PLANNING APPLICATION FOR A PROPOSED WESTERN EXTENSION TO THE EXISTING COLLYWESTON QUARRY

ENVIRONMENTAL IMPACT ASSESSMENT – NON TECHNICAL SUMMARY

May 2014
Introduction

This Non-Technical Summary (NTS) is based on the Environmental Statement (ES) which presents the findings of an Environmental Impact Assessment (EIA) of a Planning Application for a proposed extension to the west of the existing Collyweston Quarry. The proposals are for the extraction of an additional 2 million tonnes of saleable limestone aggregate along with a proportion of building stone and the specialist Collyweston slate log. This proposed extension will replace the remaining permitted reserves contained in the eastern extension of the quarry that is currently being worked under planning permission reference EN/06/1278C.

In preparing the NTS regard has been taken to the contents of Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011.

Therefore the NTS gives a summary of:

- the proposed development;
- the main elements of the proposals that have the potential to impact positively and/or negatively on the environment and local residents; and
- potential mitigation measures to prevent, reduce and where possible offset any significant adverse effects on the environment.

The main topic areas for the EIA/ES were established through consultation with Northamptonshire County Council and set out within a formal EIA Scoping Opinion received on 21st January 2013.

A planning application was originally submitted to Northamptonshire County Council in August 2013. However, after negotiations with the Council, Bullimores temporarily withdrew the application whilst some further assessment work was carried out, along with the clarification of a number of points raised by Council Officers. Additionally, Bullimores have carried out further public consultation which has led to some careful consideration and assessment of the matters raised by local residents.

Site and its Surroundings

The existing Collyweston quarry lies approximately 500 metres to the east of Duddington village within Northamptonshire. The proposed quarry extension area (to replace the remainder of the eastern extension) is located on land to the west of the existing quarry and measures approximately 17.11 hectares. The extension area falls within the administrative boundary of East Northamptonshire District Council. Access to the quarry is gained via an access off the A47 (T) situated to the north-east of Duddington village.
The area surrounding Collyweston Quarry is predominantly agricultural with mixed arable crops. The Collyweston Great Wood and Easton Hornstocks National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI) are located 750 east of the extension area.

There are no known land-use activities sensitive to mineral development surrounding the site and no industrial or commercial manufacturing activity. The closest residential properties are located on the eastern edge of Duddington approximately 250m from the extension area.

**Background to the Development**

An eastern extension to Collyweston Quarry was granted planning permission on 2nd November 2006 – reference EN/06/1279C. As workings have progressed in the eastern extension during the last 3 years, increasing thicknesses/quantities of overburden have been encountered by the Company. These geological conditions, combined with the escalating costs of overburden removal (to access the rock) are now reaching a point where it has become un-economic to continue to extract from this area. Therefore, in order to sustain limestone aggregate supply, as well as the supply of building stone and the specialist Collyweston “slate log” from Collyweston Quarry, the Company needs to access more economically viable limestone reserves. Given that the actual mineral reserves are similar, the Company is now proposing to switch extraction and mineral supply from the eastern extension area of working to a new western extension, thus giving up the un-economic mineral reserves in the existing permitted extension, in exchange for the ability to extract and supply minerals from a new, viable western extension.

**Description of the Proposed Quarry Development**

The proposed western extension covers an area of approximately 17.11 hectares, located to the west of the existing Collyweston quarry. The area contains an estimated 3 million tonnes of limestone rock, with the potential to realise approximately 2 million tonnes of saleable mineral.

The proposed quarry extension will be worked in a phased manner from south to north over 11no. phases with progressive restoration following on from the extraction of limestone. The depth of working will be consistent with that in the existing quarry, with face heights not exceeding 12 m approx. As the limestone extraction progresses in the extension, backfilling and infilling will be carried out on a progressive basis to reclaim the quarry and restore the land to its current landform.
A Working Method Statement (WMS) has been developed (Technical Appendix 1 to the Planning and environmental Statement) in order to clarify the proposed method/system of working of the proposed western extension.

It is Bullimore’s objective to seek to minimise and reduce any vibration and disturbance potentially generated by the quarry operations to acceptable levels for local residents whilst enabling effective, efficient extraction and processing of limestone and slate log.

The Company proposes to work the extension area using a 45 tonne excavator rather than a lower capacity machine. The excavator will pull the limestone from the working face and will feed the rock directly through a mobile crushing and screening plant located on the worked quarry floor.

