

## Heathrow Airport Limited

## Heathrow's North-West Runway

### Landscape and Visual Impact Assessment



16 June 2014

AMEC Environment & Infrastructure UK Limited

---

## Copyright and Non-Disclosure Notice

The contents and layout of this report are subject to copyright owned by AMEC (©AMEC Environment & Infrastructure UK Limited 2014), save to the extent that copyright has been legally assigned by us to another party or is used by AMEC under licence. To the extent that we own the copyright in this report, it may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in this report.

The methodology (if any) contained in this report is provided to you in confidence and must not be disclosed or copied to third parties without the prior written agreement of AMEC. Disclosure of that information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Any third party who obtains access to this report by any means will, in any event, be subject to the Third Party Disclaimer set out below.

---

## Third-Party Disclaimer

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by AMEC at the instruction of, and for use by, our client named on the front of the report. It does not in any way constitute advice to any third party who is able to access it by any means. AMEC excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this report. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

---

## Non-Technical Summary

This Landscape and visual Impact Assessment has been prepared by AMEC Environment & Infrastructure on behalf of Heathrow Airport Limited (HAL). The report provides technical information and assessments to support Part 5 (Enhancing the Natural Environment) of Volume 1 of the Technical Submission to the Airports Commission<sup>1</sup>. The assessment relates to Landscape Assessment and Mitigation, with consideration being given to a strategic landscape and visual impact assessment (LVIA) to underpin the analysis.

### The Existing landscape

The study area encompasses a landform that is mainly low-lying, including the Colne Valley and the outskirts of west London. The original 19th century pastoral and horticultural land uses of the area have been largely lost due to the introduction of transport and power infrastructure, housing, industrial development and above-ground reservoirs and sand and gravel extraction. Tree cover is associated with flooded gravel pits, the River Thames, the River Colne and parkland landscapes to the west. To the north-west of the study area, beyond Slough, land-use is more rural in character with orchards, parkland and woodland.

Heathrow is surrounded by large scale airport infrastructure including hotels, offices and multi-storey car parks. Extensive residential development is present to the east and south. Smaller settlements north of Heathrow include Longford, Harmondsworth, Harlington and Cranford: these comprise largely 20th century housing, built around older historic cores. There are a number of gardens on English Heritage's register of historic parks and gardens including Langley Park, The Royal Estate parks at Windsor, Ditton Park, Langley Park, Osterley Park and Great Fosters and conservation areas within the study area. The area is crossed by several major roads including the M25, M4, A4 and A30. These are a source of constant noise from vehicle traffic, which lowers the tranquillity of the area and fragments the pattern of the landscape.

The buildings proposed as part of the third runway proposals would be located within and outside the existing airport boundary: the Zone of Visual Influence (ZVI) shows that the potential visibility of development is contained to a relatively small area due to the screening effect of the existing airport infrastructure, tree cover, urban development, raised reservoirs and motorways surrounding Heathrow. The airport infrastructure is currently visible from villages close to the airport boundary including Harmondsworth, Sipson and Harlington to the north, Poyle to the west, Stanwell and Stanwell Moor to the south and the residential areas of Hounslow and Spelthorne adjacent to the airport boundary to the south and east. There are longer views of the airport from higher ground, but from these locations the airport is seen in the context of the densely developed Thames Valley, with large-scale buildings including hotels, offices and light industry also visible.

---

<sup>1</sup> Heathrow Airport Limited (2014) Taking Britain further – Heathrow's plan for connection the UK to growth

### **Potential Impacts**

The Airports Commission's objective is, 'to minimise impacts on existing landscape character and heritage assets.' The potential impacts on landscape and visual amenity are set out below, followed by a discussion of mitigation measures and how these aim to achieve the Commission's objective:

#### Potential Impacts:

- Large scale development in the green belt: this would be contrary to current planning policies to contain development and preserve the open characteristics of the green belt;
- Changes to existing water courses and the flood plain: these would be contrary to the aims and objectives set out in the London Plan in relation to the Blue Ribbon network policy and the objectives in the All London Green Grid policy;
- Large scale development in the Colne Valley Regional Park; this would result in a narrowing of the park, loss of part of Harmondsworth Moor, re-routing of the Colne Valley Trail, other public rights of way, and the River Colne as well as significant changes to the existing landscape character through the introduction of large scale built elements in areas of green open space;
- Changes in levels of tranquillity in conservation areas and other public open spaces; these could be adverse or beneficial depending on the options taken forward;
- Changes in landscape character through the introduction of new infrastructure such as the re-routing of the A4 and the M25;
- The loss of Longford village and areas of Harmondsworth; this would change the landscape character of the area; and
- Changes to the landscape character of Harmondsworth and Sipson (currently discrete settlements set in a relatively open landscape), due to the introduction of airport infrastructure close to the villages.

### **Mitigation Measures**

Mitigation measures put forward as part of the mitigation strategy include the opportunity to address the objectives outlined in the All London Green Grid (ALGG) strategy for the Colne Valley Regional Park through: reducing the current fragmented landscape character of the area; the creation of a continuous network of public open spaces; the improvement and creation of new footpath/ cycle routes; and the reduction of severance created by major infrastructure such as the M25, M4, A40, A30, railway and canal.

#### Other mitigations include:

- The creation of new woodland settings for the villages directly affected through land take; the definition of the 'edge' of the Colne Valley Regional Park and Heathrow Airport through appropriate planting; and the addressing of the current fragmented landscape character of the area;

- Strengthening and integrating pedestrian and cycling connectivity both along, and especially between, the river corridors, settlements, public transport nodes, strategic transport routes and key walking/ cycling routes. The setting for the more localised links, for the Colne Valley Trail for example, could be improved from Colnbrook/ Poyle to Staines Moor and beyond, taking the route away from the A4 and creating a link over/ under the M25;
- New landscapes created; for example as part of the new rivers proposed and flood storage areas, where there will be a benefit for ecology and informal leisure; and
- New sports and leisure opportunities created as part of the new park, and in other areas surrounding the airport, with connectivity to local communities.

## Abbreviations

ALGG	All London Green Grid
CA	Conservation Area
CAA	Civil Aviation Authority
CAAs	Conservation Area Assessment
CPRE	Council for the Protection of Rural England
HAL	Heathrow Airports Limited
LVIA	Landscape and Visual Impact Assessment
NCA	National Character Area
NPPF	National Planning Policy Framework
RP&G	Historic parks and gardens
SAF	Sustainability Appraisal Framework
UDP	Unitary Development Plan
ZTV	Zone of theoretical visibility

# Contents

<b>1.</b>	<b>Introduction</b>	<b>1</b>
1.1	Background	1
1.2	Airports Commission Requirements	1
<b>2.</b>	<b>Legislative and Policy Context</b>	<b>3</b>
<b>3.</b>	<b>Baseline</b>	<b>4</b>
3.1	Methodology for Baseline Data Collection	4
3.1.1	Landscape Resource	4
3.1.2	Visual Amenity	4
3.1.3	Zone of Theoretical Visibility	4
3.2	Results of Baseline Review	5
<b>4.</b>	<b>Mitigation Strategy</b>	<b>11</b>
<b>5.</b>	<b>Assessment of Effects</b>	<b>21</b>
<b>6.</b>	<b>Conclusions</b>	<b>24</b>
	Table 5.1 Effects and Mitigation	21
	Appendix A Sensitive Areas	
	Appendix B Conservation Areas	
	Appendix C Predicted Effects through Changes to Overflying	
	Appendix D Legislation and Policy Review	
	Appendix E Figures	

# 1. Introduction

## 1.1 Background

This Landscape and Visual Impact Assessment and Mitigation Design Report has been prepared by AMEC Environment & Infrastructure on behalf of Heathrow Airport Limited (HAL). To meet the growing need for additional air capacity, HAL has proposed an extension to the existing Heathrow Airport<sup>2</sup>. The proposed development would include:

- A 3,500m runway to the north-west of the existing Airport;
- Two new terminal buildings;
- Aircraft movement areas and taxiways;
- Various aircraft stands (pier serviced stands and remote stands);
- Car parking; and
- Ancillary uses.

Further details of the development can be found in HAL's submission to the Airports Commission<sup>2</sup>.

This report provides the technical assessment and provides the justification for the landscape strategy presented in Volume 1 of HAL's submission to the Airports Commission<sup>2</sup>. The assessment of potential effects with and without mitigation was undertaken in accordance with the Commission's Sustainability Appraisal Framework (SAF) as described below<sup>3</sup>.

**Section 2** of this report describes the legislative and policy context relevant to the assessment. **Section 3** describes the current baseline of and surrounding Heathrow Airport. The mitigation strategy is detailed in **Section 4** with **Section 5** documenting the assessment of effects. Conclusions are found in **Section 6**.

## 1.2 Airports Commission Requirements

The Airports Commission SAF document, published initially in January 2014 and in final form in April 2014, sets out the methodology which the Commission will apply in assessing the 3 various masterplan submissions for delivering additional runway capacity in the UK. The objectives of the Commission's process related to Landscape are clearly defined in the SAF in the 'Place' Chapter. This states that the over-riding objective for landscape should demonstrate:

---

<sup>2</sup> Heathrow (2014) Taking Britain further – Heathrow's plan for connecting the UK to growth.

<sup>3</sup> Airports Commission (2014) Appraisal Framework. April 2014. Available at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/300223/airports-commission-appraisal-framework.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/300223/airports-commission-appraisal-framework.pdf)



*“Where possible, they (proposers) have taken all possible steps to minimise and mitigate their impacts on landscape, townscape, waterscape and heritage assets, including listed buildings. Schemes should be mindful of the landscape and townscape impacts of any urbanisation that might be a consequence of the delivery of new capacity”*

Furthermore it states that the Commission will assess landscape effects, within the following categories:

- Topography/ hydrology (albeit this is better dealt with in the water mitigation strategies);
- Land cover;
- Layout, density and mix of buildings;
- Sense of tranquillity;
- Light pollution;
- Culture – forms of landscape for culture and human interaction;
- Cultural spaces and human interaction; and
- Beauty.

