

**THE BURGHLEY ESTATE**

**WAKERLEY QUARRY  
Nr. Wakerley, Northamptonshire**

***LANDSCAPE AND VISUAL IMPACT ASSESSMENT  
AND SCHEME FOR RESTORATION***

March 2008

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# LVIA APPENDIX 1

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FIGURES

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# LVIA APPENDIX 2

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## **GLOSSARY:**

For the avoidance of confusion, the terms used in this report follow the definitions given below:

<b>Landscape Element</b>	A component part of the landscape (e.g. roads, hedges, woods).
<b>Landscape Feature</b>	A prominent eye-catching element (e.g. wooded hilltop or church spire).
<b>Landscape Characteristics</b>	Combinations of elements and experiential characteristics (e.g. tranquillity and wildness) that make a particular contribution to a Landscape Character Type.
<b>Landscape Character</b>	The distinct recognisable pattern of elements that occurs consistently in a particular type of landscape and how people perceive this, creating a particular sense of place. <b>Landscape Character Types</b> (LCTs) refer to multiple areas of the same character. <b>Landscape Character Areas</b> (LCAs) refer to specific geographical locations of a particular character type.
<b>Landscape Value</b>	The desirability of landscape characteristics (including scenic beauty, tranquillity, wildness, cultural associations, conservation interests etc.) and the acceptability of their loss to different stakeholders (i.e. valued for different reasons by different people and on different scales, e.g. local, national).
<b>Landscape Sensitivity</b>	The level of stability, robustness and resilience of the landscape character in relation to specific changes to its characteristics and to specific types of development.
<b>Overall Landscape Sensitivity</b>	The inherent level of sensitivity of a landscape (i.e. stability, robustness and resilience of the landscape character), irrespective of the type of change.
<b>Landscape Capacity</b>	The threshold at which change to the landscape characteristics and visual resource result in unacceptable adverse effects (significant effects) on its character or valued characteristics. This is derived from the interaction of landscape sensitivity, landscape value and specific types of change.
<b>Landscape Quality</b>	Strength of expression of landscape character and condition (intactness) of constituent characteristic elements from visual, functional, ecological and cultural perspectives (as distinct from scenic beauty).
<b>Scenic Beauty</b>	Subjective value attributed to the emotional response of an individual to the experience of a landscape, which, although heavily influenced by intrinsic quality, is conditioned by an individual's perception (memories, associations, cultural influences and preference).
<b>Visual Sensitivity</b>	The estimated level of susceptibility or response of people viewing a scene in relation to the viewpoint location and the activity and expectations of the viewer, in terms of reaction to a change in the view.
<b>Visual Amenity</b>	The subjective value attributed to the degree of pleasure gained from what is seen in a given view (quality of view).
<b>Tranquillity</b>	The personal experience from being at a location that provides individuals with the space and conditions to relax, achieve mental balance and a sense of distance from stress. <b>Tranquil areas</b> are often associated with quiet, remote (or appearing remote), natural, non-developed (non-built) and non-busy areas.

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## L VIA APPENDIX 3

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# **LVIA APPENDIX 4**

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## LANDSCAPE CHARACTER DESCRIPTIONS

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# 1 INTRODUCTION

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## 1.1. APPOINTMENT AND SCOPE OF WORK

### *Introduction*

- 1.1.1. An area of land, near Wakerley village, Northamptonshire, containing commercially exploitable limestone has an ‘active consent’ dating from November 1962, issued for the extraction of ironstone and overlying minerals. The land is owned by The Burghley Estate (the Applicant).
- 1.1.2. A mineral review application was submitted to Northamptonshire County Council (NCC) in October 1997. Half the original 1962 permission will be surrendered in lieu of a proposed alternative area to the south.
- 1.1.3. The mineral reserve has been calculated at approximately 8,231,000m<sup>3</sup> (6,008,500m<sup>3</sup> assuming 27% wastage). The proposal will involve the production of limestone at a rate of 133,700m<sup>3</sup> (approximately 250,000t) per annum. The estimated lifespan of the quarry is therefore approximately 45 years.
- 1.1.4. It is proposed that the ‘Site’ (see Figure L1) be restored to a combination of agricultural land with hedgerows and woodland, with ecological-based improvements also included.

### *Bright & Associates*

- 1.1.5. Bright & Associates are landscape and environmental consultants with extensive experience in the minerals and waste management industry.
- 1.1.6. Bright & Associates were instructed by Mineral Surveying Services on behalf of The Burghley Estate to undertake a landscape and visual impact assessment (LVIA) in relation to the development proposals and to design a restoration scheme for inclusion in the Environmental Statement (ES) to support a Planning Application to work the revised area.

## 1.2. DOCUMENT STRUCTURE

- 1.2.1. This report is presented in the sections described below.
- 1.2.2. Section 2 (**Methodology**) describes the terminology used to define the status of views and the landscape around the Site and the procedure used to assess the impacts.

- 1.2.3. Section 3 (**The Landscape Setting**) provides a description of the existing features within the Site, elements that affect the visibility of the development and the character of the landscape at the Site and locality. It provides an analysis of landscape quality and value and summarises the landscape designations, planning policies and biodiversity targets relevant to the Site.
- 1.2.4. Section 4 (**The Development Proposals**) summarises the working scheme and details the restoration proposals. This finalised scheme is assessed in Section 5.
- 1.2.5. Section 5 (**Landscape and Visual Impact Assessment**) presents the results of the landscape and visual assessments giving details of the mitigation measures employed, the resultant impacts on specific visual and landscape receptors and the significance of these impacts.
- 1.2.6. The supporting drawings are located in LVIA Appendix 1.
- 1.2.7. LVIA Appendix 2 (Glossary) provides the definition and intended meaning of specific visual and landscape assessment terms used in this report.
- 1.2.8. References are cited in LVIA Appendix 3 to the document.

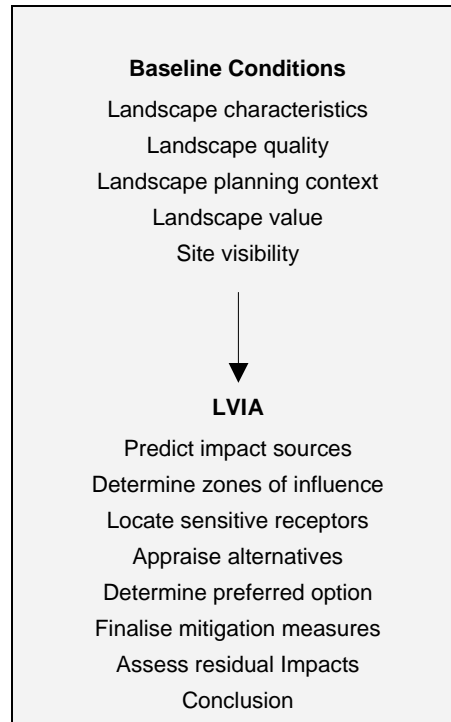
## 2 METHODOLOGY

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### 2.1. GENERAL

- 2.1.1. Guidance for the undertaking of this Landscape and Visual Impact Assessment has been sourced from:
- The Guidelines for Landscape and Visual Impact Assessment (second edition), published April 2002 by the Landscape Institute and Institute of Environmental Management and Assessment <sup>(Ref 1)</sup>; and
  - Landscape Character Assessment, Guidance for England and Scotland, published April 2002 by the Countryside Agency and Scottish Natural Heritage <sup>(Ref 2)</sup>.
- 2.1.2. The LVIA has been undertaken, from an early stage, alongside the development proposals, thus helping to avoid or minimise potential effects of the proposed development and helping to identify opportunities for landscape enhancement.
- 2.1.3. Changes can result in positive or adverse effects. This document describes and considers all of the potential significant effects.
- 2.1.4. The definition of impact terminology **is specific to this study** and has been developed to ensure that, wherever possible, an objective assessment is made and that the terminology used is appropriate to the development and the landscape setting.
- 2.1.5. Current guidelines advise that the assessment of an impact on visual amenity resulting from a particular development should take full account of the landscape (character) impacts as well as the potential visual impacts. Although they are separate, it is often difficult to isolate each category and so both landscape and visual effects are considered as part of the assessment process.
- 2.1.6. The methodology employed establishes the **Baseline Conditions** of the development area, against which the proposals can be tested against in the **Landscape and Visual Impact Assessment (LVIA)**. The component parts of this process are shown, in a simplified manner, diagrammatically below.

### **General Methodology:**



- 2.1.7. A glossary of how some of the terms used in this assessment are defined is provided in Appendix 2.

## **2.2. THE LANDSCAPE SETTING (BASELINE STUDY)**

### **General**

- 2.2.1. The baseline study is a process of research, observational recording, classification and analysis of the existing landscape and visual resources.
- 2.2.2. It is undertaken to determine the context against which the new development proposals are to be compared and to establish the importance of the constituent parts of the landscape and factors affecting the visibility of the proposed development. This provides information against which the magnitude, sensitivity and thus the significance of a predicted landscape or visual impact can be reviewed in the assessment stage of the process.
- 2.2.3. The study of the Baseline Conditions includes a review of available document sources, map data, plans, aerial photographs and the undertaking of a field survey with photographic records.

### **Landscape Character Assessment**

- 2.2.4. Landscape Character Assessment (LCA) is a process of characterising a landscape and of informing decision makers when considering effects on landscape character. *“Its role is to help ensure that change and development does not undermine whatever is characteristic or valued about any particular landscape, and that ways of improving the character of a place can be considered.”* <sup>(Ref 2)</sup>
- 2.2.5. A number of independent character assessments are relevant to the Site and context.
- 2.2.6. The Countryside Character Initiative, led by the Countryside Agency (now Natural England), mapped England into 159 separate, distinctive character areas on a regional scale. The Site is situated within the Countryside Agency’s ‘Rockingham Forest’ Regional Character Area (RCA) <sup>(Ref: 8)</sup>.
- 2.2.7. Northamptonshire County Council (NCC), through the River Nene Regional Park (RNRP) Initiative, and Rutland County Council have also produced character assessments for the locality <sup>(Refs 9 - 14)</sup>.
- 2.2.8. The key characteristics from the ‘Rockingham Forest’ Natural Area Profile <sup>(Ref 15)</sup> are also referenced.

### **Landscape Description**

- 2.2.9. A brief description of the landscape characteristics is provided in relation to the Site itself and the surrounding landscape.

### **Landscape Quality**

- 2.2.10. This includes an outline description of **landscape quality** (landscape condition) referring to the strength of expression of landscape character and condition (intactness) of constituent characteristic elements from visual, functional, ecological and cultural perspectives. This is not the same as Scenic Beauty (see Glossary).

### **Landscape Policies and Designations**

- 2.2.11. The baseline study also identifies any relevant national and local landscape designations contained in the relevant Development Plans. Whilst local designations are generally not supported in national planning policy, they can reflect a level of value to society of a particular landscape.
- 2.2.12. Landscape-relevant planning policies from the Development Plan and other relevant Strategy documents are also referred to, identify opportunities and common objectives.

### **Landscape Value**

- 2.2.13. Judgements on the value or importance of the affected landscape are provided in the baseline situation, together with the basis of this judgement in relation to the scale of importance (e.g. local, regional or national), to whom the landscape is valued and what particular aspects are valued.

### **Biodiversity Targets and Initiatives**

- 2.2.14. UK Biodiversity Action Plan (UK BAP) targets relevant to the proposed development are outlined to provide a context and framework for the restoration proposals and to identify common objectives in relation to the development proposals.
- 2.2.15. Biodiversity targets have also been set in the East Midlands Regional Spatial Strategy (RSS8) <sup>(Ref: 3)</sup> and in “A Biodiversity Strategy for the East Midlands” <sup>(Ref: 17)</sup>. The Natural Area Profile objectives <sup>(Ref 15)</sup> are referred to as appropriate.

### **Site Visibility Study**

- 2.2.16. This study explores the visibility of the proposed development and includes cross-section analyses and the use of photographic records from field studies to determine the visual baseline. The study area covers an area of 4 kilometres from the Site boundary.
- 2.2.17. The Zone of Visual Influence (ZVI) is generally limited to views from the west, northwest, north and northeast to 4 kilometres from the Site boundary.
- 2.2.18. Within the ZVI, specific visual receptors in the field were identified. The potential visual receptor types identified include residents, road users, users of outdoor recreational areas, and users of public Rights of Way, including long distance footpath users.
- 2.2.19. From this record of visual receptors and general visibility, principal representative viewpoints have been identified, and assessed to reflect the most significant effects of the development from a range of locations within the ZVI (see Figure L3).
- 2.2.20. Although a much larger number of cross-sections have been used in the visual analysis and mitigation design process, a number of the most pertinent of these have been included in this report to help illustrate specific points. Generally, cross-sections have been taken from the photograph locations (see Figure L3).

## 2.3. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

- 2.3.1. The assessment of landscape and visual effects is based on information concerning the attributes of the receiving environment and the location, scale and nature of the proposed development, as identified in the baseline studies.
- 2.3.2. The assessment of effects aims to:
- Identify systematically the likely effects of the development;
  - Indicate measures of mitigation;
  - Estimate the magnitude of effects; and
  - Provide an assessment of the nature and significance of these effects.
- 2.3.3. The presented landscape and visual impact assessment includes the residual effects of the proposed development after primary and secondary mitigation measures have been taken into account. The complete iterative feedback process of design, assessment and exploration of alternatives, which has been ongoing, has been omitted from this presentation to provide a concise assessment to aid determination of the decision-making process.
- 2.3.4. The assessment allows for average as well as worst-case scenarios.