Whilst the Company considers the use of the 45 tonne excavator will minimise the need for blasting, there is always some potential that they might need to carry out some limited quarry blasting if they were to encounter particularly hard or consolidated limestone material.

Based on the geology confirmed by the borehole data and taking a potential “worst case” view, it is considered that around 12 blasts per year may be required. Based on the Company’s past experience, employment of the 45 tonne excavator is likely though to reduce this worst case potential further.

When carrying out the quarry blasting, the Company would adhere to a “Blast Management Plan (BMP)”. The basic purpose of the BMP is to achieve the above objective. The suggested content and the approach to managing the quarry blasting is set out in section 3 of the WMS.

Crushed and screened rock will produce a limestone aggregate for sale and export to construction projects. The screened limestone aggregate will be stockpiled on the quarry floor prior to sale and being transported off site. Collyweston Slate Log will be extracted during suitable dry, frosty conditions in the winter months. The operating hours of the quarry working and export of minerals in the proposed extension area would be - 0700-1800 Mon to Fri with some Saturday mornings 07.30-13.00. There would be no mineral working or export of minerals from the proposed extension area on Sundays or public/bank holidays.

The access to the existing public highway and the route used by vehicles for transporting limestone will remain unaltered from current operations at the site. The level of traffic movements in and out of the site will also remain unaltered.
Restoration of the site will be undertaken progressively using imported waste material to restore each phase to the levels required to receive the final soil placement. The site will be returned to its current use and ground levels following the extraction operations.

**Geology**

The British Geological Survey (BGS) 1:50,000 online mapping records the surface bedrock within and around the study site as Limestone of the Lower Lincolnshire Limestone Member (mapapps.bgs.ac.uk).

Borehole information provided by Bullimores Sand and Gravel indicates that there are generally very shallow depths of overburden above the bedrock: thicknesses of 0.3m, 0.2m or 0.1m are recorded over the majority of the site. It is only within a narrow band crossing east-west through the centre of the site that there is more than 1.0m of soil and overburden material above the bedrock.

**Assessment of Potentially Significant Environmental Effects**

The following summarises the main topic areas that have been assessed in the preparation of the ES. The assessment of the topic areas has been undertaken by employing a wide range of independent specialist consultants. Full technical reports relating to the evaluation of the potential impacts have been prepared and form part of the ES.

**Landscape and Visual Considerations**

*Landscape Character*

No specific landscape designations have been identified within or in close proximity to the proposed site. The landscape character of the site is largely defined by the areas of open farmland. The site lies within the northern part of the National Character Area number 92 ‘Rockingham Forest’ of the Countryside Character Initiative.

Overall, the landscape effects of the development would generally vary between minor/moderate adverse and minor beneficial throughout the course of the scheme and its restoration. These varying landscape effects reflect the different phases of development on the sensitivities of the site’s landscape character and related features. The adverse effects would significantly reduce after the initial construction phase and in the longer term due to the restoration and maturing of the landscape.

*Visual Impact*

Given the nature of the proposed development, the visual effects arising during the operational phase would vary. Early construction of the perimeter mounding would be
carried out and will be followed by the progressive quarrying of the site. Many of the more
distant receptors or those with more limited views towards the site may only be able to
glimpse part of the construction activity for the short period of time whilst this phase is
completed. During the operational phase the visual receptors will have differing degrees of
views towards the workings, although for some the extent of the view will be very limited.
Once the operational phase is completed, the land will be restored to principally
farmland.

Those receptors likely to experience the most notable adverse effects during construction
will comprise the immediately surrounding and diverted PROW. In terms of views from
properties and settlement, there will be no major or moderate adverse visual effects.

Views towards the operation of the works from properties within Duddington will be limited
to only a very small number of properties. This settlement is very effectively screened from
the site by a combination of the landform and the mature trees and hedgerows surrounding
the village and lining the A43 road corridor.

Overall, the operational effects on the surrounding visual receptors will vary from negligible
to moderate adverse with the receptors with the closest and clearest views towards the
construction activity experiencing the most significant visual effects at the peak of
construction activity.