## 2. Legislative and Policy Context

### National Planning Context

The Government's current planning policies on land use planning in England are set out in the National Planning Policy Framework<sup>4</sup> (NPPF). The NPPF came into effect in March 2012, replacing previously published planning policy statements and guidance in England. The importance of landscape character is acknowledged in the NPPF's core planning principles:

*'Planning should take account of the different roles and character of different areas, promoting the vitality of our main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it'.*

### Regional and Local Planning Context

The study area falls within a number of local planning authorities administrative boundaries. Designations associated with landscape issues that are common throughout the study area include:

- Green Belt;
- Conservation areas;
- Registered Parks and Gardens;
- Open space; and
- Metropolitan Open Land.

Below are specific policies pertinent to the area:

- Area of special local character (Hillingdon); and
- Areas of landscape importance (Runnymede).

The common theme across the local planning policies is to preserve the open characteristics of these designations and to safeguard their natural and historic features. These designations serve to protect and enhance green open spaces within densely developed urban and semi-urban edges of Greater London, Buckinghamshire and Surrey.

**Appendix D** contains a summary of the local policies that are potentially relevant.

---

<sup>4</sup> Department for Communities and Local Government (2012) National Planning Policy Framework

## 3. Baseline

### 3.1 Methodology for Baseline Data Collection

#### 3.1.1 Landscape Resource

The baseline study has identified the existing character of the landscape, its constituent elements, features and its geographical and historical context. It has assessed the condition of the landscape, the way it is experienced, the value attached to it and its susceptibility to change. The study area is broadly similar to the one extent of the zone of theoretical visibility (ZTV).

Key sources of information used in collating the baseline include OS mapping, aerial photography, local authority development plans, international, national and local landscape designations, and existing character assessments. The identification of character areas was informed by published character assessments: the National Character Area profiles<sup>5</sup> provided the wider landscape context of the site; the published landscape character assessments for the London Borough of Hillingdon, South Bucks District Council, the Royal Borough of Windsor and Maidenhead, and Surrey County Council provided more detailed descriptions. The findings of the desk study were supported by the undertaking of site survey, during early 2014, to identify key local landscape character features that may be affected by the proposed development. Consultation was also undertaken with Natural England and in earlier phases with the Colne Valley Regional Park.

The assessment considers the likely effects of both the construction and the operational stages of the proposed project. The baseline information has been collected for current conditions: this information has been used to forecast future baseline conditions so as to consider the likely nature of the baseline at the start of operations.

#### 3.1.2 Visual Amenity

The baseline study identified designated or protected views which might be affected by the development as well as potentially sensitive views within the study area. The selection of principal viewpoints from publicly accessible land was based on the extent of the ZTV (see below) of the development, the findings of the site survey and a review of planning policy documents.

#### 3.1.3 Zone of Theoretical Visibility

In order to identify the broad visual extent of the proposed development on the surrounding landscape/ townscape, ZTV has been modelled using Key TERRA-FIRMA software. The ZTV model enabled the identification of the areas potentially affected by views of the proposed control tower, new terminal and ancillary buildings and infrastructure. The 3D landform model was generated using digital terrain data over a radius of 5 km, and the spatial scope of the information collected has been largely defined by the extent of the ZTV. The ZTV is defined

---

<sup>5</sup> published by Natural England: [www.naturalengland.org.uk](http://www.naturalengland.org.uk)

as the approximate area from which the project will be visible from the eye level of a person standing on the ground. See **Figure 3.1, Appendix E**.

Incorporating the height of the new development, and the location and height of visual barriers such as existing urban settlements, vegetation and other solid objects in the proximity of the new development, the software calculated the areas of potential visibility, which were verified during the field survey.

## Assumptions

It has been assumed that the new control tower would be 30 m high, the new terminal building 15 m high and new ancillary buildings and structures 12 m high. The existing urban settlements were assumed to be 8 m high and the existing airport buildings a maximum of 15 m high.

## 3.2 Results of Baseline Review

### The Site

The proposed masterplan covers both the existing airport and an area adjacent to the existing airport to the north-west where most of the new infrastructure including the new runway would be located.

To the immediate north of the existing airport, within the boundary of the proposed development, is a busy landscape visually that supports significant airport support infrastructure, majoring along the A4 and including hotels, offices, government buildings and car parks all of which are relatively low rise.

To the north of the A4 lie the villages of Harmondsworth, Sipson, Harlington and Cranford.

Harmondsworth has a historic core, whereas the others are characterised by post-war suburban housing and more modern development. They have a range of facilities, such as shops, pubs, schools and play areas. Areas of farmland, parks and quarries, some of which are now used as landfill sites, surround the villages. The M4 lies directly to the north of these villages and the M4 Spur dissects them, running between Sipson and Harlington.

Longford village is to the north west of the existing Airport, situated along the old Bath Road, between the airport perimeter and the A3044. It includes a mix of housing, pubs, offices and other commercial activity, with some historic buildings at its core. The Heathrow Special Needs Farm is situated on its western edge.

Possibly the major landscape feature of the area to the west of the airport is the Colne Valley Regional Park, which runs north/ south from Rickmansworth to Staines covering over 40 square miles and has the River Colne as its core feature, but which has an influence that extends to 200 miles of river and canal, and over 60 lakes. The park contains farmland, woodland, nature reserves and country parks, as well as a visitor centre and the Chiltern Open Air Museum. In addition to walking and cycling, people can horse-ride, fish and undertake watersports.

In its Landscape Character Assessment, NE classifies the area around Heathrow as floodplain/ settled floodplain and gravel terraces, distinct village settlements, historic features, linked by busy roads and with a sizeable area

covered by current or redundant gravel extraction plants. In addition, the area supports farmland and a number of golf courses. Some of the gravel extraction plants are now landfill sites, or previous landfill sites that have now been restored mostly to farmland. This sums up well the site of the proposed new Heathrow's North-West Runway.

To the south of the airport is found a different landscape character with a more developed feel, incorporating modern airport-associated development, suburban housing and major roads. Apart from the occasional field and two small reservoirs, there is more or less continuous development occurring in a relatively flat landscape. Stanwell village stands out here with its attractive village green, flint church and Georgian housing.

## Topography

The study area encompasses the wide extent of the Thames floodplain with a relatively flat topography varying between 15 to 20 m AOD. The ground rises steeply to around 80 m above Runnymede and Old Windsor to the south-west of the existing airport. To the north-west, the ground rises more gently to approximately 60 m west of Iver Heath. Other changes in topography are more localised: these are associated with the River Crane to the south-east, the man-made landforms associated with Stockley Park to the north, landfill sites and sand and gravel workings. In this flat landscape, built elements are prominent including the large above ground reservoirs and transport infrastructure.

## Watercourses

Heathrow is located within the lower River Colne and River Crane catchments. The River Crane is located to the east of the airport. The three main rivers in the Colne Valley, to the west of the airport, are the River Colne, the Colne Brook and the Wraysbury River. North of the airport two diversions were taken off the River Colne to form the Duke of Northumberland's River and Longford River; these flow around the airport boundary, but they do not have associated floodplains. There are a number of raised water supply reservoirs in the area and smaller lakes resulting from old gravel workings.

## Land Cover (pattern of vegetation)

The Thames Valley, within the study area, is a wide floodplain, heavily influenced by urban development. Within the River Colne floodplain, there is a mix of arable cultivation, pasture, recreational areas such as golf courses, parks and areas of open water. Tree cover is variable but tends to be associated with the water bodies and the river. The original 19<sup>th</sup> century pastoral and horticultural land uses of the study area have been largely lost to above ground reservoirs and expanding urban development. Currently active or reclaimed areas of sand and gravel workings occur throughout the study area and are characterised by mineral stockpiles or where restored, public recreation spaces, areas of open water with fishing and sailing activities or rough horse pasture. The tree cover creates a more intimate landscape character in the flat topography. Conversely, the flat topography increases the expansive open character of the pasture and arable land. To the north west of the study area, beyond Slough, land use tends to be more rural in character with orchards, parkland and woodland cover. To the south and west, parkland landscapes are more evident with extensive woodland cover.

The study area is crossed by several major roads including the M25, M4, A4 and A30. These are a source of constant noise from the vehicle traffic, which affect the surrounding areas and lessens the area's value for tranquillity. The network of overhead power lines which traverse the study area are also visually intrusive.

## Sense of Tranquillity

The baseline information used to define tranquillity is the 2006 data provided by Council for the Protection of Rural England (CPRE) mapped on a 500 m x 500 m grid square for the whole of England. This is based on a number of data sets addressing seeing and hearing defined elements, resulting in a comparison of tranquillity relative to other locations in England. Given the urban and urban fringe setting of the majority of the study area, the resulting relative tranquillity levels are low as illustrated in **Figure 3.4, Appendix E**. The urban areas of Greater London, Staines, Egham, Slough, Windsor and Maidenhead correlate to the 'least tranquil' value locations. Areas corresponding roughly with the mid- point on the CPRE tranquillity value scale include areas to the north of Harefield, Black Park west of Iver Heath, and some areas of Windsor Great Park and Windsor Forest.

## Light Pollution

CPRE has produced light intrusion mapping for the whole of the UK. The study area has high levels of illumination reflecting its highly urbanised character. Where areas of public open space are unlit, they tend to be in close proximity to highways with roadside lighting and built up areas with street lighting and light spill from buildings.

## Culture (Forms of landscape for culture and human interaction)

There are a number of conservation areas and gardens on English Heritage's register of historic parks and gardens within the study area: these are discussed below. For detailed descriptions of the heritage features please refer to the Heritage report. In terms of the landscape topic, the settings of conservation areas and historic parks and gardens are considered solely in terms of the effects on views to and from the designated areas. In terms of this study, the potential changes in overall tranquillity are also discussed.

### Conservation Areas

Conservation Areas (CA) where direct views of the proposed new airport infrastructure would be possible (as have been identified through site visits) are as shown below, with more detail on each provided in **Appendix B**:

- Longford Village;
- Harmondsworth Village;
- Harlington Village;
- Cranford Park;
- Stanwell; and

- Colnbrook.

### *Registered Parks and Gardens*

There are a number of historic parks and gardens (RP&G) that fall within the extent of the modelled ZTV. Some of these have views to the areas within which there are development proposals (as have been identified through site visits). These are listed below and further details are provided in **Appendix B**:

- Langley Park – Buckinghamshire
- Royal Estate – Windsor
- Home Park – Windsor
- Osterley Park - Hounslow

Details of any RP&G that may be overflowed are provided in **Appendix C**.

