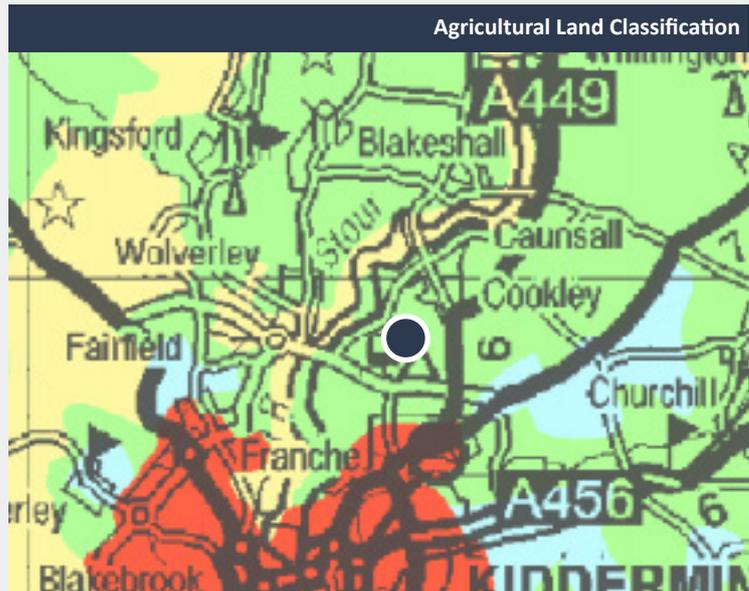
Species Rich Native Hedgerow

8.4 Archaeology/ Cultural Heritage

- 8.4.1 An archaeological desk-based assessment was undertaken on land within the Site and its local area. This was combined with site field works involving geophysics. There is very limited representation of any prehistoric, Roman or early medieval periods within the study area and the survival of any archaeological assets dating from those periods is considered to be low.
- 8.4.2 Historic mapping and other documents indicate the site was developed as parkland around Lea Castle during the early 19th Century. The park was sold off around the 1930s or 40s and the parkland converted to agricultural uses, which has compromised the value of the park. The western part of the site was also used as a grass landing strip. Archaeological evidence from the post-medieval and modern periods relates to agriculture, parkland and/or the landing strip and is therefore considered as only locally informative, and of low or negligible significance.
- 8.4.3 A full detailed magnetometer survey of the Site has taken place and no definite archaeological remains, features, or structures were found.
- 8.4.4 No designated monuments are located on or immediately adjacent to the Site. A minor adverse impact on the setting of the Grade II list North Lodges and Gateway to Lea Castle will occur during the operational period of the quarry. Restoration of some of the parkland features, including tree-lined avenues and Broom Covert, will help reinstate the structural elements of the former parkland and its subsequent management will provide positive mitigation and cultural heritage benefits.

8.5 Soils and Agriculture

8.5.1 A Soil Resources and Agricultural Land Quality survey was undertaken in accordance with the Ministry of Agriculture, Fisheries and Food Guidelines for Agricultural Land Classification (October 1988). This highlighted that over 80% of land within the proposed extension area is classed as high-grade Best and Most Versatile (BMV) agricultural land. From the outset of the development process it has been proposed that a similar amount of BMV land be restored as is currently on site.



8.5.2 The agricultural soil profile on the site is identified to a depth of 1.2m. The average target restored soil profile is based on survey findings of 33cm of topsoil over 27cm of subsoil over 60cm of overburden.

8.5.3 Where soils require temporary storage, topsoil and subsoil will be stored separately to maximum heights of 3m and 5m respectively. Soil bunds will have an inner and outer side batters of 1 in 2 and 1 in 3 respectively. They will be grass-seeded and maintained.

8.5.4 In respect of soil handling, hydraulic excavators, articulated dump trucks and low ground pressure bulldozers will be used in accordance with MAFF (2000) Good Practice Guide for Soil-Handling Soils.

