

**Ansty Park**

**140K APPLICATION**

**Landscape and Visual Assessment**

**FPCR**

**October 2008**

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## ANSTY PARK

### LANDSCAPE AND VISUAL IMPACT ASSESSMENT

#### 9.1 INTRODUCTION

9.1.1 A landscape and visual assessment has been carried out in accordance with the guidance contained in 'Guidelines for Landscape and Visual Impact Assessment' published by The Landscape Institute and the Institute of Environmental Assessment in 2002 for a proposal for a high quality business park at Ansty Park. The site currently has consent for a 100,000 sqm business park, but the consent will lapse at the end of December 2008. As such a new planning application has been prepared. A separate application is currently being considered for a dual carriageway additional access road to the site. The landscape buffer zone north of the site will be implemented by condition on the original planning consent, but is considered in this assessment as it would form part of the mitigation for the scheme. The site location is shown in Figure 9.1 Constraints and Designations

#### 9.2 LEGISLATION, POLICY AND GUIDANCE

##### 9.2.1 Legislative Framework

The legislative framework to the EIA is covered in the introduction of the Environmental Assessment.

##### 9.2.2 Planning Policy

A range of policies are relevant to the landscape elements of the application. These are summarised below.

#### **The Regional spatial Strategy for the West Midlands - January 2008:**

##### **Policy QE1**

**B Local authorities and other agencies in their plans, policies and proposals should :-**

- i) support regeneration, by restoring degraded areas, conserving existing environmental assets, including the reuse of redundant and under – used buildings of merit, and creating new, high quality, built and natural environments, particularly within the MUAs;*

ii) *conserve and enhance those areas of the Region, where exceptional qualities should be reinforced by sustainable use and management, including the Peak National Park, the five Areas of Outstanding Natural Beauty, the European wildlife sites, and the World Heritage Site;*

iii) *protect and where possible enhance other irreplaceable assets and those of a limited or declining quantity, which are of fundamental importance to the Region's overall environmental quality, such as specific wildlife habitats (Annex B), historic landscape features and built heritage, river environments and groundwater aquifers;*

**Policy QE2 States :-**

A) *Local authorities, other agencies and local communities should work together to develop strategies and programmes that optimise the contribution that the natural, built and historic environment can make to the physical, economic and social regeneration of the West Midlands. Regeneration schemes should capitalise on the quality and distinctiveness of the Region's urban and rural environment.*

B) *Development plans and other strategies should :-*

i) *contain policies that promote environmental improvements as a means of regenerating areas of social, economic and environmental deprivation;*

ii) *promote the restoration and remediation of derelict and contaminated sites and reuse of buildings, having regard to the Region's biodiversity and historic assets;*

iii) *initiate programmes of physical regeneration in areas suffering from inadequate investment in the built and natural environment;*

*and*

iv) *aim to provide measures which reduce the impact of the environmental problems associated with transport growth and bring forward environmental improvements particularly along major transport routes.*

C) *In implementing this policy the need to make the most efficient use of previously developed land should take into account the need to preserve buildings of historic value (QE5) and preserve and create open spaces for recreation, community health and natural habitats (QE4, QE7 – 9).*

**Policy QE6 : The conservation, enhancement and restoration of the Region's landscape.**

*Local authorities and other agencies, in their plans, policies and proposals should conserve, enhance and, where necessary, restore the quality, diversity and distinctiveness of landscape character throughout the Region's urban and rural areas by :-*

v) *considering other factors that contribute to landscape character including tranquillity and the minimisation of noise and light pollution;*

*and*

vi) *identify opportunities for restoration of degraded landscapes including current and proposed minerals workings and waste disposal sites.*

**The Rugby Borough Local Plan covers a range of policies**

**Policy E5 – Landscape and settlement character**

*All development proposals should respect and, where possible, enhance the quality and character of the area.*

**Policy E9 – Development affecting trees, woodlands and hedgerows**

*Planning permission will not be granted for development, which would result in the loss of, or damage to trees, woodlands and hedgerows of ecological, landscape, or historic importance, which contribute to the character and amenity of the area.*

**Policy GP2 - Landscaping**

*The landscape aspects of a development proposal will be required to form an integral part of the overall design. A high standard of appropriate hard and soft landscaping will be required. All proposals should ensure that :-*