### *Landscape Character of the Surrounding Area*

The landscape character of the Heathrow Airport is influenced by the complex land uses within the surrounding areas and its location on the edge of Greater London. The relevant National Character Areas (NCAs) include Thames Valley (NCA 115), Inner London (NCA 112), and North Thames Basin (NCA 111) (see **Figure 3.2, Appendix E**).

#### *Thames Valley (NCA 115)*

The Thames Valley NCA includes Heathrow Airport and the more characteristic features of the study area. The landform is a mainly low-lying, stretching from Reading eastwards and includes Slough, Windsor, the Colne Valley and the southwest London fringes. Within the relatively flat landscape, there is a prominent local outcrop of chalk on which Windsor Castle sits. The River Thames provides a unifying feature through a very diverse landscape of urban and suburban settlements, infrastructure networks, fragmented agricultural land, historic parks, commons, woodland, reservoirs and extensive minerals workings. The NCA is dominated by hydrological features including the Thames (with the Thames Path National Trail which runs the length of the NCA) and its tributaries, part of the Grand Union Canal, streams, lakes, canals and open water bodies (the result of restored gravel workings) to the south-east edge of the NCA. Although the area is dominated by urban development, pockets of broadleaved woodland, open grassland, parkland, wetlands, meadows and limited arable fields provide escape and tranquillity. Although there is virtually no undisturbed land in the NCA, parts are valued for their relative tranquillity. The area has, however, an urban character, and there are very few villages of more traditional character, although almost half of the area is greenbelt land and development has been restricted in areas like the Crown Estate land and the grounds of Eton College. Important historic houses and palaces can be found in the Thames Valley flood plain including Windsor Castle and Hampton Court Palace, many of which are set within historic parkland on higher ground which is a particular feature of this NCA. Towards London in the east, the natural character of the area is overtaken by urban influences: a dense network of roads (including the M25

corridor), railway lines, golf courses, pylon lines, reservoirs, extensive mineral extraction, numerous flooded gravel pits and Heathrow Airport itself.

### *Inner London (NCA 112)*

This NCA extends west to the edges of Richmond Park and Putney and as such has limited influence on the landscape character adjacent to the airport but is included here to provide context for the wider landscape setting. The Inner London NCA is a predominantly urban area located at the centre of the Thames Basin on a broad flood plain which gently rises to form low, wooded ridges to the north and south, providing panoramic views of London's skyline, mostly from the northern border with the Northern Thames Basin NCA. Although the land cover within the NCA is almost entirely urban, there is an extensive network of green infrastructure including large public parks such as Hyde Park, heaths and commons to the north and south and garden squares, churchyards, allotments and public open spaces throughout the NCA. A well-developed network of public rights of way and long distance footpaths (Thames Path National Trail) contribute to the green infrastructure network of the Inner London NCA. A network of rivers, streams, canals, lakes, reservoirs and smaller waterbodies are features of the NCA. Due to the dense urban development, the overall tranquillity of the Inner London NCA is compromised, however, locally there are parks and green spaces scattered among the built environment which provide highly valued pockets of higher tranquillity.

### *Northern Thames Basin (NCA 111)*

The Northern Thames Basin NCA is a diverse area which extends from Hertfordshire in the west to the Essex coast in the east and includes the suburbs of North London. The NCA boundary runs to the east of Heathrow airport and sets out the landscape character setting to the north and east. The NCA includes a rich geodiversity, archaeology and history, and supports diverse landscapes ranging from the wooded Hertfordshire plateaux and series of river valleys, to the open landscape and predominantly arable area of the Essex heathlands, with areas of urbanisation scattered throughout. The landform is varied with a wide plateau divided by river valleys. There are a wide variety of semi-natural fragmented habitats in the area. Market towns in the area have expanded over time, as have the London suburbs and commuter settlements.

### *Colne Valley Regional Park*

The Colne Valley Regional Park, which is located close to Heathrow, including fringing the western boundary of the Airport itself, is an important landscape element of the area although difficult to identify due to its flat topography, the presence of major infrastructure within its vicinity such as the M25, M4, railway corridors and the Grand Union canal, and the fragmented nature of the open spaces and combination of other landuses. The Colne Valley Regional Park was established in 1965 and stretches in a 3 mile wide band and stretching in length some 15 miles from Rickmansworth in the north, to the River Thames and Staines in the south. The majority of the land is in private ownership but there is a network of footpaths, primarily the Colne Valley Trail, that link the larger areas of public access, and provide access to countryside areas. Farmland does remain, mostly mixed and small scale, including smallholdings and orchards, and is generally either to the north of the area or within the Colne Valley Park.



The condition of the open spaces are variable as noted in the South Bucks District Council's open space, sports and recreational facilities strategy report<sup>6</sup> as a result of different land ownerships, past and present mineral works and landfill, and the land-use pressures of the urban fringe location.

### *Visual Amenity*

The ZTV model (**Figure 3.1, Appendix E**) shows that the extent of potential visibility of the proposed development and the corresponding study area is relatively contained due to the location of the new buildings within the existing airport infrastructure and urban and semi-urban areas beyond Heathrow. Although the study area is characterised by low-lying and mostly flat topography, the presence of residential and light industrial estates obscure most views of the airport. The existing mature vegetation intermittently spread across the area also helps to reduce the visibility of the existing airport infrastructure.

The following receptors have been identified as being potentially sensitive to changes in views associated with the development proposals. In identifying these receptors consideration has been paid to existing landform and features which may serve to screen developments including for example motorway embankments and raised reservoirs.' Further detail on these sensitive receptors is provided in **Appendix A**, but include the villages and open spaces of:

- Stanwell Moor;
- Stanwell;
- Harmondsworth;
- Harmondsworth Moor Country Park;
- Sipson;
- Harlington;
- Poyle;
- Staines Moor;
- West Drayton;
- Cranford;
- Stockley Park; and
- Egham/ Englefield Green/ Cooper's Hill/ RAF Memorial.

---

<sup>6</sup> [http://s3.amazonaws.com/zanran\\_storage/www.southbucks.gov.uk/ContentPages/52911250.pdf](http://s3.amazonaws.com/zanran_storage/www.southbucks.gov.uk/ContentPages/52911250.pdf)

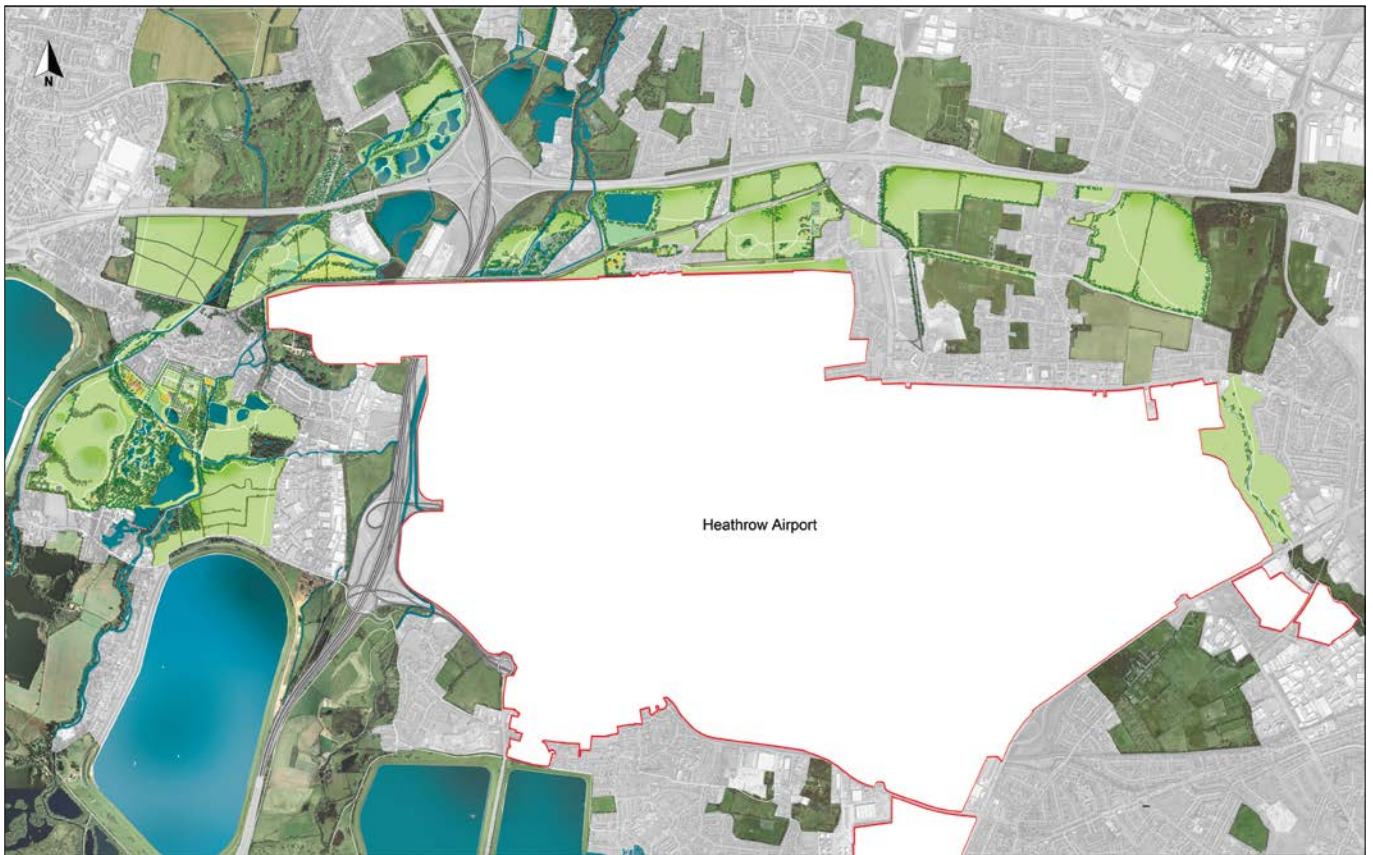
## 4. Mitigation Strategy

This chapter restates the strategy presented within the masterplan submission. This has been undertaken in order for this report to be read as a 'stand alone' document. Throughout the description of the strategy additional detail has been provided to assist the Airports Commission and their consultees in better understanding the mitigation strategy. However, there is no deviation from the strategy which was set out and costed for in the masterplan submission documents. The overarching objectives for the landscape mitigation strategy were set out in this submission as such:

- Mitigate any effects on the landscape character resulting from a third runway;
- Use landscape as part of the screening package of mitigation for the airport in response to the strategic visual impact assessment, in co-ordination with other aspects of the design such as security and land-take;
- Re-provide any public paths that are impacted;
- Enhance existing landscapes and improve access to green spaces for the local community including the Colne Valley Regional Park;
- Enhance the river infrastructure, giving access and leisure opportunities to communities to the north, east and south of the airport; and
- To take a long view, considering how the design will mature and evolve as a changing landscape character for the area, and how it will work with ecology, recreation, water management and education into the future including considering the implications of climate change when making our design proposals.