8.5.5 No soil resource will leave the site. It is assessed that all soil resources will be utilised sustainably within the proposed development and are capable of restoring the land to 'Best and Most Versatile' supported by appropriate Aftercare and Management.

8.6 Water Matters

8.6.1 Hydrology and hydrogeological (surface and ground water) assessments have been carried out along with the flood risk appraisal associated with the proposals. Data from on-site borehole and water monitoring points have been utilised to aid the assessment. The Site itself does not have any water bodies on its surface. The Site is approximately 34.24m above the local ground water levels. The Site and the wider local area are located on a Principal Aquifer of the Wildmoor Sandstone Formation within a Source Protection Zone 3. The River Stour and the Worcestershire and Staffordshire Canal both lie to the west of

the Site within the Stour Valley river corridor. There is currently no abstraction of water associated with land management within the farming of the site land.

- 8.6.2 The extraction of sand and gravel will only be carried out dry from well above the water table. No dewatering will be required. The progressive land take and restoration will minimise disturbance to rain water catchment, which intensive agricultural cropping on site normally utilises. Temporary small lagoons will be established within the plant site area to hold freshwater and silt generated through mineral processing. The small amount of water required will be obtained from rain and harvesting the permitted 20m³ per day and purchased if required.
- 8.6.3 No water will be discharged off Site. The base of the plant site will be temporarily concreted to allow management of the plant site activities. The plant site office will have portals to allow the removal of any sewage.
- 8.6.4 The water assessment has also considered local ecology/ sites of value including Hurcott and Podmore Pool and Hurcott, Stourvale and Paxton Marshes SSSI. It has confirmed that these sites will not be affected by the proposals.
- 8.6.5 The study concluded that mineral extraction and restoration proposals have no to minimal potential to cause negative impact in the locality.
- 8.6.6 A Flood Risk Assessment and Drainage Strategy has also been carried out which states that there will be no sources of flood risk from the proposals.

8.7 Noise

- 8.7.1 Planning practice guidance for mineral development states that mineral planning authorities should take account of the prevailing acoustic environment and in doing so, should consider whether or not noise from the proposed operations would:
- Give rise to a significant adverse effect;
 - Give rise to an adverse effect; and
 - Enable a good standard of amenity to be achieved.
- 8.7.2 Baseline noise surveys were conducted on different days at locations representative of local dwellings and public spaces. Potential noise levels associated with the proposed quarry including the proposed extraction area, proposed items of plant and machinery, lorries and intended methods of working and restoration have been calculated.
- 8.7.3 The development at Lea Castle Farm has been assessed in accordance with the National Planning Policy Framework and associated guidance including the Noise Policy Statement for England.

8.7.4 It is considered possible to work and restore the site in accordance with the noise limits set out in best practice guidance. The adoption of a range of noise mitigation measures, including bunds and buffer zones, means that the operations will not exceed the calculated worst-case scenarios.

8.7.5 It is proposed that a noise monitoring programme be installed to monitor and report on noise levels of the proposals with all results publicly accessible.

8.8 Dust and Air Quality

8.8.1 The proposed development operations at Lea Castle Farm, including the mineral plant, extraction, and restoration together with associated vehicle movements have the potential to generate dust and other airborne pollutants in the immediate vicinity of their operations. The likelihood of problems caused by such pollutants will be largely influenced by the effectiveness of on-site environmental controls.

8.8.2 Potential dust sources have been identified including: soil stripping; mineral extraction and processing; vehicle movements; and temporary soil bunds and stockpiles. A series of best practice dust control measures recommended in order to minimise any such disturbance at nearby sensitive locations. These locations include residential properties, businesses, schools, designated ecological sites and public spaces.

8.8.3 Climatic conditions local to the site have been assessed and analysed to give an indication of how often the site could be susceptible to fugitive dust events. Such occasions are relatively low.