In terms of potential mitigation, in addition to the replacement of the planting that was lost
initially, there is a proposal to create a woodland edge area with scrub planting to the north
of the site and a grassland margin to the eastern boundary of the site where the PROW will
pass through the restored farmland. To the perimeter of the site, a bund will be constructed
to mitigate the views where possible from the surrounding areas. These will become
covered in vegetation over time and sit more comfortably within the landscape. They will be
removed once the quarry has finished extracting material.

**Nature Conservation and Ecology**

The ecological impact assessment has demonstrated that the planned mineral extraction
can be undertaken without there being a likely significant effect on designated European
and nationally important nature conservation sites.

The extraction area at Collyweston Quarry has been designed to avoid woodland habitats of
National- and Local-level importance. The quarry has also been designed to avoid as many
hedgerows as possible. The impact assessment has indicated that there will be a potential
minor positive impact of minor significance on hedgerow, if the restoration is successful.

There are mature trees within the site that have features that could be of interest to bats.
The transect surveys recorded low numbers of bats commuting across the site and there
were no physical signs that bats were roosting in these trees. Immediately prior to removal
dusk emergence and/or dawn re-entry surveys on these trees will be undertaken.

Site clearance works will take place between August and March in order to avoid any
disturbance to birds while breeding. It is necessary to ensure that badgers from social
groups in the wider area have not moved onto the site before site clearance begins.

Mitigation of impacts on ecological interest features will be used to further reduce the
potential for impact caused by the proposed development. The key aims of mitigation
measures are to:

- Create new habitats in quarry restoration of equal or greater value than the
current baseline; and
- Mitigate for the loss of hedgerow and scrub habitat on site and maintain
habitat connectivity across and around the site; and
- Avoid or reduce off-site impacts on surrounding habitats or species during
the operational phase of the development.

The restored landform will provide ecological enhancement with the creation of habitats
absent from the survey area. The primary focus of ecological mitigation efforts in site
restoration is to create BAP priority habitats suited to the location and to create habitats
suitable for species of conservation interest.

The impact assessment has not identified any impacts on surrounding habitats of greater
than minor significance. Nevertheless, dust suppression and noise reduction measures will
be followed in order to reduce the magnitude of impact further.

The key features included in the restoration proposals are the planting of hedgerows and
woodland/scrub and the creation of areas of calcareous grassland, which could represent a
significant increase in both habitat and botanical diversity relative to the current baseline.

**Noise**

A series of noise predictions have been made to three noise sensitive locations around the
proposed extraction area and these have been assessed against criteria in the NPPF. It
should be noted that the predicted noise levels in the Noise Impact Assessment refer to
worst case scenarios and these worst case noise scenarios may only last for a few weeks or
even days throughout the envisaged working life of the proposed extraction area.

All predictions have been calculated with the combinations of plant working (including
hydraulic breaking) at the closest point to the prediction location.
From the results it is apparent that calculated worst case noise levels from mineral extraction operations:

a) Normal operations do not exceed the 55 dB LAeq,1h criterion considered as an upper limit for mineral extraction operations in the NPPF.

b) Without exception do not exceed the 70 dB LAeq,1h criterion considered a normally justifiable limit for temporary operations, such as soil stripping and bund construction at mineral extraction sites in the NPPF.

c) Backfilling operations do not exceed the 55 dB LAeq,1h criterion considered as an upper limit for such operations in the NPPF.

The site has been designed with the potential impact for noise and the location of sensitive receptors in mind. The site will continue to operate within the hours of operation currently employed on the existing site.

With the exercise of reasonable engineering control over general site operations, the proposed extraction site should be able to be worked within the noise criteria in the NPPF to be normally justified for mineral extraction operations.

An Assessment of Environmental Impact from Blasting has also been undertaken as part of the Environmental Statement. All vibration will be well below the levels recommended for blast induced vibration as being satisfactory within the British Standard Guide BS 6472-2: 2008.

**Air Quality and Dust**

The proposed extension area moves mineral operations closer to Duddington. However, no receptors designated as having high sensitivity to dust were identified. There are no known high sensitivity land-use activities surrounding the site and no industrial or commercial manufacturing activity.

As the potential for air emissions from Collyweston Quarry are considered to be low, and the distance and meteorological susceptibility of neighbouring activities is very low, it is therefore highly unlikely that any of the surrounding areas will experience any change in air quality and the overall likelihood of any air quality impacts can be considered to be very low.