This document provides further detail with regard to the landscape and visual mitigation strategy which has allowed the assessment of the effects of the masterplan to be better informed. **Figure 4.1** illustrates the landscape and visual mitigation proposals.

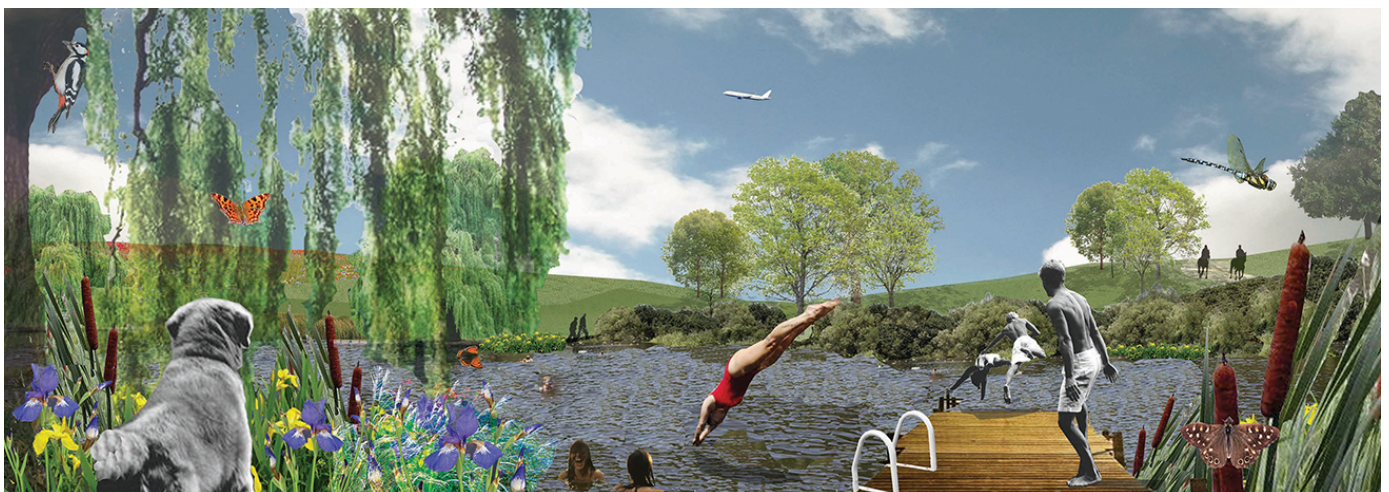
**Figure 4.1 Illustrative Masterplan**



**Managing the Effects of the Masterplan**

The requirement to mitigate the effects of the proposals on all water, biodiversity, landscape and recreation features has presented an opportunity to redevelop the Colne Valley Regional Park in line with the principles of the Colne Valley Regional Park Action Plan. The proposals ensure the creation of new, attractive green space within an expanded park utilising the diverted water-course regime and the new flood storage proposals. A new landscape in the local area is proposed, which provides a much enhanced recreational offer, with increased opportunities for rambling, cycling, running, dog walking, swimming, fishing, picnicking and interacting with nature.

**Figure 4.2: Illustration of the Enhanced Colne Valley Park with New Watercourses and Landscaping**



Although the proposals below present a relatively specific design, the reality is that the detail will be developed in consultation with a range of organisations including local government, statutory consultees, local communities, school groups, sports clubs, rambling groups and the Friends of the Colne Valley Park. Newly created features must meet local needs and desires if they are to be successful, and accommodate recreation, biodiversity and water management uses.

The Colne Valley Trail will be re-provided as a public right of way, incorporating appropriate links to the communities surrounding the Park (see **Figure 4.2** and **4.3**). This new route is an enhancement in terms of routing and the landscape character it passes through. It will directly benefit local people, allowing more access options and potentially providing greener routes to access work, schools and other residential areas.

Figure 4.3: Landscape proposals for the enhanced Colne Valley Park to the south of Colnbrook



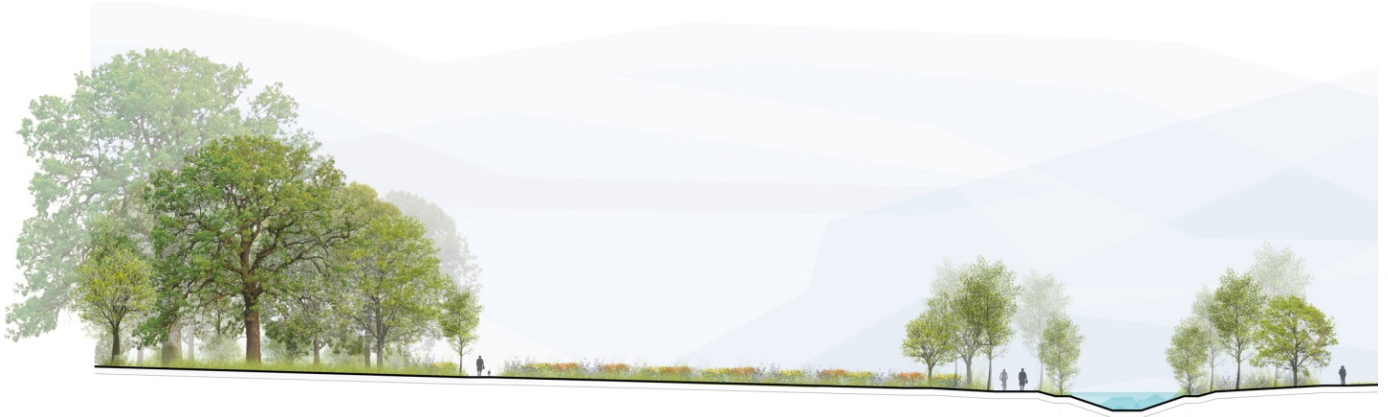
- 1. Sports pitches
- 2. Formal gardens
- 3. Allotments
- 4. Visitor centre and cafe

- 5. Natural swimming pond and deck
- 6. Wet woodland
- 7. Wildlife ponds and wetlands

The new park will have a less industrial character than the section that currently houses the Colne Valley Way. Where it crosses transport routes it will be designed to be both attractive and safe.

The proposals will greatly enhance the setting of the trail and provide extensive access improvements to the wider landscape. Better footpath access is, however, only part of the story. A major new landscape and recreational facility will be created along the footpaths. Specifically, this will comprise a bio-diverse landscape and attractive riverscape landscape. New planting in appropriate places will be a main feature, and will include woodland, hedges, and grass/ wildflower meadows, designed in conjunction with ecologists, and again supporting HAL's biodiversity objectives. There will also be ornamental planting to add more colour, texture and scent as appropriate, for example in more formal spaces or close to buildings. For local people there will be a variety of planting in greater amounts than exists currently.

**Figure 4.4: Illustrative cross section through proposed woodland, river and meadow**



The creation of an enhanced park will be the catalyst for many other improvements, including improved formal recreation facilities such as playgrounds, a visitor's centre and cycle tracks, and re-provision of any facilities affected by the proposal. These opportunities will be discussed with local stakeholders and the community. The Heathrow Special Needs Farm, that will be lost as part of the proposals, will be re-provided in this area.

More widely, including outside the park, landscape mitigation in the form of trees, hedges and landform will be included to screen areas of the airport. This document does not exactly detail where such planting will occur, but a Landscape and Visual Impact Assessment (LVIA) study has already largely been completed. The LVIA study gives more detail and will be provided as part of the supplementary technical submission. The landscape proposals do, however, include significant landscape planting as screening along the northern boundary of the expanded airport.

Although the proposals for the new park will be of great benefit for the local community, those most affected by the airport expansion proposals particularly those communities to the north of the existing airport will benefit most from landscape and recreational enhancement right on their doorstep. Therefore the development of a wider green link network is proposed. Communities living in Harmondsworth, Sipson and Harlington will benefit especially from new access links to the west into the new park and the east to Cranford Park, the village of Cranford and to the River Crane corridor. These links will comprise new paths for pedestrians and cyclists, and will be supported

by improvements to adjacent green space achieved by simple planting such as new hedgerow and tree copses and by providing areas for play. HAL proposes to facilitate this by working with existing landowners to improve the quality of their land and then support its management, rather than purchasing the land. This will require significant buy-in from landowners. Where this cannot be achieved, land purchase will be considered.

**Figure 4.5: Illustrative landscape proposals for the area to the north and east of the airport**



Inspiration will be derived from the existing Harmondsworth Moor to create these wider green links. The Harmondsworth Moor is a man-made landscape between the river and the M25 that uses landform and planting to create a green oasis in non-rural surrounds. This area is popular with local people and has a countryside-style landscape.

All planting and landscape design will be undertaken in accordance with the Civil Aviation Authority's (CAA) guidelines in their CAP 772 Birdstrike Guidelines document. The CAA will act as an important consultee in finalising the detailed proposals.

The need to mitigate the effects of our proposals on all of water, biodiversity, landscape and recreation features has presented an opportunity to redevelop the Colne Valley Regional Park in line with the principles of the Colne Valley Regional Park Action Plan and All London Green Grid. The proposals ensure the creation of new, attractive green space within an expanded park utilising the diverted water-course regime and the new flood storage proposals. A new landscape in the local area will be created which provides a much enhanced recreational offer, with increased opportunities for rambling, cycling, running, dog walking, swimming, fishing, picnicking and interacting with nature.

