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## **7.0 LANDSCAPE AND VISUAL IMPACT**

### **7.1 Introduction**

- 7.1.1 This chapter considers the potential landscape and visual impacts of the proposed Sleaford REP development.
- 7.1.2 The assessment process has been based on published guidelines provided in 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA), published by the Landscape Institute and Institute of Environmental Management and Assessment in 1995 and updated in 2002.
- 7.1.3 Landscape and visual assessments are separate, although linked procedures. The landscape baseline, its analysis and the assessment of landscape effects all contribute to the baseline for visual assessment studies. The assessment of the potential effect on the landscape is carried out as an effect on an environmental resource, i.e. the landscape. Visual effects are assessed as one of the interrelated effects on population (GLVIA, 2002).
- 7.1.4 Landscape effects derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced. This may in turn affect the perceived value ascribed to the landscape. The description and analysis of effects on a landscape resource relies on the adoption of certain basic principles about the positive (or beneficial) and negative (or adverse) effects of change in the landscape. Due to the inherently dynamic nature of the landscape, change arising from a development may not necessarily be significant (GLVIA, 2002).
- 7.1.5 Visual effects relate to the changes that arise in the composition of available views as a result of changes to the landscape, to people's response to the changes, and to the overall effects with respect to visual amenity (GLVIA, 2002).
- 7.1.6 The assessment has involved desk study, field survey and analysis. The following approach has been followed:

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- desk study was undertaken to understand the landscape context.
  - field study was then carried out to confirm the findings of desk studies and identify visual receptors.
  - the potential effects brought about by the proposal upon landscape quality and upon visual receptors have been identified.
  - an assessment has been made of the magnitude of these potential effects.

The full landscape and visual assessment methodology followed in this assessment is set out in Appendix 7.1

## **7.2 Baseline Environment - Landscape**

### ***Landscape Context – Overview***

- 7.2.1 The proposed development site is located on agricultural land approximately 1.5 km east of Sleaford town centre. The site is separated from the town by a railway line which runs on an embankment. The A17 trunk road passes the site at a distance of approximately 400m north east of the site

### ***Existing Landscape Character Assessments***

- 7.2.2 The proposed development site is located within Character Area 47 (Southern Lincolnshire Edge) of the character map of England volume 4 published in 1998 by the Countryside Commission (now Natural England). Both the Lincolnshire Structure Plan and the North Kesteven Revised Deposit Draft Local Plan rely heavily upon this as a primary source document for landscape character. The Revised Deposit Draft Local Plan does however subdivide the Southern Lincolnshire Edge character area into two sub-areas which reflect a large scale scarp and dip feature. The proposal site is located within the Dip slope character area, with the Lincoln cliff character area located some 13km to the west.
- 7.2.3 A more detailed landscape assessment of North Kesteven District was published in August 2007. The site falls within the 'Central Claylands and Gravels' sub area of the 'Central Plateau' Regional landscape character type.

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Key characteristics of this extensive sub type, which extends in a north-south belt across the whole district include:

- A gently undulating lowland, edged by areas of woodland in the north.
- Fields are generally smaller and more varied in shape than on the adjacent limestone plateau with some grazing land as well as arable.
- Surface water drains into small streams running from west to east and drainage ditches run by the sides of the fields.
- Well kept hedgerows along roadsides and sometimes between fields.
- Dark brown coloured soil.
- Small copses of broadleaved woodland throughout the sub-area and larger areas of woodland on the eastern edge.

7.2.4 Increased hedgerow and tree planting are identified as a principle opportunity for landscape enhancement.

#### ***Site Description***

7.2.5 The proposed development site consists of arable fields immediately to the north of Boston Road, an east west route linking Sleaford to the A17 and the village of Kirby la Thorpe. The site is set lower than the road and there is a low and very gappy mature hedgerow running at the edge of the road embankment. A single mature ivy covered ash tree is also situated on this southern site boundary. To the east of the site is a small mature copse which becomes a narrow tall hedgerow further to the north. To the north and west, there are some remnant gappy hedgerows, although many field boundaries lack visual boundary features, being marked simply by a change in crop or in some cases by ditches and post and wire fences.

7.2.6 Beyond the site boundary, arable agricultural land extends in all directions. Whilst most fields have little in the way of boundary definition, there are a number of tall, imposing and rather incongruous conifer hedges. To the north east, as previously stated, is the A17 Sleaford by-pass, which approaches the site from the west at grade but then enters a cutting. To the west there is a railway embankment which demarcates the edge of the urban area of Sleaford. Established vegetation, on and alongside the alignment of this structure, including tall poplar trees make this is a prominent local landscape

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feature. Immediately east of the railway embankment and north of Boston Road is Eslaforde Park, the home of Sleaford Town Football Club. This recent development consists of football pitches with floodlights, a clubhouse, car parking and close boarded boundary fencing. Other features of the locality include large pylons supporting overhead power lines. To the south west of the site a brick built complex of tall buildings and a chimney, known as The Maltings, are a prominent skyline feature

### ***Landscape Designations***

7.2.7 The proposed development is located in an area which is not subject to any landscape designations.

### ***Local Landscape Character***

7.2.8 Other than the distinct contrast between the urban area of Sleaford and its rural surroundings, the landscape surrounding the site is not considered to be sufficiently diversified to justify sub-division into discreet character areas for the purposes of this assessment. As such, impacts upon landscape character will be assessed in later paragraphs in relation to the totality of the landscape setting. The landscape character of the local area is described in the following paragraphs.