- 1) *Important site features have been identified for retention through a detailed site survey;*
- 2) *The landscape character of the area is retained and, where possible, enhanced;*

- 3) *Features of ecological, geological and archaeological significance are retained and protected and opportunities for enhancing these features are utilised;*
- 4) *Opportunities for utilising sustainable drainage methods are incorporated;*
- 5) *New planting comprises native species which are of ecological value appropriate to the area;*
- 6) *In appropriate cases; there is sufficient provision for planting within and around the perimeter of the site to minimise visual intrusion on neighbouring uses or the countryside; and*
- 7) *Detailed arrangements are incorporated for the long – term management and maintenance of landscape features.*

### **9.3 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA**

#### **Scope of the Assessment**

9.3.1 A Landscape and Visual Impact Assessment of the proposed scheme has been conducted encompassing the “Guidelines for Landscape and Visual Impact Assessment” (GLVIA) published by the Landscape Institute and the Institute of Environmental Management and Assessment 2002, and “Landscape Character Assessment. Guidance for England and Scotland” (LCA) published by the Countryside Agency and Scottish National Heritage 2002. These documents do not provide a prescriptive approach to assessment but identify principles and good practice. The methodology for this assessment is described in the following section and is based on this approach.

9.3.2 The GLVIA states :-

*“Landscape impact assessment, in common with any assessment of environmental effects, includes a combination of objective and subjective judgements, and it is therefore important that a structured and consistent approach is used. It is necessary to differentiate between judgements that involve a degree of subjective opinion (as in the assessment of landscape value) from those that are normally more objective and quantifiable”.*

9.3.3 The GLVIA also states :-

*“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”.*

9.3.4 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.

9.3.5 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.

9.3.6 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 responses to the changes, and to the overall effects with respect to visual amenity, whether adverse or beneficial.

#### **Assessment and Design are an iterative process**

9.3.7 An iterative design approach enables the site planning and detailed design for the project to be informed by the ongoing assessment. The amended proposals then feed back into the assessment process, until the preferred design solution is reached. This approach has been adopted with this scheme.

#### **Mitigation**

9.3.8 The purpose of mitigation is to avoid, reduce and where possible remedy adverse effects on the environment arising from the proposed development.

9.3.9 Mitigation is thus not solely concerned with 'damage limitation' but may also consider measures that could compensate for unavoidable residual effects.

9.3.10 Mitigation measures are generally more effective if they are designed as an integral part of an iterative process of project planning and design. Mitigation is thus used as a design approach that is, where possible, implemented from project inception when alternative designs or site options are being considered. Mitigation measures are an inherent part of this proposal and are described fully in the Environmental Statement.

#### **Extent of Study**

9.3.11 The extent of the study has been determined using map evaluation and field survey so that the potentially significant effects of the proposal can be assessed.

### **Methodology and Significance Criteria**

9.3.12 Following the baseline landscape studies, the assessment stage includes the systematic identification of potential impacts, prediction of their magnitude and assessment of their significance.

9.3.13 In the context of landscape and visual assessment, the following terms are used.

### **Landscape character**

9.3.14 The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place of different areas of the landscape.

### **Sensitivity or capacity of the landscape resource**

9.3.15 The degree to which a particular landscape type or area can accommodate change arising from a particular development, without detrimental effects on its character, will vary with:-

- Existing land use;
- The pattern and scale of the landscape
- Visual enclosure / openness of views, and distribution of visual receptors;
- The scope for mitigation, which would be in character with the existing landscape;

9.3.16 Variations of these characteristics within the local landscape and within the site need to be identified.

### **Scale or magnitude of landscape effects**

9.3.17 There is no standard methodology for the quantification of the magnitude of effects. However, it is generally based on the scale or degree of change to the landscape resource, the nature of the effect and its duration.

### **Sensitivity of visual receptors**

9.3.18 The sensitivity of visual receptors and views will be dependent on:

- The location and context of the viewpoints;
- The expectations and occupation or activity of the receptor;

### **Scale or magnitude of visual effects**

9.3.19 In the evaluation of the effects on views and the visual amenity of the identified receptors, the magnitude or scale of visual change is described by reference to:

- The scale of change in the view with respect to the loss or addition of features in the view and changes in its composition including the proportion of the view occupied by the proposed development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture;
- The duration and nature of the effect, whether temporary or permanent, intermittent or continuous, etc;
- The angle of view in relation to the main activity of the receptor;
- The distance of the viewpoint from the proposed development;
- The extent of the area over which the changes would be visible.