**Figure 4.6: Harmondsworth Moor in winter**



All planting and landscape design will be undertaken in accordance with the Civil Aviation Authority's (CAA) guidelines in their CAP 772 Birdstrike Guidelines document. The CAA will act as an important consultee in finalising the detailed proposals.

The need to mitigate the effects of our proposals on all of water, biodiversity, landscape and recreation features has presented an opportunity to redevelop the Colne Valley Regional Park in line with the principles of the Colne Valley Regional Park Action Plan and All London Green Grid. The proposals ensure the creation of new, attractive green space within an expanded park utilising the diverted water-course regime and the new flood storage proposals. A new landscape in the local area will be created which provides a much enhanced recreational offer, with increased opportunities for rambling, cycling, running, dog walking, swimming, fishing, picnicking and interacting with nature.

### **Landscape Character Improvements**

There is the potential for proposals to improve local landscape character, which is considered to be currently relatively poor. The most relevant national character area for the masterplan area is the Thames Valley, which is previously described in this report. Key points in relation to the Heathrow proposals include it being low lying, dominated by rivers, open water bodies, mineral extraction, largely urban in nature but with valued areas of some tranquillity, but fragmented.

The currently fragmented landscape character of the area and poor visual legibility will be considered by creating a more coherent landscape structure to define the redeveloped part of the Colne Valley Regional Park. This will help to visually separate it from the outskirts of Slough and Heathrow Airport (while allowing views in). This would be achieved through the creation of a continuous network of publically accessible open spaces linked to the 'hubs' defined in the Strategy such as Black Park/ Langlely Park and Little Britain/ Thorney Park to the north west and



Harmondsworth Moor and Staines Moor to the south. Enhancing these links, particularly the north - south and east - west connections will reduce the severance created by the major infrastructure such as the M4, A40, A30, railway, canal and M25.

As part of the flood and river management proposals, water will be celebrated as part of the landscape character with enhanced links and access to the river and flood storage areas which are indicated on the Illustrative Landscape Masterplan, for example in areas 2, 10 and 14.

### **Visual Impact Mitigation**

The visual mitigation for the expansion is included in **Table 5.1**. This considers the villages, residential areas and the Colne Valley Park that are adjacent or close to the airport, and will be affected by the development.

More distant views (for example Runnymede) identified by the ZTV and site survey are more difficult to mitigate, unless the mitigation is undertaken at the source of the view which is likely in most cases to be impossible as it would potential impact other views from these receptors. With this said the views will therefore change from these viewpoints, but it is unlikely that the impacts will be too significant given that they already experience a view of the existing Airport.

### **Access**

A key part of the strategy is the strengthening and integrating of pedestrian and cycling connectivity both along, and especially between, the river corridors, public transport nodes, strategic transport routes and key walking/ cycling routes, and improving connectivity of the Grand Union Canal towpath. Green links to the River Thames and around Heathrow will be enhanced, strengthening and adding to existing east/ west pedestrian routes between the Colne and Crane river valleys.

In addition the masterplan will re-provide the Colne Valley Trail as a public right of way, incorporating appropriate links to the communities surrounding the Park. This new route is an enhancement in terms of routing and the landscape character it passes through. It will directly benefit local people, allowing a greater number of access opportunities to the Park.

There are significant other benefits proposed to the local access network. Mitigation measures to the south include the potential to create green infrastructure links to Bedfont Country Park to Duke of Northumberland River.

Mitigation measures incorporated into the masterplan will provide the opportunity to address some of the vision and objectives outlined in the All London Green Grid (ALGG) strategy<sup>7</sup> in relation to the Colne Valley Regional Park, and include: The ALGG notes that the fragmented patterns of land ownership, in five boroughs, have undermined coherent open space management. To compensate for the loss of land within the Colne Valley Regional Park the masterplan aims to re-connect the fragmented green spaces, to reclaim land that is currently degraded within the corridor, to implement green infrastructure strategies to enhance wildlife corridors, to manage surface water flooding and to incorporate recreational activities and to improve public access to green spaces.

---

<sup>7</sup> Green Infrastructure And Open Environments: The All London Green Grid, Supplementary Planning Guidance, March 2012, London Plan 2011 Implementation framework, Mayor of London

Measures will be incorporated into the design to define the ‘edge’ of Colne Valley regional park and Heathrow through appropriate planting. The plan Incorporates compatible and self-sustaining recreation facilities within this transition landscape between rural and urban through community involvement such as education facilities, golf courses, water sports, walking, cycling, horse grazing together with the potential to explore community orchards and local food production.

The illustrative masterplan (**Figure 4.5**) indicates the breadth of the measures proposed and in **Appendix E** there are details of the 33ha of the park created, in terms of a detail plan and quantities of the features incorporated.

The new park will have a less industrial character than the section that currently houses the Colne Valley Way.

Where it crosses transport routes it will be designed to be both attractive and safe.

The proposals will greatly enhance the setting of the trail and provide extensive access improvements to the wider landscape. Better footpath access is, however, only part of the story. Along the footpaths major new landscape and recreational facility will be created. Specifically, this will comprise a bio-diverse landscape and attractive riverscape landscape. New planting in appropriate places will be a main feature, and will include woodland, hedges, and grass/ wildflower meadows, designed in conjunction with ecologists, and again supporting our biodiversity objectives. There will also be ornamental planting to add more colour, texture and scent as appropriate, for example in more formal spaces or close to buildings. For local people there will be a variety of planting in greater amounts than exists currently.

The wider plan also indicates the extent of enhanced spaces and links created from local communities to enjoy the park and its opportunities.

The creation of an enhanced park will be the catalyst for many other improvements, including improved formal recreation facilities such as playgrounds, a visitor’s centre and cycle tracks. These opportunities will be discussed with local stakeholders and the community. The Heathrow Special Needs Farm, that will be lost as part of the proposals, will be re-provided in this area.

More widely, including outside the park, landscape mitigation in the form of trees, hedges and landform will be included to screen areas of the airport and include significant landscape planting as screening along the northern boundary of the expanded airport.

The design has been developed with the water specialists and has evolved into the enhanced scheme as illustrated on the Landscape Masterplan, incorporating new water features and access to them<sup>2</sup>. These features include rivers, wetland areas and flood alleviation basins. They will create a variety of water influenced landscapes that integrate the requirements of water engineering, ecological enhancement and landscape opportunities. These newly created opportunities allow not just enhanced access to these water areas is for passive enjoyment, but active participation in water sport and fishing.

There are also proposed enhanced links to existing features such as the Poyle Channel, and the setting of the Wraysbury river and bridleway adjacent to the M25. There is a possible opportunity to create a more natural

channel for the Wraysbury River, separated from the M25, and incorporate public access once the ongoing gravel extraction has been completed in the area.

The integrated design solution for the Landscape Masterplan has been developed with a team of specialists in their fields, mindful of the future development and sustainability of the solutions proposed and the opportunity for these to flourish over time. Integration with the communities they serve will be a key part of the development of these proposals to ensure relevance to local people, to be used and enjoyed by them and for the landscape to develop over time.

## 5. Assessment of Effects

**Table 5.1** details the potentially significant effects that are likely to arise as a result of development of the masterplan proposals. It then indicates the mitigation/ compensation/ enhancement measures that are proposed and indicates the likely success of these.

**Table 5.1 Effects and Mitigation**

Effect	Mitigation/ Enhancement/Compensation Measure	Result of the Mitigation
Changes to the landscape character of Harmondsworth with part of the village being lost	<p>Enhancement to Harmondsworth to include allotments, children's play area, access to new river influenced landscapes, and a re-landscaped setting for the village church. Links created to Harmondsworth Moor Park, and east towards the other villages.</p> <p>Heathrow Special Needs Farm is proposed to be relocated towards the west between Horton and Colnbrook.</p>	<p>Harmondsworth gains enhanced facilities specifically for the village, for young people and adults.</p> <p>The enhanced pedestrian and cycle links between the villages mean free safer travel</p> <p>The Special Needs Farm can be designed and built as per the charities requirements.</p>
Changes to the landscape character of Sipson caused by development of the airport within its immediate vicinity	<p>To the north of the village enhanced facilities will be provided including sports pitches, a community centre, and formal gardens.</p> <p>Enhanced pedestrian and cycle links between Sipson and the other villages close by.</p>	<p>The village gains new facilities for sports, and leisure activities, a central community meeting place, set in landscaped gardens.</p> <p>The better links with the other villages means free safe travel.</p>
Changes to the amenity of Cranford Park and Cranford Village	<p>Enhanced connections with rich bio-diverse influenced planting, and better links to the Crane River.</p>	<p>Cranford will have better links along the green corridor of the River Crane and biodiversity enhancements that will have been undertaken as part of the expansion</p>
Permanent loss of part of the Colne Valley Park and Trail and part of Harmondsworth Moor	<p>The Colne Valley Trail will be re-routed as per the landscape plan, and other footpaths will be re-routed and additional ones proposed. The re-routed rivers will enable an enhanced park to be created, allowing water influenced landscapes to be enjoyed as part of walking, cycling, water sports and greater access for education. These measures are co-ordinated as a solution for water engineering issues and enhanced ecological areas together with the benefits this brings visually for the landscape and physical enjoyment.</p> <p>A range of enhancements will be created, with bio-diverse landscapes north of the M4 including woodland, to features such as visitor centres, sports pitches and a mountain bike course closer to the populations of Horton, Colnbrook and Poyle. These settlements will also be enhanced by having access to extensive country park type landscapes with water, woodland, a natural swimming pond and educational centre.</p> <p>Harmondsworth Moor will have better pedestrian and cycle links with the other natural 'ring' of green spaces to the north of the airport.</p>	<p>The integrated masterplan for the park filters benefits into the local communities in the form of access to natural environments, increased sport provision and benefits for education.</p> <p>The local ecology benefits with a greater variety of landscape types, and the overarching objective of designing in biodiversity to schemes.</p> <p>Enhanced cycle and pedestrian links allow free and safer travel between local communities.</p> <p>The re-masterplanning of the park gives opportunities for local communities to be involved with the evolution of its design and create facilities that are pertinent to them and give them a stake in future developments.</p>