7.2.9 The defining characteristics of local landscape character are:

- a low lying, flat to gently undulating landscape of medium to large scale arable fields;
- an irregularly rectilinear field pattern, with a generally very low frequency of hedgerows, hedgerow trees and other conventional field boundaries;
- occasional and somewhat incongruous very tall hedgerows and shelter belts composed of non-native conifers and hybrid poplars;
- small scattered woodland plantations, generally rectilinear in form;
- settlement consists of nucleated villages and isolated farmsteads;
- there are some localised fragments of historic Parkland style landscape with ridge and furrow marks, associated with long established estates (e.g. Asgarby Hall, Aswarby Estate)

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- a localised concentration of linear transport routes (road and rail) creates a significant degree of fragmentation of the landscape local to the site, with embankments and cuttings relatively prominent topographical features which are given further emphasis by associated vegetation cover;
  - high voltage power cables and tall pylons are also both frequent and prominent.

### ***Quality***

7.2.10 Whilst this is a landscape that contains some isolated fragments of intact and locally distinctive character – notably at the cores of some of the villages and where there are remnants of traditional estates, there has generally been substantial alteration to and degradation of landscape character. This is attributable to modern agricultural practices (field enlargement / hedgerow removal etc.) as well as to the introduction of power and transport infrastructure. Tall linear hedgerows and shelterbelts of non-native species are particularly incongruous. The introduction of the floodlit football facilities at Eslaforde Park adds a distinctly suburban element and as such the landscape immediately west of Sleaford and east of the A17 could certainly be said to be taking on ‘urban fringe’ characteristics. In addition, this landscape offers little variation in topography and is considered to be bland. On this basis the area has been assessed as possessing low landscape quality.

## **7.3 Baseline Environment – Visual**

### ***Visual Context***

7.3.1 The generally open, flat to gently undulating nature of this landscape means that long distance vistas can be experienced but also that local topography and vegetation cover can be particularly effective in screening views.

### ***Zone of Visual Influence***

7.3.2 The zone of visual influence (ZVI) describes the area from within which a site or development is connected to its surroundings by virtue of intervisibility. The extent of the ZVI is determined by the presence or otherwise of areas of

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screening (provided in the main by topography, buildings and vegetation) that occur between the proposed development and the places in the surrounding landscape from which people have views. The extent of visual influence is also determined by the relative height of the structures.

- 7.3.3 A predicted ZVI is illustrated on Figure 7.1. It will be noted that the predicted visibility of the development has been presented to distinguish between two zones. The first shows areas where any part of the development including the lower level structures are likely to be visible and the second shows areas where only the uppermost parts of the taller elements of the development (these being the stack and to a lesser extent the boiler house) are likely to be visible. Within this latter zone, a distinction has been made between built up areas, where buildings and other structures would substantially reduce the availability of views, and more open areas from which views are more likely to be available.
- 7.3.4 As would be expected, the main architectural massing of the development, which would be less than 20m above ground level (the most substantial buildings on the site, namely the straw barns, have a maximum height at the ridges of 15.3m) , would be visible from a relatively small area, with visibility limited by relatively small scale topographic variations and the presence of vegetation.
- 7.3.5 The zone of visual influence of the upper parts of the stack (60m above ground level) and boiler house (c.29m above ground level) would in contrast be widespread, as would be reasonably expected for any tall solid structure standing in a relatively flat lowland landscape. There will be vantage points at several kilometres distance in most directions from which at least the upper parts of the stack would be visible in clear weather conditions. Within the built up areas of Sleaford and some of the larger villages, the presence of intervening layers of buildings and other tall structures including vegetation mean that the stack (and thus the plant as a whole) would not be visible from the majority of the area, with views restricted to where gaps between structures are aligned with line of sight to the plant. This is reflected by use of a different colour shading on the ZVI. Exceptions to this would be views from the upper storey windows of taller buildings (more than two storeys), although these are not frequently occurring.

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### *Visual Influence of the Stack Emissions Plume*

- 7.3.6 In common with the stack itself, the emissions plume above it would have a widespread visual influence due its high degree of elevation within a relatively flat landscape. When visible, emissions plumes vary greatly in their visual characteristics in response to the ambient weather conditions (air temperature, wind speed, humidity. Unlike the stack however, the plume is not solid and since it is composed primarily of water vapour, often has characteristics in common with its setting i.e. on a cloudy day it will tend to blend in with the background.
- 7.3.7 A plume visibility assessment undertaken as part of the air quality modelling exercise (refer Chapter 11) reveals the following:
- a plume would be visible for less than 50% of the time;
  - the average visible plume length would be around 50m;
  - the visible plume would be less than 60m for around 70% of the time
  - the visible plume would exceed 125 metres for only around 3.2% of the time, which equates approximately to the distance from the stack to the site boundary in the prevailing wind direction. The plume would, therefore, rarely pass beyond the site boundary.