### ***Landscape Effects***

- 2.3.5. Landscape effects derive from changes in the physical landscape (**landscape elements**), which may give rise to how this is experienced (together with landscape elements termed **landscape characteristics**). This may in turn affect the perceived value or quality ascribed to the landscape.
- 2.3.6. The description and analysis of effects on the landscape relies on the adoption of certain basic principles about the positive or negative effects of change in the landscape. Due to the dynamic nature of the landscape, it can be accepted that change arising from a development may not necessarily be significant.
- 2.3.7. The landscape impact assessment describes the likely nature and scale of changes to individual landscape elements and characteristics and the consequential effect on the landscape character in relation to the development Site itself and on the wider landscape.

- 2.3.8. Part of this assessment takes account of existing trends that can be of both human and natural origin. The determination of the sensitivity of the landscape resource is based upon an evaluation of each key element or characteristic of the landscape likely to be affected. The evaluation reflects such factors as its quality, value, contribution to the wider landscape character, and the degree to which the particular element can be replaced.
- 2.3.9. Change can vary between small and large scale, or be so small that there is, in effect, no change. The effects of change may be negative or positive and may exist for short (temporary) or long (permanent) periods. More weight is placed on larger scale and permanent changes.
- 2.3.10. The effects on landscape character have been made in relation to the extent of the surrounding landscape to which they exert an effect (i.e. the apparent effect on landscape character on the *scene* and locality, from specific locations) and as a description of the landscape changes within the Site itself. The scale of effects on landscape character, therefore, is kept in perspective with the wider landscape, whilst also assessing changes of landscape character that are specific to the Site upon restoration.

### **Visual Effects**

- 2.3.11. The assessment of visual effects describes:
- The changes in character of the available views resulting from the proposed development; and
  - The changes in the visual amenity of the visual receptors.
- 2.3.12. The magnitude or scale of visual change is assessed with reference to elements such as:
- The extent/proportion of change within the view;
  - The degree of contrast;
  - The duration of the effect;
  - The nature of the effect;
  - The angle of view;
  - The distance of receptor (viewpoint) from the development; and
  - The area where changes will be visible.
- 2.3.13. The assessment of visual amenity is subjective. To avoid reliance on this subjective matter, visual amenity is only referred to as tending towards being 'High' or 'Low' where it is obviously so, and otherwise referred to as 'Medium'. This allows a more accurate determination of the *significance* of a visual impact in relation to paragraph 2.4.9.



### **Cumulative Effects**

- 2.3.14. This assessment considers the cumulative effects of the development proposal, which can result from:
- Combined landscape effects in conjunction with other development (not necessarily visible together);
  - Combined visual effects from inter-visibility with other development.
- 2.3.15. The cumulative effects of other third party proposals (not yet realised) has not been undertaken in this LVIA although areas proposed for further development in Development Plans are referred to where relevant.
- 2.3.16. The cumulative landscape and visual impacts of the development proposals in relation to other existing development has been assessed and noted in the description under each individual assessment and incorporated into the magnitude of effect where appropriate and as described in relation to the baseline situation (see Section 3).

## 2.4. TERMINOLOGY

### ***Landscape Sensitivity***

- 2.4.1. The determination of the sensitivity of the landscape resource is based upon an evaluation of the key characteristics of the landscape likely to be affected, reflecting quality, value, contribution to landscape character and the degree to which the particular element or characteristic can be replaced.
- 2.4.2. Sensitivity of the **landscape** resource was classified as per Table 1 below.

**Table 1– Landscape Sensitivity**

Sensitivity	Landscape Quality (Weighting)	Landscape Value (Weighting)	Description
<b>Very High</b>	Very Good	Very High	A large number of key elements are susceptible to change and are very difficult to replace without affecting the current landscape character
<b>High</b>	Good	High	A number of key elements/characteristics are susceptible to change and fairly difficult to replace without affecting the existing character
<b>Medium</b>	Ordinary	Medium	A number of elements/characteristics are susceptible to change but there is scope to replace these elements without adversely affecting the character
<b>Low</b>	Poor	Low	A small number of elements/characteristics are potentially susceptible to change but are easily replaced and potentially enhanced
<b>Very Low</b>	Very Poor	Very low	Remaining elements/characteristics are not susceptible to change. High probability to mitigate or replace the lost elements and to enhance the existing landscape

- 2.4.3. Where variations between landscape quality and landscape value occur, reasoned professional judgement is applied and described in the assessment to determine the landscape sensitivity.

### Visual Sensitivity

2.4.4. The terminology in Table 2 was used to describe sensitivity with regard to **visual** receptors.

**Table 2– Visual Sensitivity**

Sensitivity	Relevant Criteria	Receptor Types/Locations
<b>Very High</b>	Nationally well recognised and advertised location for high visual amenity. Prominent location or vista with high visual amenity. Very high expectations of visual amenity. May affect many receptors.	Long distance and National Way footpath users. Visitors to nationally advertised attractions (e.g. National Trust sites) where visual amenity is very important to its enjoyment.
<b>High</b>	Well-known area locally/regionally for high visual amenity. Open areas of recognised public access where primary enjoyment is of the views of the landscape. High expectations of visual amenity. May affect a number of visual receptors.	Advertised circular or well-used footpath routes where primary enjoyment is from the landscape and visual amenity and there are few route options. Locations where direct views from daytime residential rooms/gardens can be gained. Public houses, restaurants etc. with outward views towards the development
<b>Medium</b>	Locations provide visual amenity and some open views, but amenity not well recognised beyond locality. Moderate expectations of visual amenity. Moderate numbers of people may be affected.	General recognised public rights of way with some landscape interest although there is some choice of route. Views from recreational sports areas where amenity is gained from the landscape setting but is not essential to the activity. Residential rooms used primarily during night hours but with direct views towards the development.
<b>Low</b>	Viewpoint context and location does not provide many open views. Fairly low numbers of people may be affected. Low expectations of visual amenity	People travelling from one place to another (e.g. general road) Public rights of way where little landscape or visual amenity present. Places of work where some enjoyment from landscape context and relevant to type of work undertaken
<b>Very Low</b>	Viewpoint context is such that current visual amenity is lacking Expectations of visual amenity are very low. Numbers of people affected may be low. Activity at viewpoint is largely incidental to the view.	People at their place of work where visual amenity currently lacking. People travelling along direct fast routes where context and view changes rapidly (e.g. train, motorway)

### **Magnitude of Effects**

2.4.5. The terminology in Table 3 was adopted for the definition of magnitude for both landscape and visual effects.

**Table 3 – Magnitude**

<b>Magnitude</b>	<b>Landscape Criteria</b>	<b>Visual Criteria</b>
<b>Very Large</b>	Large scale changes to many landscape characteristics	Where the proposals become the only dominant feature in the scene and to which all other elements become subordinate.
<b>Large</b>	Some large scale changes to several landscape characteristics	Where the proposals would form a significant and immediately apparent element of the scene and would affect the overall impression of the view.
<b>Medium</b>	A high proportion of change to a small number of landscape characteristics	Where proposals would form a visible and recognisable new development but where it is not intrusive within the overall view.
<b>Small</b>	A small number of changes to a small number of landscape characteristics	Where proposals constitute only a minor component of the wider view, which the casual observer could miss or where awareness does not affect the overall quality of the scene.
<b>Very Small</b>	Very small number and scale of changes to landscape characteristics	Where only a very small part of the development is discernible or that it is at such a distance that the effects are scarcely appreciated.

2.4.6. Where variations between relevant criteria, duration etc. occur, reasoned professional judgement is applied and described in the assessment to determine the magnitude of effect.

2.4.7. In general, the duration weighting applied to magnitude is as follows:

- Very long term effect: 25 years or more
- Long term effect: 12 to 25 years
- Medium term effect: 5 to 12 years
- Short term effects: 1.5 to 5 years
- Temporary effect: Less than 18 months

### **Impact Significance**

- 2.4.8. The significance of a landscape and visual effect (impact) is a function of the sensitivity of the affected landscape or visual receptors, the magnitude of change that they will experience and the nature of the effect. The degree of significance of landscape and visual effects are unique to a particular proposal.
- 2.4.9. In many instances, the nature of effect can be classed as '**Neutral**', e.g. terms of effect on visual amenity, and therefore, even where the sensitivity and magnitude of change is high, the significance of the effect can, in all likelihood, be classed as '**Minor**' or '**Negligible**'. Similarly, where the existing view is of the highest visual amenity, beneficial changes are of limited significance, irrespective of visual receptor sensitivity or degree of change and vice versa for adverse effects on views of lowest visual amenity.
- 2.4.10. In general, where professional judgement is applied to help determine the significance of the impact, the following principles have been applied:
- Loss of mature landscape features are considered to be of greater significance compared to landscapes that can be readily re-created;
  - Significance is not dependant on planning policy but is a consideration where it identifies commonly held objectives and values;
  - Changes affecting large numbers are generally more significant than those affecting a small group of users. In sparsely populated areas, the relative scale of numbers is adjusted accordingly.
- 2.4.11. The degree of significance is defined in the tables given below. These are different for beneficial and adverse effects. Generally, an effect, which is of 'Major' significance or above, is likely to be a 'material consideration' in the decision-making process.
- 2.4.12. The results of the assessment have been presented by providing a brief description of the existing view from each principal representative viewpoint, followed by a description of changes to the view and the landscape scene and an analysis of the magnitude and nature of the effects. Subjective and professional judgements and assumptions are described.
- 2.4.13. The derivation of the impact significance is illustrated and described in each individual assessment following the specific terminology and methodology described above but a summary table is provided below to show the predicted relative significance for each landscape and visual impact.

### Adverse Impact Significance

2.4.14. Categorisation of the significance of **adverse (negative) effects** is provided with the interpretations given in Table 4.


**Table 4 – Adverse Impact Significance**

Significance		Landscape	Visual
Increasing ADVERSE Significance ↓	<b>Negligible</b>	Virtually no adverse effect on existing landscape character and quality.	Virtually no effects and no change in visual amenity. Very small effects on low sensitivity but high quality views. Very small - medium effects on low sensitivity views with existing low visual amenity. Very small effects on medium sensitivity views of low quality.
	<b>Minor</b>	Some adverse effects on existing poor landscape character and quality. Very small or temporary changes to medium sensitivity landscape.	Large-very large changes to low sensitivity views of low quality. Small changes to lower sensitivity views of high quality. Small to medium scale changes to medium sensitivity views with high existing amenity value. Very small-medium scale changes to views of higher sensitivity receptors with low existing visual amenity.
	<b>Moderate</b>	Large scale and long term changes to poor landscape. Some adverse changes to medium sensitivity landscape. Very small, temporary changes to highly sensitive landscape.	Noticeable long-term deterioration in low sensitivity but high amenity-value views. Medium scale changes to medium sensitivity views of high amenity value and very large changes to low quality views. Small scale and temporary deterioration in highly sensitive and high amenity value views and larger scale effects of low quality views.
	<b>Major</b>	Landscape character and quality is affected to a significant degree. Numerous long-term effects on medium sensitivity landscape. Small short-term effects on highly sensitivity landscape.	Medium scale but significant deterioration in sensitive views. Small changes to very sensitive views of high quality. Considerable long-term deterioration in medium sensitivity views of high amenity value.
	<b>Massive</b>	Proposals are at complete variance with many key characteristics of a highly valued and high quality landscape and affect the landscape for a significant period.	Clear and obvious changes resulting in considerable and long-term deterioration in very sensitive and important views.

### **Beneficial Impact Significance**

2.4.15. Categorisation of the significance of **beneficial (positive) effects** is provided with the interpretations given in Table 5:

**Table 5 – Beneficial Impact Significance**

Significance		Landscape	Visual
Increasing <b>BENEFICIAL</b> Significance 	<b>Negligible</b>	Improvement has minimal significance due to: Very high quality and desirability of existing landscape; Very small changes in character/quality on medium sensitivity landscapes.	Beneficial effect has minimal significance due to limited scope to improve existing view even from sensitive viewpoints. Provides only very slight improvement to views.
	<b>Minor</b>	Improvements have low significance due to: Small-medium scale of effects in low and medium sensitivity landscapes Limited value in improving very high quality landscape, even if changes large in scale.	Limited improvement in existing high quality view views even from highly sensitive viewpoints. Medium scale improvements to existing views with high visual amenity and medium sensitivity. Small improvements to views of low visual amenity from low sensitivity viewpoints. Very small improvements to low quality high sensitivity views
	<b>Moderate</b>	Small improvements to lowest sensitivity landscapes Very large scale and desirable improvements to high sensitivity landscapes Medium-Large effects on low-medium sensitivity landscapes	Noticeable large-scale improvement in unimportant views with low existing visual amenity. Small to medium scale improvements to views from medium and high sensitivity viewpoints with low existing visual amenity. Very small scale improvements in existing low visual amenity from very high sensitive viewpoints.
	<b>Major</b>	Landscape character and quality is greatly improved in lower and medium sensitivity landscapes where much scope to provide improvement	Low existing visual amenity. Significant very large improvement at low sensitivity viewpoints Large to very large improvements at medium to high sensitivity locations. Medium to very large improvements to very high sensitivity viewpoints with low existing visual amenity

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## 3 THE LANDSCAPE SETTING

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### 3.1. INTRODUCTION

- 3.1.1. The Landscape Setting (baseline conditions) represents the existing situation both within the Site and within the locality of the proposed development. The description is confined to those elements that could affect, or be affected by, the visibility and landscape character of the development proposals.
- 3.1.2. Figures L1 to L2 illustrate the principal features within the local landscape and a description has been provided below.
- 3.1.3. Relevant Landscape Character Assessments and English Nature's (Natural England's) Natural Area profile are summarised first followed by more detailed field observations and analysis of the characteristics of the local landscape and then of the Site itself. Analysis of the landscape quality and value is provided, referencing landscape designations where applicable.
- 3.1.4. Relevant Biodiversity Action Plan targets and planning policies and guidance from the Development Plan are referenced to provide the framework for the restoration proposals and to identify common objectives in relation to the development proposals.

