

# **SCOPING OPINION:**

## Proposed Expansion of Heathrow Airport (Third Runway)

**Case Reference: TR020003**

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Adopted by the Planning Inspectorate (on behalf of the Secretary of State for Housing, Communities and Local Government) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

**June 2018**

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## CONTENTS

<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1 Background .....	1
1.2 The Planning Inspectorate's Consultation .....	2
1.3 Article 50 of the Treaty on European Union.....	3
<b>2. THE PROPOSED DEVELOPMENT .....</b>	<b>4</b>
2.1 Introduction.....	4
2.2 Description of the Proposed Development.....	4
2.3 The Planning Inspectorate's Comments.....	6
<b>3. ES APPROACH .....</b>	<b>12</b>
3.1 Introduction.....	12
3.2 Relevant National Policy Statements (NPSs) .....	13
3.3 Scope of Assessment.....	13
3.4 Confidential Information .....	17
<b>4. ASPECT BASED SCOPING TABLES.....</b>	<b>18</b>
4.1 Air Quality and Odour .....	18
4.2 Biodiversity.....	26
4.3 Carbon and other Greenhouse Gases .....	36
4.4 Climate Change .....	38
4.5 Community .....	41
4.6 Economics and Employment .....	43
4.7 Historic Environment .....	45
4.8 Health.....	48
4.9 Landscape and Visual Amenity.....	55
4.10 Land Quality (including soils and geodiversity) .....	59
4.11 Major Accidents and Disasters .....	61
4.12 Noise and Vibration .....	69
4.13 Traffic and Transport.....	77
4.14 Water Environment .....	82
4.15 Waste Impact Assessment .....	87
4.16 Cumulative Effects Assessment.....	90
<b>5. INFORMATION SOURCES.....</b>	<b>93</b>
<b>APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED</b>	
<b>APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES</b>	

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# 1. INTRODUCTION

## 1.1 Background

- 1.1.1 On 21 May 2018, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from Heathrow Airport Limited (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Expansion of Heathrow Airport (Third Runway) (the Proposed Development).
- 1.1.2 In accordance with Regulation 10 of the EIA Regulations, an Applicant may ask the SoS to state in writing its opinion *'as to the scope, and level of detail, of the information to be provided in the environmental statement'*.
- 1.1.3 This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled 'Airport Expansion EIA Scoping Report' (the Scoping Report), which was provided in three volumes (main text, figures and appendices). This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.
- 1.1.4 The Applicant has notified the SoS under Regulation 8(1)(b) of the EIA Regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development. Therefore, in accordance with Regulation 6(2)(a) of the EIA Regulations, the Proposed Development is EIA development.
- 1.1.5 Regulation 10(9) of the EIA Regulations requires that before adopting a Scoping Opinion the Inspectorate must take into account:
- (a) *any information provided about the proposed development;*
  - (b) *the specific characteristics of the development;*
  - (c) *the likely significant effects of the development on the environment;*  
*and*
  - (d) *in the case of a subsequent application, the environmental statement submitted with the original application.*
- 1.1.6 This Opinion has taken into account the requirements of the EIA Regulations as well as current best practice towards preparation of an ES.
- 1.1.7 The Inspectorate has consulted on the Applicant's Scoping Report and the responses received from the consultation bodies have been taken into account in adopting this Opinion (see Appendix 2).
- 1.1.8 The points addressed by the Applicant in the Scoping Report have been carefully considered and use has been made of professional judgement

and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with the application for a Development Consent Order (DCO).

- 1.1.9 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in its request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.
- 1.1.10 Regulation 10(3) of the EIA Regulations states that a request for a scoping opinion must include:
- (a) a plan sufficient to identify the land;*
  - (b) a description of the proposed development, including its location and technical capacity;*
  - (c) an explanation of the likely significant effects of the development on the environment; and*
  - (d) such other information or representations as the person making the request may wish to provide or make.*
- 1.1.11 The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the Scoping Report encompasses the relevant aspects identified in the EIA Regulations.
- 1.1.12 In accordance with Regulation 14(3)(a), where a scoping opinion has been issued in accordance with Regulation 10 an ES accompanying an application for an order granting development consent should be based on 'the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)'.
- 1.1.13 Inspectorate notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations. The Applicant's ES should therefore be co-ordinated with any assessment made under the Habitats Regulations.

## **1.2 The Planning Inspectorate's Consultation**

- 1.2.1 In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting this Scoping Opinion. A list of the consultation bodies formally consulted by

the Inspectorate is provided at Appendix 1. The consultation bodies have been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the preparation of the ES. The Applicant should note that whilst the list can inform its consultation, it should not be relied upon for that purpose.

- 1.2.2 The list of respondents who replied within the statutory timeframe and whose comments have been taken into account in the preparation of this Opinion is provided, along with copies of their comments, at Appendix 2, to which the Applicant should refer in preparing its ES.
- 1.2.3 The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.
- 1.2.4 Any consultation responses received after the statutory deadline for receipt of comments will not be taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Inspectorate's website. The Applicant should also give due consideration to those comments in preparing its ES.

### **1.3 Article 50 of the Treaty on European Union**

- 1.3.1 On 23 June 2016, the United Kingdom (UK) held a referendum and voted to leave the European Union (EU). On 29 March 2017 the Prime Minister triggered Article 50 of the Treaty on European Union, which commenced a two year period of negotiations regarding the UK's exit from the EU. There is no immediate change to legislation or policy affecting national infrastructure. Relevant EU Directives have been transposed into UK law and those are unchanged until amended by Parliament.

## 2. THE PROPOSED DEVELOPMENT

### 2.1 Introduction

2.1.1 The following is a summary of the information on the Proposed Development and its site and surroundings prepared by the Applicant and included in its Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the Proposed Development and the potential receptors/resources.

### 2.2 Description of the Proposed Development

2.2.1 The Applicant's description of the Proposed Development, its location and technical capacity (where relevant) is provided in Chapters 2 – 3 of the Scoping Report and in the associated figures and appendices.

2.2.2 The Proposed Development involves the remodelling and expansion of the existing Heathrow Airport (the Airport) to enable an increase in operating capacity from 480,000 air transport movements (ATM) per annum to at least 740,000 ATM per annum, and from around 76 million passengers per annum (mppa) to 130 mppa. The Scoping Report states that the Proposed Development is defined as a Nationally Significant Infrastructure Project (NSIP) under the terms of Section 22 (for works to the M25) and Section 23 (for the increased capability facilitated by the new runway and terminals) of the PA2008. There will also be Associated Development to the NSIPs.