### ***Visual Receptors***

- 7.3.8 Visual impact relates to the changes that the development would have upon views experienced by the public. Visual receptors are the locations from which people could experience views of a development. The types of visual receptor that would potentially be affected by this development include residential property in surrounding areas, public footpaths, the local transport network and places of work, leisure or education. The basis upon which relative sensitivity of the various categories of visual receptor is determined is set out in Appendix 7.1. Visual receptors in the landscape surrounding the proposed development and their interaction or otherwise with the development site are summarised below:

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### *Residential Property*

- 7.3.9 The main concentration of residential property lies within Sleaford. Most of these properties are visually separated from the proposal site by a vegetated railway embankment which defines the eastern edge of the settlement. The main exception is a terrace of four properties which are located on Boston Road immediately east of the railway. It is possible that properties further west within Sleaford could enjoy views beyond the railway embankment from upper storey windows, though it is not considered that many properties fall into this category.
- 7.3.10 The village of Kirkby la Thorpe lies due east of the proposal site. The village is physically split into two by the A17 and an associated grade separated junction. Clear views are possible towards the development site from the rear elevations of properties on the west side of Mount Lane and from the front elevations of three properties on Church Lane towards the north of the village where there is a gap in the development frontage. The remainder of properties have no views or at least very limited views from upper storeys towards the development site by virtue of their orientation and/or intervening buildings and vegetation.
- 7.3.11 The village of Evedon occupies a low ridge approximately 1.5km to the north of the proposal site. A number of properties, including some large recent new build properties, face south and have clear views towards the site. Properties further east and north within the village have less direct views.
- 7.3.12 The village of Ewerby lies some three kilometres to the north east of the site. The orientation of the village and presence of mature vegetation at its periphery are such that clear views towards the proposed development are considered unlikely.
- 7.3.13 In addition to the settlements referenced above there are two farms in the vicinity of the proposal site. These are Bones Farm, approximately a kilometre to the south east and Manor Farm which lies due north of the site. Detailed analysis of the orientation of these properties and whether or not localised screening garden vegetation exists has not been undertaken, but it is likely that both could enjoy clear views towards the site.

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### *Public Footpaths / Cycle Routes*

- 7.3.14 There is a relatively low density of footpaths in the rural area surrounding Sleaford as illustrated on Figure 7.1. None of these paths are national or regional in status or form part of a long distance trail. There are no National Cycle Network routes in the Sleaford area. The Sleaford Cycle Trail is an on road circular route east of Sleaford which includes Boston Road and thus passes the site frontage. In the immediate vicinity of the proposal site (i.e. between the A17 and the railway embankment) there is just one footpath, number 138. The attractiveness of this route is greatly diminished by its crossing of the busy and fast A17 at grade. The other footpath shown close to the site on Figure 7.1 is number 238. It is understood that this path has recently been extinguished to make way for development of the Eslaforde Park football facility.

### *Local Transport Network*

- 7.3.15 Roads passing close to the site are the A17 dual carriageway to the north and east from which views are limited by a shallow cutting; and Boston Road which runs east-west immediately to the south and from where the proposed development would gain access. Clear and very close views would be possible from the latter. Only distant views would be experienced from the wider network of minor roads
- 7.3.16 As referenced several times in the description of the surrounding landscape, there is a railway to the west of the site, at the edge of Sleaford. There is another rail line to the south of the site at a distance of approximately 750m. It is likely that passengers on trains on both these routes will experience views of the proposal site.

### *Places of Work, Leisure and Education*

- 7.3.17 The workers most likely to be exposed to views of the proposed development (other than professional drivers) are those employed in agricultural work in the surrounding fields. All of the main employment sites and educational institutions in Sleaford are located to the west of the railway line and as such are unlikely to experience clear views of the site. Cogglesford Water Mill is

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one of the few leisure attractions in the area. Again, this site is located west of the railway embankment and as such is unlikely to experience views of the development.

### ***Visual Assessment Approach***

7.3.18 The approach has been to identify a number of representative receptors to form the basis of the assessment. Photographs have been taken from each of these receptors to illustrate the types of views available. Figure 7.1 shows the locations of the receptor viewpoints. Photographs from these locations looking towards the proposal site are presented on Figures 7.2 to 7.6. In addition, seven sets of photomontages have been prepared, which provide a computer generated image of the development. The viewpoint location for the photomontages is shown on Figure 7.7, with the before and after views shown on Figures 7.8 – 7.14 inclusive. The individual photomontages are also referenced in Table 7.1 in respect of visual effects at identified receptors. The receptors are described and categorised in terms of their sensitivity as follows:

#### *VR1 Residential Property in Kirkby la Thorpe*

7.3.19 This receptor is one of three south west facing properties at the northern edge of Kirkby la Thorpe that enjoy relatively uninterrupted views across farmland and the A17 trunk road towards Sleaford. This receptor is categorised by the methodology adopted as being high sensitivity, on the basis that the curtilage and principle facades of the property faces towards the proposed development site. It should be noted that other properties within the village are likely, in many cases to be lower in sensitivity by virtue of being orientated in such a way as to only allow oblique views (or no views) towards the development. However, in the absence of detailed analysis of each property it will be assumed that all are high sensitivity.

#### *VR2 Church Carpark in Evedon*

7.3.20 This receptor is located at the western edge of the village of Evedon, which occupies slightly elevated ground and enjoys relatively uninterrupted views across farmland and the A17 trunk road towards the proposal site. This receptor is categorised by the methodology adopted as being medium to high

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sensitivity, on the basis that the church is locally important as a cultural / historic component of the landscape.