### 3.2. SITE LOCATION

- 3.2.1. The Site is located in Northamptonshire, centred on grid reference SP947984. The Site is approximately 700m south of the county border with Rutland and the Site boundary is approximately 500m south of Wakerley village - see Figure L1. This is the location of the proposed quarry (the Quarry).
- 3.2.2. An Access Road is proposed from a minor road (Main Street) that lies to the east of the Quarry, and will run east-northeastwards to join to a minor road approximately 1.5 kilometres away. This route is centred on grid reference SP968991. This is referred to as the Proposed Access Road.



### 3.3. COUNTRYSIDE CHARACTER

- 3.3.1. The Site is situated within the Countryside Agency's 'Rockingham Forest' <sup>(Ref 8)</sup> area of classification, as summarised in regional detail below.
- 3.3.2. A number of other publications document the landscape character of the locality:
- Current Landscape Character Assessment (Northamptonshire) <sup>(Ref 9)</sup>;
  - County Environmental Character Assessment (Northamptonshire) <sup>(Ref 10)</sup>;
  - Biodiversity Character Assessment - (Northamptonshire) <sup>(Ref11)</sup>;
  - Historic Landscape Assessment (Northamptonshire) <sup>(Ref 12)</sup>;
  - Leicester, Leicestershire and Rutland - Landscape and Woodland Strategy <sup>(Ref 13)</sup>;
  - Countryside Design Guidance (Rutland) <sup>(Ref14)</sup>.
- 3.3.3. Selected character areas are illustrated on Figure L2.
- 3.3.4. The Site also lies within the 'Rockingham Forest' Natural Area. Selected extracts of the profile information of this area are also included.

#### **Regional Character Area**

- 3.3.5. The key characteristics of the 'Rockingham Forest' area, on a regional level include:
- Undulating landform rising to prominent scarp along edge of Welland Valley in Rockingham Forest;
  - Large woodlands on higher ground enclose the landscape;
  - High historic and nature-conservation interest in woodlands;
  - Remnants of unimproved grassland throughout;
  - Large arable fields with low hedges occupy foreground views;
  - Dry stonewalls around villages;
  - Nucleated villages often in sheltered streamside locations;
  - Distinctive buildings constructed in local stone: ironstone in west, limestone in east;
  - Undisturbed, deeply rural quality despite nearby towns and adjoining trunk roads;
  - Prominent, disused ironstone quarries (gulleys) and abandoned Second World War airfields.

- 3.3.6. It states: *“Although the landform of Rockingham Forest is essentially a broad, low, undulating ridge falling away from the northern scarp, the highest points are capped by glacial boulder clay and it is here that the surviving ancient woodlands lie, emphasizing the relief. Extensive woodlands like Wakerley are prominent features on the skyline”.*
- 3.3.7. *“Within the forest the woodlands are generally separated by large fields, mainly in arable use, which generally have low hedges and intermittent trees. However, there are also more enclosed areas of pasture with a better hedge structure, particularly in the valleys, as well as areas of dry stonewalls”.*
- 3.3.8. *“Slightly more than 10 per cent of the area is occupied by woodlands and scrub. Small leaved lime is a particular feature in the east and the extensive glacial till woodlands are characterised by ash, hazel and field maple. In some cases the deciduous woodland has been converted or partially converted to coniferous woodlands and in others wholly new coniferous woodlands have been planted. ...most of the land is in agricultural use with a predominance of arable. Hedges are often low and hedgerow trees are localised in distribution, with willow pollards along the streamsides and wetter areas. Locally, and particularly in the north, there are areas of dry stone walls.”*

#### **Northamptonshire Environmental Character Assessment**

- 3.3.9. The Environmental Character Assessment is the top tier of the landscape character hierarchy in the County, developed as part of the Northamptonshire Environmental Characterisation Process. The Environmental Character Areas represents a combination of current landscape, historic landscape and biodiversity types
- 3.3.10. This document also places the vast majority of the Site within the Environmental character Area named *‘Rockingham Forest’* (see LVIA Appendix 4). Key characteristics include:
- The Boulder Clay deposits that cap much of the area give rise to heavy intractable soils. These were unattractive for cultivation and therefore significant areas of woodland survived the clearances that occurred elsewhere in the county.
  - The ancient pattern of settlement persists to the present day with the central forest area remaining relatively sparsely settled.
  - Former quarries are sometimes characterised by rich semi natural habitats that have evolved there in the form of calcareous and mesotrophic (neutral) grasslands.

- Extensive areas of ancient woodland are a particularly strong and unifying characteristic of the area. They tend to lie on the highest, Boulder Clay capped hills, emphasising the relief.
- Coppicing was the principal method of woodland management throughout the medieval period as well as in later centuries.
- The increase of arable cultivation in recent decades has been mirrored by hedgerow removal and field amalgamation, which has resulted in a number of large fields being created.
- Vernacular architecture is an important unifying element across Rockingham Forest.

3.3.11. The Northamptonshire Current Landscape Character Assessment identified 19 landscape character types (LCTs), excluding urban areas, and 63 rural landscape character areas (LCAs). The Site straddles 3 landscape character types:

- The Wooded Limestone Hills and Valleys (King's Cliffe Hills and Valleys LCA);
- Farmed Scrap Slopes (Harrington to Duddington LCA); and
- The Ironstone Quarried Plateau (Kirby and Gretton Plateau LCA).

3.3.12. The descriptions of these character types is included in LVIA Appendix 4.

### **Rutland Character Areas**

3.3.13. The Northamptonshire Character Assessments do not cover land north of the County boundary (to the north of the Site). This area lies within the 'High Leicestershire' RCA. The Area immediately north of Northamptonshire and the Site is the Welland Valley Landscape Character Type <sup>(Refs 13 and 14)</sup>. The distinctive features here include:

- Wide shallow river valley;
- Pasture on floodplain, arable on valley sides;
- Ridge and furrow grassland on valley sides;
- Waterside willows with many old pollards;
- Lack of woodland.

### **Natural Area Profile**

3.3.14. Natural Area Profiles have been devised by English Nature (Natural England) to define "*biogeographic zones that reflect the geological foundation, the natural systems and processes and the wildlife in different parts of England, and provide a framework for setting objectives for nature conservation*" <sup>(Ref 16)</sup>.

- 3.3.15. The Site falls within the ‘*Rockingham Forest*’ Natural Area <sup>(Ref 15)</sup>, as summarised below.
- 3.3.16. *“Much of the Natural Area is situated on a bedrock of limestone of Jurassic age. However, it is rare for this limestone to be naturally near the surface as the area has been blanketed by thick glacial deposits, which resulted in heavy clay soils of a generally calcareous nature being fairly typical. Since the Medieval period and before ‘ironstone’ (an iron rich form of limestone) and limestone have been quarried producing artificial limestone exposures which became colonised by the plants and animals of limestone derived soils.”*
- 3.3.17. *“Farmed land is an important habitat and in common with much of lowland England, arable land and agriculturally improved pasture comprise a major proportion of the habitats now present within the Natural Area. Such widespread habitats include important features such as hedgerows and mature trees, ponds and small watercourses and rough grassland such as is found alongside tracks and on road verges. These habitats give much of the character to the Natural Area and support a wide range of species, including some that have undergone dramatic recent declines such as skylark and grey partridge.”*
- 3.3.18. There are also a number of other important habitats of more restricted distribution within the Natural Area, including:
- 3.3.19. **Ancient, semi-natural broadleaved woodland** - The major habitat resource of the area. Most of the woods stand on ill-drained calcareous clays and their characteristic tree and shrub species are ash, pedunculate oak, field maple, hazel, hawthorn, midland hawthorn and wild service tree with local concentrations of wych elm, small-leaved lime and English elm. The typical ground flora dominants on the wet clay are tufted hair-grass, dog’s mercury, bluebell, meadowsweet, enchanter’s-nightshade and wood anemone with many other herbs, including many orchids, sedges and grasses, some of them locally important.
- 3.3.20. **Unimproved calcareous grassland** - Upright brome and tor-grass are the dominant plants but there is a rich herb flora.
- 3.3.21. **Unimproved mesotrophic grasslands** - Characterised by cowslip and green-winged orchid with betony and devil’s-bit scabious on more acid and/or leached soils, and with salad burnet, golden oat-grass and lady’s bedstraw where it becomes more strongly calcareous.
- 3.3.22. **Marshes and swamps** - The characteristic vegetation on the mineral soils includes hard rush, lesser pond-sedge and reed sweet-grass.

### 3.4. DESCRIPTION OF LOCALITY

#### **Settlement**

- 3.4.1. Wakerley village is located approximately 500m north of the Site. The larger village of Barrowden lies just beyond Wakerley, approximately 1.3 kilometres north of the proposed extraction area. Further north again is South Luffenham some 2.8km north of the Site. Morcott village lies approximately 2.6 kilometres to the northwest. The hamlet of Shotley lies approximately 1.6 kilometres to the west and Haringworth village lies 1.9 kilometres to the west. Laxton hamlet lies 1.3 kilometres to the south.
- 3.4.2. Tixover lies 2.5 kilometres to the northeast of the extraction limit (800 metres north-northeast of the Proposed Access Road), and Duddington lies 3.8 kilometres to the northeast of the extraction limit (1.9 kilometres north-northeast of the Proposed Access Road).
- 3.4.3. Within 1 kilometre of the Site (working clockwise from the south) lies:
- Town Wood Farm (south);
  - The Cottage (south);
  - Wood Wind (south);
  - Spanhoe Airfield (southwest);
  - Tixover Church (northeast);
  - Laxton Hall (southeast);
  - Laxton Park and Cricket Club (southeast).
- 3.4.4. Within 2 kilometres of the Site (working clockwise from the south) lies:
- Spanhoe Farm (south);
  - Fieldfare (south);
  - Beau Lodge (southwest);
  - The Bungalows (west near Shotley);
  - Redhill Farm (northwest);
  - Redhill Lodge (northwest);
  - Top Lodge Caravan Park (east);
  - Bottom Lodge (east);
  - Abbey Cottages (southeast);
  - Fineshade Abbey (southeast);
  - Laxton Lodge Gates (southeast);
  - Home Farm (southeast);
  - Laxton Park House (south).

### **Infrastructure**

- 3.4.5. Two major roads run through the area:
- A47(T) (Peterborough Road) running in an east-west alignment approximately 2.2 kilometres north of the Site;
  - A43(T) running in a north-northeast to south-southwest alignment approximately 1.6km southeast of the Site (but within 500m of the proposed Proposed Access Road).
- 3.4.6. A number of lay-bys are located on these two roads.
- 3.4.7. A minor road runs from Harringworth to Wakerley, forming Main Street through Wakerley and continues past the eastern side of the Quarry before linking to the A43. Two minor roads branch off Main Street: One linking Wakerley to the A43 to the east (by Bottom Lodge) and one linking to Barrowden to the north (Wakerley Road).
- 3.4.8. A number of roads lead from Barrowden: Seaton Road running southwestwards linking with the B672 near Redhill Farm, Morcott Road running westwards, Luffenham Road running northwards and a minor road running northeastwards. The latter three roads meet the A47 (Peterborough Road) to the north.
- 3.4.9. A minor road extends from A43 through Laxton and onto Harringworth.
- 3.4.10. A dismantled railway route runs along a broadly sweeping east-west alignment north of the Site (between Wakerley and Barrowden) before sweeping southeastwards to the east of the Site.

### **Landuse and Vegetation Cover**

- 3.4.11. The main land uses in the region are forestry and agriculture. The large forestry areas of Wakerley Great Wood and Westhay Wood dominate the area to the south and east of the Site. To the north and west the land is mainly farmland set mainly to arable use and occasionally grazing.
- 3.4.12. The Site area itself comprises agricultural land and part of a former airfield, which now consists of derelict runways and unmanaged scrub grassland.
- 3.4.13. The agricultural land in the area is made up of medium to large fields generally defined by a geometrical hedgerow pattern frequently linked to the landform. Hedgerows commonly show evidence of being neglected or poorly maintained, often being gappy and occasionally defunct.

- 3.4.14. Hedgerow trees are present mainly along the lanes and significant tree and shrub vegetation has grown up along the former railway line (sections of which now form a County Wildlife Site). Small woodland blocks and spinneys break up the farmland, particularly closer to the larger forestry areas.
- 3.4.15. Established trees and shrubs (predominantly willows) also define the meandering route of the River Welland, to the north, occasionally linking with small woodland blocks and spinneys.
- 3.4.16. Wakerley Great Wood forms the southern boundary to the Site with Long Wood, a westerly projection of woodland from Wakerley Great Wood, extending towards the disused airfield within the Site. The woodland itself is ancient semi-natural woodland with larch stands, oak, ash and birch scrub woodland. Owned by the Forestry Commission, the woodland is a recreational area with parking, amenities and way-marked trails. The wood is gradually being reverted to native broadleaf woodland under the 'Ancient Woodland Project'.
- 3.4.17. To the east of Wakerley Great Wood is the larger woodland area of Westhay Wood, a large portion of which forms Fineshade Wood. Fineshade wood is another of the Forestry Commission's recreational woodlands and hosts further recreational services including a visitors centre and caravan/camping facilities.
- 3.4.18. To the northeast of Wakerley Great Wood and over the minor road is Wakerley Spinney, part of which is designated a SSSI (see Figure L1). North of Wakerley Spinney and adjacent to the Proposed Access Road is the slightly smaller ancient woodland block of Wakerley Oaks
- 3.4.19. To the southwest of the Site (adjacent to the western most boundary) is a former limestone quarry that has now been restored to grassland. South of this is Spanhoe Airfield an active private airstrip for small aircraft. An area directly northwest of the Site has been previously worked for ironstone and has been restored to agriculture.