2.2.3 The Proposed Development is to be located at the existing site of the Airport and in the surrounding area, as shown in Figure 3.1 of the Scoping Report. The Scoping Report states that the extent of development (including Associated Development) shown in Figure 3.1 is *"the maximum extent based on all of the options for components that have been the subject of consultation in Consultation 1"*. The final application may therefore be based on a smaller development footprint.

2.2.4 Scoping Report Figure 1.3 shows that the main proposed operational airport development, as defined by the 'Heathrow Planning Boundary', lies within the administrative area of the London Boroughs (LB) of Hillingdon and Hounslow, which are part of the Greater London Authority. However, the wider project is located across the administrative areas of South Bucks District Council (DC); Buckinghamshire County Council (CC); Slough Borough Council (BC); Spelthorne BC; Surrey CC; and the Royal Borough of Windsor and Maidenhead.

2.2.5 The key components of the Proposed Development include:

- a new third runway of between 3,200m and 3,500m in length located to the northwest of the Airport, with connecting taxiways;



Scoping Opinion for  
Expansion of Heathrow Airport (Third Runway)

- re-alignment of the M25 motorway and other road network changes including diversions to the A4 and A3044 and associated junction works;
- development of additional terminal and satellite buildings and changes to internal access roads;
- development of additional aircraft stands and apron space;
- diversion of the River Colne, the Colne Brook, the River Wraysbury, the Longford River and the Duke of Northumberland's River and creation of compensatory flood storage;
- upgrading of the current central bus station;
- delivery of airport supporting facilities including, but not limited to: cargo floor space; fuel storage; maintenance, repair and overhaul floorspace; an air traffic control tower; upgraded and new waste water treatment and network infrastructure; diversion, relocation, protection and/or expansion of the public utilities network; energy generation plant; upgraded and new waste and recycling centres; and consolidation of car parking;
- the displacement of certain commercial uses, infrastructure and major facilities currently in place at the existing airport such as: immigration removal centres; Lakeside Waste Management Facilities; British Airways' Waterside office; BT data centre and maintenance depot; Total fuel depot; SSE substation and pylons; Total rail head; and
- temporary construction facilities, including contractor compounds, lorry parks, concrete plants, assembly facilities, borrow pits, stockpiles and construction workers' accommodation. The Applicant also proposes to use offsite logistics hubs located across the UK for the delivery of materials.

2.2.6 The Applicant estimates that the Proposed Development will require a peak construction workforce of up to 15,000 workers and create approximately 40,000 new jobs during operation.

2.2.7 Section 3.4 of the Scoping Report states that the indicative period for the construction of the new runway and any components required for operation of the runway is currently 2021-2026, but that the construction of terminals and associated infrastructure will be phased, and is expected to be fully developed by 2035. The construction phase includes: the enabling works for site preparation (2011- 2024); and the airfield expansion including the runway and taxiways works (2024 – 2026); the operational phase includes operational commencement of the third runway (2026 onwards); and delivery of the campus development including construction of the new terminals and satellite buildings (2023 – 2035).

- 2.2.8 The Scoping Report proposes to adopt a series of construction and operational assessment scenarios in the ES, which cover these phases of development. In addition to the construction and operational scenarios the Applicant proposes to assess an early release of capacity to increase the current ATM cap by 25,000 ATM per year, enabling the two existing runways at the Airport to accommodate around 505,000 ATM per year.
- 2.2.9 The Airport is located in a semi-urban area with the communities of Longford, Harmondsworth, Sipson, Harlington, Cranford Cross, Cranford, Hatton, Heston Hounslow, Feltham North, Bedfont, Stanwell, Stanwell Moor, Poyle, Colnbrook, Iver and Richings Park; Brands Hill and West Drayton bordering its perimeter or within close proximity to the airport. These communities comprise a mixture of residential, industrial and commercial uses. The area is subject to a number of heritage and landscape designations as set out in Scoping Report (for example paragraph 13.6.4). It is bounded to the north by the A4, to the west by the A3044, to the east by the A30 and to the south by the southern perimeter road, the Duke of Northumberland's River and Longford River. The M25 is within 600m of its western perimeter.
- 2.2.10 Large areas of open land, parts of which are designated as greenbelt, are located within a short distance to the west and north of the Airport. The footprint of the Proposed Development falls partially within the Colne Valley Regional Park, and extends to land adjacent to the northwest of Staines Moor, part of which is designated as a Site of Special Scientific Interest (SSSI). The Airport also sits in two main river catchments, being the River Colne to the west and the River Crane to the east, and is bounded by a number of associated watercourses to the west. A number of reservoirs are located to the west and south west of the area including the Queen Mother Reservoir, Wraysbury, King George VI, Staines North and Staines South reservoirs. These waterbodies are component parts of the South West London Waterbodies Ramsar site and Special Protection Area (SPA).
- 2.2.11 As shown on Figures 2.2 – 2.4 of the Scoping Report, the Airport currently comprises two runways, four terminals and a network of taxiways and stands, along with ancillary facilities to support its operation and maintenance such as cargo storage, and other airport related development such as hotels, offices and warehouses. The existing access to the Airport is shown on Figure 2.5 of the Scoping Report.

## **2.3 The Planning Inspectorate's Comments**

### **Description of the Proposed Development**

- 2.3.1 The Scoping Report provides options for the principal components of the Proposed Development, such as the location of taxiways, the terminal capacity and apron space, southern access options, parkway options, the diversion of watercourses and flood compensation, and changes to the road network including the A4, A3044 and M25 realignments and changes to junction arrangements at Stanwell Moor and the M25 J14 and 14a,

(Scoping Report Figures 3.3 – 3.12). Paragraph 3.3.37 of the Scoping Report lists proposed airport supporting facilities, the potential location of which are shown in Figure 3.13.