*VR3 Residential Properties East of Boston Road Bridge*

- 7.3.21 This receptor is a terrace of four north facing properties located on Boston Road immediately east of the railway line that marks the edge of Sleaford. The properties face the Eslaforde Park football facilities and only experience oblique views towards the proposal site. This receptor is categorised by the methodology adopted as being medium sensitivity, on the basis that views from the properties towards the proposed development site are not direct.

*VR4 Footpath 138/1/1*

- 7.3.22 This receptor is a footpath which runs from the edge of Sleaford to the A17 dual carriageway (and beyond) and which passes to the north of the site boundary at a distance of approximately 200 to 300metres. The development site is visible beyond arable fields in views oblique and/or perpendicular to the direction of travel. This receptor is categorised by the methodology adopted as being medium sensitivity, on the basis that it is a local rather than strategic path.

*VR5 Footpath 74/2/2*

- 7.3.23 This receptor is a footpath running generally north to south across a rural arable landscape to the south of the proposal site. The photograph presented on Figure 7.4 was taken from a position approximately 3km from the site. The development site is screened from view by intervening topography and vegetation. This receptor is categorised by the methodology adopted as being medium sensitivity, on the basis that it is a local rather than strategic path.

*VR6 Footpath 383/15/3*

- 7.3.24 This receptor is a footpath running generally north east to south west along the bank of the River Sleas. The photograph presented on Figure 7.4 was taken from close to the crossing of the river by the railway. The development site is visible beyond arable fields in views oblique and/or perpendicular to the

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direction of travel. This receptor is categorised by the methodology adopted as being medium sensitivity, on the basis that it is a local rather than strategic path.

*VR7 Eslaforde Park (Sleaford Town FC)*

- 7.3.25 This receptor is a recently completed recreational facility located to the east of Sleaford and due west of the proposal site. The development site is clearly visible from this facility. This receptor is categorised by the methodology adopted as being low sensitivity, on the basis that users of the facility will be primarily focused on watching or engaging in sport (as spectators or participants respectively) rather than looking at the view.

*VR8 Public open space east of Cogglesford Water Mill / west of the railway embankment*

- 7.3.26 This receptor is a triangular, low key area of public open space west of the railway embankment. The area is close to Cogglesford Water Mill and is well used, with a number of informal dog walkers paths criss-crossing the area. The development site is not visible from this area due to screening provided by the railway embankment and associated vegetation. This receptor is categorised by the methodology adopted as being medium sensitivity, on the basis that it is a local rather than strategic open space.

*VR9 Road Users on the A17*

- 7.3.27 This receptor is a dual carriageway which passes to the west and north of the site boundary at a distance of between 300 to 1000metres. The development site is only visible beyond arable fields in views from part of the route – more or less due west of the site due to the fact that for the majority of its length the road is in cutting. This receptor is categorised by the methodology adopted as being low sensitivity, on the basis that drivers and passengers in vehicles are not closely engaged in the landscape and due to the transient nature of views at speed. The view presented on Figure 7.6 is taken from the over-bridge at Kirkby la Thorpe, from which a much clearer view of the site is possible than is experienced from the road itself.

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## VR10 Road users on Gorse Lane

7.3.28 This receptor is a quiet lane east of the village of Silk Willoughby. The photograph presented at Figure 7.6 was taken from a point approximately 3.5km south-south west of the site. The development site is not visible from this lane due to intervening screening elements including the vegetated railway embankments at Sleaford South junction. This receptor is categorised by the methodology adopted as being low sensitivity, on the basis that drivers and passengers in vehicles are not closely engaged in the landscape and due to the transient nature of views at speed. Pedestrians and cyclists using this route would however be classed as medium sensitivity.

## 7.4 The Development Proposal

7.4.1 The proposed development is fully described in Section 5.0 of this document. Seven sets of photomontage visualisations of the proposals are presented in this document. These visualisations are presented in the accompanying figures, as summarised in the following table.

Figure 7.7	Photomontage Viewpoint Location
Figure 7.8a	Existing View from the West (View A)
Figure 7.8b	Proposed View from the West (View A) year 1
Figure 7.8c	Proposed View from the West (View A) year 10
Figure 7.9a	Existing View from the East (View B)
Figure 7.9b	Proposed View from the East (View B) year 1
Figure 7.9c	Proposed View from the East (View B) year 10
Figure 7.10a	Existing View from Kirkby La Thorpe (View C)
Figure 7.10b	Proposed View from Kirkby La Thorpe (View C) year 1
Figure 7.10c	Proposed View from Kirkby La Thorpe (View C) year 10
Figure 7.11a	Existing View from Evedon (View D)
Figure 7.11b	Proposed View from Evedon (View D)
Figure 7.12a	Existing View from Footpath 383/15/3 – West of Railway (View E)
Figure 7.12b	Proposed View from Footpath 383/15/3 – West of Railway (View E)
Figure 7.13a	Existing View from Footpath 383/15/3 – East of Railway (View F)
Figure 7.13b	Proposed View from Footpath 383/15/3 – East of Railway (View F) year 1
Figure 7.13c	Proposed View from Footpath 383/15/3 – East of Railway (View F) year 10
Figure 7.14a	Existing View from Footpath 74/2/2 (View G)
Figure 7.14b	Proposed View from Footpath 74/2/2 (View G)

As the table shows, the photomontages are presented in sets: where on-site and off-site planting and landscaping will vary views over time, three views are presented (existing, year 1 of operation and year 10 of operation); where planting and landscaping will not vary views over time then the only

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visualisations presented are for before and after the proposals are implemented.