### **Landform**

- 3.4.20. The main Site area together with Wakerley Great Wood is situated on a raised area that gently falls to the north into the River Welland Valley.
- 3.4.21. To the southwest, over the former airfield and extending to the southwest, the land is mostly flat rising to a level of 110mAOD west of Spanhoe Airfield. Northwest of Spanhoe airfield the landform drops down to Shotley (circa 50mAOD) and on down to Haringworth by the River Welland.

- 3.4.22. To the south of the Site and through Wakerley Great Wood the landform is more gently undulating and falls from levels of circa 100mAOD along the northwest of the forestry down to a minor watercourse to the southeast. This watercourse extends in a broadly west-southwest to east-northeasterly direction through Laxton Park, on to Fineshade Abbey and then on northwards to join the River Welland south of Tixover.
- 3.4.23. To the north of Great Wakerley Wood and the disused airfield, the land falls steadily towards the River Welland. The landform immediately south of the River Welland, near the Site, rises steeply to a broadly east-west ridge with levels up to 102mAOD just southeast of Morcott and north of Barrowden (near the A47). The land then falls away again, to the north of the A47.
- 3.4.24. Barrowden itself is situated on the south facing slope of the valley rising up from 35mAOD near the River Welland to 70mAOD to the north of the village.

#### **Public Rights of Way and Permissive access**

- 3.4.25. There are a number of public footpaths and a bridleway near the Site. These and the relevant definitive rights of way numbers are shown on Figure L1.
- 3.4.26. Of particular relevance to the proposed development are the following:
- Footpath PC2 (running in a north - south direction through the centre of the proposed extraction area from the lane connecting Wakerley to Harringworth to the Town Wood area of Wakerley Great Wood);
  - Footpaths PC3 and PC4 (running broadly east to west along the southern fringe of Wakerley);
  - Bridleway E296 (extending from Tixover in a sweeping westerly direction broadly following the River Welland to join Wakerley Road just east of Barrowden); and
  - Footpath E289 (running in a southwestly direction from Morcott to link with a lane 1km north of Harringworth).
- 3.4.27. Two long distance recreational trails pass through the study area following a number of the rights of way highlighted above. They are:
- Jurassic Way - Which extends along an 88 mile route from Banbury (Oxfordshire) to Stamford (Lincolnshire); and
  - Rutland Round - A circular walk of about 65 miles round the county of Rutland. Both trails are shown on Figure L1.



- 3.4.28. Permissive access has been granted by the Forestry Commission to Wakerley Great Wood and Fineshade Wood. A number of waymarked routes are present within the woodland.

### 3.5. DESCRIPTION OF THE SITE

- 3.5.1. The Site can be divided into 4 principal areas (See Figure L2):

The Quarry:

- **Area 1**, the disused airfield comprising Phase 1 and Phase 2 extraction areas;
- **Area 2**, the grassland area between Wakerley Great Wood and Long Wood used during Phase 1 and 2 for soil storage;
- **Area 3**, comprising the remaining 3 northern extraction areas;

The Proposed Access Road:

- **Area 4**, the new road, partially separated from the main Quarry area by a public highway.

#### **Area 1**

- 3.5.2. Area 1 is largely flat with levels of approximately 100 to 104mAOD forming the highest part of the Site. Formerly part of the World War 2 airfield, this area comprises derelict and disused runways, rough grassland and areas of dense scrub.

- 3.5.3. This area is bounded to the southeast and east by Wakerley Great Wood together with the grass area that forms Area 2 (described below). The southwestern boundary to this area is formed by the former limestone quarry and part of the tall belt of trees that make up Short Wood.

#### **Area 2**

- 3.5.4. Area 2 is a narrow grassed field that extends into Wakerley Great Wood. Wakerley Great Wood essentially surrounds this area but for a narrow opening to the southwest bordering Area 1 (above). The finger of woodland extending out of Long Wood forms the northern boundary to this area.

- 3.5.5. Levels in this area fall gently from 101mAOD where it borders Area 1 to 94mAOD in the northeastern most point.

#### **Area 3**

- 3.5.6. Area 3 comprises a number of large fields set to arable use. The fields are broadly rectangular, in a north-northwest to south-southeasterly alignment and are divided by hedgerows. The majority of the hedgerows are intact and around 2m in height but there are defunct and overgrown sections.

- 3.5.7. The landform generally falls in a northerly direction from a highpoint to the southwest of 100mAOD towards the River Welland; the lowest point in this area being approximately 78mAOD to the northeast.
- 3.5.8. The northern side of Long Wood together with areas of dense scrub along the edge of the disused airfield form the southern boundary of this area.

#### **Area 4**

- 3.5.9. Area 4 follows the route of the Proposed Access Road. It extends from Area 3 through agricultural land immediately to the north of Wakerley Great Wood until it meets the minor road that extends southwards from Wakerley village. It then continues eastwards over fields along the southern side of an existing hedgerow towards Wakerley Oaks. It follows the southern boundary of Wakerley Oaks before continuing in a northeasterly direction through an existing gap used for farm access across the disused railway line and diagonally across an arable field to link with the minor road that extends eastwards out of Wakerley village.
- 3.5.10. Levels along the Proposed Access Road rise slightly from 75mAOD where it meets the lane at its western end to 82mAOD between the lane and Wakerley Oaks, from which point it gradually falls to 36mAOD where it meets the road to the northeast.

### **3.6. LANDSCAPE QUALITY**

- 3.6.1. The landscape qualities of the Site and its environs vary depending on the dominant landuse of that particular area.
- 3.6.2. There is a strong historical vegetation structure within the locality largely influenced by the areas of woodland to the south and east of the Site. The region was once part of Rockingham Forest, an administrative title for the royal hunting forest that existed across the area from the 11th to 19th centuries. This structure has changed through increased agriculture forming geometric hedgerows and linear vegetation patterns along watercourses, roads and the dismantled railway line. Remnant blocks of the once more substantial forest now take the form of spinneys and copses in the farmland area.
- 3.6.3. Characteristic elements are well represented but a number of minor incongruous elements are present. Landscape elements are mostly in a strong functional and visual condition and there is a pattern of historic components sufficient to suggest a common pattern of development. The semi-natural habitats are fairly large, closely clustered and allow relatively easy cross-interaction. Generally, the landscape quality in these areas is Good.

- 3.6.4. In comparatively recent times, the greatest change to the landscape in the locality was the construction of the now disused airfield to the southwest of the Site. Evidence from the 1889 map of the area suggests a significant area of Wakerley Great Wood together with some hedgerows were cleared to facilitate the airfield. As well as the airfield, the area to the west of the Site has also been altered by the (now restored) former limestone quarry.
- 3.6.5. This area has a degraded, disjointed, somewhat unkempt appearance, not in keeping with surrounding agricultural and wooded landscapes. The landscape quality of these areas is therefore Ordinary to Poor.

### **3.7. LANDSCAPE POLICIES AND DESIGNATIONS**

- 3.7.1. The Site lies within the East Midlands and the administrative area of Northamptonshire County Council. It also lies within East Northamptonshire District.
- 3.7.2. The current Development Plan policy framework for planning control is provided by the:
- The Regional Spatial Strategy for the East Midlands <sup>(Ref 3)</sup>;
  - Draft East Midlands Regional Plan Part 1: Regional Strategy and Part 2: Sub-regional strategies <sup>(Ref 4)</sup>;
  - Northamptonshire County Structure Plan - 1996 – 2016 (policies largely saved until September 2007) <sup>(Ref 7)</sup>;
  - East Northamptonshire District Local Plan 1996 <sup>(Ref 5)</sup>;
  - Northamptonshire Minerals Local Plan - Adopted May 2006 <sup>(Ref 6)</sup>.
- 3.7.3. Relevant supplementary planning guidelines, documents and strategies include:
- Northamptonshire Environmental Character Assessment and Key Issues <sup>(Ref 10)</sup>;
  - Appendix 8 to the East Northamptonshire District Local Plan 1996 - Guidelines For Landscaping In Development <sup>(Ref 5)</sup>;
  - Current Character Areas Strategy And Guidelines Strategic Framework Study <sup>(Ref 17)</sup>;
  - Space4trees - The Regional Forestry Framework for the East Midlands <sup>(Ref 19)</sup>;
  - Actions4Environment - An Environment Strategy for the East Midlands <sup>(Ref 20)</sup>.

### **Regional Spatial Strategy 8 (RSS) for the East Midlands**

3.7.4. Relevant Policies include:

- **Policy 28:** Priorities for Enhancing the Region's Biodiversity;
- **Policy 29:** A Regional Target for Increasing Woodland Cover;
- **Policy 30:** Priorities for the Management and Enhancement of the Region's Landscape.

### **Draft Regional Spatial Strategy 8 (RSS)**

3.7.5. The Site lies within the Rockingham Forest Biodiversity Conservation Area and directly north of the River Welland Biodiversity Enhancement Area. Relevant draft Policies include:

- **Policy 1:** Regional Core Objectives;
- **Policy 2:** A Regional Approach to Selecting Land for Development;
- **Policy 3:** Promoting Better Design;
- **Policy 26:** Protecting and Enhancing the Region's Natural and Cultural Heritage;
- **Policy 27:** Regional Priorities for Environmental & Green Infrastructure;
- **Policy 28:** Priorities for Enhancing the Region's Biodiversity;
- **Policy 29:** Regional Priorities for Managing and Increasing Woodland Cover;
- **Policy 30:** Priorities for the Management and Enhancement of the Region's Landscape.

### **Northamptonshire Structure Plan**

3.7.6. Part of the Site is designated as a Special Landscape Area within the East Northamptonshire District Local Plan; the disused airfield to the east of the Site is the only area excluded – see Figure L2. Relevant Policies include:

- **Policy AR 1** – Protection of Special Landscape Areas;
- **Policy AR 2** – Landscape Character;
- **Policy AR 3** – Protection of designated wildlife sites;
- **Policy AR 4** – Protection and enhancement of Biodiversity;
- **Policy AR 7** – Protection of best and most versatile soils;
- **Policy M 1** - General mineral policy principals;
- **Policy M5** – Criteria for Mineral Development.

### **East Northamptonshire District Local Plan**

3.7.7. Relevant Policies include:

- **Policy GEN 1, 2 and 3** – General Environmental and Infrastructure protection;
- **Policy EN 1** – Development in the Open Countryside;
- **Policy EN 2** – Special Landscape Areas;
- **Policy EN3** – Loss of Trees;
- **Policy EN 4** – Use of native species;
- **Policy EN 5** – Retaining landscape features;
- **Policy EN 6** – River Welland and their associated tributaries;
- **Policy EN 7** – River Welland Valley protection and enhancement;
- **Policy EN 9** – Sites of local conservation interest;
- **Policy EN 11** – Effects on Ancient Woodland;
- **Policy AG 1** – BMV Agricultural land;
- **Policy MIN 1** – Afteruse of mineral workings.

3.7.8. Part of Wakerley Spinney some 300m south of the Proposed Access Road is the nearest designated SSSI. Wakerley Oaks, Wakerley Spinney and Great Wakerley Wood are all Ancient Woodlands.

3.7.9. A number of designated County Wildlife Sites and Protected Wildflower Verges occur near the Site and the Proposed Access Road passes through two of these designated areas (see Figure L2).

### **Northamptonshire Local Minerals Plan**

3.7.10. Relevant Policies include:

- **Policy 14** – Reclamation;
- **Policy 15** – Buffer Zones;
- **Policy 19** – Landscape;
- **Policy 20** – Designated Biodiversity Sites;
- **Policy 22** – Habitats and Features of Biodiversity and Geodiversity Importance;
- **Policy 23** – BMV Agricultural Land;
- **Policy 25** – Rights of Way;
- **Policy 28** – Local Amenity;
- **Policy 30** – Cumulative Impact.

### 3.8. LANDSCAPE VALUE

- 3.8.1. The Site does not fall within a nationally or internationally advertised or recognised area of scenic beauty or interest. However, part of the Site lies within land designated as a Special Landscape Area in the East Northamptonshire District Local Plan. This designation covers a large area in the locality (see Figure L2). Although generally not supported by national policy, local landscape designations do give an indication that some value has been given to the landscape in the past.
- 3.8.2. The following factors are also relevant when considering the landscape value of the land affected by the proposed development:
- Two long-distance recreational trails (the Rutland Round and the Jurassic Way) run within a short distance of the Site
  - The Forestry Commission has provided significant access and recreational facilities in the nearby semi-ancient woodland areas of Wakerley Great Wood and Fineshade Wood.
  - The Red Kite Information Centre at Fineshade Woods is advertised nationally.
  - Top Lodge Caravan site is also located near Fineshade Woods.
  - The landscape quality of the Site and immediate environs is generally Good but for the airfield area to the west which is Ordinary to Poor.
  - The Site contains few landscape elements that are considered rare or of great importance beyond a county level.
  - The desirable landscape elements affected by the development are generally common and could be easily recreated (i.e. grassland, hedges, woodlands, etc.) with scope to provide enhancement.
- 3.8.3. The landscape value of the Site, in this context, should be considered to be of a **Medium** level overall.