- 2.3.2 Due to the ongoing nature of the design development, the Scoping Report lacks specific information on the characteristics of elements to the Proposed Development e.g. dimensions, elevations or final locations of various structures, the displaced uses, the highways structures required as part of the changes to the road network, the green infrastructure to be provided as mitigation and the detailed design of covered river corridors.
- 2.3.3 The Scoping Report references proposed public transport infrastructure to access the airport such as the Western Rail Link to Heathrow (WRLTH) NSIP and Southern Rail Link to Heathrow. The ES should take account of any potential overlap between the expansion proposal and proposed public transport infrastructure links, detailing the outcome of consultations with Network Rail.
- 2.3.4 Limited information is provided regarding the detail of any public utilities diversions. The Inspectorate notes that the consultation responses from Affinity Water, Cadent, ESP Utilities Group, HSE and National Grid have all identified utilities infrastructure that may be impacted by the works.
- 2.3.5 The Inspectorate appreciates that at this point in the evolution of the Proposed Development a final description may not yet be confirmed, and that there are currently different options for certain works. However, the Applicant should be aware that the description of the Proposed Development provided in the ES must be sufficiently certain to meet the requirements of the EIA Regulations. The ES must include a detailed description of all components of the Proposed Development and should include reference to the location, alignments and dimensions of each individual element, including maximum heights, design parameters and limits of deviation. Where appropriate this information should be accompanied by figures to assist the reader.
- 2.3.6 This description of the development in the ES should explain the relationship between the Proposed Development and outstanding permissions (eg for Terminal 5) or agreed works (eg works to enable the end of the Cranford Agreement) that may be incorporated into, or excluded from, the DCO application.
- 2.3.7 Chapter 2 of the Scoping Report provides a description of the existing site of the Airport and its surroundings. However, in providing information on the existing land uses, the Scoping Report focuses on the site of the Airport, rather than the existing uses on the other land parcels identified in Figure 3.1 that fall outside the Heathrow Planning Boundary. The ES should contain a description of the location of the Proposed Development, which includes existing land uses and, where relevant structures across the application site and surrounding area.
- 2.3.8 The Scoping Report acknowledges at paragraph 3.2.7 that the DCO will seek permission for “associated and ancillary development”. The

Applicant should clearly define in the draft DCO (dDCO) which elements of the Proposed Development are integral to the NSIP and which are Associated Development under the PA2008 or an ancillary matter. Any proposed works and/or infrastructure identified as Associated Development, or as ancillary to the Proposed Development (whether on or off site) should be assessed as part of an integrated approach to the environmental assessment.

- 2.3.9 Paragraph 3.3.43 of the Scoping Report states that the consenting mechanism for certain components of airport related development and replacement displaced uses has not yet been determined, and that these elements could come forward through the application for a DCO, through the local planning process and/or left to the market. The Inspectorate advises that the ES and dDCO should provide certainty as to the elements of the Proposed Development forming part of the application. Where any element of mitigation is to be relied upon for the purposes of the Proposed Development it should be brought forward through the application for a DCO and be secured in the DCO itself. The ES should include a similar plan clearly distinguishing between the land that is required for delivery of the Proposed Development through the DCO, and any land that is necessary for Associated Development or development to be brought forward through other means.
- 2.3.10 As discussed above, the scenarios to be assessed are still being developed. The Applicant should ensure that the phases of the Proposed Development, and the activities to be undertaken during each phase, are clearly explained in the ES, and consistently reflected in the aspect assessments. Where uncertainty exists and flexibility is required the assessment should be based on worst case assumptions about the duration of the construction phases, and include consideration of the potential effects of construction activities occurring in conjunction with the operational activities of the Airport.
- 2.3.11 The options development also includes a range of construction options such as the location of construction sites, borrow pits and stockpiling sites. Figure 3.17 of the Scoping Report identifies the potential temporary construction sites for the full range of construction activities listed at paragraph 3.4.16 of the Scoping Report. The Applicant should ensure that the ES provides specific information on which construction activities are to take place at the various sites identified, and should explain the length of time for which each of these elements would be required. Information should also be provided on the number, size and final location of the construction compounds, and should assess any potential significant effects from the use of construction compounds within relevant aspect assessments.
- 2.3.12 Chapter 9 of the Scoping Report raises the potential requirement for construction worker accommodation. In the interests of sustainable design, where such accommodation is proposed, the Applicant is recommended to consider the longer term use of this development e.g. as residential housing following construction.

- 2.3.13 The Scoping Report refers to the demolition of existing properties at paragraph 3.2.5 but provides limited details regarding the properties that are to be demolished. As part of the description of the physical characteristics of the Proposed Development, the ES should provide full details of the proposed demolition works and it should be clear at what point in the construction programme the demolition activities would occur. The Applicant should ensure that the ES aspect chapters assess the likely significant effects resulting from demolition activities taking into account their extent and duration.
- 2.3.14 The Scoping Report's description of the Proposed Development refers to various "upgrades" to current infrastructure at the Airport, including the central bus station, the waste water treatment network and the waste and recycling centres. It is not clear whether demolition will be necessary to enable this upgrade to existing infrastructure. The ES should clearly explain which elements of the existing infrastructure on the site would be demolished, and which would be retained and refurbished.
- 2.3.15 In addition to the above, the ES should also include a description of the anticipated:
- construction methods and activities associated with each phase of construction;
  - numbers of workers and the hours of working;
  - types of plant and machinery;
  - lighting equipment/requirements, in particular any lighting at construction compounds;
  - number, type, movements and parking of construction vehicles (both heavy goods vehicles (HGVs) and staff vehicles);
  - noise; and
  - any Construction and Environmental Management Plan or Code of Construction Practice to be drafted.

### **Alternatives**

- 2.3.16 The EIA Regulations require that the Applicant provide 'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.
- 2.3.17 The Inspectorate acknowledges the Applicant's intention to consider alternatives as a discrete chapter in the ES. This should provide details of the reasonable alternatives studied and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.

## **Flexibility**

- 2.3.18 The Applicant's attention is drawn to the Inspectorate's Advice Note Nine 'Using the 'Rochdale Envelope'<sup>1</sup>, which provides details on the recommended approach to follow when incorporating flexibility into a dDCO.
- 2.3.19 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The development parameters will need to be clearly defined in the dDCO and in the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with the requirements of Regulation 14 of the EIA Regulations.
- 2.3.20 It should be noted that if the Proposed Development materially changes prior to submission of the application for development consent, the Applicant may wish to consider requesting a new scoping opinion.

## **Airspace Change Process**

- 2.3.21 Paragraphs 1.7.3 to 1.7.12 of the Scoping Report explain the relationship between the main processes applicable to the Proposed Development. These include the DCO process administered by the Inspectorate and the Airspace Change Process (ACP), which is administered by the Civil Aviation Authority (CAA). The CAA also has responsibility for the regulatory approvals process for airport operations.
- 2.3.22 An application for development consent will be examined in accordance with the legislative requirements of the PA2008 and is primarily concerned with issues relating to powers that would be authorised by the DCO. The ACP is distinct from the DCO process and is concerned with the detailed design of airspace (including specific flight paths). Although they are distinct there is an apparent interface between the two processes particularly with regards to the location of arriving and departing planes.
- 2.3.23 Paragraph 1.7.8 states that the Scoping Report will consider the impacts of indicative flight path designs - likely geographic areas and prototype routes that are likely to become operationally viable flight path options. Precise flight path designs cannot be approved by the DCO process and

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<sup>1</sup> Advice Note nine: Using the Rochdale Envelope. 2012. Available at:  
<https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

would instead be subject to extensive consultation as part of the separate ACP process.