8.8.4 A series of dust mitigation measures have been proposed as part of the proposals. This includes: soil stripping to be limited in duration and carried out to minimise dust generation; soil storage bunds to be seeded; site vehicles will be limited to 15mph; the drop height from the excavator bucket to the dump trucks and from the dump trucks to the processing plant will be minimised; internal haul roads to be compacted and all plant to be regularly maintained; dust suppression bowsers will be utilised during dry spells; and a wheel wash will be installed to be used by all HGVs leaving the site.

8.8.5 A full Particulate Matter 10 assessment in line with the latest recommendations has been undertaken and this clearly shows that the Air Quality Objectives will not be exceeded as a result of the proposed development.

8.8.6 It is proposed that a dust monitoring programme is installed to monitor and report information on air quality with all results publicly accessible.

8.8.7 It is assessed that the overall effect on air quality as a result of the proposed development will **not** be significant with the implementation of suitable dust mitigation measures.

8.8.8 The primary concern relating to air quality is the emissions generated by traffic and the potential subsequent impact on the local ambient air quality at residential and public areas located within the vicinity of the road network to be used. The main pollutant concentrations of concern from this source is nitrogen dioxide and particulate matter.

8.8.9 As such, an Air Quality Impact road survey and prediction assessment was carried out to identify potential impacts to residential areas located in the vicinity of the road network to be used. The assessment concluded No Significant change in nitrogen dioxide and particulate matter concentrations at all sensitive receptors on comparison of the 'with' and 'without' development scenarios.

8.9 Transport

8.9.1 A full Transport Assessment has been carried out. This has involved both desktop and field traffic assessment works, in accordance with statutory highways requirements along with Worcestershire County Council's Structure Plan detailed requirements. This considers both highway safety and vehicle movements.

8.9.2 To enable vehicle access into and out of the proposed quarry, a new access will be created to the south of the site onto Wolverley Road in proximity to Broom Cottage (under the control of NRS). This is an efficient location to access the plant site – limiting internal road length. It has been agreed that when HGVs leave the Site, a No Right-Hand Turn system will be in place. This means that no HGVs will exit the site and travel west through Wolverley.

8.9.3 Design works have established that this new access meets Highways England Design Manual for Roads and Bridges (DMRB) and the Department for Transport's Manual for Streets.

8.9.4 NRS has carried out a market demand study for present and future demand for sand and gravel / solid sand in respect of both their current quarry units and maintaining and supplying new demand within the Kidderminster area and local region. From this study it is concluded that 60% of market sales and associated vehicle movements will turn right off the Wolverley Road onto the A449 Wolverhampton Road or carry straight on along Park Gate Road, and 40% will turn left off the Wolverley Road onto the A449 Wolverhampton Road.

8.9.5 Based upon projected sales of 300,000 tonnes of mineral leaving the site and 60,000m³ of imported soils and overburden entering the site, the proposals would result on average in 77 loads / 154 HGV movements per day, plus staff cars involving 22 movements per day. Based upon existing NRS sites, it is predicted that the importation of restoration material vehicle movements per day will be reduced by 25% as the imported restoration material will be delivered as 'backloads,' i.e. soils and overburden will be delivered to site in vehicles which leave with mineral.

8.9.6 The traffic assessment has concluded that there is vehicle capacity to accommodate the temporary increased movements associated with the proposed quarry development and its progressive restoration and that access arrangements will comply with health and safety criteria. The addition of a No Right Hand Turn for HGVs onto Wolverley Road will provide additional mitigation.



Proposed Access Point

8.10 Public Rights of Way

8.10.1 There are existing sections of public rights of way which run both adjacent to and within the Application Area. The plan opposite illustrates the location of the existing PROW and also additional public access routes and new pocket parks associated with the scheme.

8.10.2 Footpath reference FP62 4(B), which runs east-west and connects FP62 6(B) and FP62 5(B) with FP 62 2 (B) or (C), is located within the proposed mineral extraction area of Phase 2. To allow mineral to be extracted, a temporary section of pathway will be created running in proximity and parallel with the current route. Once mineral has been extracted, FP62 4(B) will be reinstated along its original route and the temporary section of footpath closed.