In general, dust mitigation requirements should be minimal due to the high moisture content typically associated with limestone. The proposed standoff distance from extraction operations, the erection of soil screening bunds and the prevailing south westerly winds all factor in minimising the impact of dust upon sensitive receptors. Measures proposed to
minimise the generation of airborne dust have been set out within the ES and such mitigation measures would be outlined in a dust management scheme to be used at the site. Mitigation includes site design considerations and the adoption of measures for site operations as set out in the Collyweston Quarry Dust Control Plan.

Consideration has also been given within the Air Quality and Dust Assessment to pertinent air pollutants as defined within the UK National Air Quality Strategy. No properties are located within 200m of the proposed extension area and the 2006 Air Quality Screening Assessment undertaken by East Northamptonshire Council identified Collyweston Quarry as an active mineral working, and confirmed that it was unlikely to lead to PM$_{10}$ or NO$_2$ concentrations exceeding the air quality objectives.

**Soil, Land Quality and Agriculture**

The 1:50,000 BGS geological information shows the area is underlain by Lower Lincolnshire Limestone, with no recorded drift cover. The national soil map at 1:250,000 scale shows that the land mainly has soils of the Elmton 1 Association comprising shallow well drained brashy soils over limestone, with some similar deeper soils.

The agricultural quality in most of the survey area is determined by the ability of the soils to provide adequate moisture for crop growth. Land of grades 3 and 4 agricultural quality exists on the site. The areas occupied by the different grades of land are shown below:

<table>
<thead>
<tr>
<th>Grade/sub-grade</th>
<th>Area (ha)</th>
<th>% of agricultural land</th>
<th>% of the site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-grade 3a</td>
<td>1.6</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Sub-grade 3b</td>
<td>11.8</td>
<td>82</td>
<td>73</td>
</tr>
<tr>
<td>Grade 4</td>
<td>0.9</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Other land</td>
<td>1.8</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16.1</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

In terms of soil handling and restoration all soil resources are easily damaged by being stripped or moved when wet. Consequently, stripping should only take place in the driest parts of the year, using the excavator and dumper method as described by Sheet 1 in the MAFF Good Practice Guide for Handling Soils.

Over most of the site it will only be possible to restore the land to moderate quality by placing 300 mm of topsoil over limestone. The very stony topsoil resource would be improved by screening to remove at least the large stones. Small areas could be restored to best and most versatile quality by adding a 250 mm layer of the subsoil resource below the
The Impact on Water Resources

There are no surface watercourses that are intercepted by the proposed quarry extension and therefore the only significant source of water ingress into the site is via direct rainfall. However, no surface water accumulation within the quarry void is expected due to the permeable nature of the quarry floor (sand deposits). Consequently, there is no requirement for water management operations at the site.

The proposed development site is located within the EA indicative Flood Risk Zone (FRZ) 1. FRZ1 has an annual likelihood of <0.1% of being inundated by rivers – i.e. the site is considered not susceptible by inundation by any river flood event of less than (more frequent than) a one in one thousand year return period. No flooding has been recorded at the site by the EA (records dating back to 1947). The area to the west of the site, between the site and the River Welland, is considered to have a moderate to high susceptibility to groundwater flooding. No such zones exist on-site.

It is considered that, upon commencement of quarrying operations, the excavated void has the potential to experience ingress of surface water. Flooding is not considered likely due to the presence of unsaturated but highly-permeable underlying geological deposits (Northampton Sand).

Waste will be disposed at the site up to almost pre-quarrying ground levels and the site finished with the original topsoil (it having been used in formation of on-site bunds) to the pre-extraction levels given at Appendix B of the Water Management Report (Technical Appendix 8, Appendix A). No increase in run-off potential is envisaged with and therefore no consequent impacts are likely to arise from surface water run-off west of the site. In order to minimise impact upon water resources the following is recommended with regard to water environment:

- Additional groundwater monitoring boreholes should be drilled along the western limit of the proposed quarry extension area.

- A sump should be constructed within the quarry floor, along with levelling of the quarry floor and grading towards the sump, in the event that surface water accumulation does occur (not envisaged).

- Due to the likely high permeability of the quarry floor (sand) and its proximity to the watertable, a simple action plan should be formulated to minimise the potential impact on the water environment of any oil (or other chemical) spillage within the
With the proposed mitigation measures in place the quarry extension can be worked without posing any risk to the water environment.