- 2.3.24 The Inspectorate considers that the ES methodology should be compatible with the methodological approaches outlined in the CAA's CAP 1616<sup>2</sup> and CAP 1616a<sup>3</sup> documents to ensure consistency and continuity between the two assessment processes. The ES should explain how the ES methodology for the application for development consent is compatible with the CAP methodologies.

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<sup>2</sup> CAP 1616: Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements' Civil Aviation Authority, December 2017

<sup>3</sup> CAP 1616a: Airspace Design: Environmental requirements technical annex' Civil Aviation Authority, December 2017

## 3. ES APPROACH

### 3.1 Introduction

- 3.1.1 This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements'<sup>4</sup> and associated appendices.
- 3.1.2 Aspects/ matters (as defined in Advice Note Seven) are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Inspectorate. The Inspectorate notes that Chapter 3 of the Scoping Report contains tables listing the environmental aspects relevant to each of the principal components of the Proposed Development. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report.
- 3.1.3 The Inspectorate has set out in this Opinion where it has/ has not agreed to scope out certain aspects/ matters on the basis of the information available at this time. Due to the numerous options that exist at this stage in the evolution of the Proposed Development, the Inspectorate considers that it would be inappropriate to scope out certain aspects/ matters. Therefore, and for the avoidance of doubt, only those aspects/ matters acknowledged by the Inspectorate as scoped out in the Aspect Based Scoping Tables at Section 4 of this Scoping Opinion are to be deemed as scoped out of the assessment.
- 3.1.4 The Inspectorate is content that the receipt of a Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects/ matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/ matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.
- 3.1.5 Where relevant, the ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured through DCO requirements (or other suitably robust methods) and whether relevant consultation bodies agree on the adequacy of the measures proposed.

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<sup>4</sup> Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements and annex. Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>



## 3.2 Relevant National Policy Statements (NPSs)

- 3.2.1 Sector-specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority (ExA) will make their recommendation to the SoS and include the Government's objectives for the development of NSIPs. The NPSs may require or refer to specific environmental measures and objectives for NSIPs, which Applicants should incorporate into the design of their Proposed Development and assess within their ES.
- 3.2.2 The Applicant's Scoping Report identifies that the proposed application comprises an NSIP under the terms of Section 22 (for works to the M25) and Section 23 (for the increased capability facilitated by the new runway and terminals).
- 3.2.3 The Applicant's Scoping Report acknowledges that there is currently no designated sector-specific NPS for airport development. The Government consulted on a revised draft Airports NPS between 24 October 2017 and 19 December 2017. The final draft Airports NPS was published on 5 June 2018 and approved in Parliament on 25 June 2018 (the Proposed ANPS). The SoS for Transport is expected to designate the Proposed ANPS imminently. The ES should take account of any specific requirements set out in the designated ANPS within the relevant aspect chapters.
- 3.2.4 The other designated NPS relevant to the Proposed Development is the NPS for National Networks (NPSNN). The Proposed ANPS states that *'if there is conflict between the Airports NPS and other NPSs, the conflict should be resolved in favour of the NPS that has been most recently designated'*.

## 3.3 Scope of Assessment

### General

- 3.3.1 The Inspectorate recommends that in order to assist the decision-making process, the Applicant uses tables:
- to demonstrate how the assessment has taken account of this Opinion;
  - to identify and collate the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;
  - to set out the proposed mitigation and/ or monitoring measures including cross-reference to the means of securing such measures (eg a dDCO requirement);
  - to describe any remedial measures that are identified as being necessary following monitoring; and

- to identify where details that are contained in the Habitats Regulations Assessment (HRA report) (where relevant), such as descriptions of European sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.

3.3.2 Some of the text in the Scoping Report, such as in the various figures provided, is small scale and difficult to read both on the paper and electronic copies (e.g. Figures 3.10, 3.12, 3.16 and 3.17). The Applicant is reminded that the information contained in the ES should be clearly legible and accessible to readers.

3.3.3 Table 1 of the Executive Summary to the Scoping Report identifies aspects of the assessment to be scoped out in high level terms. The information contained in the table does not particularly support the decision making process. On that basis the Inspectorate has not had regard to its information in reaching its decision on the scope of the assessment within an ES. For the same reasons only limited account has been taken of the environmental topic tables in chapter 3 of the Scoping Report. The requirement to cross reference between the summary scope of the assessment in Table 4.6 (which excludes proposed scope outs), tables in chapter 3; the actual scope of assessment in the aspect chapters; and scope development documents in the appendices has created some uncertainty in the proposed scope of assessment in the preparation of this Opinion and with the consultation bodies. Where relevant these points are addressed within the aspect tables below.

#### **Baseline Scenario**

3.3.4 The ES should include a description of the baseline scenario with and without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge. The Applicant should also clearly state which developments will be assumed to be under construction or operational as part of the future baseline.

3.3.5 The Inspectorate notes that a number of baseline and future baseline scenarios have been identified at an individual aspect level and that the baseline year may differ between assessments and as relevant to the construction/ operational scenario.

#### **Forecasting Methods or Evidence**

3.3.6 Baseline datasets used to underpin assessments should be collected in accordance with recognised standards and guidance, where available and relevant. Efforts should be made to agree baseline datasets with relevant consultation bodies.

3.3.7 The ES should set out the timescales upon which the surveys which underpin the technical assessments have been based. For clarity, this information should be provided either in the introductory chapters of the

ES (with confirmation that these timescales apply to all chapters), or in each aspect chapter.

- 3.3.8 The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the assessment, which ensures a focus on 'significant' rather than 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters.
- 3.3.9 The Scoping Report refers at paragraph 4.2.3 to the use of professional judgement in order to determine the likely significance of effects. The application of professional judgement used within the assessment should be fully justified in the ES.
- 3.3.10 The ES should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

### **Residues and Emissions**

- 3.3.11 The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases, where relevant. This information should be provided in a clear and consistent fashion and may be integrated into the relevant aspect assessments.
- 3.3.12 Further commentary is provided in relation to the assessment of waste in section 4.15 of this Opinion.

### **Mitigation**

- 3.3.13 Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should also address how any mitigation proposed is secured, with reference to specific DCO requirements or other legally binding agreements.