**Table 5.1 (Continued) Effects and Mitigation**

Effect	Mitigation/ Enhancement/Compensation Measure	Result of the Mitigation
	Increased tree and understorey planting	This will aid the screening on the eastern part of the park and re-routed rivers where it is close to the western part of the masterplan and add to biodiversity of the area. There will be greater screening of the M25 and M4.
Diversion of the River Colne, loss of semi-natural river corridor	This is covered in the section above, but in conjunction with the water engineering solution and ecological requirements of the project, bio-diverse landscapes will be created as part of the re-routed river solution.	The local ecology benefits with a greater variety of landscape types, and the overarching objective of designing in biodiversity to schemes.
Loss of Colne Valley Park due to new balancing pond	Improved links into the enhanced park.	The new pedestrian and cycle links will provide free and safer travel.
Loss of green belt land, playing field and 'buffer' between Stanwell Moor and Stanwell Village	Improved links into the enhanced park, re-provision of playing field.	The new pedestrian and cycle links will provide free and safer travel.
Loss of woodland to Stanwell Village	New planting of trees as part of the park and the landscape design to the airport perimeter.	There will be increased planting, designed depending on the situation as a mix of woodland to certain areas, and more formal planting closer to the airport as part of a package of screening.
Loss of Green Belt land and buffer to East Bedfont and airport	Screening as part of the landscape design to the boundary perimeter of the airport.	There will be increased planting, designed depending on the situation as a mix of woodland to certain areas, and more formal planting closer to the airport as part of a package of screening.
Loss of amenity value caused by overflying	Detailed consideration of the airspace design will be undertaken at a later stage. During that time consideration will be paid to the presence of key landscape features including CA, R P&G and significant areas of open space.	The effect of overflying on sensitive landscape receptors will be assessed once the airspace design is fixed.
Visual effects on Harmondsworth, Sipson and Harlington	Noise barriers and bunds will be located along the new airport boundary adjacent to the northern villages of Harmondsworth, Harlington and Sipson.	These will have the added benefit of acting as visual barriers and where possible they will be subject to attractive planting.
Harmondsworth village	Screening to the south will be provided in the form of fencing and earth bunds to protect views from the conservation area.	Views of the expansion is limited at eye level by the screening.

**Table 5.1 (Continued) Effects and Mitigation**

<b>Effect</b>	<b>Mitigation/ Enhancement/Compensation Measure</b>	<b>Result of the Mitigation</b>
West of the development	To the west measures such as earth mounding will be incorporated into the proposals to reduce the visual impact of proposals on settlements such as Colnbrook and Poyle. In addition there will be new planting within existing open spaces to help improve the setting for these settlements.	Increased planting to the surroundings of the settlements, including the increased tree planting as part of the Colne Valley Park will bring attractive natural features to the area and increase biodiversity. They will also provide opportunities for leisure activities.
Visual Impact to western part of Sipson	To the west of the village acoustic and visual barriers will be erected.	Visibility into the airport at ground level will be screened.
Visual impact on Stanwell and other settlements to the south of the airport	To the south of the airport at Stanwell mitigation measures incorporated into the masterplan strategy include the creation of a new woodland setting for the village and a new balancing pond area which will act to define the edge of the airport from the village.	Visibility into the airport at ground level will be screened and will create a visual buffer for Stanwell and other villages in this area.
New airport buildings, and their visibility	The expansion includes additional buildings especially to the west and the Colne Valley Park. The buildings will be similar in height and mass to existing airport buildings, but a greater volume. These are likely to be visible from the park and Staines Moor. As part of the park mitigation screening will be designed as part of the proposals, and the boundaries of the core part of the airport will incorporate landscape as part of a high quality design.	There will be increased planting, as semi natural woodland to the more rural areas, and more formal planting closer to the airport as part of a package of screening.
Visual impact of new buildings in relation to residential buildings	Use of landscape design to screen buildings in local context.	There will be increased planting, designed depending on the situation as semi natural woodland to the more rural areas, and more formal planting closer to the airport as part of a package of screening.
Visual impact associated with proximity to residential areas, public open space and public rights of way.	A mitigation package of screening using the landscape design to the perimeter and localised screen planting.	There will be increased planting, designed depending on the situation as semi natural woodland to the more rural areas, and more formal planting closer to the airport as part of a package of screening.

## 6. Conclusions

The process has been an integrated one, with the analysis of the existing area around Heathrow, based on the impact of the masterplan proposals for a third runway, and how this has fed into a landscape solution.

The solution has taken what initially seemed a negative issue regarding the implications for the Colne Valley Park and turned it into a huge positive design opportunity for the area. The design not only allows a continuous park and trails, but will have far reaching benefits for the local community around Heathrow. The design has spread from the park and reached communities to the north, east and south of the airport, allowing the enhancement and creation of green spaces, new and improved connections between local areas and these landscapes, and the general overall improvement of leisure and sport activities. The expansion gives the opportunity to create a positive future for the landscape around the airport and bring benefits for the local and airport community.

# Appendix A

## Sensitive Areas



In addition to the urban development to the east and south, the M25 and M4 motorways and steep reservoir banks create strong visual barriers to the west and north of the airport. Framed views of the control tower and Terminal 5 are possible from open spaces such as Staines Moor and Bedfont Lakes Country Park and from further away, mainly where the land rises to the north and south of the Thames Valley. These elevated viewpoints afford wide panoramas of the Thames Valley. Heathrow Airport is visible in these panoramas; however, it is not an incongruous element in the view because it is one of a number of similar infrastructure elements visible. The control tower does break the skyline from some viewpoints but there are a number of chimneys associated with industrial developments (including an incinerator stack to the south-west of Junction 15 on the M25) and large scale buildings including hotels, offices and light industry also visible. There are elevated viewpoints from Stockley Country Park (approximately 4 km to the north) and Cooper's Hill (approximately 4.5 km to the south-west) and more localised viewpoints from the man-made landforms at Bedfont Lakes Country Park and Harmondsworth Moor.

There are some close views possible from villages adjacent to the airport boundary, including Harmondsworth, Sipson and Harlington to the north, Poyle to the west, Stanwell and Stanwell Moor to the south and residential areas of Hounslow and Spelthorne adjacent to the airport boundary to the south and east.

## Sensitive Receptors

### *Stanwell Moor*

Located to the south-west of the existing airport, the village is surrounded on three sides by roads, with the M25 to the west, the A3113 to the north and the A3044 to the east. The Colne Valley Way runs along the River Colne on the western edge of the village. There is existing vegetation on the village edge and on field boundaries; despite this, the settlement has relatively close views of Terminal 5 and the surrounding infrastructure.

### *Stanwell*

The village is situated between the southern edge of Heathrow Airport and the Staines reservoirs. The residential areas border the large infrastructure buildings associated with the airport to the north and West Bedfont Water Treatment Works to the west. The residential properties located in the village have close and direct views of the airport, Terminal 5 and associated infrastructure.

### *Harmondsworth*

The village of Harmondsworth is located to the north of the airport. Its historical core sits in the northern part of the village, with post-war residential properties to the south and along the well-vegetated A3044. Although situated so close to Heathrow, the residential properties are relatively well screened by the intervening vegetation and the airport buildings; consequently infrastructure can only be seen from the edge of the village and through the gaps in roadside hedgerows and from upper windows. Intermittent, oblique views of planes taking off and landing are possible from the village. There are limited views from the conservation area south towards the airport, as views are partially screened by existing built elements and the outskirts of the village.

### *Harmondsworth Moor Country Park*

This is an area of former gravel working and landfill sites that has been reclaimed and landscaped to create the Harmondsworth Moor Country Park, opened in 2000. From the vantage point there are long views towards Windsor and the airport framed in places by existing tree cover and the British Airways Waterside facility. Noise from the M25 is continuous. Below is a picture of Harmondsworth Moor.

**Figure A.1** Harmondsworth Moor



### *Sipson*

Sipson is a small village located to the north of Heathrow. It is characterised by its linear development pattern – most of the residential properties are located along the main road, A408 and to the west of the M4. The village borders the airport infrastructure buildings including hotels along the A4 road. There is a gravel pit and green field located between Sipson and Harmondsworth. The land form is slightly raised, obscuring views from the edges of Sipson. However, views of the airport infrastructure are possible from the residential properties located mostly to the south of the settlement. Intermittent, oblique views of planes taking off and landing are possible from the village.

### *Harlington*

Harlington is a large village located between the M4 to the north and Heathrow Airport to the south, with sports pitches and green fields to the west and east. There are views of the airport infrastructure from properties south of

the village beyond the intervening hotels, offices and car parks associated with the airport. However, the village is relatively well screened by the existing large scale airport infrastructure buildings and some vegetation on the village edges. Intermittent, oblique views of planes taking off and landing are possible from the village. There are limited views of the existing control towers from the conservation area in the centre of the village, partially screened by existing built elements and some vegetation.

### *Poyle*

Poyle village is located to the west of the airport and is separated from it by the M25 corridor. It is adjacent to the large trading centre and the disused railway line to the east. Existing vegetation screens most views to the east and of the airport. Poyle is located under the flight path of the existing northern runway and therefore views of planes approaching the landing and taking off are possible from the residential properties.

### *Staines Moor*

Staines Moor is designated as Common Land and is located to the south of the airport, between the M25 and Wraysbury Reservoir to the west and King George VI Reservoir to the east. To the north of Staines Moor there is a restored gravel pit and landfill sites and to the south are the railway line and the A30. Staines Moor is a relatively open landscape with some existing vegetation around the edges. The Colne Valley Way and River Colne cross the land in the north-south direction. There are framed views of the existing airport infrastructure from the mostly western parts of the moor. Views of planes landing and taking off are possible from this location, however, they are viewed from a distance of approximately 2 km.

### *West Drayton*

West Drayton is located to the north of Heathrow airport. The M4 is located immediately to the south of the residential area and creates a strong visual barrier as it is elevated relative to the adjacent properties, includes a noise barrier and there are extensive areas of roadside planting. Some glimpsed, filtered views of the existing control tower are possible further to the north from the open area of the Closes Recreation Ground near to the historic core and part of the West Drayton Green Conservation Area.