### 3.9. LANDSCAPE AND BIODIVERSITY STRATEGIES

- 3.9.1. The various landscape and biodiversity targets and objectives described below have been used to help guide the restoration proposals for the Site.

#### ***Landscape Character Guidelines***

- 3.9.2. Landscape character-specific guidelines have been produced as part of the Northamptonshire Character Assessment process <sup>(Ref 17)</sup>. These are reproduced for the Landscape Character Types in which the Site lies in LVIA Appendix 4.

#### ***The Regional Forestry Framework for the East Midlands***

- 3.9.3. The Aims include:

- To provide and promote more opportunities for everyone to enjoy the social, health and educational benefits of trees and woodlands.
- To maximise the contribution of trees and woodlands to the region's natural, cultural and historic environment and ensure that trees and woodlands are better able to withstand external environmental pressures.

- 3.9.4. Objectives include:

- **Objective T&P 1:** More opportunities for people to enjoy high quality recreational, cultural and educational experiences, close to where they live.
- **Objective T&Env 1:** The character and quality of the region's environment enhanced by a landscape scale approach to woodland management, tree planting and woodland creation.
- **Objective T&Env 2:** The ancient woodlands, veteran trees and other historic features such as parklands and wood pasture are identified, protected, and sustainably managed.

#### ***An Environment Strategy for the East Midlands***

- 3.9.5. Relevant Policies include:

- **ENV2: Local distinctiveness:** To ensure that all important elements that underpin the concept of local distinctiveness are conserved and managed.
- **ENV21: Biodiversity:** To conserve and dramatically enhance biodiversity according to regional priorities.
- **ENV22: Landscape:** To enhance the character and quality of the region's landscape by protecting the best and enhancing the rest.

### **Biodiversity Strategy for the East Midlands**

- 3.9.6. The Site lies within a Biodiversity Conservation Area (BCA). In these areas, the emphasis is on protection of existing resource as a foundation on which habitat enhancement and creation projects can be based.
- 3.9.7. A number of Objectives are relevant:
- **Objective 6:** To enhance the character and quality of the region's environment by a landscape scale approach to woodland management, tree planting and woodland creation;
  - **Objective 22:** To secure the management of industry owned/managed land to benefit biodiversity.
- 3.9.8. The habitat creation targets in the Regional Biodiversity Strategy document <sup>(Ref 18)</sup> are largely the same as those in RSS8 <sup>(Ref 3)</sup>.

**Table 6 - Regional BAP Targets**

Priority Habitat Type	Regional Targets
Lowland calcareous grassland	3735ha (by 2020)
Lowland hay meadows	610ha (by 2010)
Hedgerows	1700km (by 2010)
Cereal field margins	1834ha (by 2020)

### **Northamptonshire Biodiversity Character Assessment**

- 3.9.9. The Site lies in the 'Limestone Woodlands' Biodiversity Character Type (BCT). An extract of the character description <sup>(Ref 11)</sup> is included in the LVIA Appendix 4, but the key characteristics are:
- Geology is dominated by limestone, particularly on the valley sides;
  - Higher ground capped with thin boulder clay drift;
  - Blocks of woodland of ancient origin throughout;
  - Ash-lime and oak-lime woodland over limestone;
  - Ash-maple woodland over Boulder Clay;
  - Small fragmented areas of calcareous grassland on man-made sites;
  - Localised areas of decalcified limestone creating more acidic conditions.



### **Biodiversity Strategy and Guidelines**

- 3.9.10. This strategy document <sup>(Ref 21)</sup> provides guidelines for each Biodiversity Character Type (BCT). For the Limestone Woodlands BCT, there are specific habitat guidelines for lowland mixed woodlands, lowland calcareous grasslands, hedgerows and wildlife corridors. An extract of the guidelines is provided in LVIA Appendix 4.

### **Northamptonshire Biodiversity Action Plan**

- 3.9.11. This set of documents <sup>(Ref 22)</sup> sets the targets and objectives for priority habitats and species in Northamptonshire until 2010. This includes the creation of 20ha of lowland calcareous grassland by 2010. Hedgerows, lowland mixed woodland, lowland neutral grassland and open standing water (ponds and lakes) are also targeted habitats.

### **Natural Area Objectives**

- 3.9.12. A number of relevant habitat objectives relate to the Rockingham Forest Natural Area Profile <sup>(Ref 15)</sup>:

- **Objective 1:** The sustainable management of characteristic wildlife habitats and species in order to maintain the character of the Natural Area.
- **Objective 2:** The restoration of characteristic wildlife habitats and species where these have been lost, in order to enhance the essential character of the Natural Area.

- 3.9.13. Aims include:

- The replanting of hedgerows so that they provide the habitat required to support populations of farm and woodland birds and provide valuable links between existing habitats.
- The restoration of 'coniferised' ancient woodland to typical broadleaved mixes.
- The linking of ancient woodlands by the establishment of new plantations of locally native trees and shrubs, or ideally using natural regeneration.
- Encourage woodland management that is beneficial to the spread of woodland butterflies so that they will once again become a common sight in managed woodland.
- The creation of new grasslands ideally using seed from a donor site in the natural area. Commercially available mixes would only be acceptable if using species characteristic to the area and of British origin.

- Mineral restorations to grasp opportunities to create wildlife habitats.
- Major new planting schemes, such as road verges and landscaping associated with development, should have wildlife and nature conservation as a main objective. Schemes should be of habitats characteristic to the area using locally native species of British origin.
- Establish two more locations for plot's elm (a hedgerow and river valley tree) near to the remaining population at Laxton by taking cuttings from local material.

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## 4 THE DEVELOPMENT PROPOSALS

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### 4.1. SUMMARY OF DEVELOPMENT PROPOSALS

4.1.1. The Development occurs in five main phases (see Plans 3-7) and involves the following main operations:

- The planting of 'advance' woodland and hedgerows;
- The creation of the Proposed Access Road to the quarry with associated screening and landscape elements (see Plan 2);
- Temporary diversion of affected public rights of way;
- Vegetation clearance;
- Stripping and storing of soils in phases;
- Phased limestone extraction and alteration to screening bunds for each phase;
- Transport of mineral from quarry area to processing plant;
- Progressive backfilling of extraction void with overburden;
- Reinstatement of soils followed by aftercare.

4.1.2. Extraction will take place sequentially over five main phases. Restoration will take place in the latest exhausted phase once sufficient space is available in the next phase to undertake extraction operations. Extraction is expected to last for the duration indicated in the table below:

**Table 7 – Phased Extraction**

Phase	Duration of Extraction (@250,000t production / yr)
1	9.8 years
2	17.1 years
3	7.9 years
4	5.7 years
5	4.4 years
Total:	44.9 years

4.1.3. The mineral will be worked dry. The proposed depth of working is approximately 5 to 20 metres.

- 4.1.4. The mineral will be dug by excavator and loading shovel and processed through mobile plant including a primary crusher, secondary impactor and screening units before being temporarily stored in the extraction area before being transported away by road haulage vehicles.
- 4.1.5. A quarry weighbridge and associated offices/car park is initially likely to be located at the northern edge of the Phase 1 area, before being relocated nearer the Site entrance during the latter phases.

### **Soils**

- 4.1.6. The soils will be handled according to the DEFRA *Code of Good Agricultural Practice for the Protection of Soil* <sup>(ref 24)</sup> and *Good Practice Guide for Handling Soils* <sup>(ref 23)</sup> and as outlined in the Soils section of the ES. The soils will be stored in the storage mounds indicated on Plans 3 to 7, designed to minimise transport, whilst locating them to minimise and help mitigate adverse visual/landscape impacts.
- 4.1.7. The general approach will be to minimise the gradient of the outward-facing (most visible) slope of the bunds, to minimise adverse effects on visual and landscape amenity.
- 4.1.8. Generally, vegetation on the soil storage mounds will be cut at twice per year and any noxious weed regrowth killed using glyphosate herbicide. Ragwort will be hand pulled and disposed of, off site.
- 4.1.9. The best topsoils will be reserved for the agricultural areas with the calcareous and nutrient poor soils reserved for the areas to be restored to calcareous/neutral grassland and woodland. Up to 36cm of topsoil (assuming an average strip depth of 25cm) will be available for the agricultural restoration areas. At least 25cm of topsoil will be reinstated in these areas with the remainder used as best appropriate for the habitat requirements of the woodland and grassland restoration areas.

## **4.2. RESTORATION PROPOSALS**

- 4.2.1. The Proposed Restoration Scheme for the Site is shown on Figure R1, with illustrative cross-sections on Figure R2.
- 4.2.2. Annual aftercare reviews will be undertaken by the Operator to ensure that the areas of restoration are managed to maximise the potential of the restored areas. Aftercare of advance planting areas will be undertaken to ensure their continuing screening function and aftercare of other restoration areas will be undertaken for 5 years following restoration.

- 4.2.3. The Site will be treated for weeds notifiable under the 1959 Weeds Act throughout the life of the quarry and during the aftercare period as required.

### **Landform**

- 4.2.4. The final restoration landform has been derived from the best compromise between a number of key elements:

1. To fully utilise the available mineral reserve whilst re-using all available overburden to create a suitable landform;
2. To ensure that the landform is suitable and compatible with the intended afteruse and afteruse of adjacent land (Ref 25),
3. To ensure that the land is not liable to instability;
4. To be as compatible as possible with the nature, character and scale of the natural landform of the area.

- 4.2.5. The steepest restoration slopes within the proposed scheme are of 1:4 gradient. Slopes of gradients of between 1:4 and 1:8 coincide with areas of woodland restoration. All other restoration types occur on slopes of 1:8 gradient or less to ensure compatibility with the landscape character of the area and to prevent limitations to agriculture due to slope gradient. The slopes within the Site are varied and provide shallow undulations as well as a gradual transition between restored and untouched ground.

- 4.2.6. The lowest points within the Site will become sink points for surface water, essentially forming ephemeral pools. The northern-most pool will be clay lined to form a more permanent water feature.

### **Land Usage and Restoration Elements**

- 4.2.7. The main afteruses proposed for the Site include agricultural fields, species-rich neutral/calcareous grassland, areas of scrub and native woodland with species-rich hedgerows (and hedgerow trees) used to delineate field boundaries.

- 4.2.8. The restoration proposals provide the following:

Land use	Quantity
Native broadleaved woodland	25.5 ha
Conservation species-rich grassland	19.6 ha
Agricultural fields with conservation headlands	65.0 ha
Hedgerows	4944 m
Scrub	2.7 ha
Permanent ponds	1
Ephemeral pools/wet areas	3

- 4.2.9. Public access will be reinstated along the existing route once restoration in that part of the Site is complete.

### **Woodland Planting**

- 4.2.10. The areas to be restored to woodland are indicated on the Proposed Restoration Scheme (Figure R1). Generally, the woodlands and hedgerows have been located to provide suitably sized and shaped fields, following the features of the landform. All woodland planting will follow Forestry Commission guidance (Ref: 26).
- 4.2.11. All areas will be planted in the first available season following reinstatement of the restoration soils to create the restoration landform in that area or, where space is available, in the first available season upon granting of permission.
- 4.2.12. Generally, all planting will be undertaken at an average density of 2,500 plants per hectare, using a combination of 40-60cm transplants and pot-grown stock. All plants will be protected from stock and rabbit grazing, either by individual guards or by protective fencing, depending upon the size and shape of the planting area to be protected. All plants will be planted using pit-planting techniques and ameliorants added to the backfilled soil.
- 4.2.13. There will be a general transition in species planted from those more characteristic of the higher land levels and areas nearest Wakerley Great Wood (where boulder clay predominates at the surface) to those more representative of calcareous substrates in the backfill and lower slopes. The woodland edges will also be planted with a higher percentage of species characteristic of these parts of the woodland.
- 4.2.14. The main areas of the new woodland would comprise an area of lowland broadleaved woodland that would be maintained through low-intensity management to achieve a high forest character in the long term with potential to coppice the understorey. This would help to maintain sufficient under-canopy shade levels to enable the development of a woodland ground flora.
- 4.2.15. The general proposed woodland species to be used across the Site (based around NVC community W8) are shown in the table below. These species are considered to be Site native, occur in the locality and will be sourced from a local provenance supplies (where available).

**Table 8 – Woodland species**

Common Name	Latin Name
Pedunculate oak	<i>Quercus robur</i>
Ash	<i>Fraxinus excelsior</i>
Downy birch	<i>Betula pubescens</i>
Wild service tree	<i>Sorbus torminalis</i>
Hazel	<i>Corylus avellana</i>
Hawthorn	<i>Crataegus monogyna</i>
Midland hawthorn	<i>C. laevigata</i>
Field maple	<i>Acer campestre</i>
Dogwood	<i>Cornus sanguinea</i>
Crab apple	<i>Malus sylvestris</i>
Blackthorn	<i>Prunus spinosa</i>
Small-leaved lime	<i>Tilia cordata</i>
Guelder rose	<i>Viburnum opulus</i>
Wayfaring tree	<i>Viburnum lantana</i>
Wych elm	<i>Ulmus glabra</i>

### **Hedgerows and Scrub**

- 4.2.16. These features will provide structurally varied linear habitats that will also create the potential for species dispersal. They will also provide features of habitat interest in their own right. Hedgerows will be relatively species-rich and will be maintained through low-intensity management to ensure that they develop and retain good habitat structural variety.
- 4.2.17. Generally, all planting will be undertaken in a double-staggered row (set 0.5m apart) with plants distributed 300mm apart along each row. A combination of 40-60cm 1+1 transplants and pot-grown stock will again be used, except for *Quercus robur* (pedunculate oak) and *Fraxinus excelsior* (ash) hedgerow trees, where 100-120cm high stock will be used. It is also proposed that a number of Plot's Elm cuttings be taken from the Laxton area and propagated for introduction as hedgerow trees (as per one of the aims for the Natural Area).
- 4.2.18. All plants will be protected from stock and rabbit grazing, either by individual guards or by protective fencing, depending upon the length and location of the hedge to be protected. All plants will be planted using notch-planting techniques.