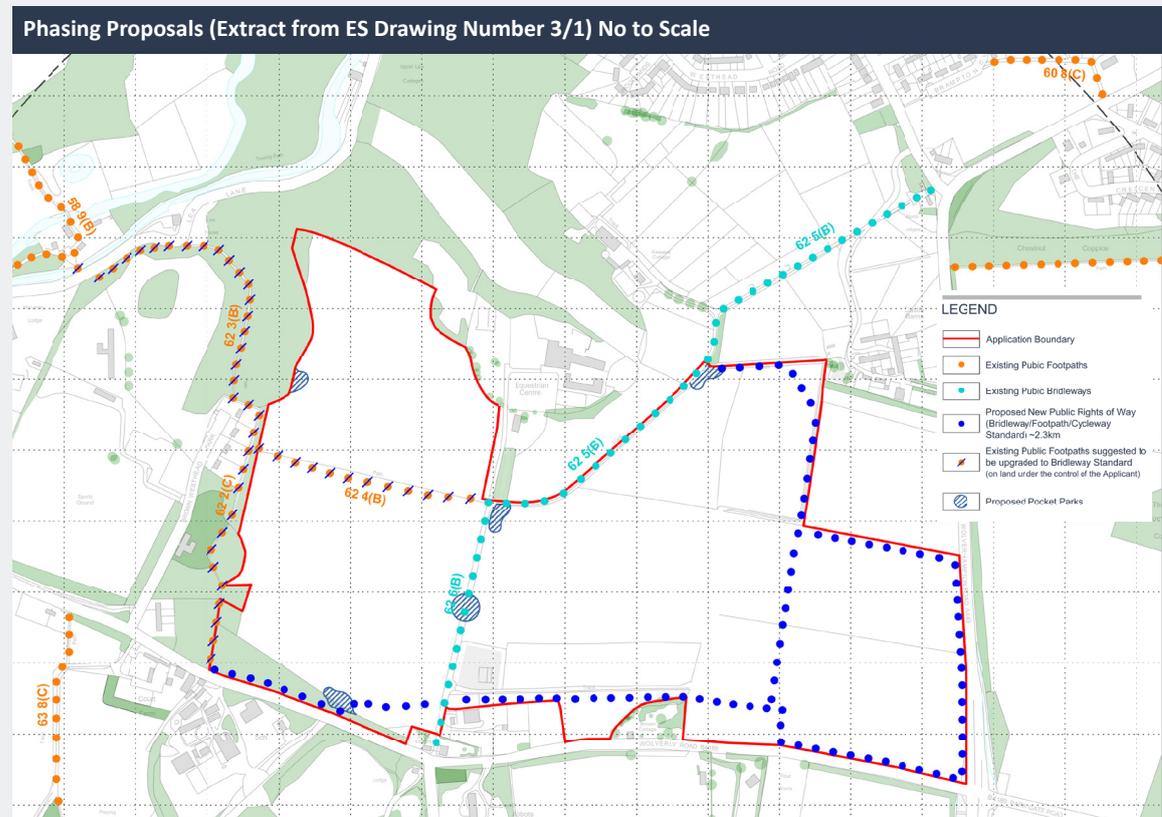
8.10.3 FP62 6(B) is an access track and bridleway internal to the site. It is proposed that a section of below ground conveyor tunnel is established beneath the track. This will require the temporary diversion of a small section of FP62 6(B) to allow the installation of the tunnel and reinstatement of the track for a period of less than 5 days.

8.10.4 In respect of all site PROW, appropriate safety fencing will be in place together with small scale visual mitigation measures including the placement of straw bales to screen temporary quarry activities.

8.10.5 From day one of the implementation of the development, approximately 1km of new public access (footpath/cycling/bridleways) will be established around the eastern and southern peripheries of the site. The routes connecting into the existing PROW network, providing east-west links and access away from existing and adjacent roads (Wolverley Road and Wolverhampton Road). A further ~ 0.5km section of PROW will be created during Phase 3 and final restoration to allow further public use/ enjoyment appropriate with the Site. It is also suggested that adjacent sections of current footpaths under the control of the applicant are upgraded to bridle/cycleway standards, which would allow access for users to Lea Road and the Worcestershire and Staffordshire Canal tow path, further west.