### *Cranford*

Cranford is located to the north east corner of Heathrow Airport. It includes built up areas of residential properties, partly within the Cranford Village Conservation Area, and Cranford Country Park, also a conservation area to the west of A312. The park has remains of the Manor House with stables and a church and is situated within vast parkland. There are glimpses of the existing control tower possible from the grounds as well as views of the planes approaching and leaving the runway, filtered through the existing vegetation.

**Figure A.2 View From Cranford Country Park**



### *Stockley Park*

Located approximately 4 km to the north of Heathrow, Stockley Country Park is one of the highest points within the study area. It consists mostly of the golf course and is adjacent to the large business park and associated facilities. The London Loop long distance footpath crosses the park in an east-west direction. A panorama of the study area and surrounding neighbourhood is visible from the hill in the park. Heathrow Airport is in the vista; however, it does not constitute an incongruous element. The airport control tower and a number of industrial stacks, break the skyline but do not impose on the view. All the airport buildings are also visible from this location but they are seen in the context of many large buildings including hotels, offices and light industries and infrastructure.

### *Egham/ Englefield Green/ Cooper's Hill/ RAF Memorial*

This viewpoint is located approximately 4.5 km to the south-west of the airport. It sits on the raised ground of Cooper's Hill and affords a wide panorama of the land to the north. Similarly to the view from Stockley Park,

Heathrow Airport is visible but, it does not create a focal point within the view. Wraysbury and King George VI Reservoirs are visible in the middle ground and Runnymede Meadows in the foreground at the foot of the hill. There are glimpses of the existing control tower possible from the RAF Memorial as well as views of the planes approaching and leaving the runway but these are seen in the context of the western side of Greater London. Below is a photo from the Memorial.

**Figure A.3** View from RAF Memorial



# Appendix B

## Conservation Areas

The following are CAs that are/ could be affected by the expansion:

### **West Drayton Green CA**

No conservation area appraisal is available. The limited views south from The Green towards the existing control tower are partially screened by built elements and trees. To the north, there are a small number of buildings of historical value, however, they are mostly screened by the existing park vegetation, and therefore their setting and views would not be affected by the proposed development. The area is not directly overflown at present.

### **Longford Village CA**

Longford village falls within the proposed development boundary. The Longford Village Conservation Area Assessment (CAAs), March 2007, does not specifically highlight any protected views that are relevant to the proposed development. The area is characterised by a historic village core and the later development on the “island” adjoining, defined by the River Colne. Despite its close proximity to the A4, the Stanwell Moor Road and Heathrow Airport, Longford has retained its village character. The architectural and historic qualities of the buildings contribute to the special interest of the area. The area is subject to limited overflying at present. There are occasional, filtered views of airport buildings from the CA.

### **Harmondsworth Village CA**

Southern parts of the CA falls within the proposed development boundary. There are limited views from the CA looking south towards the airport, as views are partially screened by existing built elements and the outskirts of the village. Harmondsworth Village CAAs, March 2007, identified protected views but these are limited to views from the centre of the village, the listed barn or church. This CA is characterised by its historic core which grew up in the medieval period at the gate of the Benedictine Priory. The village centre, around The Green, has a mixture of medieval and post-medieval buildings. The area is not overflown at present.

### **Harlington Village CA**

No CAAs is available. The village is characterised by the linear layout along the main road where the village’s historic core is located. There are limited views from the northern extent of the CA towards Heathrow, but these are largely screened by intervening buildings, vegetation and active gravel workings. The area is subject to limited overflying at present.

### **Cranford Park CA**

There are limited views of the existing control tower from the northern area of the park but these are largely screened by existing vegetation. A CAAs has not been published. The parkland is open to the public, as part of the Cranford Countryside Park, and incorporates the walking route along the River Crane (noted in the Hounslow Unitary Development Plan (UDP)). The former seat of the Berkeley family, Cranford Countryside Park is a historic 144 acre (58 ha) park that was originally the grounds of Cranford House (demolished 1945); located in the park are a number of historical relics including a walled garden, icehouse, a restored 18<sup>th</sup> century stable block and the medieval St. Dunstan's Church and graveyard. The area is subject to limited overflying at present.

**Hanworth Park CA**

No CAAs is available. The CA lies to the south of the Hanworth Park, which was created out of Hanworth Heath during the reign of King Henry VIII. There are no views of the airport infrastructure from the park. The area is subject to overflying at present.

**Bedfont Green CA**

No CAAs is available. The CA is characterised by the historic village core. There are no views of the airport infrastructure from the CA due to the presence of intervening buildings. The area is not overflown at present.

**Stanwell CA**

There are no specific views noted in the Stanwell CA Preservation and Enhancement Proposals, January 1992. Stanwell CA incorporates many attractive features which contribute to the character of the area, including fine examples of Georgian and early Victorian architecture in the oldest part of Stanwell. There are no views of the airport infrastructure from the CA due to the presence of intervening buildings. The area is not overflown at present.

**Colnbrook CA**

There are specific views looking towards Heathrow Airport identified in the CAAs, July 1997 but these are limited by existing built elements and the outskirts of the village. The village is characterised by the linear pattern along the main road where the historic core of the village is located. The area is subject to limited overflying at present.



# **Appendix C**

## **Predicted Effects through Changes to Overflying**

The following table includes registered parks and gardens that are within the modelled 57 dBA contour. This is not a comprehensive list as sites with a small overall area have not been included.

**Table C1**

Borough/ Planning authority	Name	Overflowed with existing flight pattern	Key features
Buckinghamshire	Huntercombe Manor	Overflowed at present	<p>Huntercombe Manor has the remains of late-19th-century gardens, developed from 1871 on the site of 17th century gardens. The site covers seven hectares. The gardens were developed by Eleanor Vere Boyle in the 1870s.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping, built elements A4 and M4 are present.</p> <p>Predicted decrease in noise levels with all three possible flight management options.</p>
Slough	Herschel Park	Not overflowed at present	<p>A 3.5 ha Grade II park and nature reserve surrounded by the Upton Park Estate. The design of the park was influenced by Sir Joseph Paxton and the park restored to its former Victorian condition with Heritage Lottery funding. It provides recreational, cultural and educational activities including: a Grade II listed historic garden; the Bentley Education Centre; a lake and wildlife ponds; a nature reserve; and trees, wild flowers and shrubs.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping, built elements and M4 are present.</p> <p><b>No significant change in airborne noise predicted or potential for decreased noise - depending on the option taken forward.</b></p>
	The Royal Estate, Windsor Great Park (including Windsor Great Park, Savill Garden and Valley Gardens, Royal Lodge, Cumberland Lodge and Virginia Water)	Overflowed at present	<p>Windsor Great Park, the only Royal park managed by the Crown Estate, was once part of a vast Norman hunting forest which was enclosed in the late 13th century. The 2,020 hectares (5,000 acres) of parkland, which includes a deer park, is a varied landscape of formal avenues, gardens, woodland and open grassland. The antiquity of the landscape is enhanced by the scattering of great ancient oaks for which the Great Park and its forest are renowned.</p> <p>Limited visibility of the airport.</p> <p>Some areas recognised more tranquil than the majority of the study area on CPRE mapping, built elements are present.</p> <p><b>Complex modelling results for the whole of Windsor Great Park, depending on options taken forward. Some predicted changes, both increases and decreases, in airborne noise and some areas with no significant change to air borne noise.</b></p>

Table C1 (Continued)

Borough/ Planning authority	Name	Overflowed with existing flight pattern	Key features
Windsor and Maidenhead	The Royal Estate, Windsor Castle, Frogmore Gardens and Home Park	Overflowed at present	<p>The Little or Home Park at Windsor originated as a deer park in the 14th century and was enclosed and extended through the following centuries. Its once extensive late 17th century formal gardens are now lost, and the area is now a wooded landscape park. At present the Little Park forms the private estate at Windsor Castle, and includes gardens, parkland, sports facilities and farmland. The Little Park occupies about 260 hectares. administered by the Crown Estate.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping, built elements are present.</p> <p><b>Some changes, decreases or no significant change, in airborne noise predicted for the Royal Estate, Windsor: Windsor castle, Frogmore Gardens and Home Farm, depending on options taken forward</b></p>
Hounslow	Osterley Park	Overflowed at present	<p>Osterley Park and its surrounding gardens, park and farmland is one of the last surviving country estates in London. Osterley remained in family ownership until the 9<sup>th</sup> Earl of Jersey gave it to the National Trust in 1949.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping; the M4 bisects the park.</p> <p><b>No significant change in airborne noise predicted or potential for increased noise for some areas - depending on the option taken forward.</b></p>
Runnymede	Great Fosters	Overflowed at present	<p>Great Fosters is a 16<sup>th</sup> century mansion and a Grade I listed building set amongst 50 acres of stunning gardens and parkland in Egham, Surrey.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping; the M25 is in close proximity.</p> <p><b>No significant change in airborne noise predicted or potential for decreased noise - depending on the option taken forward.</b></p>
Richmond upon Thames	Kew Gardens	Overflowed at present	<p>The Royal Botanic Gardens, Kew, usually referred to as Kew Gardens, comprises 121 ha of gardens and botanical glasshouses between Richmond and Kew in Richmond upon Thames in southwest London. Kew Gardens originated in the exotic garden at Kew Park formed by Lord Capel John of Tewkesbury. It was enlarged and extended by Augusta, Dowager Princess of Wales, the widow of Frederick, Prince of Wales, for whom Sir William Chambers built several garden structures. In July 2003, the gardens were put on the list of World Heritage Sites by UNESCO.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping.</p> <p><b>Decrease in airborne noise predicted for all options.</b></p>

Table C1 (Continued)