### **LANDSCAPE IMPACT**

9.3.20 For this assessment the following criteria applies:

#### **Landscape sensitivity or capacity**

<b>High</b>	Landscape areas with particularly distinctive or positive characters or with valued landscape features. The areas may be sensitive to relatively small changes.
<b>Medium</b>	Landscape areas with reasonably positive character, but with evidence of alteration or degradation of the character or features. Potentially tolerant of some change.
<b>Low</b>	Landscape areas with a weak character or relatively few features of value, potentially tolerant of significant change.

#### **Magnitude of Landscape Change**

<b>Medium adverse</b>	Potential loss of or alteration to the key characteristics or features of the landscape area.
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<b>Low adverse</b>	Minor loss of, or alteration to the key characteristics or features of the landscape area.
<b>No change</b>	Very minor loss or change to the landscape characteristics or features of the area, compensated by landscape improvements or enhancements.
<b>Low beneficial</b>	Minor improvements to the key characteristics or features that outweigh any adverse landscape effects of the proposal. Removal of minor incongruous features
<b>Medium beneficial</b>	Notable improvements to the key landscape characteristics or features, or improvements resulting from removal of inappropriate land uses or features.
<b>High beneficial</b>	Major landscape implements, through the creation of a new landscape structure, or the removal of large scale inappropriate features.

9.3.21 Overall landscape impact is determined by combining the sensitivity of the landscape resource with the magnitude of landscape change. Professional judgement used to determine the overall significance of impact based on these two elements.

9.3.22 Overall significance is classified by Substantial, Moderate, Slight or Negligible and the effects can be adverse or beneficial.

**Visual Impact**

9.3.23 For this assessment the following criteria applies

**Visual Sensitivity**

**High** Occupiers of residential properties with views affected by the development.  
Users of outdoor recreational facilities including rights of way where interest may be focused on the landscape.

**Medium** Users of outdoor recreational facilities where the view is less important to the activities (e.g. sports pitches). People at places of work.

**Low** People travelling through the area in cars or on trains, or people at places of work with limited views potentially affected by the development (e.g. Industrial sites).

**Visual Magnitude of Change**

**High Adverse** Where the scheme would cause a significant deterioration in the view.

**Medium Adverse** Where the scheme would cause a noticeable deterioration in the view.

**Low Adverse** Where the scheme would cause a minor deterioration in the view.

**No Change** Where the scheme overall would not form a noticeable deterioration or improvement in the view.

**Low Beneficial** Where the scheme would cause a minor improvement in the view.

**Medium Beneficial** Where the scheme would cause a noticeable improvement in the view.

**High Beneficial** Where the scheme would cause a significant improvement in the view.

9.3.24 Overall visual impact is determined by combining the sensitivity of the receptor with the magnitude of visual change. Professional judgement is used to determine the overall significance of impact based on these two elements.

9.3.25 Overall significance is classified as Substantial, Moderate, Slight or Negligible, and the effects can be adverse or beneficial.

## **9.4 THE BASELINE CONDITIONS**

### **Context**

9.4.1 Formerly a WW II RAF base, Ansty Airfield lies due east of Coventry, immediately adjacent to the strategically important M6/M69 interchange. The former airfield is currently being developed as a high quality business park.

9.4.2 The business park site occupies approximately 40 hectares of open land restored from the former airfield which included the redundant concrete runway. The business park site is bounded to the south by the long established Rolls Royce plant which comprises a mixture of former airfield buildings together with new industrial premises. Coombe Fields Road defines the eastern boundary, with the "Sparrow" Public house and Hotel located on a localised high point at the north eastern corner of the business park site. The mature Hill Park Wood lies on the western boundary, with the Withy Brook flowing south west under the access road from the A46. An application is currently being considered for an additional carriageway to this access road.