8.10.6 Based upon the temporary and minimal changes to two sections of PROW with minor diversions over a short period of time it is considered that no significant adverse effects will be received by users of the local PROW network associated with the proposals. The

scheme does, however, offer the significant benefit of an additional approximate 2.3km of new public access within the site. This will help to promote health and wellbeing, and will connect the local area.



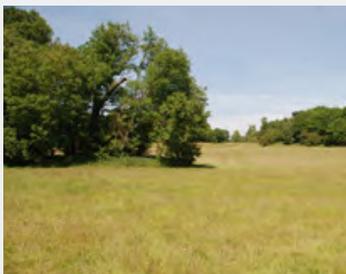
8.11 Recreation

- 8.11.1 The recreational use and value of the site and the local area has been considered through both desktop research and visiting local resources.
- 8.11.2 The majority of land within the Site is utilised for agricultural production. The landowner has previously used, and still uses areas of the Site for motorbike scrambling activities, including junior training. Periodic arrangements with Lea Castle Equestrian Centre have also been in place to allow the centre access to site/ other adjacent land for horse riding. The recreational enjoyment derived from the current site is principally derived from use of the local PROW network with three routes running within the site boundary.
- 8.11.3 There are small equestrian centres run out of both Keepers Cottage and Lea Castle Equestrian Centre. These are relatively low intensity stabling facilities with Lea Castle Equestrian Centre having limited riding and access routes. Riding routes are constrained to small fields around the stable and Bridleway ref. 62 6(B), before connecting to Wolverley Road in the south, and Bridleway ref. 62 5(B), before connecting with Castle Road/Wolverhampton Road junction to the north.

8.11.4 To the west of the site are the Brown Westhead Park Playing Fields. The fields are used for public enjoyment, dog walking and formal and informal football. Beyond the pitches is the Wolverley Camping and Caravan Club. The site offers a base to explore both the local and county countryside and towns. The Worcestershire and Staffordshire Canal and access along its corridor is located to the west of the site, set within its discrete valley. The mini-pro golf park is located further west near Wolverley Village next to the Lock Inn Pub and old Smithy Tearoom. These leisure and recreational activities attract families and other visitors to the local area. North of the site are the Cookley Playing Fields Sports and Social Club which supports a range of clubs including football, cricket, bowls, snooker, table tennis, darts and netball.

8.11.5 The proposed development has been designed to incorporate temporary screening of site operations, including seeded/planted soil bunds and agricultural hay bails. Stand-offs and buffers are also proposed to land bordering the Lea Castle Equestrian Centre. As stated, mineral extraction is also to be phased with progressive restoration minimising potential disturbance to users of the centre and PROW routes. Other recreation and leisure activities are screened from the Site by existing landform, topography, built structures and vegetation. It is assessed that the proposed development will have 'None to Moderate' adverse temporary effects on recreational and leisure facilities during the operational period which are 'Not Significant'.

8.11.6 The phased progressive restoration of the Site will include the provision of leisure/recreational facilities, including an additional ~2.3km of new public access for walking, horse riding and cycling which will offer connections to and enhancement of opportunities for existing recreational facilities and the wider public. Proposed pocket parks add recreational and visual amenity value to the recreated parkland setting, promoting local wellbeing opportunities for information, recreation and leisure.