- 4.2.19. Conservation headlands and uncultivated/un-cropped field margins of 6-10m width will be created to provide additional habitat for rare arable plants, insects and foraging sites for seed-eating birds.
- 4.2.20. The proposed Site native species to be planted in the hedgerow are shown in the table below and will be sourced from local provenance supplies (where available).

**Table 9 – Hedgerow species**

Common Name	Latin Name
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Midland hawthorn	<i>C. laevigata</i>
Field maple	<i>Acer campestre</i>
Dogwood	<i>Cornus sanguinea</i>
Blackthorn	<i>Prunus spinosa</i>
Wych elm	<i>Ulmus glabra</i>

- 4.2.21. The scrub planting will be undertaken at a random spacing, again using a combination of 40-60cm transplants/rooted cuttings and pot grown plants, as per the woodland areas. In addition to the species indicated above, Grey sallow (*Salix cinerea*), Goat willow (*S. caprea*) and Elder (*Sambucus nigra*) will also be planted.
- 4.2.22. All plants will be protected from stock and rabbit grazing, by either individual guards or stock and rabbit fencing.

**Woodland, Scrub and Hedgerow Maintenance**

- 4.2.23. All planted woodlands, scrublands and hedgerows will be maintained for five years after planting to ensure that:
- Weed-free circles of minimum 1m diameter around each plant (1.5m wide corridors for hedges) are maintained (to reduce the competition from grasses for water and nutrients);
  - The areas do not develop weeds injurious to agriculture;
  - Replacement of failures is undertaken at the start of the next planting season following failure to ensure that a minimum 90% stocking is carried through to the next season; and
  - Formative pruning is undertaken at the appropriate stage of development to ensure a good 'A-shaped' hedge form develops.



### **Grassland Restoration**

- 4.2.24. Both agricultural grassland and species-rich neutral/calcareous grasslands will be established across the Site (as shown on Figure R1).
- 4.2.25. In addition to these areas, wet grassland species will also be established adjacent to the pond and ephemerally wet drainage 'sink' points.
- 4.2.26. All areas will be sown in suitable conditions for seeding and germination during the first available period following reinstatement of the soil-forming materials to create the restoration landform in that area. Suitable conditions for seeding will be taken to mean mild and damp weather when the ground is at most moist but not wet or waterlogged.
- 4.2.27. The soils will be ploughed and power harrowed to a depth of 200mm to create a homogenous well-broken, non-compacted tilth of 50mm down. All cultivations will only be undertaken during dry ground and weather conditions. Failed areas will be re-sown in the next suitable season.

### **Agricultural Grassland**

- 4.2.28. These areas will initially be sown to a dual-purpose (cutting and grazing) medium-term agricultural grass mix. This will be cut at least twice during the first year and thereafter grazed and/or cut, with fertiliser applications made as appropriate in relation to the land management undertaken.
- 4.2.29. During the aftercare period and upon agreement at aftercare meetings the land management will subsequently be tailored to suit the land manager/farmer.
- 4.2.30. 6m wide conservation headlands will be established at the periphery of each field under the Environmental Stewardship (ES) scheme. The composition and management of these areas will be defined by the chosen ES option employed in each field. These are likely to include; field corner management and uncropped cultivated margins as well as conservation headlands."

### **Species-rich Grasslands**

- 4.2.31. The precise seed mix will be derived in response to soil analyses and discussion at aftercare meetings, but will comprise species typical of locally characteristic lowland calcareous and neutral grasslands.
- 4.2.32. Calcareous grasslands will be generally based on National Vegetation Classification (NVC) community CG5: erect brome and tall grass (*Bromus erectus* -*Brachypodium pinnatum*) grassland.

- 4.2.33. Neutral grassland areas (where soil conditions permit) will be based on NVC community MG5: crested dogstail and common knapweed (*Cynosurus cristatus* – *Centaurea nigra*) grassland.
- 4.2.34. Suitable species will also be selected from locally available sources of the plants listed in Appendices 1 and 2 of Northamptonshire County Council's 'Protected Wildflower Verge Site Selection Guidelines' <sup>(Ref 27)</sup>.
- 4.2.35. The calcareous grassland areas would preferentially be maintained via livestock grazing to achieve a sward height of between 2 and 15cm. The neutral grassland areas would preferentially be managed via an annual hay cut followed by aftermath grazing, or low intensity livestock grazing to achieve a sward height of between 5 and 10cm.

#### ***Ephemeral Wet Areas***

- 4.2.36. Principal wet grassland species would include the following:
- *Achillea ptarmica* (Sneezewort)
  - *Filipendula ulmaria* (Meadowsweet)
  - *Hypericum tetrapterum* (Square-stalked St John's Wort)
  - *Lychnis flos-cuculi* (Ragged robin)
  - *Pulicaria dysenterica* (Fleabane)
  - *Vicia cracca* (Tufted Vetch)
  - *Agrostis capillaris* (Common bent)
  - *Alopecurus pratensis* (Meadow foxtail)
  - *Anthoxanthum odoratum* (Sweet vernal-grass)
  - *Iris pseudocorus* (Yellow flag iris)
  - *Cynosurus cristatus* (Crested dogstail)
  - *Deschampsia cespitosa* (Tufted hair-grass)
  - *Festuca rubra* (Red fescue)
- 4.2.37. These areas will be cut to 75mm height one or two times a year (July and September) during the aftercare period.

#### ***Other Features***

- 4.2.38. Agricultural field gates will be installed in the locations identified on the Restoration Masterplan, or as otherwise agreed with the Farm Manager.

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## 5 LANDSCAPE & VISUAL IMPACT ASSESSMENT

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### 5.1. INTRODUCTION

- 5.1.1. The landscape and visual impact assessment for this project was an iterative feedback process that, from an early design stage, was used as a design tool in the formation of the overall development proposals.
- 5.1.2. Options have been examined by Bright & Associates, the EIA team and the Applicant and the potential impacts of each appraised. Using the method described in Section 2, mitigation proposals for the reduction of adverse landscape and visual impacts were analysed, assessed and then incorporated into the final development design. Taking account of key potential effects, particularly visual and noise impacts, the scheme, as proposed, is put forward as the most appropriate.

### 5.2. BASIS OF ASSESSMENT

- 5.2.1. Details of the development proposals are provided in the Planning Application and its associated documents and a summary of the proposals is given in Section 4.1 above. The design and assessment of the development proposals have been undertaken against a baseline of the existing adjacent permitted quarry and the existing landuse and land quality of the Site.
- 5.2.2. The assessment is made against a baseline situation that the 'do nothing scenario' would involve the Site of the proposed development continuing to be used as existing
- 5.2.3. The assumed duration of extraction is as per Table 7, with Restoration taking place within a year of completion of extraction in a given phase.

### 5.3. SOURCES OF IMPACT

5.3.1. The potential new sources of impact from the proposed development are identified in the table below:

**Table 10 – Sources of Impact**

Source of Impact	Visual	Landscape
A Proposed Access Road and vehicles using it	✓	✓
New infrastructure and processing plant	✓	✓
Mineral extraction operations and vehicle movements within Site	✓	
Soil handling operations and soil and overburden mounds	✓	✓
Stockpiles of limestone and exposed mineral within the Site	✓	✓
Changes in landform and landscape elements present and effect on view composition	✓	✓

### 5.4. MITIGATION

5.4.1. The primary and secondary mitigation measures that have been incorporated into the development proposals, upon determination of adverse effects, are listed below in the table below, with reference to the visual or landscape basis, or both.

**Table 11 – Mitigation**

Mitigation	Visual	Landscape
Fix the extraction limit and route of the proposed Proposed Access Road within sensitive ecological parameters to avoid damage to existing woodland and grassland resources and minimise effects on the current landscape structure		✓
Devise phasing and working direction to utilise the screening effects of the existing landform and adjacent woodland from sensitive viewpoints	✓	
Progressive working and restoration of worked areas to minimise the land-take disruption	✓	✓
Locate overburden and soil storage mounds in least visually sensitive locations, grade outer visible slopes to no steeper than 1:4 gradient, set to grass and maintain to suitable standard for amenity and character context	✓	✓
Use of grassed screening bunds, hedgerows and advance planting to restrict views of the operations and Proposed Access Road	✓	✓
Introduction of characteristic patterns of field boundaries and habitats to contribute to biodiversity targets and conserve the landscape characteristics of the locality	✓	✓
Provide a sustainable agricultural landuse for the restored areas whilst accommodating ecological benefit		✓

## 5.5. ZVI AND SCREENING MEASURES

- 5.5.1. The Quarry is very well screened to the south by the existing woodland at Wakerley Great Wood, Long Wood, Short Wood and Greenwood Sale. Wakerley Great Wood has public access within (approximately 249ha) and a perimeter of approximately 9.5 kilometres. Approximately 15% of this perimeter abuts parts of the Site. Views from these lengths of the perimeter would be possible towards the Site, but beyond that, the view of the Site is severely restricted. The area of visually affected woodland (within an average distance of approximately 25m from the edge of the woodland) is approximately 1.5% of the total accessible woodland area.
- 5.5.2. Figure L3 illustrates the theoretical Zone of Visual Influence (ZVI) calculated using 3D OS Profile (landform) data and Key Terrafirma software for:
- Seven surface points spread within the quarry area (assuming no mitigation);
  - The top of Bund 6 (7m high) during Phase 2; and
  - Three points along the Proposed Access Road to the quarry.
- 5.5.3. The calculated ZVI assumes that the main woodland areas in the locality provide effective screening for up to 10m height. It also assumes a 1.8m high eye-level viewpoint.
- 5.5.4. For the quarry and storage mounds themselves, the main areas of visibility are within and southwest of the Site and also on the opposite side of the valley, mainly between 1 and 2 kilometres north of the Site. The theoretical visibility of the Proposed Access Road split by the woodland at Wakerley Oaks and the dismantled railway, such that the northerly section is most visible to the north and northeast and the westerly section is most potentially visible to the northwest
- 5.5.5. Soil storage is required for lengthy periods but storage bunds will have a multi-functional role to provide noise attenuation and help screen views of the Development. Topsoil will be stored no higher/deeper than 3m and subsoil no higher/deeper than 5m. Overburden will be stored in landscaped storage mounds up to 10m high.
- 5.5.6. Storage mounds themselves can have an adverse landscape and visual impact and the majority of soil storage will be within the existing quarry areas where woodland screening is afforded. To help reduce the adverse effects of the bunds the edges will be sculpted to reduce any sharp changes in angle at sensitive locations, from where they could be visible against a skyline or laterally. Outer slope gradients will be kept to shallow gradients to facilitate management and integration into the landscape.

- 5.5.7. The overburden mound located between Long Wood and Wakerley Great Wood will be almost entirely screened from the surrounding landscape and will not be viewed against a skyline and hence the side slopes will be kept relatively steep to maximise the storage capacity of material that would otherwise need to be stored in more visible locations.
- 5.5.8. The northern screening mound, flanking the northern edge of the Quarry, will have between 1:5 and 1:8 outer gradients to facilitate their integration into the farming regime of the adjacent fields and to provide a natural appearance in the landscape.
- 5.5.9. Early planting will be undertaken where land is available and will be unaffected by the operations associated by the Development (see Plan 3).
- 5.5.10. The Proposed Access Road will be sunk into the existing ground levels and the excavated material used to raise the levels on visually sensitive side of the road. New hedgerows and additional woodland planting will also be established. The raised areas will have outward-facing slope gradients of between 1:5 and 1:8 to allow agricultural use. Once established, these mitigation measures will severely restrict the visibility of the Proposed Access Road and vehicles using it (see illustrative cross-section on Plan 3 and cross-section B on Figure L7).
- 5.5.11. A new hedgerow will also be established directly north of Wakerley Great Wood, between the retained farm access track and the new Proposed Access Road. This will provide a physical and visual buffer between the wood and the Proposed Access Road and the Quarry.

## **5.6. PRINCIPAL REPRESENTATIVE VIEWPOINTS**

- 5.6.1. From exploration in the field (e.g. from within adjacent woodland areas) and cross-sectional analysis, sensitive views have been identified, assessed and mitigated where appropriate. Twelve principal representative views have selected from the photographic record, for specific assessment.
- 5.6.2. Although the Site could potentially be visible from greater distances, the maximum distance for consideration of mitigation has been restricted to 3.5 kilometres.
- 5.6.3. A number of cross-sections have been presented to illustrate degrees of visibility/screening from different locations. These and the viewpoints referred to above are illustrated in Figures L4 to L12. Photographs have been taken using a 50mm (35mm camera format equivalent) where within 1 kilometre of the Site and otherwise an 80mm lens has been used.