Borough/ Planning authority	Name	Overflow with existing flight pattern	Key features
Hounslow	Syon Park	Overflow at present	<p>Syon Park borders the Thames, across the river from Kew Gardens. Syon House was constructed in the mid-16th century on a former Abbey site. The park was redesigned in the mid-18th century by Lancelot Brown. The park covers about 80 hectares and includes 16 hectares of ornamental gardens developed in the 19th century. The Great Conservatory was designed by Charles Fowler in 1826.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping.</p> <p><b>Potential decrease in airborne noise predicted with all options.</b></p>
Hounslow	Gunnersbury Park	Not overflow at present	<p>Gunnersbury Park is a park in the London Borough of Hounslow. Purchased for the nation from the Rothschild family, it was opened to the public by Neville Chamberlain, then Minister of Health, on 21 May 1926. The park is currently jointly managed by Ealing and Hounslow Borough Councils.</p> <p>The park comprises of a substantial open area to the west bordering Lionel Road, thirty-six football pitches, boating pond, pitch and putt, tennis-courts, horseshoe lake and Japanese water-garden.</p> <p>Not recognised as tranquil on CPRE mapping; the A4 and A406 boarder the edge of the park.</p> <p>No visibility of the airport.</p> <p><b>Potential increase in airborne noise are predicted with all options.</b></p>
Hounslow	Chiswick House and Gardens	Not overflow at present	<p>The Grade I listed Chiswick House is a Palladian villa located in Chiswick. It was designed by Lord Burlington, and completed in 1729. The house and gardens occupy approximately 26 ha hectares (65 acres) and was created by Architect and Landscape Designer William Kent. It is regarded as one of the earliest examples of the English landscape garden.</p> <p>Not recognised as tranquil on CPRE mapping. No visibility of the airport.</p> <p><b>Changes in air borne noise are predicted – potential decrease in some areas dependant on the options taken forward.</b></p>
Richmond upon Thames	Marble Hill House and Park	Currently overflow	<p>The Grade II listed Marble Hill House is a Palladian villa built between 1724 and 1729 in Twickenham, Middlesex, beside the River Thames and situated halfway between Richmond and Twickenham to the south-west of Central London. The compact design became famous and furnished a standard model for the Georgian English villa and for plantation houses in the American colonies.</p> <p>The house is set in 66 acres of parkland known as Marble Hill Park. The extensive grounds provide many leisure facilities including a cricket pitch and nets, tennis courts, a putting green and children's play area.</p> <p>Not recognised as tranquil on CPRE mapping. No visibility of the airport.</p> <p><b>Either no significant change in airborne noise or potentially an increase in some areas are predicted - dependant on the options taken forward.</b></p>

Table C1 (Continued)

Borough/ Planning authority	Name	Overflow with existing flight pattern	Key features
Richmond upon Thames	Richmond Park	Overflowed at present	<p>Richmond Park is a park, a National Nature Reserve, a Site of Special Scientific Interest and a Special Area of Conservation in south-west London. The largest of London's Royal parks, it is included, at Grade I, on English Heritage's Register of Historic Parks and Gardens of special historic interest in England. It was created by Charles I in 1634 as a deer park and now has 630 red and fallow deer.</p> <p>No visibility of the airport.</p> <p>Not recognised as tranquil on CPRE mapping, M4 bisects the park.</p> <p><b>Complex modelling results for the whole of Richmond Park, depending on options taken forward. Some predicted changes, both increases and decreases, in airborne noise and some areas with no significant change to air borne noise.</b></p>
Wandsworth	Battersea Park	Overflowed at present	<p>Battersea Park is a mid-19th century public park, much developed in the 20th century and recently restored. Preliminary plans were drawn up in 1845, but the main development took place after 1854. The park was formally opened by Queen Victoria in 1858. In 1889 management of the park became the responsibility of the newly formed London County Council, who concentrated more on sporting amenities than horticultural displays. Allotments were laid out in the park during World Wars 1 and 2. Fifteen hectares of the park were requisitioned for use as the Festival Gardens in the Festival of Britain in 1951. The area is not recognised as tranquil on CPRE mapping. No visibility of the airport.</p> <p>Either no significant change in air borne noise predicted or a potential decrease in noise - dependant on the options taken forward.</p>

## Predicted Effects on Tranquillity in RP&G through Potential Changes in Flight Patterns

The current east and west flight patterns, shown in Figure 3.4 and Appendix E, have been overlaid on the CPREs 2006 tranquillity mapping for a distance of 20 nautical miles to equate to an aircraft height of 7000' to define if RP&Gs are currently overflowed. As already noted, the urban areas of London, Slough and Maidenhead are not classified as tranquil but do include a number of RP&G.

Various options for flight patterns are currently under consideration which take into account the need to minimise the overflying of major centres of population and the advances being made in navigation systems and aircraft technologies for example meaning that aircraft can climb and land more steeply. Options are also being considered to deliver 'respite'; this being the process of managing the airspace so that the use of flight paths is alternated predictably.

From the noise modelling undertaken as part of this study (and reported in the Ground and Air Noise Report), predicted changes to airborne noise have been modelled taking into account three potential options to minimise the total number of people overflowed, to minimise the number of new areas overflowed and to maximise respite periods. The modelling output is illustrated in the Ground and Air Noise Report. In terms of the possible effects on RP&G, the potential significant changes within the summer LAeq, 16hr metric have been considered (see the Ground and

Air and Ground Noise Assessment for full description of modelling methodology) and summarised in **Table C1**. As noted above, the potential changes in noise will be dependent on the option taken forward.

# Appendix D

## Legislation and Policy Review

### *Spelthorne Development Plan - Adopted Core Strategy Feb 2009 and Policies DPD<sup>8</sup>*

#### *Core Strategy Objectives related to the project:*

Objective 1: To protect and improve the quality of the environment, including improving the landscape, promoting biodiversity and safeguarding the Borough's cultural heritage.

Objective 5: To safeguard valuable urban open space and provide for open recreational uses.

Objective 11: To ensure new development is designed to a high standard appropriate to its setting and contributes to an improvement in the appearance of the environment.

#### *Strategic Policy SP6: Maintaining and Improving the Environment*

##### *Policy EN1: Design of New Development*

##### *Policy EN4: Provision of Open Space and Sport and Recreation Facilities*

##### *Policy EN5: Buildings of Architectural and Historic Interest*

##### *Policy EN6: Conservation Areas, Historic Landscapes, Parks and Gardens*

##### *Policy EN7: Tree Protection*

##### *Policy EN8: Protecting and Improving the Landscape and Biodiversity*

### *Runnymede Borough Council<sup>9</sup>*

#### *New Local Plan 2013-2028<sup>10</sup>*

The Local Plan will eventually replace the current 2001 Runnymede Borough Local Plan as the principal guide to future development in Runnymede up until 2028.

---

<sup>8</sup> <http://www.spelthorne.gov.uk/article/2889/Spelthorne-Development-Plan---Adopted-Core-Strategy-and-Policies-DPD>

<sup>9</sup> <http://www.runnymede.gov.uk/portal/site/runnymede/>

<sup>10</sup> [http://www.runnymede.gov.uk/portal/site/runnymede/planning\\_policy/](http://www.runnymede.gov.uk/portal/site/runnymede/planning_policy/)



Local saved policies relevant to the proposals include:

*Policy GB1: Development within the green belt*

*Policy NE8: Areas of Landscape Importance*

*Policy NE10: Landscape Problem Area*

*Policy NE11: Countryside Management*

*Policy NE12: Protection Of Trees*

*Policy NE13: Tree Preservation Orders*

*Policy NE14: Trees and Development Proposals*

*Policy NE15: Landscaping Schemes*

*Policy BE4: Designation and Review of Conservation Areas*

*Policy BE8: Historic Parks and Gardens*

*Policy R1: General Provision*

*London Borough of Hillingdon<sup>11</sup>*

Unitary Development Plan September 1998

The UDP was originally adopted in September 1998 as Hillingdon's statutory development plan. It is being replaced by the emerging Local Plan, including the adopted Local Plan: Part 1- Strategic Policies (formerly known as the Core Strategy). The UDP sets out Hillingdon's long term strategic goals for land use, together with the planning policies and standards for making decisions on planning applications. Following a direction issued by the Secretary of State, some policies and proposals were deleted, but most were 'Saved' in September 2007.

Saved policies in Hillingdon's UDP (September 2007) will gradually be replaced by policies in Hillingdon's Local Plan documents. The Hillingdon Local Plan: Part 1- Strategic Policies (adopted in November 2012) is the first of these documents. It replaces some of the saved policies, but key policies are indicated below:

UDP Saved policies (September 2007):

Unitary Development Plan<sup>12</sup>

---

<sup>11</sup> <http://www.hillingdon.gov.uk/residents>

<sup>12</sup> <http://www.hillingdon.gov.uk/media.jsp?mediaid=10134&filetype=pdf>

*Policy OL1 + Policy OL2 Green Belt*

*Policy OL9 – Open Land Including Colne Valley Park*

*Policy OL11 – Green Chains*

*Policy OL15 - Countryside conservation*

*Policy OL26 - Tree Protection*

*Policy BE2 - Scheduled Ancient Monuments*

*Policy BE4 – Conservation Areas*

*Policy BE5 – Special Local Character*

*Policy BE35 – Views from transport infrastructure*

*Policy BE38 – Retain and use landscape features including trees*

*Policy BE39 – Tree Preservation Orders*

*Policy R4 - Open Space Policy*

*Policy A4 - Heathrow Airport*

There are other authorities that could also have policies relevant to the Heathrow proposed expansion, namely South Buckinghamshire County Council, Royal Borough of Windsor and Maidenhead, Slough Borough Council and London Borough of Hounslow.

## All London Green Grid

The ALGG which is supplementary planning guidance<sup>7</sup> to the London Plan sets out a vision for developing green infrastructure associated with the River Colne and Crane including by supporting the development of the Colne Valley Regional Park. The ALGG objectives are to:

- Adapt to changing climate and promote urban greening;
- Increase access to open space;
- Increase access to nature, and to conserve and enhance biodiversity;
- Improve sustainable travel connections;

- Promote healthy living;
- Conserve and enhance heritage features and landscape character;
- Enhance distinctive destinations and boost the visitor economy;
- Promote sustainable design, management and maintenance;
- Enhance green space and green infrastructure sector skills;
- Promote sustainable food production;
- Improve air quality and soundscapes;
- Improve the quality of and access to the Greenbelt and the urban fringe; and
- Conserve and enhance the Thames and its tributaries riverside spaces.

# Appendix E

## Figures