9.4.3 Open countryside lies to the north and east, locally dominated by the M6 motorway, which is on embankment for much of its route. Ansty Village is comparatively remote from the former airfield, situated to the north beyond the M6. The north eastern fringes of Coventry lie immediately to the west of the site. This area of the city is notable for the thriving mixed use Cross Point Business Park and the recent high technology Walsgrave Hospital development.

9.4.4 Figure 9.1 shows the environmental context to the site. This shows that there are few features of designated environmental interest in the vicinity of the site. There are some Scheduled Ancient Monuments but these are relatively remote from the site. Coombe Country Park lies to the south of the site, but is visually separated from it by the effects of the topography and existing development.

9.4.5 Hill Park Wood is the closest feature of designated landscape interest, and lies to the west of the site. This ancient semi natural woodland forms the western boundary but is outside the application boundary and would not be affected by the work.

### **Topography (Figure 9.3)**

9.4.6 As one would expect of a former airfield, the site is generally level, being straddled by the 80 metre contour. The landform rises gently to the southwest (83m at Hill Park Wood) south (95m at Rolls Royce) and the northeast (100m at Nettle Hill). This undulation produces a degree of natural containment. At a local level there are subtle but significant contour variations. The “Sparrow” Hotel sits on a gentle rise at 86 metres, and there is a second highpoint in the northwestern sector of the site, where the contours exceed 82.5.

### **Landscape Character**

9.4.7 The Ansty site falls within the **Dunsmore Countryside Character Area** as defined by the **Countryside Agency** in the **Character Map of England (1999)**. It is described as a planned landscape of large fields with a generally well-wooded appearance. Semi - natural ancient woodland is concentrated south and east of Coventry. Remnant flood meadows, bank side pollarded trees and reed beds are often a feature of the narrow river valleys. Under the heading of **The Changing Countryside**, the **Countryside Agency** advocates the use of new woodlands to help absorb new developments and soften existing harsh edges.

9.4.8 The **Warwickshire Landscape Guidelines (1993)** place Ansty within the **Dunsmore Parklands** character area. The whole of the area to the north east of Coventry, encompassing the development site, is identified as a landscape in need of enhancement. The appropriate technique identified concurs with the Countryside Agency view, as follows:

- Identify opportunities to enhance tree cover through large scale woodland planting.

9.4.9 The supporting text states :

*For the most part this is a well wooded landscape but there is scope for significant new planting in places especially in the area of open farmland to the north east of Coventry. Planting could take a number of forms including small blocks of field size to extend and reinforce existing woods, or the creation of new woodland on a similar scale to All Oaks Wood. The latter would be particularly appropriate for softening the impact of large scale development around the M6/A46 intersection.*

9.4.10 **The Landscape Assessment of the Borough of Rugby (2006)** builds upon the work carried out by Warwickshire County Council, and confirms that the Dunsmore Parklands character area is in decline.

9.4.11 At a localised level, the Business Park site is of low sensitivity in terms of landscape character, having been stripped of features of interest. The lack of sensitivity is compounded by the somewhat utilitarian nature of the bulk of the adjacent Rolls Royce factory.

9.4.12 The Withy Brook Valley and Hill Park Wood to the west of the site are of greater value and sensitivity, although proximity to the major highway network and the urban edge of Coventry at Cross Point Business Park tends to erode their rural context and tranquillity. The less disturbed countryside to the north and east is of moderate overall sensitivity, a conclusion which is consistent with the view reached by the Rugby Borough Landscape Assessment.

### **Visual Resources**

9.4.13 The interaction of gently rolling but generally level topography and the existing established vegetation framework results in a comparatively restricted visual envelope for the proposed scheme.

9.4.14 A series of key viewpoints have been selected to demonstrate this assessment. The key viewpoints are shown on Figure 9.2

### **Viewpoint 1 (Figure 9.4)**

9.4.15 This shows the view along the existing access road with the new Sony Ericsson building and Park Wood in the distance. The new access road which is currently subject to a planning application and confirm nothing should be shown on photomontage would run to the right of the existing road in the photograph.

### **Viewpoint 2 (Figure 9.4)**

9.4.16 This shows the view south from the footbridge over the M6. Whilst the top of the new Sony Ericsson Building can be seen and the top of Hill Park Wood, the majority of the site is not visible, because of the overlapping effects of vegetation.