### ***Nature of Effects***

7.4.2 The construction, operational and decommissioning phases of the proposed development would have different effects on different parts of the landscape and visual resource of the study area and for differing durations. The principal effects are discussed below:

#### *Construction Phase*

7.4.3 The construction phase would introduce changes to the appearance of the site attributable to visible construction elements required to build the development including:

- contractor's plant and machinery,
- earthworks to create a sound formation for the buildings and create perimeter bunding,
- HGV and other vehicle movements to deliver personnel, materials and components; and,
- a fenced site compound with portable administrative and welfare buildings.

#### *Operational Phase*

7.4.4 Once completed and commissioned, the physical structure of the new facilities would introduce the following effects of relevance to the landscape and visual assessment:

- new buildings and ancillary structures including a tall chimney stack would occupy space in the landscape which is currently lacking in any vertical features;
- HGV and other vehicle movements to deliver personnel, deliver fuel (straw/timber) and remove residual material (ash);
- an emissions plume of variable extent and form would be visible above the stack for part of the time;

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- significant new areas of woodland and scrub planting on raised bunds would be visible within the site perimeter; and
  - off-site woodland planting would be introduced at five locations in the surrounding landscape.

#### *Landscape Scheme*

7.4.5 The landscape proposals have been designed principally to provide mitigation of two aspects. The scheme would firstly mitigate visual impact through screening and secondly would create valuable locally appropriate habitats for wildlife. Another potential benefit would be mitigation of noise impacts. The proposals are illustrated on Figure 4.10 and described in more detail on drawing 552-01-01. In overview they consist of the following:

- perimeter bunds consisting of site won natural soil materials;
- woodland planting (6,500m<sup>2</sup>) comprising locally appropriate native species;
- further areas of scrub planting (4,150m<sup>2</sup>), again comprising locally appropriate native species;
- a row of extra heavy standard Ash trees (7nr. in total) at the site entrance;
- wildflower seeding with locally appropriate calcareous grassland species (c.10,000m<sup>2</sup>)

It is the intention that all of the above planting would take place in the first available season following completion of the development.

7.4.6 In addition to the on-site landscape scheme, five areas of woodland, amounting in total to over 12,000m<sup>2</sup>, would be planted in the surrounding landscape. This planting would both benefit local landscape character and be effective in mitigation of views, particularly those from the east and the west. The off-site planting proposals are shown on Figures 7.15a to 7.15d. The applicant would carry out this planting in the first available season following the start of works on site. For the avoidance of any confusion and to ensure a conservative assessment of visual impact, the photo-montages assume that all planting (both on-site and off-site) is carried out in the first year of operation; this is therefore a worst-case assessment.

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*Decommissioning Phase:*

- 7.4.7 Once the REP has come to the end of its useful life the physical structures on the site would be dismantled and removed.

**7.5 Assessment of effects**

***Introduction***

- 7.5.1 The methodology for this assessment is set out at Appendix 7.1. In overview, the approach is to systematically identify the quality / value / sensitivity of the landscape and visual receptors and to then identify the nature and magnitude of change that would occur as a result of the proposed development. Once these have been established, a significance of the impact is arrived at by correlation of the variables.

***Landscape Impacts***

- 7.5.2 Landscape impacts resulting from development can occur in two ways. Firstly, there can be direct effects upon the landscape fabric (the physical components of the landscape i.e. trees, shrubs, hedges, buildings, topography etc.). Secondly, when looked at as a whole, the combined impact of a number of these direct effects can result in an effect upon the landscape character of the area.

***Impacts on Landscape Fabric***

- 7.5.3 This section assesses the impact that the proposed development would have on the physical landscape fabric of the site. The construction phase would have no material additional impact upon landscape fabric or resources than those resulting from the operational installation and are not separately considered.
- 7.5.4 The landscape fabric of the site was described earlier in this section in paragraph 7.2.3. The significance of impacts upon the landscape fabric is related to the scale of the effect (extent or proportion of the specific element that is affected) and the sensitivity of the landscape element. Judgements of

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relative sensitivity are arrived at by looking at the scarcity or otherwise of the landscape component (at national, regional or local level as appropriate) and the degree to which the component contributes to landscape character or local distinctiveness.

7.5.5 The changes to the landscape fabric would be as follows:

- approximately 5.8 hectares of arable land would be lost;
- a single mature ash tree and some sections of remnant, gappy hedgerow would be removed from the site frontage;
- new landscape bunding planted with 10,650m<sup>2</sup> of native woodland and scrub species would be introduced;
- 7nr. extra heavy standard native trees (Ash) would be planted;
- Over 12,000m<sup>2</sup> of native woodland would be planted off site;
- In excess of 10,000m<sup>2</sup> of calcareous wildflower grassland would be sown.

7.5.6 In landscape terms, the arable land is a nationally and regionally commonplace component and as such has a low sensitivity. Complete and permanent removal of this component from the site would constitute a high magnitude of change resulting in an overall significance of moderate adverse.