### **Risks of Major Accidents and/or Disasters**

- 3.3.14 The ES should include a description and assessment (where relevant) of the likely significant effects resulting from accidents and disasters applicable to the Proposed Development. The Applicant should make use of appropriate guidance (e.g. that referenced in the Health and Safety Executives (HSE) Annex to Advice Note 11) to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Proposed Development to a potential accident or disaster and also the Proposed Development's potential to cause an accident or disaster. The assessment

should specifically assess significant effects resulting from the risks to human health, cultural heritage or the environment. Any measures that will be employed to prevent and control significant effects should be presented in the ES.

- 3.3.15 Relevant information available and obtained through risk assessments pursuant to European Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.
- 3.3.16 Further comments on the Applicant's approach to assessing major accidents and disasters are provided in Table 4.11 of this Scoping Opinion.

#### **Climate and Climate Change**

- 3.3.17 The ES should include a description and assessment (where relevant) of the likely significant effects the Proposed Development has on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. Where relevant, the ES should describe and assess the adaptive capacity that has been incorporated into the design of the Proposed Development. This may include, for example, alternative measures such as changes in the use of materials or construction and design techniques that will be more resilient to risks from climate change.
- 3.3.18 Further comments on the Applicant's approach to assessing climate change are provided in Table 4.4 of this Scoping Opinion.

#### **Transboundary Effects**

- 3.3.19 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES.
- 3.3.20 Regulation 32 of the EIA Regulations inter alia requires the Inspectorate to publicise a DCO application on behalf of the SoS if it is of the view that the proposal is likely to have significant effects on the environment of another EEA state, and where relevant, to consult with the EEA state affected.
- 3.3.21 The Inspectorate considers that where Regulation 32 applies, this is likely to have implications for the examination of a DCO application. The Inspectorate recommends that the ES should identify whether the Proposed Development has the potential for significant transboundary impacts and if so, what these are and which EEA States would be affected.

- 3.3.22 Section 4.8 and paragraph 7.9.53 of the Scoping Report identifies two environmental aspects in relation to which a transboundary effect could conceivably arise – carbon (specifically greenhouse gas emissions (GHG)) and biodiversity. The Applicant concludes that the Proposed Development is not likely to have significant effects on another European Economic Area (EEA) State from GHG emissions and that it is very unlikely that the Proposed Development will have a significant biodiversity effect on the environment of any EEA State(s).
- 3.3.23 Consequently, the Applicant proposes that transboundary effects from GHG emissions do not need to be considered within the ES but that further consideration will be given to transboundary effects from impacts on biodiversity as part of the consultation regarding Preliminary Environmental Information. The Inspectorate notes the Applicant's conclusion in the Scoping Report regarding transboundary effects and recommends that, for the avoidance of doubt, the ES details and justifies this conclusion.

#### **A Reference List**

- 3.3.24 A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

### **3.4 Confidential Information**

- 3.4.1 In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as badgers, rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the Applicant should provide these as separate paper and electronic documents with their confidential nature clearly indicated in the title, and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate would be required to disclose under the Environmental Information Regulations 2014.

## 4. ASPECT BASED SCOPING TABLES

### 4.1 Air Quality and Odour

(Scoping Report Chapter 5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
1	Table 3.6	Air quality effects on rivers and flood storage	Table 3.6 of the Scoping Report excludes operational air quality effects on rivers and flood storage. The Inspectorate considers that the potential for air quality effects on rivers and flood storage areas due to deposition of pollutants should be taken into account within the assessment, particularly where the Proposed Development has potential to give rise to stagnant or low flow conditions.
2	Table 5.9	Activities involving combustion – emissions of CO, SO <sub>2</sub> , lead, benzene and 1,3 butadiene, arsenic, cadmium, nickel, mercury, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, dioxins/furans, PCBs, HCB).	The Applicant proposes to scope out the identified pollutants on the basis that previous low concentrations (2010 and earlier) mean that Local Authority monitoring has ceased and based on previous best practice guidance set out in the Project for the Sustainable Development of Heathrow (PSDH) <sup>5</sup> . However SO <sub>2</sub> , NO <sub>2</sub> and NO <sub>x</sub> are identified as relevant combustion products for aviation projects by the CAA and the lack of recent baseline data to supplement the assessment undermines confidence that this position remains the same.  The definition of activities involving combustion includes " <i>aircraft</i>

<sup>5</sup> Project for the Sustainable Development of Heathrow - Report of the Air Quality Technical Panels. Department for Transport, 2010.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p><i>movements on the new runway and taxiways, <u>land based activities</u> in support of airport operation and road traffic"</i></p> <p>In the absence of a detailed description of what the potential sources arising from land based activities are (eg such as new generation plant and rail terminal sources), the Inspectorate considers that assessment of these pollutants cannot be scoped out at present. In addition, Biodiversity operational scope item 1 in Table 4.6 suggests that deposition of nitrogen and sulphur will be assessed for impacts on habitats and water, which would appear to contradict the need to scope out consideration of SO<sub>2</sub> from combustion processes.</p> <p>The Applicant should demonstrate that it is unlikely to give rise to significant air quality effects from these pollutants through the provision of a detailed screening assessment where relevant.</p>
3	Table 5.9	Activities involving combustion – Exposure to ozone (O <sub>3</sub> ).	<p>The Scoping Report states that local emissions associated with expansion are unlikely to significantly alter background O<sub>3</sub> concentrations. The PDSH study identified that ozone was not a priority area for modelling the impact of Heathrow emissions.</p> <p>The definition of activities involving combustion includes "<i>aircraft movements on the new runway and taxiways, <u>land based activities</u> in support of airport operation and road traffic"</i>. In the absence of a detailed description of the land based activities, the potential for sources of ozone arising from sources such as new generation plant cannot be excluded.</p> <p>The Applicant should demonstrate that it is unlikely to give rise to significant air quality effects from this pollutant through the provision of a detailed screening assessment where relevant.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4	Table 5.9	Activities involving combustion – Increased emissions of pollutants that form secondary PM.	The Inspectorate considers that insufficient justification has been provided to scope out an assessment of secondary particulate matter, in particular the lack of description of the specific pollutants that have the potential to form secondary particulates.
5	Table 5.9	Jettisoning of fuel from aircraft in flight resulting in increased emission of aviation fuel odours causing loss of amenity at sensitive receptors under flight paths.	The Inspectorate considers that significant effects are not anticipated in relation to this matter and that it may be scoped out from further assessment. This is on the basis that jettisoning of fuel is an infrequent and abnormal event required for the purposes of operational safety with existing operational procedures in place that are designed to avoid odour effects.
ID	Para	Other points	Inspectorate's comments
6	Table 3.6 Table 4.6	Operational traffic	The list of items to be assessed in Table 4.6 includes vehicles on public highways however it is unclear whether emissions from vehicles within the operational site are proposed to be assessed. For example, Table 3.6 excludes air quality effects from car parking areas. For the avoidance of doubt the ES should include an assessment of on-airport vehicle emissions and their effect on human and ecological receptors.
7	Table 4.6	Emissions from aircraft operation	Emissions from aircraft operation are scoped in with respect to effects on human health but not for biodiversity. The Inspectorate considers that the ES should consider the potential for likely significant effects on biodiversity from aircraft emissions.
8	Table 4.6	Odour (operation)	The scope of the odour assessment focuses on construction site emissions and Volatile Organic Compounds (VOC) from aircraft. The effect of odour on sensitive receptors arising from odour