### **Viewpoint 3 (Figure 9.5)**

9.4.17 This viewpoint, shows the view from the footpath over Walsgrave Hill. It represents an elevated view from the south, with a view of the site. The existing Rolls Royce complex can be seen. The development site lies to the east of Rolls Royce.

**Viewpoint 4 (Figure 9.5)**

- 9.2.18 This shows a view south from the Oxford Canal. The footpath is bounded by a hedge approximately 2m in height with only very occasional views through to the wider countryside and towards the site. The tops of the Sony Ericson building, and Rolls Royce can be seen.

**Viewpoint 5 (Figure 9.5)**

- 9.4.19 This view is taken from close by the junction of the B4065 and the B4029 to the west of Ansty village. The tops of the Rolls Royce building can be seen, and very small element of the Sony Ericson building. Most of the site is screened by the overlapping effects of vegetation.

**Viewpoint 6 (Figure 9.6.1)**

- 9.4.20 This view across the business park from Coombe Field Road to the west shows the new buildings and woodland in the distance. The site extends to Coomb Field Road and visibility into the site is clearly possible from the lane.
- 9.4.21 Overall there are very few close public vantage points, except for the proposed access itself from the west and Coombe Field Lane to the east. From the south and south west, the site is screened by Hill Park Wood.
- 9.4.22 There is no significant visibility from areas of higher potential sensitivity such as Ansty Village, the Oxford Canal, Ansty Hall or Coombe Abbey and Coombe Country Park.

## 9.5 ASSESSMENT OF IMPACTS, MITIGATION AND RESIDUAL EFFECTS

### Landscape Character & Impact

- 9.5.1 The existing site is of low landscape character sensitivity. It has been cleared and levelled and is being developed as a business park. The development proposals will continue development of the Business Park that has already commenced. The scheme will be accompanied by new structural landscape, that will assimilate the Business Park into the existing landscape structure. This new planting would link to Hill Park Wood, extending this landscape feature. The detail of the planting will be agreed with Rugby Borough Council as part of the original planning consent. A concept plan has been prepared for the "Landscape Buffer Zone" for discussions and is included at figure 912. The concept is for a diverse area of woodland and other habitats providing a multi use green infrastructure. Within the landscape buffer zone, a mosaic of woodlands, wetland, and open grassland areas would be established. By the overlapping effects of the taller vegetation, the appearance of a fairly continuous woodland would be perceived in the wider landscape. However within the area itself a more diverse landscape would include the woodlands, wetland and grassland habitats. Access could be provided by a range of informal paths. The area could include space for quiet relaxation and informal recreation. The planting would provide a strong edge to the development and would link to the existing Hill Park Wood.
- 9.5.2 Overall the landscape of the site is of landscape sensitivity, due to the disturbed nature of the site and the lack of landscape elements. Development of the site, with the new high quality business park, and the associated landscape buffer zone, would add diversity and enhance the character of the areas. The magnitude of landscape change would be low beneficial, balancing the effects of new built construction with the new landscape treatment. Overall landscape impact would be slight beneficial.

## Visual Impact

- 9.5.3 To demonstrate and assess the visual impact a series of photomontages have been produced. The methodology for the assessment is included at Appendix 9.1. The photomontages are based on the indicative masterplan included within the Design & Access statement. Whilst the zonal masterplan at Figure..... shows the overall potential distribution of development, the photomontages are based on a likely quantum of development, as shown on the indicative Masterplan. It is not possible to undertake a VIA of the zonal masterplan. It has been necessary to use the indicative masterplan as this is the best representation of the future development of the site. As the exact requirements of the end occupiers are not known, it is not possible to test the final layout at this time. The justification for the submission of a zonal masterplan is contained in the planning supporting statement. A worst case scenario for building heights ( 4 Stories and 19m above ground level) have been assumed. In practice some buildings would be lower than this, to achieve the maximum floorspace within the development. In other words if all the buildings shown on the illustrative plan were developed at 4 stories the floorspace would exceed the 140,000m<sup>2</sup> being applied for. Figure 9.7 shows the assumed disposition of buildings. Colours have been applied to the different buildings, to aid understanding of the montages, and show which parts of the site are more or less visible. It is not suggested that the buildings would be these colours.
- 9.5.4 Photomontage 1(Figure 9.8) shows the view along the access road. The new Sony Ericson buildings are visible, but the other proposed buildings are mostly hidden behind them. A very small element of new building can be seen on the photomontage, to the right of the Sony Ericson building. Visual impact from this location would be negligible.
- 9.5.5 Photomontage 2 (Figure 9.9) shows the view from the footbridge over the M6. The tops of the new buildings could be seen over the top of the retained vegetation. The buildings would have a similar impact to the existing Sony Ericson building. It should be noted that views from the M6 are at a lower elevation, where the screening effects of the vegetation would be greater. Overall visual impact from this location would be slight adverse.
- 9.5.6 Photomontage 3 (Figure 9.10) In this elevated view from Walsgrave Hill, the Rolls Royce buildings are visible in the existing view. The proposed development would be visible to the west, and beyond the Rolls Royce development. Whilst the new buildings would be visible, they would not be out of context with the existing character. Overall visual impact would be slight adverse.