5.6.4. The representative and illustrative viewpoints are listed in Table 12 below.

**Table 12 – Illustrative and Representative Viewpoints:**

Photograph No.	Location Description	Distance and Direction from the Site Boundary
1	Lane where Proposed Access Road meets its path (Jurassic Way long distance footpath)	Directly northeast of the Quarry
2	Further south along same lane as Viewpoint 1, northeast of Wakerley Great Wood	200m south of Proposed Access Road
3	Footpath PC3 (Jurassic Way)	600m north-northeast of the Quarry
4	Footpath PC2	Directly south of the Quarry
5	From lane east of Wakerley	Directly northwest of the Proposed Access Road
6	Bridleway E296 (Rutland Round long distance footpath)	650m north of the Proposed Access Road
7	From lane east of Barrowden	1.6 kilometres north-northeast of the Quarry
8	From lane northeast of Barrowden near A47	2.4 kilometres north-northeast of the Quarry
9	Back Road, northwest of Barrowden	1.6 kilometres north of the Quarry
10	Lay-by on A47 Peterborough Road	2.1 kilometres north of the Quarry
11	Station Road southwest of Barrowden	1.7 kilometres northwest of the Quarry
12	From lane and long distance footpath (Rutland Lane)	1.5 kilometres west-northwest of the Quarry

## 5.7. ASSESSMENT RESULTS

5.7.1. The landscape assessment draws on the landscape quality and value appraisal provided in sections 3.6 and 3.8, above; namely within an area of varying landscape quality; some areas being of Good quality and others of Ordinary or Poor quality, and in an area of Medium landscape value.

### **Photograph 1 – Lane between the Quarry and Proposed Access Road**

See Figure L4

#### **Existing view:**

- 5.7.2. The view is very self-contained, taking in the edge of Wakerley Great Wood (including an informal parking area, just to the right of the illustrated photograph), the immediate road verges and hedgerows and small areas of the adjacent fields.
- 5.7.3. The view is representative of that of general road users and Jurassic Way long distance footpath users. The visual amenity afforded is low. The visual sensitivity would be **High**.

#### **Proposed Changes:**

- 5.7.4. The main change would be the removal of part of the visible road verge and hedgerow and a visual extension of the road (junction). Usage by haulage vehicles would also be a new visual element. The junction would effectively be a very-long term element in the landscape. A new woodland and hedgerow would fully establish over a period of 7-10 years in the view, either side of the new Proposed Access Road, forming characteristic new visual elements. The magnitude of change would be **Small-Medium** and neutral in terms of visual character.

#### **Final Restoration:**

- 5.7.5. No new residual effect.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 1 – Lane between the Quarry and Proposed Access Road General impression of current visual amenity: <b>Low</b>					
<b>Road and long distance footpath users</b>	Operational Period	High	Small-Medium	Neutral	<b>Minor-Moderate</b> significance
	Upon Restoration	High	Nil	Neutral	<b>Nil</b> significance



## Photograph 2 – Northeast of Wakerley Great Wood

See Figure L4

### Existing view:

- 5.7.6. There are one or two locations where there are gaps in the hedge at the side of the road. The photograph shows one of them providing a view towards the Proposed Access Road. These are not obviously attractive viewpoints. The view provides some amenity value due to the backdrop in the view of the far side of the valley.
- 5.7.7. The view is representative of that of general road users and Jurassic Way long distance footpath users. The visual amenity afforded is medium. The visual sensitivity would be **High**.

### Proposed Changes:

- 5.7.8. The construction of the Proposed Access Road and screening mounds would be a temporary adverse effect of Negligible significance. Upon construction of the Proposed Access Road there will be a period where the proposed hedgerow and trees will be very young and vehicles using the Proposed Access Road will be partially visible.
- 5.7.9. The new woodland and hedgerow would take effect over a period of 7-10 years in the view forming characteristic new visual elements and screening the vehicles using the Proposed Access Road. Over a longer period, the woodland would start to prevent the longer-range views towards the opposite side of the valley. The woodland would be visually linked to adjacent woodland features and produce a visual characteristic associated with the historical wooded character of the area. The magnitude of change would be **Small-Medium** and neutral in terms of visual character.

### Final Restoration:

- 5.7.10. No new residual effect.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 2 – Northeast of Wakerley Great Wood General impression of current visual amenity: <b>Medium</b>					
<b>Road and long distance footpath users</b>	Operational Period	High	Small-Medium	Neutral	<b>Minor-Moderate</b> significance
	Upon Restoration	High	Nil	Neutral	<b>Nil</b> significance

### **Photograph 3 – Footpath PC2**

See Figure L5

#### **Existing view:**

- 5.7.11. The view is representative of public footpath PC3 and the same long distance footpath (Jurassic Way) directly south of Wakerley and near Wakerley Church. The current view is dominated by the upslope view of the agricultural grassland in the foreground, interspersed with hedgerows and recent woodland belt planting and with a backdrop of Wakerley Great Wood, forming the skyline.
- 5.7.12. The view is representative of that of general footpath users and Jurassic Way long distance footpath users. The visual amenity afforded is medium. The visual sensitivity would be **High**.

#### **Proposed Changes:**

- 5.7.13. The only initial change will be the construction and use of the new Proposed Access Road, running along the northern edge of Wakerley Great Wood. The temporary construction operations will be visible, but thereafter the Proposed Access Road will be well screened (see illustrative cross-section on Plan 3). The new hedgerow will be hardly noticeable against the woodland backdrop.
- 5.7.14. Phases 1 and 2 will not be visible from this location. By the time the quarry reaches Phase 3, circa 30 years of growth will have taken place in the new woodland lying between the Quarry and the viewpoint. This will screen the screen mound construction and quarrying activities beyond, during Phases 3-5. Any partial views through the woodland would be screened by the screening mounds (see cross-section A – Figure L5).
- 5.7.15. The woodland would strengthen the effect of the existing woodland element in the scene, without deterioration of view. The magnitude of change would be **Small** and neutral in terms of visual character.

#### **Final Restoration:**

- 5.7.16. No new residual effect.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 3 – Footpath PC3 (Jurassic Way) General impression of current visual amenity: <b>Medium</b>					
<b>Long distance footpath users</b>	Operational Period	High	Small	Neutral	<b>Minor</b> significance
	Upon Restoration	High	Nil	Neutral	<b>Nil</b> significance

### **Photograph 4 – Footpath PC3 (Jurassic Way)**

See Figure L6

#### **Existing view:**

- 5.7.17. The view is representative of the view received by general footpath users at the boundary with Greenwood Sale woodland. The footpath route would be diverted along the southern boundary of the Site upon initiation of works, rather than continue along its current course across the Site.
- 5.7.18. The current view is fairly confined to the immediate area, consisting of unkempt and unmanaged land effectively forming a mosaic of unimproved grassland and scrub, surrounded by mature woodland. Overgrown areas of concrete are visible and give an appearance of degraded visual quality. The visual amenity afforded is low.
- 5.7.19. The view is representative of that of general footpath users. The visual sensitivity would be **Low - Medium**.

#### **Proposed Changes:**

- 5.7.20. During Phase 1, the area would be cleared of vegetation, except at the periphery. The soils and overburden would be stripped and stored in a number of mounds close to the footpath. Bund 5 would be created first to form a 2m high screening mound alongside the footpath, enabling the screening of earthworks at ground level whilst allowing the visual effects of the peripheral woodland to remain (see Photograph 4i).
- 5.7.21. Bund 3 would form a 7m high overburden mound to be sown to calcareous grassland. This would be present until it can be used in the restoration of the Phase 1 area (during the Phase 3 operational period. The formation of this bund would be visible over a temporary duration. The bund is not en route along the footpath, being positioned away from the actual proposed diversion route. The bund will be clearly visible in the right hand portion of the view shown by Photograph 4ii, before removal occurs and the area restored to calcareous grassland.

- 5.7.22. Bund 5 will be retained during Phase 3 whilst Phase 2 is still being restored, before being removed during phase 4. The remainder of operations in Phases 4 and 5 will be out of view. The overall magnitude of effect will be **Medium-Large** and adverse.

**Final Restoration:**

- 5.7.23. An open view of the restored areas will be instated at the end of Phase 3. This will be a beneficial effect with a wider and longer view, with a more varied terrain and numerous landscape features. This will be a permanent effect of **Large-Very Large** Magnitude.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 4 – Footpath PC2 General impression of current visual amenity: <b>Low</b>					
<b>General footpath users</b>	Operational Period	Low - Medium	Medium - Large	Adverse	<b>Minor</b> significance
	Upon Restoration	Low - Medium	Large - Very Large	Beneficial	<b>Moderate - Major</b> significance

**Photograph 5 – From lane east of Wakerley**

See Figure L7

**Existing view:**

- 5.7.24. The view is representative of the view received by general road users using the minor road leading east from Barrowden to the A43 road. The lane links the A43 to the start of the Proposed Access Road and is predominantly bounded by hedgerows. Occasional gaps, including fields access points provide views towards the route of the Proposed Access Road, as far as Wakerley Oaks.
- 5.7.25. The view from this viewpoint takes in, in the foreground, the arable field in which the Proposed Access Road would be located and forms the majority of the view. The view is upslope and bounded at the far end of the field by hedgerows and woodland, near the peak of the slope, with no long distance views beyond. The visual amenity afforded is medium. The visual sensitivity would be **Low**.

**Proposed Changes:**

- 5.7.26. None of the Quarry will be visible from this location. The primary effect on the view will be the Proposed Access Road, with there being a Medium effect during the construction period for a temporary duration (Minor significance). Upon construction, the Proposed Access Road will be screened by the new screen mound, which, upon establishment, will become a part of the field. The haulage vehicles will be partially visible until establishment of the new hedgerow (after approximately 5-7 years).
- 5.7.27. The hedgerow will be a new element in the scene. This will effectively reduce the dominance of the agricultural field in the foreground of the view, but otherwise not affect the composition, visual character or visual amenity present. The overall magnitude of effect will be **Small - Medium**.

**Final Restoration:**

- 5.7.28. No new residual effect.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 5 – From lane east of Wakerley General impression of current visual amenity: <b>Medium</b>					
<b>General road users</b>	Operational Period	Medium	Small - Medium	Neutral	<b>Minor</b> significance
	Upon Restoration	Medium	Nil	Neutral	<b>Nil</b> significance

**Photograph 6 – Bridleway E296 (Rutland Round long distance footpath)**

See Figure L7

**Existing view:**

- 5.7.29. The view is representative of the view received by long distance footpath users (Rutland Round). The route is also a bridleway and runs along an open track along the section from where the photograph was taken, before being flanked by a hedgerow further west.
- 5.7.30. The view has variety in terms of visual elements and a gradual regression into the view, due to the gentle rolling effect of the land, changes in elevation, and includes a number of focal points and an attractive balance of woodland, farmland, hedgerow features and Tixover Church. The visual amenity afforded is High. The visual sensitivity would be **High**.

**Proposed Changes:**

- 5.7.31. None of the Quarry will be visible from this location. The primary effect on the view will be the Proposed Access Road, with there being a Medium effect during the construction period for a temporary duration (Moderate significance). Upon construction, the Proposed Access Road will be screened by the new screen mound, which, upon establishment, will become a part of the field. The haulage vehicles will be visible until establishment of the new hedgerow, after approximately 5-7 years (see Cross-section B).
- 5.7.32. The hedgerow will add a new characteristic visual element into the mid-ground, splitting up a very large field, but otherwise does not adversely affect the composition, visual character or visual amenity present. The overall magnitude of effect will be **Small - Medium**.

**Final Restoration:**

- 5.7.33. No new residual effect.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 6 – Bridleway E296 (Rutland Round long distance footpath) General impression of current visual amenity: <b>High</b>					
<b>General road users</b>	Operational Period	High	Small - Medium	Neutral	<b>Moderate</b> significance
	Upon Restoration	High	Nil	Neutral	<b>Nil</b> significance

**Photograph 7 – From lane east of Barrowden**

See Figure L8

**Existing view:**

- 5.7.34. The view is representative of the view of road users from the northern valley side looking south towards the Quarry and the western part of the Proposed Access Road. The horizon is dominated by Wakerley Great Wood, emphasising the relief and enclosed aspect of the southern valley side. The valley appears heavily wooded and splits the agricultural land on either side of the valley. The view is dependant on the height of the hedgerow in the foreground.
- 5.7.35. The visual amenity afforded is Medium. The visual sensitivity would be **Low**.

**Proposed Changes:**

- 5.7.36. The construction of the proposed access road may be discernible for a temporary period (Negligible significance). The proposed access road itself will not be visible, but vehicles will be partially visible along certain sections (glimpsed views) until the new woodland copse and hedgerows establish. These will further strengthen the backdrop effect of the woodland at Wakerley Great Wood.
- 5.7.37. Operations and the stockpiles in Phases 1-3 will be hardly discernible. The vast majority of quarrying activity will be hidden from view. There will be no loss of existing visual elements.
- 5.7.38. The construction and deconstruction of bunds 7-9 will be visible (temporary duration). The bunds themselves would thereafter take the appearance of the adjacent fields and would fall under the same agricultural management regime. During this period, the existing young woodland belt to the north of the Site would be developing and may partially screen some of Bund 9. The vast majority of the quarrying operations in Phases 4 and 5 would be hidden from view and would only be noticeable due to difference in colour of the surface – no detail would be easily detected. The overall magnitude of effect will be **Small - Medium**.