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			sources such as relocated wastewater treatment plant infrastructure and new waste and recycling centres should also be assessed in accordance with IAQM guidelines unless otherwise justified.
9	Table 5.2	Interim Advice Note (IAN)174/13 and IAN175/13	IAN174/13 excludes assessment of PM <sub>2.5</sub> as it predates 1 January 2015, which is set out in The Air Quality Standards Regulations 2010 as the date by which the PM <sub>2.5</sub> limit value must be met. Whilst the general principles of the IAN may be followed, the applicant should include assessment of the effects of PM <sub>2.5</sub> .
10	5.4.4	12km x 11km area	<p>The Applicant proposes to predict pollutant concentrations across a 12km x 11km 'core assessment area' based on findings from previous studies. The Inspectorate considers that the Applicant should not apply an arbitrary limit to the assessment area based on previous studies, since the Proposed Development is more extensive and covers a wider geographic area than set out in those studies. The Inspectorate considers that the model extent should be defined by the area over which significant air quality effects arising from the Proposed Development may occur. This should be clearly defined within the ES.</p> <p>The ES should have regard to the Air Navigation Guidance 2017 with respect to the parameters for assessment of aviation emissions on local air quality.</p>
11	5.4.9	DMRB screening criteria	<p>The Inspectorate considers that DMRB screening criteria are appropriate for the identification of affected road links on the strategic road network.</p> <p>The ES should apply the screening criteria set out in the EPUK and</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>Institute of Air Quality Management (IAQM) 2017 guidance 'Land Use Planning &amp; Development Control: Planning for Air Quality' (the EPUK-IAQM guidance) to identify affected road links on the urban road network.</p>
12	5.4.13-5.4.14	Assessment of compliance with EU limit values	<p>These paragraphs suggest that the 'assessment methodology will focus on the incremental change in road traffic related NO<sub>2</sub> concentrations as a result of the DCO Project'. The ES should consider and model concentrations of other relevant vehicle emissions such as PM<sub>10</sub> and PM<sub>2.5</sub>. In addition, as currently written, the text appears to exclude consideration of airport emissions from the compliance assessment. For the avoidance of doubt the Inspectorate considers that these should be included within the assessment.</p>
13	5.5.7 - 5.5.8	Baseline PM, dust and odour surveys	<p>The Inspectorate notes that it is not proposed to include supplementary baseline monitoring for PM or NO<sub>2</sub> since these are routinely monitored in the area by the Applicant and the Local Authorities. In light of the extended nature of the development (eg including areas proposed for flood storage and borrow pits) that fall outside the immediate Heathrow area, the ES should include baseline monitoring for the wider study area where relevant. The Applicant should make effort to agree the final scope of such monitoring with relevant consultation bodies once the footprint of the Proposed Development has been confirmed. The ES should document the proposed method of data collection, which should be conducted in accordance with recognised standards.</p> <p>The baseline data within the ES should be up to date and represent the entire study area, details such as the location of</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>monitoring stations and the extent of air quality management areas (AQMA) should be confirmed with the consultation bodies. The air quality monitoring should draw on the data held within the London Air Quality Network and from adjacent local planning authorities, identifying any areas of localised poor air quality (eg M25, M4). Efforts should be made to agree the scope and extent of air quality baseline datasets and model validation requirements with the relevant local planning authorities where possible, drawing on existing local authority monitoring supplemented by additional monitoring where necessary. Baseline datasets should comprise a minimum 6 months of data. The odour and dust baseline dataset should be supported by any complaints history information.</p> <p>The Scoping Report proposes that PM, dust deposition and odour surveys will be undertaken in advance of the construction programme. The Applicant should ensure that the draft CEMP includes sufficient provision for pre-construction monitoring consistent with the relevant Institute of Air Quality Management (IAQM) guidance. The ES should describe the methodological approach to be adopted for each of the proposed studies.</p>
14	5.7.2	Deposition of SO <sub>2</sub>	<p>It is proposed that deposition of sulphur is scoped out from consideration of eutrophication, since sulphur levels are very low in the area and adjacent to the road network. This approach excludes the potential for deposition of sulphur from other sources eg rail. The ES should screen the potential effect of sulphur deposition from all relevant sources including rail and consider their potential for in-combination effects.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
15	Table 5.8	Vehicular traffic associated with the operational airport	The operational assessment should include consideration of non-combustion PM sources eg brake and tyre linings as well as direct emissions from vehicle exhausts.
16	Table 5.8	Emissions of PM from aircraft	The operational assessment should consider the potential for PM emissions from non-combustion sources, such as the wear of brake linings and tyres.
17	5.9.17 5.9.31	Assessment of odour in accordance with IAQM Guidance on the assessment of odour for planning 2014.	The Scoping Report states that dispersion modelling would not enable an evaluation of significant effects associated with increased Volatile Organic Compound (VOC) odour therefore, in accordance with IAQM guidance, a semi-quantitative approach to the assessment will be undertaken. The ES should fully justify the approach, including detailed justification for not undertaking dispersion modelling.
18	5.9.25	Assessment of significance	<p>The Inspectorate considers that DMRB significance criteria are appropriate for the identification of affected road links on the strategic road network. Criteria for exposure to PM<sub>2.5</sub> should be set out since these are not specifically addressed within DMRB.</p> <p>The ES should apply the significance criteria set out in the EPUK-IAQM guidance or similar to identify affected road links on the urban road network.</p> <p>Where the Proposed Development will give rise to non-vehicular emissions (such as those arising from on-site energy generation), the relevant sector specific guidance produced by the Environment Agency should inform the assessment criteria where necessary.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
19	5.10.1 – 5.10.3	Draft Code of Construction Practice (CoCP)	The ES should demonstrate how the measures set out within the draft CoCP will be secured e.g. by providing cross references to the relevant draft DCO requirement.
20	5.10.3	Rail freight	Whilst the Inspectorate acknowledges that use of rail freight has potential to reduce vehicle related air quality impacts, the scope of assessment should screen the potential for increased rail freight emissions to give rise to air quality impacts during construction and operation, including emissions of SO <sub>2</sub> .
21	Appendix 5.1, 1.4.2	Use of the National Atmospheric Emissions Inventory (NAEI)	The air quality assessment currently proposes to use the NAEI dataset, the ES should be based on the most relevant information available, for example the London Atmospheric Emissions Inventory as highlighted by TfL. Robust justification should be provided if alternative datasets are relied on for the purposes of the assessment.
22	Appendix 5.1	Precise approach for derivation of annual mean NO <sub>2</sub> concentrations will be developed in accordance with government guidance available at the time of the assessment and agreed with the Air Quality Expert Review Group (AQERG).	The ES should document any assumptions used in the derivation of NO <sub>2</sub> concentrations.