**Rights of Way**

There will be some impacts to users of Public Rights of Way during the operation of the site. All Public Rights of Way (MX12, MX18 and MX14) within the site boundary are to be closed for the total duration of the development and will be diverted for a temporary period until they can be reinstated post-development. There will be no permanent diversions as part of the proposals and all temporary diversions will be reinstated to their original routes at the earliest opportunity. All impacts upon the amenity of users of the PROW in close proximity to the site will be mitigated to the highest standard possible to ensure that the development has minimal effect upon the continued use of this area. The main mitigation measures during operations will be introduced through the operational design and include diversions and screening. The proposals within the restoration scheme include the reinstatement of the site to agriculture and an upgrade of the current Footpath network across the site.

**Archaeology**

Data obtained from English Heritage and the local authority confirms that there are no Designated Heritage Assets (World Heritage Sites, Listed Buildings, Scheduled Monuments, Registered Battlefields, Parks and Gardens, Conservation Areas) within the study site, or immediately adjacent to it. A Conservation Area has been designated covering the historic core of Duddington village to the west of the study site. The closest part of the Conservation Area is located around 200m west of the western edge of the study site. Within the village, a total of 27 buildings and structures are designated as Listed Buildings.

There is one non-designated heritage asset recorded within the study site, a former Royal Observer Corps monitoring post (HER reference 8510). This monitoring post has been demolished and will therefore not be a constraint to development. Including the Royal Observer Corps post, the HER data identifies a total of 310 individual records within the surrounding 1000m radius search area.

The desk-based assessment has also considered the potential for as-yet undiscovered archaeological remains within the site and identified a relatively high potential for evidence of Iron Age, Roman and Saxon metal-working within the local area. However, no evidence for such features has been identified within the geophysical survey data.
The desk-based assessment states that in view of the extremely shallow soils and overburden across most of the site, any such archaeological evidence will have been truncated by the continued ploughing of the site and this would have reduced the level of significance of any surviving archaeological features. Furthermore, the detailed magnetic gradiometer survey has not identified any anomalies that can be characterised as being either of a probable or possible archaeological origin.

Therefore, in considering the mitigation of potential impacts on unrecorded archaeological remains within the proposed extension area, in light of the geophysical survey results, it is considered that a watching brief during site strip would be a reasonable back-stop mitigation measure.

**Blasting**

An Assessment of Environmental Impact from Blasting has been undertaken by Vibrock Limited. Further to the Blasting Assessment, as a result of consultation exercises carried out by Bullimores, we have become aware of local resident concerns regarding blasting. Therefore in order to clarify the proposed method/system of working of the proposed western extension, a Working Method Statement (WMS) has been developed which includes a Blast Management Plan (BMP).

The WMS sets out that it is not in Bullimore’s commercial interest to carry out quarry blasting any more than is necessary and there are fundamental benefits to the Company in avoiding blasting, both in terms of specific costs of blasts and also the fact that blasting results in greater volumes of limestone waste and thus reduces aggregate production.

It is Bullimore’s objective to seek to minimise and reduce any vibration and disturbance potentially generated by the quarry operations to acceptable levels for local residents whilst enabling effective, efficient extraction and processing of limestone and slate log.

In light of local concerns over potential impact and to help achieve the objective to minimise and reduce vibration and potential disturbance to acceptable levels, Bullimores propose to work the western extension using a 45 tonne excavator rather than a lower capacity machine. The Company would accept a planning condition to formally control/require this.

Whilst the Company considers this will minimise the need for blasting, there is always some potential that they might need to carry out some limited quarry blasting if they were to encounter particularly hard or consolidated limestone material.

Potentially blasting, when carried out at Collyweston Quarry normally takes place every 2 weeks. Therefore the potential worst case based on these assumptions is around 12 blasts per year. Based on the Company’s past experience, employment of the 45 tonne excavator
is likely though to reduce this worst case potential further.

When carrying out the quarry blasting, the Company would adhere to a “Blast Management Plan (BMP)” The objective of the BMP is to ensure blasting activities are carried out in order to minimise any public concerns in relation to ground vibration and air blast overpressure whilst enabling effective, efficient extraction and processing of limestone and slate log.

In formulating the BMP we have looked at various approaches adopted elsewhere both overseas and in the UK as well as consulting with blasting experts Vibrock who produced the Blasting Assessment submitted as part of the Planning Application/Environmental Statement. Furthermore, guidance produced by Leicestershire County Council has been consulted.