**Final Restoration:**

- 5.7.39. There will be a slight apparent increase in woodland adjacent to Wakerley Great Wood. The changes in landform would not be apparent from this location. The magnitude of effect will be **Small** and beneficial.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 7 – From lane east of Barrowden General impression of current visual amenity: <b>Medium</b>					
<b>General road users</b>	Operational Period	Low	Small - Medium	Adverse	<b>Minor</b> significance
	Upon Restoration	Low	Small	Beneficial	<b>Negligible</b> significance

### **Photograph 8 – From lane northeast of Barrowden**

See Figure L8

#### **Existing view:**

- 5.7.40. The view is representative of the view of road users from the northern valley side looking south towards the Quarry and the western part of the Proposed Access Road from a higher level and further northeast than Photograph 7, with which the view shares similar characteristics. Photograph 8 however shows more of the northern valley side and meandering nature of the river. Wakerley Church steeple is an obvious focal point.
- 5.7.41. Almost the full horizontal extent of the Site is visible from this location.
- 5.7.42. The visual amenity afforded is Medium-High. The visual sensitivity would be **Low**.

#### **Proposed Changes:**

- 5.7.43. The construction of the proposed access road may be discernible for a temporary period, especially along the northern section (Minor significance). The proposed access road itself will not be visible, but vehicles will be partially visible along certain sections (glimpsed views) until the new woodland copse and hedgerows establish. These will further strengthen the backdrop effect of the woodland near Wakerley Great Wood and otherwise add a new characteristic visual element into the view.
- 5.7.44. Operations and the stockpiles in Phases 1-3 will be hardly discernible, although excavators working at the top of bunds 4 and 6 may be just visible against the skyline in the distance. This would be for a temporary duration. The vast majority of quarrying activity will be hidden from view. There will be no loss of existing visual elements.
- 5.7.45. The construction and deconstruction of bunds 7-9 will be visible (temporary duration). The bunds themselves would thereafter take the appearance of the adjacent fields and would fall under the same agricultural management regime, but would be noticeable. The vast majority of the quarrying operations in Phases 4 and 5 would be hidden from view, although surface working would be visible in part beyond the screening bunds. No detail would be easily detected. The overall magnitude of effect will be **Small - Medium**.

#### **Final Restoration:**

- 5.7.46. There will be a slight apparent increase in woodland adjacent to Wakerley Great Wood – a characteristic and positive effect. The changes in landform would not be apparent from this location. The magnitude of effect will be **Small** and beneficial.



Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 8 – From lane northeast of Barrowden General impression of current visual amenity: <b>Medium - High</b>					
<b>General road users</b>	Operational Period	Low	Small - Medium	Adverse	<b>Minor</b> significance
	Upon Restoration	Low	Small	Beneficial	<b>Negligible</b> significance

### **Photograph 9 – Back Road, northwest of Barrowden**

See Figure L9 and L10

#### **Existing view:**

- 5.7.47. The view is representative of the view of local road users and residents looking towards from the northern valley side looking south towards the Quarry. The view is largely comprised buildings and trees associated with Barrowden village in the foreground. The background is comprised of the upslope of the valley side (with agricultural grassland and hedgerows) culminating with Wakerley Great Wood at the top of the valley.
- 5.7.48. Almost the full horizontal extent of the Site is visible from this location, although the relatively low viewpoints provide a largely oblique view of the Site, across the relatively flat surface. The western edge of the Proposed Access Road location is visible from this location.
- 5.7.49. The visual amenity afforded is Medium. The visual sensitivity would be **High**.

#### **Proposed Changes:**

- 5.7.50. The Proposed Access Road will be set low and so the relatively horizontal view towards the route prevents open views on the route. Only partial, glimpsed views of vehicles using the route would be possible. Once the hedgerows and copse has established, the vehicles will be well screened from view.
- 5.7.51. The stockpiles and bunds in Phases 1 and 2 will be discernible but will fall against a backdrop of woodland and so will not break the skyline and detail will not be easy to detect. The formation of Bunds 7-9 will be clearly visible, although this will be for a temporary duration, and once established with grassland, will not be a noticeable element in the landscape, as it will be largely viewed face-on. The northern woodland belt will be established enough to partially screen Bund 9. The screen bunds will wholly screen the working beyond them (see Cross-section D).

5.7.52. The overall magnitude of effect will be **Small - Medium**.

**Final Restoration:**

5.7.53. There will be a slight apparent increase in woodland adjacent to Wakerley Great Wood – a characteristic and positive effect. The changes in landform would not be apparent from this location. The magnitude of effect will be **Small** and beneficial.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 9 – Back Road, northwest of Barrowden General impression of current visual amenity: <b>Medium - High</b>					
<b>General road users</b>	Operational Period	High	Small - Medium	Adverse	<b>Moderate</b> significance
	Upon Restoration	High	Small	Beneficial	<b>Minor</b> significance

**Photograph 10 – Lay-by on A47 Peterborough Road**

See Figure L9 and L10

**Existing view:**

5.7.54. The view is representative of the view of main road users and road users stopped at a lay-by on the A47 Peterborough Road. The view is from a highpoint of the northern valley side, looking towards the southern valley side and the Site. The view takes in the whole extent of the Site.

5.7.55. The view is largely comprised of the foreground and distant views of the woodland-agricultural landscape on the southern valley side, although the buildings at Wakerley and the church spires at Wakerley and Barrowden are notable focal points.

5.7.56. The visual amenity afforded is Medium. The visual sensitivity would be **Low**.

**Proposed Changes:**

5.7.57. The distance from the Site makes detail difficult to be differentiate. Moving vehicles would provide more opportunity for being noticed, but this would form a minor element of the view. Only partial, glimpsed views of vehicles using the route would be possible. Once the hedgerows and copse has established, the vehicles will be well screened from view.

5.7.58. The stockpiles and bunds in Phases 1 and 2 will be barely discernible, will fall against a backdrop of woodland and so will not break the skyline. The formation of Bunds 7-9 will be visible, although this will be for a temporary duration, and once established with grassland, will not be a noticeable element in the landscape, as it will be largely viewed face-on. The screen bunds will screen much of the working beyond them (see Cross-sections C and D) although a small section of the uppermost and southerly working would be visible. This would be a very small proportion of the view and the detail difficult to determine.

5.7.59. The overall magnitude of effect will be **Small**.

**Final Restoration:**

5.7.60. There will be an apparent increase in woodland adjacent to Wakerley Great Wood, Long Wood and Greenwood Sale – a characteristic and positive effect. The changes in landform would not be apparent from this location. The magnitude of effect will be **Very Small** and beneficial.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 10 – Lay-by on A47 Peterborough Road General impression of current visual amenity: <b>Medium</b>					
<b>General road users</b>	Operational Period	Low	Small	Adverse	<b>Minor</b> significance
	Upon Restoration	Low	Very Small	Beneficial	<b>Negligible</b> significance

**Photograph 11 – Station Road southwest of Barrowden**

See Figure L11

**Existing view:**

5.7.61. The view is representative of the view of local road users and possibly from first floor viewpoints at Redhill Lodge and Redhill Farm. The view is lower than the main surface levels on Site. The view takes in the whole horizontal extent of the Quarry area, but the Proposed Access Road is virtually indistinguishable from the surrounding landscape elements.

5.7.62. Wakerley Church is, again, an important focal point. The view composition is comprised of the agricultural land in the foreground and mid-ground (with large fields bound with hedgerows) and a backdrop of woodland.

5.7.63. The visual amenity afforded is Medium. The visual sensitivity would be **Medium**.

**Proposed Changes:**

5.7.64. The distance from the Site makes detail difficult to detect and haulage vehicles moving through the Site would be largely unseen. Work in Phases 1 and 2 would be screened from view. Construction of Bunds 4 and 6 may just be discernible. Bunds 7-9 will be visible during construction, although once established with grass, they will not be easy to differentiate. No elements will be lost from the view.

5.7.65. The view of quarrying activity would be limited to a narrow band of visibility during surface working in Phases 3-5 (see Cross-section E). This will form a very small proportion of the view and the detail of what is been viewed will not be readily appreciable.

5.7.66. The overall magnitude of effect will be **Small**.

**Final Restoration:**

5.7.67. There will be a slight apparent increase in woodland adjacent to Wakerley Great Wood, Long Wood and Greenwood Sale – a characteristic and positive effect. The changes in landform would not be apparent from this location. The magnitude of effect will be **Very Small** and beneficial.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 11 – Station Road southwest of Barrowden General impression of current visual amenity: <b>Medium</b>					
<b>General road users</b>	Operational Period	Medium	Small	Adverse	<b>Minor</b> significance
	Upon Restoration	Medium	Very Small	Beneficial	<b>Negligible</b> significance

**Photograph 12 – From lane and long distance footpath (Rutland Lane)**

See Figure L12

**Existing view:**

5.7.68. The view is representative of the view of local road users and of users of the Rutland Round long distance footpath. The view takes in the interlocking spurs of the meandering valley, with progressive gradual interest from the foreground, to the mid-ground and to the distant background. Wakerley Great Wood provides the skyline feature.

- 5.7.69. The view of the Site is distant and horizontally aligned to the surface of the Quarry. The Proposed Access Road is not visible from this location. The visual amenity afforded is Medium. The visual sensitivity would be **High**.

**Proposed Changes:**

- 5.7.70. The distance from the Site makes detail difficult to determine. None of the elements of the proposals would be immediately obvious or even easy to see from this location. The bunds would not break the skyline.
- 5.7.71. The surface-level quarrying would theoretically be visible over the bund, but in reality, this would be distinguishable from the other landscape elements present. The overall magnitude of effect will be **Very Small**.

**Final Restoration:**

- 5.7.72. There will be a very slight apparent increase in woodland adjacent to Wakerley Great Wood, Long Wood and Greenwood Sale – a characteristic and positive effect. The changes in landform would not be apparent from this location. The magnitude of effect will be **Very Small** and neutral.

Receptor Type	Assessment Aspect	Sensitivity level	Magnitude of change	Nature of Effect	Significance of impact
Photograph 12 – From lane and long distance footpath (Rutland Lane) General impression of current visual amenity: <b>Medium</b>					
<b>General road users</b>	Operational Period	High	Very Small	Adverse	<b>Minor</b> significance
	Upon Restoration	High	Very Small	Neutral	<b>Negligible</b> significance

## 5.8. EFFECTS ON SITE LANDSCAPE CHARACTER

- 5.8.1. Using the terminology in 2.4.2, the Site is of **Medium** landscape sensitivity having a number of elements/characteristics that are susceptible to change but with scope to replace these elements without adversely affecting the character. The Proposed Development boundary has sought to avoid effects on higher valued parts of the landscape and ecological resource.
- 5.8.2. During the operational period, as with most quarrying development, there will be a gradual removal of surface elements, including areas of agricultural and scrub grassland, and the old airfield and the existing landform.

- 5.8.3. The quarry and bunds would be incongruous elements in this landscape for periods ranging from short-term to long-term periods individually and for a very long-term period overall.
- 5.8.4. The degree of change during the operational period is limited to a degree by the progressive working and restoration of the Site. The magnitude of effects on the Site itself would be **Large** and adverse. The overall significance of this for the Site itself, during the operational period only would be **Moderate - Major**. This is normal and impossible to avoid for quarry development in a landscape of this sensitivity and is offset in a small way by characteristic native woodland planting undertaken at the start of the development. The effects on the wider landscape have been demonstrated, above, to be limited to an acceptable level.
- 5.8.5. The restoration scheme for the Site will introduce a number of characteristic features such as undulating landform and large-sized fields and will also include:

Land use	Quantity
Native broadleaved woodland	25.5 ha
Conservation species-rich grassland	19.6 ha
Agricultural fields with conservation headlands	65.0 ha
Hedgerows	4944 m
Scrub	2.7 ha
Permanent ponds	1
Ephemeral pools/wet areas	3

- 5.8.6. These features have been derived from the various character assessments and biodiversity guidelines for the area and the ecology assessment undertaken for the Site, contributing to biodiversity and land-use management targets, in the very long-term.
- 5.8.7. The effects on the landscape character within the Site upon establishment of the restoration elements would be of **Medium-Large** magnitude and beneficial. This is of **Moderate** significance.

## **5.9. CUMULATIVE IMPACT**

- 5.9.1. There are no significant sequential views of quarries in relation to the Proposed Development at Wakerley Quarry. There are no views of the Proposed Development in relation to other working quarries – i.e. there is no cumulative effect of more than one quarry within the same view.
- 5.9.2. Although recognised as an incongruous element in the character area, the quarrying activity is very much an established part of the local character. Previous working close to the Site has long since finished and cumulative effects of sequentially worked areas will be of Negligible significance.

## **5.10. CONCLUSION AND SUMMARY**

- 5.10.1. The highest adverse visual and landscape impact is of Moderate significance, although most adverse impacts are limited to Minor or Minor-Moderate significance. Close-range viewpoints, adjacent to the Site will have improved views of the Site upon restoration – the highest beneficial effect will be of Major significance.
- 5.10.2. Overall, the proposed development has a number of adverse impacts during particular phases of the operational period, which have been mitigated to a significant degree, with permanent beneficial effects upon restoration.
- 5.10.3. The proposals comply substantially with the Development Plan policies relating to the Site and the restoration scheme usefully contributes to biodiversity targets for the area. The adverse landscape effects during the operational period are of Moderate-Major significance and the beneficial landscape effects upon restoration are of Moderate significance.
- 5.10.4. It has been demonstrated that the proposed scheme is capable of being delivered in an environmentally acceptable manner by the application of the proposed mitigation and industry best practice.