## 4.2 Biodiversity

(Scoping Report Chapter 6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
23	Section 6.8, Tables 6.11 and 6.12	Adverse effects (including cumulative) on ecological features of local and negligible importance, as these would not be considered 'significant'	<p>The Scoping Report does not provide sufficient justification as to why it intends to deviate from the CIEEM industry standard guidance for ecological impact assessment by not considering effects on ecological features of local importance. It also does not contain specific information on the types of habitats and species which would be considered to be of local or negligible value.</p> <p>In the absence of specific information on the likely ecological features of local and negligible importance, including cumulative effects on such features both within the Proposed Development and from other projects or plans, together with the scale of the Proposed Development which could result in effects such as local extinctions of a species/habitats, the Inspectorate does not agree to scope this matter from the assessment. Accordingly the ES should include an assessment of effects on ecological features of local importance arising from the Proposed Development, including cumulative effects, or provide adequate justification in the ES as to why effects on any ecological features of local importance subsequently identified would not be considered to be significant.</p> <p>The ES and/or accompanying appendices should identify the species and habitats to be included in the biodiversity offsetting metric, including those considered to be of local/negligible importance.</p>

ID	Para	Other points	Inspectorate's comments
24	Section 6.3	Evidence Plans and Stakeholder Engagement	<p>The Inspectorate welcomes the Applicant's intention to use an evidence plan process to seek agreements with relevant stakeholders with regards to the biodiversity assessment. The Applicant should seek to agree the type and level of evidence to be collected to inform the assessment in respect of biodiversity, together with approaches to the assessment methodology. Evidence of agreements reached in respect of the ecological impact assessment should also be provided with the ES, where possible.</p>
25	Paragraphs 6.4.1 to 6.4.3, paragraph 6.9.12, Figures 6.1, 6.2 and 6.10	Study area and Zone of Influence	<p>The Inspectorate notes that the biodiversity study area presented in Figure 6.1 and Baseline Data Collection Area presented on Figure 6.2 do not include the waterbodies identified as part of the survey area for wintering birds, in particular the Wraysbury complex of waterbodies, Kingsbury, and South Horton, as presented on Figure 6.10. The ES should present the final biodiversity study area on clear figures consistent with the biodiversity scope of assessment.</p> <p>The assessment study area should be applicable to the likely zone of influence (Zol) of the Proposed Development, the potential for likely significant effects and the relevant ecological feature concerned. The Inspectorate acknowledges that the Zol may vary by ecological feature and type of effect. The ES should consider all ecological features of importance that could be significantly affected by the Proposed Development within the Zol, including, but not limited to, species and habitats that could be affected as a result of hydrological-links to the Proposed Development, species and habitats sensitive to air quality changes, and more mobile species.</p> <p>The Applicant should review and amend the Zol, as necessary, as</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>the design of the Proposed Development evolves prior to any DCO application to ensure that all ecological features of importance that could be significantly affected by the Proposed Development have been identified and assessed in the ES. The Applicant should ensure the desk study information used to inform the assessment is also informed by the ZoI and updated accordingly.</p> <p>The biodiversity aspect chapter should include appropriate and specific cross-references to any studies presented elsewhere in the ES (eg to any hydrology or air quality modelling) that have been used to determine the ZoI for ecological features.</p>
26	Table 6.3	Study Area for air quality effects	<p>The Inspectorate notes that all SSSIs within 2km of the biodiversity study area have been identified in the Scoping Report. This 2km search area is stated to have been determined through precautionary professional judgement. In respect of European sites, footnote 19 explains that a search area of 20km has been applied on the basis of "<i>road traffic modelling accompanying the Airports Commission Final Report (July 2015) as nitrogen deposition associated with road traffic accessing/egressing the airport will need to be addressed within the HRA</i>". The Scoping Report does not make clear why a 2km buffer is appropriate for SSSIs and other ecological features of importance potentially sensitive to air quality effects.</p> <p>The ES should consider all SSSIs beyond 2km where likely significant effects could occur on SSSI features sensitive to changes in air quality which could arise from the Proposed Development (ie within the ZoI for the Proposed Development). This should include an assessment of all sources of air quality</p>



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			changes from the Proposed Development and also cumulatively, as appropriate. The ZoI should be identified in conjunction with the air quality aspect chapter to determine the distance of search. The Applicant should make efforts to agree the approach to assessing air quality effects on European sites and SSSIs with relevant consultation bodies (eg Natural England), where possible.
27	Paragraph 6.6.5	Survey access	<p>The Inspectorates notes the following statement in the Scoping Report <i>"Areas where survey has not been possible pre-application, or planned activities have been curtailed, will be highlighted at later stages of the DCO Project, with suitable mitigation measures dealing with this issue suggested and discussed with consultees."</i></p> <p>The Applicant must ensure that sufficient baseline information has been obtained to inform the assessment of effects and mitigation within the ES.</p>
28	Paragraph 6.6.15	Main River and ordinary watercourse classification	Any open water assessed in the ES should be clearly identified and classified by type (eg Main River, ordinary watercourse, lake, ditch) and the applicable survey methodology clearly stated (eg River Corridor Survey, Ditch Habitat Survey). The ES should also clearly identify where a river/stream becomes a ditch with regards to Main River and ordinary watercourse classification. The ES should be supported by clear figures in respect of water bodies.
29	Paragraphs 6.6.9 to 6.6.11,	Ancient woodland and veteran trees	The ES should clearly identify any ancient woodland (including Ancient Semi-Natural Woodland (ASNW) and Plantation on Ancient Woodland Sites (PAWS)) and veteran/aged trees that