Parkland



Amenity



Stewardship



Walking



Cycling



Horse Riding

8.12 Health and Wellbeing

- 8.12.1 A Health Impact Assessment has been carried out which has looked at how the proposed development could result in environmental and social change, and how the changes could impact (both adverse and beneficial) physical and mental health and wellbeing.
- 8.12.2 The assessment identified members/groups of the local population who could be affected, how, and the scale of the potential effect. The work was informed by relevant specialist chapters of the Environmental Statement, including water and flood risk, highways and traffic, public rights of way, landscape and visual, noise, dust and air quality. Public consultation involving discussions with local residents and two public consultation events also helped to highlight and understand concerns and to guide potential mitigation and enhancement measures. Advice and requests from organisations including Public Health, Local Government and the Environment Agency were also addressed.
- 8.12.3 The main health and wellness concerns raised relate to potential changes associated with traffic, noise, dust, air quality and safety. The Health Impact Assessment concludes that with standard good practice design, mitigation and standard working practices, no significant adverse effects to community/population health would occur as a result of the proposals.
- 8.12.4 It is acknowledged that the uncertainty associated with change can result in increased stress for individuals /the local community. To try and address this, liaison will continue with local residents/schools and businesses and the Parish Council during the application process. If the application is successful, a Liaison Group will be established including representatives of NRS Aggregates Ltd, local residents, parish councillors and statutory bodies, to monitor and share findings, and to advise on operations and their accordance with requirements and good practice.
- 8.12.5 The assessment has also highlighted the potential benefit to health and wellbeing resulting from the proposed changes. These include the increase in public access which will provide new links between town and country for walkers, horse riders and cyclists. The creation of pocket parks with fitness and reflection design proposals to stimulate mind and body. The recreation of an agriculturally managed parkland setting will raise the visual amenity. It will include the reinstatement of avenue trees and create new habitats to promote biodiversity, adding to quality of life.

8.13 Sustainability

- 8.13.1 The proposed development incorporates national, county and local sustainability approaches and policies.
- 8.13.2 From an economic perspective, the proposals would meet Worcestershire's requirement to maintain a sufficient mineral resource supply to aid development in the region. NRS is an

established mineral operator but is new in the region, increasing competition in the market. The site will provide good quality mineral appropriate for a wide variety of uses / products. The site is in a good geographical location in respect of other existing mineral sites, which are located mainly to the south of the county (~24 miles away) and / or do not possess the blend of minerals available at Lea Castle Farm. This could be particularly relevant in respect of the permitted and proposed new residential and commercial development proposals at the old Lea Castle Hospital Site / Lea Castle Village and Kidderminster Eastern extension.

8.13.3 From a social perspective, the proposed-up front and progressive restoration scheme for the site will provide a quality agricultural estate parkland with access for local communities. It will include pocket parks, health and fitness opportunities, education and cultural opportunities as well as over 2km of new footpaths, cycleways and bridleways. Integrated Green Infrastructure would link opportunities for public use into the wider access network. A Quarry and Restoration Liaison Group is proposed. This group would be open to local residents, the parish council, Worcestershire County Council, Wyre Forest District Council and other interested parties to provide a formal mechanism to ensure NRS is accountable and meets all respects of the proposed scheme if a permission is granted.

8.13.4 From an environmental perspective, the current ecological status of the site and its immediate area is relatively low. However, the proposed scheme will create significant new habitat for Acidic Grassland Communities and woodland/scrubland. The scheme will establish ~ 8 ha of Acidic Species Rich Meadow, ~6000 new native tree and shrubs, ~1200 Avenue and Parkland Trees and ~600 linear metres of new native hedgerows. As well as the potential Biodiversity impacts to flora/vegetation, these new habitats will significantly increase opportunities for fauna biodiversity specifically with new primary habitat for dormice, birds, bats, reptiles and invertebrates.

8.14 Cumulative

8.14.1 It is noted that the emphasis in an Environmental Impact Assessment is on likely significant effects rather than on a comprehensive cataloguing of every conceivable effect that might occur when considering the potential for cumulative effects. In respect of the potential for local cumulative effects and in discussions with Worcestershire County Council and Wyre Forest District Council, we have identified that there are no other temporary mineral developments which could combine with the proposals to result in similar existing or proposed quarrying cumulative impacts.