7.5.7 The mature ash tree and hedgerow are both nationally and regionally commonplace features and although relatively rare at the local level have a low sensitivity to change. Again, complete and permanent removal of these components from the site would constitute a high magnitude of change resulting in an overall significance of moderate adverse.

7.5.8 The introduction of extensive native tree and scrub planting and the creation of extensive areas of locally scarce calcareous grassland would all introduce locally appropriate elements that would make a positive contribution to the local landscape in their own right (in addition to their roles in mitigating the visual effects of the development and enhancing biodiversity). As such, they would amply compensate for the loss of existing landscape features and overall it is considered that there would be a beneficial effect upon landscape fabric.

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*Impacts on Landscape Character*

Impacts upon the Character of the Local Landscape

- 7.5.9 As described earlier in paragraphs 7.2.6 to 7.2.8, the proposed development is located within an area possessing low quality landscape character. Although this is an area which is occupied by a number of large scale and prominent infrastructure elements (dual carriageway, railways, pylons), the proposed development would nonetheless introduce built forms and components that would be unfamiliar and do not currently occur within the area. The development would also introduce an increased amount of activity (vehicle movements etc) concentrated in a part of the landscape that is currently relatively static most of the time. These changes would be locally prominent and perceptible, and the scale of the development is such that locally there would be profound changes to character. In the immediate vicinity of the development (within say 1.5km radius) there would be a high magnitude of change resulting in a moderate significance of effect.
- 7.5.10 An extensive scheme of landscape mitigation is incorporated into the development proposals. Perimeter bunds to the north, south and west of the site would rise to approximately 3 to 4 metres above existing ground levels and would be planted with woodland and scrub. Within five years, it is anticipated that the woodland planting on the bunds would achieve a height of 5 metres or more (giving a combined screening height of 8 to 9 metres). The height of the perimeter screen would increase year on year as the planting matures. Whilst this combination of bunding and planting would never entirely screen the taller parts of the development, it would over time substantially limit the visibility of the lower level buildings and thus reduce the perceived scale of the facility. Importantly, the planting would, at an early stage, screen the majority of the ground level ancillary components of the REP and vehicle movements within the site, such that the residual impact would be attributable to a relatively simple and static form.
- 7.5.11 In addition to the on site planting, the development would also include five areas of off site planting. The planting would introduce a number of new small broadleaved copses to the area. As well as providing visual mitigation of the development, this planting would reinforce the local landscape character.

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Small copses are one of the key characteristics of the Central Clays and Gravels sub type.

#### Impacts upon the Character of the Wider Landscape

- 7.5.12 Further afield, the main massing of the development would be much less perceptible. This is due to the effectiveness with which even relatively low level features are able to provide screening of distant objects in a generally flat landscape. Figure 7.1 illustrates that despite a general scarcity of traditional hedgerows at field boundaries, there are nonetheless a significant number of linear tree belts and woodlands which provide a screening function. As a result, there would be many areas from which proposed development would be partially or fully screened.
- 7.5.13 In this wider area – which due to the height of the proposed stack would extend in some instances for several kilometres – the nature of effect upon landscape character would be to introduce intermittently visible tall manmade elements (the stack, and to a lesser extent the tallest of the proposed buildings (the boiler house) to the skyline. This effect would not be entirely unfamiliar in a landscape which already features numerous tall manmade structures, specifically the tall built forms and chimney of The Maltings complex and numerous low and high voltage electricity pylons. This is well illustrated by the photomontages, particularly photomontage views D (Figure 7.11b) and G (Figure 7.14b).
- 7.5.14 The effect upon landscape character of the wider area would be indirect, since it would be attributable to views of a distant and consequently small component of the landscape. Whilst the change would at times be obvious, it would not fundamentally change landscape character. It is therefore considered that the development would cause a medium magnitude of change to landscape character and would result in an effect upon landscape character of minor significance.

#### Impacts Attributable to the Emissions Plume

- 7.5.15 The operation of the REP would involve the release of combustion emissions via the stack. These emissions would under certain weather conditions form a

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visible plume, primarily as a result of condensation of water vapour. As stated earlier at paragraph 7.3.7, air quality modelling of the combustion process proposed at the plant identifies that the plume would be visible for just under 50% of the time and that the average plume length would be around 50m. In terms of landscape character, this taller component of the development would extend the area of landscape potentially affected (consistent with an expanded zone of visual influence). Also, in areas where the stack is visible, the development would arguably be given greater prominence in the landscape with an emissions plume above it. In most circumstances it is not considered that either the introduction of a plume in isolation or the addition of a plume above the stack, would constitute a significant incremental increase in harm to landscape character. Under a worst case scenario, where a very prominent plume (as could form in cold, dry conditions) coincided with a highly contrasting clear blue sky, it might however be argued that the magnitude of change to landscape character would increase to high, with a consequent moderate significance of impact upon landscape character.

### ***Visual Impacts***

#### *Effects on receptors*

- 7.5.16 The assessment of effects upon the identified representative visual receptors is presented in table 7.1 overleaf.