9.5.7 Viewpoint 4 showed the view from the Oxford Canal. A montage was developed for this view, but it showed that no new buildings would be included in this assessment. There would not be any visual impact. The montage has not therefore been included.

- 9.5.8 Viewpoint 5 – This elevated view from the edge of Ansty Village, shows that some of the new development would be visible. At this distance the development would be one elements in the overall panorama. It must also be noted that the height of buildings shown are a “worst case” scenario, and in practice some of the buildings are likely to be lower, reducing the actual impact. Overall impact would be no more than “slight” adverse.
- 9.5.9 Overall in visual terms, there are few sensitive receptors in close proximity to the site. Views from the motorway are restricted by the vegetation between the road and the site. Views from the west are restricted by Hill Park Wood. Views from the south are limited by the existing Rolls Royce works. The development would extend up to Coombs Field Road, and would be clearly visible along a short section of this. Mitigation would comprise good quality design.
- 9.5.10 The Sparrow Hotel is the closest property to the site. Views from the hotel are restricted by surrounding vegetation. New planting in the landscape buffer zone would further filter views to any new buildings.

## **9.6 SUMMARY**

- 9.6.1 The application site is of low landscape quality, and sits within an area acknowledged by the Warwickshire Landscape Guidelines as requiring enhancement. It is of low landscape character sensitivity. Development has already commenced under an existing planning consent for the development of the Business Park.
- 9.6.2 The interaction of gently rolling but generally level topography and the existing established vegetation framework results in a comparatively restricted visual envelope for the site. There are very few receptors close to the site and the visual change would be minimal with the tops of buildings visible in a few locations. There is no significant visibility from areas of higher potential sensitivity, such as Ansty Village or Coombe Abbey.
- 9.6.3 The proposed scheme will not be significantly visible or intrusive, even at day one. There will be no harm to visual amenity.
- 9.6.4 Over time, as the woodland planting matures and integrates with the adjacent Hill Park Wood the Business Park will be increasingly assimilated into the landscape. The effects on both landscape character and visual resources will be beneficial.

## APPENDIX 9.1

## PHOTOMONTAGE METHODOLOGY

### Methodology

The existing site has been fully surveyed, including the trees to the northern and western boundaries of the proposed landscape buffer zone that will border the northwest and western boundaries of the development. The two Ericsson buildings, nearing completion, were used as comparison targets, along with some of the Rolls Royce buildings to the south of the site. A GPS device was used to identify the positions from which all the photographs were taken, (see Figure 9.2 for viewpoint locations). A Canon EOS 300D digital camera was used to take the photographs with a focal length lens approximately equal to a 50mm optical lens. Canon's own software, "PhotoStitch", was used to create the panoramic views.

A 3D computer model of the site was created in AutoCAD which included the existing Ericsson buildings, some of the Rolls Royce buildings and massing models from the illustrative masterplan set to the maximum parameter of 4 storey, (+19m above ground level). Zone 1, which will be Ericsson phase 2 is set to be the same height as their phase 1 buildings. In addition the viewpoints were set up using the OS co-ordinates and elevations collected from site using the GPS device. Perspective views for each viewpoint were generated within AutoCAD using the same focal length lens as the camera with which the photographs had been taken, (50mm). These perspective views were then superimposed upon the photographs and scaled to match the known targets therein to produce the massing photomontages presented.