8.14.2 There is an outline planning permission for 600 new residential properties on land to approximately 0.5km to the east of the proposed quarry extraction limit known as the Former Lea Castle Hospital Site, together with employment uses and local shop and café. Wyre Forest District Council has also submitted proposals to the Government Planning Inspectorate for a further 800 properties on the Former Hospital Site to be known as Lea Castle Village along with a local centre and additional employment uses. Land off

Stourbridge Road has gained full planning consent for a residential development of 91 dwellings. Within the Wyre Forest Local Plan Review (2016 – 2036) the Kidderminster Eastern extension is also proposed with 1400 houses and a new primary school. This is located approximately 3km to the south / east of the quarry site.

8.14.3 In respect of potential cumulative effects, it is assessed that the Lea Castle Farm Quarry and Restoration development will be only temporary over approximately 10 years of progressive phased extraction and restoration. On average, less than 10ha of land would be utilised for the development at any one time (less than half the size of a local field). The Former Lea Castle Hospital site and additional Lea Castle Village and Kidderminster Eastern extensions will be permanent developments. It is likely that all three developments could be progressively constructed and/or operational in the same time period. In respect of potential health aspects all three developments could provide additional health and wellbeing benefits to existing and new residents with increased public access, parkland and opportunities for leisure and recreational activities. Environmental aspects of noise, dust, vibration, soils, air quality, cultural heritage, soils and water matters are considered to be of low cumulative effect and of an individual site-specific nature. Landscape and visual aspects have also been considered as potentially of slight cumulative effect in regard to a small amount of indivisibility between the eastern boundary of the proposed quarry and the additional Lea Castle Village proposals. There is a potential for cumulative highway effects. The traffic volumes to be generated by the proposed quarry development would be being a very small proportion of the potential changes to highway / vehicle use which could be associated with the Lea Castle Village and Kidderminster Eastern extension. The increase in cumulative vehicle movements would be progressive and the quarry traffic would be temporary with a minimal contribution to the current and cumulative effect. Quarry vehicles could also be delivering mineral to the local construction projects, negating the need for mineral to be transported over much greater distances.

8.14.4 It is considered that no significant cumulative effects would result from the proposals.

9.0 CONCLUSION

9.1 This Non-Technical Summary sets out the findings of the full ES, and it considers the potential for impacts associated with a wide range of identified topic areas. It gives consideration to of the issues within a planning context, the severity of the degree of any likely unacceptable impact and the mitigation measures proposed to address such impacts where they arise.

9.2 No unacceptable impacts have been identified in relation to residential amenity, air quality and dust, archaeology, designated nature conservation sites, the wider environment, landscape character, soil resources, or the highway network. In terms of main constraints, the assessment work has concluded that the proposal will not adversely affect any nationally or regionally important designations (such as SSSI, SPA, AONB etc.).

9.3 The mitigation of potential impacts can be imposed through planning conditions and

appropriate planning agreements in accordance with development plan policy and national planning advice contained in guidance. The level of potential impact likely to arise from the proposed development is capable of being maintained at recognised, acceptable levels.

- 9.4 The proposed geographical location and types of mineral at Lea Castle Farm provide a local and county needed resource to help support sustainable growth and provide a community accessible green infrastructure resource.
- 9.5 In conclusion, it is considered that potential negative environmental and social impacts can be mitigated through the design of the scheme and the imposition of planning conditions and obligations. The potential environmental and local amenity impacts are therefore considered acceptable and the proposed Lea Castle Farm quarry and restoration scheme is not considered to conflict with the Development Plan Policy.

Availability of Information

- 9.6 The application and the Environmental Statement are accessible through Worcestershire County Council.
- 9.7 A hard copy set of the application documents, including the Environmental Statement including this Non-Technical Summary is available by arrangement at a cost of £250 plus VAT and postage and packing, or on a CD ROM which is available for £20 plus VAT and postage via the Applicant's Agent: Kedd Limited, Fox Studio, King Street, Much Wenlock, Shropshire TF13 6BL.
- 9.8 A hard copy of the Non-Technical Summary only, is available at a cost of £10 plus VAT and postage and packaging.

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