The Blasting assessment along with the BMP set out the recommendations in order to minimise the vibration impact of blasting operations from Collyweston Quarry to nearby residents and structures.

In terms of ground vibration, it is recommended that a ground vibration limit is chosen that not only is perfectly safe for the integrity of structures, but also takes into account the physiological effects on adjacent neighbours. As such we recommend a vibration limit of 6 mms$^{-1}$ peak particle velocity. The limit of 6 mms$^{-1}$ is lower than the current planning conditions at Collyweston Quarry (10 mms$^{-1}$), is lower than the relevant British Standard 6472-2: 2008 and will ensure that no individual blast will exceed 12 mms$^{-1}$.

In terms of air overpressure, in line with the current best accepted modern practice in the extraction industries, it is recommended that safe and practical measures are adopted that ensure the minimisation of air overpressure generated by blasting at source, considering such factors as initiation technique. Furthermore, an air overpressure limit will be established – when measured at an agreed potentially sensitive location - that not only is perfectly safe for the integrity of structures, but also takes into account the physiological effects on adjacent neighbours. In this case for at least 93% of all blast events, a maximum air overpressure limit of 120 dB peak linear is considered appropriate.

The mineral operator will design blasting operations taking into account the BMP. Therefore, with the control recommendations implemented and the exercise of reasonable engineering control over quarry blasting operations, it is envisaged that the proposed western extension will work within the recommended vibration criteria and without undue annoyance to local residents.
Alternatives

Alternatives to Primary Aggregate

There are two alternatives to Primary Aggregates supply – Recycled Aggregates and Secondary Aggregates. The use of recycled and secondary aggregates is widely supported. However, they will never be able to wholly replace primary aggregates as there can never be a guarantee of supply of material of an appropriate quality to meet a specific demand. Therefore there still remains a need for the provision of primary aggregate and this is reflected in the continuation of apportionment figures for primary aggregate and the provision of a landbank.

Alternative Sites within Northamptonshire

Collyweston Quarry produces limestone aggregate from the Lincolnshire Limestone, which is the better quality limestone present in Northamptonshire. It has superior quality over the Blisworth Limestones, which tend to be softer and have limited use in construction works. Therefore, it would be inappropriate and potentially damaging, particularly from a sustainability point of view, if limestone from more remote locations of a lower quality were used as an alternative. Furthermore, Collyweston Quarry not only produces crushed limestone rock aggregate, but also produces quantities of building stone as well as the particularly scarce “Collyweston Slate Log”. An extension to Collyweston Quarry will assist in meeting the demand for specialist building and roofing stones in the interest of both conserving existing buildings and maintaining local settlement character in the context of new development.

In terms of alternative site, consideration has been given to the Wakerley site which has been allocated under Policy M2 of the Locations for Minerals Development DPD. However, there appear to be only limited prospects of Wakerley coming on stream in the short to medium term.

There is no obvious/better alternative than an extension to the existing quarry operation, particularly as the environmental assessment has demonstrated that any potential adverse impacts are acceptable.

Do Nothing Approach

In the light of the lack of an obvious alternative to the Collyweston Limestone and the Collyweston slate log, coupled with the fact the National Planning Policy Framework (NPPF) makes clear the benefits of the requirement to plan for the maintenance of a steady and adequate supply of aggregates, there is a complete disadvantage of a do nothing approach. The proposed western extension to Collyweston Quarry will replace the remaining
permitted reserves contained in the eastern extension and is therefore needed in order to sustain and maintain a viable mineral supply from Collyweston Quarry. Furthermore, limestone aggregate from Collyweston currently supplies between one third and half of the overall 0.39 million tonnes per annum crushed rock apportionment identified within Policy CS5 of the Northamptonshire Minerals and Waste Core Strategy.

If permission is not granted for the proposed western extension, Collyweston limestone will no longer be able to contribute to the County’s crushed rock requirements due to the current working in the eastern extension becoming uneconomic.

*Alternative Methods of Working*

Minerals are a resource which can only be worked where they are found. The location and extent of working identified as the extraction area as part of this application is based upon the geology and the location of the available reserve. The scheme of working allows for mineral extraction alongside progressive restoration of the southern part of the quarry. This will ensure continuity of extraction and supply in the most environmentally acceptable manner.