### Method of calculating the heights of digital photographs to give a set viewing distance

Digital photographs produced by the Canon EOS300D are in the same proportions as optical 35mm film, i.e. 36 : 24. For a focal length of 50mm optical, a 36 x 24mm image should be viewed from 50mm to achieve the perspective effect on site. The preferred range for viewing distances is 300 – 500mm, so for a 500mm viewing distance the image would be 10 times larger, i.e. 360 x 240mm.

For digital photographs taken with an equivalent optical 50mm focal length lens the method for calculating the height of a photograph for a set viewing distance is as follows where the focal length is the optical equivalent not the digital focal length.

$$\text{Height of photograph (h)} = \frac{\text{Viewing distance (vd)}}{50 \text{ (Focal length in mm)}} \times \frac{\text{Height of original digital photograph (dh)}}{(dh/24)}$$

Example for a digital photograph of 289mm in height, (use FastStone Image Viewer to obtain this value).

$$h = \frac{400}{50} \times \frac{289}{(289/24)} \quad h = 192\text{mm}$$

$$\text{For 35mm film } h = \frac{\text{viewing distance}}{50\text{mm}} \times 24\text{mm} = \frac{400\text{mm}}{50\text{mm}} \times 24\text{mm} = 192\text{mm}$$

The next factor to consider is that of cropping of the original photograph that took place when panoramic views were stitched together by Canon's own software. Firstly insert the cropped image into to CoreIDRAW at 100mm high and load an original single shot from the centre of the panoramic view alongside it. Adjust the height of the original photograph to be in scale with the cropped image and measure the height of the original un-cropped image (dh). Divide the cropped height (ch) by the original height (dh) to obtain the adjustment factor (f). Multiply the height required for the chosen viewing distance (h) by the adjustment factor (f) to determine the required height of the cropped photograph for that viewing distance.

<b>Viewpoint</b>	<b>Cropped height (ch)</b>	<b>Original height (dh)</b>	<b>Adjustment factor (f=ch/dh)</b>	<b>Viewing Distance (vd)</b>	<b>Required height of image (h)</b>	<b>Adjusted height of image (h x f)</b>
VP1	100mm	106mm	0.943	400mm	192mm	181mm
VP2	100mm	117mm	0.855	400mm	192mm	164mm
VP3	100mm	108mm	0.926	400mm	192mm	178mm
VP5	100mm	109mm	0.917	400mm	192mm	176mm

### **Viewpoints Background**

The site itself is over 1 kilometre long by 0.66km wide and public viewpoints tend to be in excess of 1.4km from the proposed development with the exception of viewpoint 2 from an infrequently used public footpath running from the A46 dumb bells roundabouts to the M6 by Crouner Fields Farm to the northwest of the site at some 400m from the site.

The gently rolling countryside surrounding the site tends to be a little higher than the site but mature farm and roadside hedges, often containing mature trees, obscure views of the site from many potential vantage points.

The established hedge and trees along the western boundary and part of the northern boundary of the site also serve to break up views from close to the site. These trees fall within the 12 -20m height range, many of which exceed the mid-teens of metres in height.

#### **VP1**

Taken from the road that links the A46 at the dumb bells roundabouts to the site. The A46 is some 500m from the site boundary.

#### **VP2**

Taken from a footbridge over the M6 close by Crouner Fields Farm some 400m from the site boundary.

**VP3**

Taken from a footpath over Walsgrave Hill. Probably the most elevated view from the south which has a view of the site. Approximately 30% of the development sits to the west of the mass of Rolls Royce's buildings in the lee of Hill Park Wood.

**VP4**

Taken from the southern towpath of the Oxford canal. The towpath is bounded by a hedge of approximately 6ft in height with only very occasional glimpses through to the wider countryside and the site, which is largely obscured by intervening landscape features. For this reason this view was not pursued.

**VP5**

Taken from close by the junction of the B4065 and the B4029, some 1.6km from the development. The white Rolls Royce buildings can be seen as a thin ribbon in the distance.

Distant views from the east were not found due to intervening landscape features, roadside and hedges and field boundary hedges and trees.