**Table 7.1 Impacts on Visual Receptors**

<b>Visual Receptor</b>	<b>Sensitivity</b>	<b>Approx. distance from nearest part of REP site</b>	<b>Nature of Change in View</b>	<b>Magnitude of Change</b>	<b>Significance of Effect</b>	<b>Commentary</b>
<p>VR1 Residential property – Kirkby la Thorpe</p> <p>See also photomontage view C (Figure 7.10b &amp; c)</p>	High	1200m	<p>The tallest parts of the development would be clearly visible, although the majority of the built form would be screened by mature vegetation. There would be a prominent change to a localised part of the view. Although the development would add a new and often focal component to the view, it would not dominate. This change would be experienced by a relatively small number of people. Refer to the photomontage at Figure 7.10 a &amp; b.</p>	<p>Medium</p> <p>Reducing to Low to Medium as off site planting matures (10 years or more)</p>	<p>Major</p> <p>Reducing to Moderate to Major as off site planting matures (10 years or more)</p>	<p>This significance of visual effect would be the worst case rather than typical of effects experienced from Kirkby la Thorpe. The majority of properties in the village do not experience clear views towards the west from principal facades and curtilages as a result of intervening buildings and/or tall garden vegetation. Magnitude of change for these properties would consequently be lower.</p> <p>Whilst proposed on-site mitigation planting would not reduce effects over time from this direction, off-site planting to the east of the plant (including some existing immature planting to the south</p>

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
VR2 Church car park, Evedon  See also photo- montage view D (Figure 7.11b)	Medium to High	1600m	The tallest parts of the development would be clearly visible at the horizon. The majority of the built form would again be screened by mature vegetation. There would be a prominent change to a localised part of the view. The development would add another manmade vertical element to a view already containing numerous manmade vertical elements, including low and high voltage electricity infrastructure and tall shelterbelt vegetation. As can be seen in the photomontage, the development would form a new focus but would not dominate. This change would be experienced by a relatively small number of people	Medium	Moderate to Major	west of The Grange would, as it matures become effective in screening more of the plant from parts of Kirkby la Thorpe.  This significance of visual effect would be shared with a number of south facing residential properties within Evedon.  Mitigation bunds and planting along the north edge of the development site would reduce the visible mass of the lower level buildings in views from this direction over time.

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
VR3 Residential property, Boston Road, Sleaford  See also photo-montage view A (Figure 7.8 b & c)	High	550m	The proposed development would be clearly visible from these properties but only in oblique views and views from parts of the curtilage. In these views, the development would consist of a prominent new built form. This change would be experienced by a relatively small number of people	Medium  Reducing to Low to Medium as off site planting matures	Major  Reducing to Moderate to Major as off site planting matures	Mitigation bunds and planting along the west and south boundaries of the development site would significantly reduce the visible mass of the lower level buildings in views from this direction over time.  Off site planting alongside Boston Road would be closer to the receptor and as such more effective in providing screening.
VR4 Footpath 138/1/1	Medium	400m	The proposed development would be clearly visible from this footpath at relatively close quarters (the footpath is only 200m distant from the proposal site at the closest point). Existing vegetation would afford some screening. The development would add a prominent built form to a generally open area, although the scene is not lacking detractors at present (the path is	Medium	Moderate	Mitigation bunds and planting along the northern edge of the development site would significantly reduce the visible mass of the lower level buildings in views from this direction over time.

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
VR5 Footpath 74/2/2 See also photo-montage view G (Figure 7.14b)	Medium	2750m	<p>taken from alongside the busy A17 dual carriageway and passes beneath high voltage power lines). This does not seem to be a well frequented path and as such change would be experienced by a relatively small number of people</p> <p>The main massing of the development at lower level would be screened in views from this footpath, with only the tallest parts of the development visible above existing intervening vegetation. The vertical form of the proposed stack would echo a number of existing vertical forms including a chimney at the Maltings and a number of tall pylons. As such the development would be an obvious although distant addition to the horizon and would not be entirely uncharacteristic. This change would be experienced by a relatively small number of people</p>	Low to Medium	Minor to Moderate	Proposed mitigation screening would not reduce effects over time from this direction

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
VR6 Footpath 383/15/3 See also photo-montage view F (Figure 7.13b & c)	Medium	700m	The proposed development would be clearly visible in oblique views from this footpath running alongside the River Slea. Existing vegetation would afford some limited screening of the lower level parts of the development. The development would add a large and prominent built form to an area which whilst not lacking in detractors (floodlight towers, pylons etc.) is largely undeveloped. This change would be experienced by a relatively small number of people	Medium	Moderate	Mitigation bunds and planting along the northern and western edges of the development site would further reduce the visible mass of the lower level buildings in views from this direction over time.
VR7 Eslaforde Park (Sleaford Town FC) See also photo-montage view A (Figure 7.8b & c)	Low	500m	The proposed development would be clearly visible in views to the east from most parts of this generally open sports and recreation facility. In these views, the development would consist of a prominent new built form. Users of this facility include both players and coaches of the football club and	Medium to High	Minor to Moderate	Mitigation bunds and planting along the west boundary of the development site would significantly reduce the visible mass of the lower level buildings in views from this direction over time.  A belt of off-site planting along the eastern boundary of the