*Alternative Means of Transport*

The issue with the alternatives (primarily rail and waterborne transportation) relates primarily to market and the demand. The quarry and limestone reserves are located close to their intended end point of use. The final point of use is not a single location but a series of local construction sites. To transport limestone to an alternative point of collection would be less sustainable and the limestone extraction and revenues generated by the operation would not make rail connection/water transport a financially viable option.

*Alternative Restoration Options*

The restoration proposals provide a balanced range of economic, social and ecological benefits that meet the requirements of both landowner and statutory and local stakeholders. Restoration to agriculture provides the most versatile and economic option for the area and the landowner. The restoration scheme has been designed so that the land is returned to an appropriate standard to allow for the recommencement of agricultural practices on the land following restoration of the quarry.

There have been a number of minor amendments to the working scheme and restoration proposals to take on board ecological sensitivities and improvements to the restoration.

*Potential Cumulative Impacts*

Cumulative impacts relate to the way in which different impacts can affect a particular
environmental resource or location incrementally. In essence, cumulative impacts are those which result from incremental changes caused by other past, present or reasonably foreseeable developments, together with the proposed development. Therefore, the potential impacts of the proposed development cannot be considered in isolation but must be considered in addition to impacts already arising from existing or planned development.

The assessment of cumulative effects has had regard to:

- successive effects;
- simultaneous effects from concurrent developments, and
- combined effects from the same development.

The assessment of successive effects has concluded that no significant adverse cumulative impact would occur as a result of the development proposal. Furthermore, it is unlikely to give rise to unacceptable levels of environmental or local amenity impact.

The assessment of simultaneous effects has concluded that there are no other mineral extraction sites in the area (or similar operations such as landfill) which are likely to give rise to an unacceptable level of cumulative impact. Furthermore, it is unlikely that any large-scale planned developments will give rise to simultaneous impacts in the lifespan of the proposed extension. No objectionable concurrent effects are therefore likely to arise.

In terms of the combined effects, no environmental impact is considered to come close to the thresholds of being objectionable. Therefore given that no feature is close to the thresholds of objectionability, and having regard to the fact that none of the environmental features have a synergistic effect, their combined impact is not objectionable.

In the light of the above, it is concluded that the cumulative impact of the scheme does not weigh against the scheme to a degree that the MPA should form a cumulative reason to object to the proposal.

**Socio-Economic Impacts**

The National Planning Policy Framework (NPPF) states that if development is to be sustainable it must not only contribute to protecting and enhancing the environment, but also contribute socially and economically. The three dimensions to sustainable development given within the NPPF are economic, social and environmental, and these factors should be weighed equally when considering the sustainability of a development.

In terms of the above, as well as being environmentally acceptable, it is considered that the Collyweston Quarry extension proposals include a series of positive economic and social
contributions. These factors should be given appropriate weight. Although very few new jobs are likely to be directly or indirectly generated by the proposed extension to Collyweston Quarry, it will enable employment to be maintained across a range of industries, many of which depend directly upon quarrying, including Collyweston Quarry, for business. By extending the quarry, 10 jobs (quarrying, haulage and support staff) that would otherwise eventually be lost will be protected.

In addition to the positive impacts of the development upon the economy, the restoration of the site will see beneficial end uses and an overall enhancement to the local landscape. The restoration scheme will restore the site to its original uses as well as providing new and varied habitats throughout an enhanced landscape.

**Conclusions**

This Non Technical Summary (NTS) summarises the findings of the full EIA/ES, and it considers the potential for impacts associated with a wide range of identified topic areas. Consideration of the issues within a planning context, the severity of the degree of any potential impact and the potential use of recognised mitigation measures has been undertaken.

No significant impacts have been identified in relation to residential amenity, air quality, designated archaeology, designated nature conservation sites, the water environment, landscape character, or the highway network.

The mitigation of potential impacts through the imposition of planning conditions and appropriate planning agreements is 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 low and capable of being controlled to recognised, acceptable levels.

The proposed development provides identifiable benefits. It provides for final restoration with contributions to biodiversity; secures local employment; and secures the supply of regionally important limestone aggregate, building stone and Collyweston Slate Log.

The full Environmental Statement is available for viewing at Northamptonshire County Council offices during normal office hours. If you wish to purchase a copy of the Environmental Statement they are available from Heaton Planning Limited at the address given below, for a cost of £150 inc vat (paper copy). CD copies are available free of charge.