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
VR8 Public Open Space east of Cogglesford Water Mill  See also photomontage view E (Figure 7.12b)	Medium	800m	also spectators. Numbers of people exposed to this change would be concentrated at training sessions and on match days but even on these occasions would amount to relatively small numbers of people. Refer to the photomontage at Figure 7.8(b) and Figure 7.8(c)  The main massing of the development at lower level would be screened in views from this footpath, with only the tallest parts of the development visible above the existing railway embankment in gaps between vegetation cover. The top part of the vertical form of the proposed stack would be a small but clearly visible new component in the view. This change would be experienced by a relatively small number of people	Medium	Moderate	Proposed mitigation screening would not reduce effects over time from this direction
VR9 Road users, A17	Low	1200m	The proposed development would be visible in brief glimpsed forward and oblique low level	Medium	Minor	Mitigation bunds and planting along the north edge of the development site would further

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
			views from vehicles travelling at speed towards the west on a short section of this route as it passes Kirkby la Thorpe. As the road draws alongside the site, views are lost by virtue of planted cutting sides. Vehicles travelling east are unlikely to experience any views at all. In the views that are available, the proposed development would appear as a partially screened series of buildings behind tall mature vegetation. Relatively high volumes of people would potentially be exposed to this view on a daily basis. Refer to the photomontage at Figure 7.9 a & b.			reduce the visible mass of the lower level buildings in views from this direction over time.
VR10 Road users, Gorse Lane (passengers and drivers in vehicles)	Low	3700m	The main massing of the development at lower level would be screened in oblique distant views from vehicles travelling along this minor road, with only the tallest parts of the development visible above	Low to Medium	Negligible to Minor	Proposed mitigation screening would not reduce effects over time from this direction

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
VR10 Road users, Gorse Lane (cyclists and pedestrians)	Medium	3700m	<p>existing intervening vegetation. The vertical form of the proposed stack would echo a number of existing vertical forms including a chimney at the Maltings and a number of tall pylons, including in the close foreground. As such the development would be an obvious although distant addition to the horizon and would not be entirely uncharacteristic. This change would be experienced by a relatively small number of people</p> <p>The main massing of the development at lower level would be screened in distant views from users this minor road, with only the tallest parts of the development visible above existing intervening vegetation. The vertical form of the proposed stack would echo a number of existing vertical forms including a chimney at the Maltings and a number of tall pylons, including</p>	Low to Medium	Minor to Moderate	Proposed mitigation screening would not reduce effects over time from this direction

Visual Receptor	Sensitivity	Approx. distance from nearest part of REP site	Nature of Change in View	Magnitude of Change	Significance of Effect	Commentary
			<p>in the close foreground. As such the development would be an obvious although distant addition to the horizon and would not be entirely uncharacteristic. This change would be experienced by a relatively small number of people</p>			

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7.5.17 By examining the findings of the assessment of representative receptors and applying them to the analysis of all receptors at paragraphs 7.3.9 to 7.3.17 the following can be concluded:

- Major effects would be experienced approximately 18 residential properties:
  - 3nr. on Church Lane, Kirkby la Thorpe (these effects would reduce in response to mitigation over time (c.10 years) as off-site planting matured)
  - 6nr. on Mount Lane, Kirkby la Thorpe
  - 4nr. in Evedon
  - 1nr. at Bones Farm
  - 1nr. at Manor farm
  - 4nr. on Boston Road, Sleaford (these effects would reduce in response to mitigation over time (c.5 years) as off-site planting matured)
- Footpaths in close proximity (within 1km) would experience moderate adverse impacts. The Sleaford Cycle Trail would experience a major effect along a short section due to its very close proximity to the REP, although this would be substantially mitigated by planting along Boston Road and the site frontage at an early stage. Footpaths in the wider landscape would experience minor to moderate significant effects at worst
- Users of the local transport network are low sensitivity receptors, as are workers and people engaged in active recreation. Consequently, even where close proximity would indicate a high magnitude of change, significance of effect does not exceed moderate.

## **7.6 Summary of Effects**

7.6.1 The findings of the Landscape and Visual Impact Assessment are as follows:

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## ***Landscape Impacts***

### *Landscape Fabric*

- 7.6.2 Although the development would involve the complete removal of landscape fabric, the landscape fabric affected is commonplace and is therefore relatively insensitive to such a change. Thus, while the magnitude of the impact is high, the significance of the impact would only be moderate adverse. Moreover, the development proposals include the introduction of substantial areas of locally appropriate landscape elements which it is considered more than compensate for these adverse impacts and result in a beneficial effect upon landscape fabric.

### *Landscape Character*

- 7.6.3 The plant is located within an area exhibiting low quality landscape character. Thus, although there would be a high magnitude of change in the immediate vicinity of the REP, the resultant effect upon landscape character would only be of moderate adverse significance. The introduction of five small copses in the area surrounding the facility would be beneficial to local landscape character.
- 7.6.4 Indirect impacts upon the wider landscape would have a medium magnitude of change to the low quality landscape character baseline and would result in a minor adverse significance of effect, rising to moderate adverse where worst case atmospheric conditions for plume formation would increase magnitude of change to high.

## ***Visual Impacts***

- 7.6.5 Ten representative visual receptors were assessed and the results of this assessment were applied to the analysis of all relevant receptors. It is predicted that there would be major adverse impacts at approximately 18 residential properties. The impacts at 7 of these properties would be mitigated by off-site planting which will serve to break up or substantially screen views of the plant over time. Local footpaths would experience moderate and minor to moderate effects. The Sleaford Cycle Trail would experience a localised

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major effect. Finally, users of local transport infrastructure, workers (primarily agricultural) and people engaged in active recreation (principally football) would experience moderate or lower effects.