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	Table 6.1, Table 6.4, and Appendix 6.1 – Section 4: National Vegetation Classification Survey Methodology and Programme.		<p>could be affected by the Proposed Development and ensure they are valued and assessed in the ES, where significant effects could occur. The ES should also clearly identify and assess any ancient woodland and/or veteran trees that do not already form part of a designated site, together with any veteran/aged trees that do not already form part of ancient woodland.</p> <p>The Applicant's attention is also directed to the additional guidance documents identified on pages 2 to 3 of the Forestry Commission's response (see Appendix 2). The Applicant should consider the applicability of these documents when compiling the ES.</p> <p>The Inspectorate recommends the Applicant seek the advice of relevant consultation bodies (including the Forestry Commission and Natural England) with regards to potential significant effects on ancient woodland (including ASNW and PAWS) and veteran/aged trees, including any proposed compensation and/or offsetting measures for such effects.</p>
30	Paragraph 6.6.18 and Appendix 6.2	Notable Plant Species	<p>Paragraph 6.6.18 of the Scoping Report states that no plant species listed in Schedule 8 of the Wildlife and Countryside Act have been identified during the desk study or surveys undertaken in 2017; however, Appendix 6.2 identifies the presence of Bluebell in the study area. The Inspectorate acknowledges that Bluebell is identified in Schedule 8 as protected from sale only; however, the ES should be clear with regards to the protected status of the species assessed.</p> <p>The Applicant's attention is also directed to the comments of Spelthorne BC with regards to the presence of Brown Galingale in seedbank on Shortwood Common, which is listed in Schedule 8 of</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			the Wildlife and Countryside Act. The ES should include an assessment of effects on any notable plant species arising from the Proposed Development, where significant effects are likely to occur.
31	Table 6.10	Likely significant effects – effects on riparian habitat and lateral connectivity (construction)	The ES should also consider any likely significant effects on riparian habitat and lateral connectivity as a result of activities associated with the realignment/diversion/modification of river/stream channels during construction.
32	Table 6.10	Likely significant effects – surface water run-off (operation)	The ES should consider effects on ecological features arising from changes to surface water run-off during operation (such as increased flow due to increased impermeable surfaces, as identified in Table 18.8 of the Scoping Report), where likely significant effects could occur. The Biodiversity aspect chapter of the ES should include appropriate cross-reference to the information and assessment in the Water aspect chapter.
33	Table 6.10 and Appendix 6.4: Biodiversity offsetting strategy	Likely significant effects – provision of biodiversity habitats around Heathrow through the establishment and management of the green infrastructure approach (operation)	The ES should clearly state the likely effectiveness and deliverability of the proposed measures associated with the provision of biodiversity habitats.
34	Table 6.10	Likely significant effects – effects to off-site ecological features arising from the displacement of users of existing green space	The ES should consider any likely significant effects associated with increased recreational pressure on ecological features/sites of importance as a result of displaced users of existing green space to be lost to/affected by the Proposed Development. The

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		(construction and operation)	<p>ES should include appropriate cross-reference to other relevant aspect chapter assessments in this regard, including the Community chapter and the proposed Open Space Assessment.</p> <p>The Applicant's attention is also drawn to the comments of South Bucks DC with regards to a mitigation strategy currently under development in respect of recreational pressure at Burnham Beeches Special Area of Conservation (SAC).</p>
35	Table 6.10	Creation of new flood storage areas and wetland habitats	<p>The creation of new flood storage areas and wetland habitats identified within the Scoping Report to the north of Heathrow Airport has potential to increase bird-strike risk. Design of new wetland habitats should minimise their attractiveness to species of birds hazardous to air traffic.</p>
36	6.9.6	Worst case scenarios – temporal scope	<p>The Inspectorate notes the intention to assess a worst-case for the 'majority of features' during construction. The ES should clearly state the assumptions used for the biodiversity assessment for each receptor/likely significant effect.</p>
37	General	Connectivity	<p>The ES should ensure that ecological connectivity is adequately considered and assessed, including effects on the existing connectivity (including hydrological links) and connectivity to and from any proposed offsetting/compensatory habitat to be provided. The Applicant should consider how value associated with connectivity could be taken into account in the biodiversity offsetting metric approach.</p>
38	General	Mitigation	<p>The Inspectorate notes the intention to include the detailed design of mitigation measures in the ES but to also include a holistic approach to project design and mitigation/compensation</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			design in the biodiversity offsetting metric. Measures to be provided to mitigate impacts predicted through the EIA process should be clearly stated in the ES and secured in the draft DCO, as appropriate. The ES should clearly identify significant effects that are to be mitigated and those that are to be included as part of a compensation and/or biodiversity offsetting approach.
39	General	Monitoring	<p>Where monitoring of habitats and species is identified for the purposes of mitigation/compensation/enhancement, the ES and/or associated appendices should clearly set out the monitoring proposals, including: methods to be used; appropriate timings; criteria for determining success/failure; mechanisms for implementation; and frequency and duration of monitoring, feedback and reporting.</p> <p>The Applicant should ensure that monitoring measures to be included for the purposes of the EIA are appropriately secured in the draft DCO.</p>
40	Appendix 6.1: Biodiversity Method Statements Paragraph 11.3.8	Electro-fishing survey methodology	The Applicant's attention is drawn to the comments of the Environment Agency in Appendix 2 of this Opinion confirming that more than three electro-fishing runs may be necessary to obtain worthwhile analysis.
41	Appendix 6.1: Biodiversity	Survey methodologies and referencing	The ES and/or accompanying appendices should describe in detail the survey methodology/technique used to inform the ES, particularly where new or novel techniques have been applied

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	Method Statements Paragraphs 11.3.11 to 11.3.13		(for example eDNA techniques). The ES and appendices should also provide the reference for any survey guidance that has been followed.
42	Appendix 6.2: Biodiversity Desk Study Report Table 6.2.8	Habitats of Priority Importance - riverine priority habitat	The River Crane (Priority Habitat) and River Colne (Priority for Restoration) should also be included within Table 6.2.8 and assessed in the ES.
43	Paragraphs 6.9.11, Table 6.11, and Appendix 6.4: Biodiversity offsetting strategy	Biodiversity offsetting for ecological features of local/negligible importance	<p>The Inspectorate notes at Paragraph 6.9.11 and Table 6.11 of the main body of the Scoping Report that the Applicant intends to consider any negative residual effects on ecological features of local/negligible importance in the Biodiversity Offsetting Metric.</p> <p>As stated at point 1 above, the ES should clearly identify all species and habitats that are to be accounted for in the biodiversity offsetting metric. The information regarding features of local/negligible importance will also need to be presented in the ES and/or accompanying appendices, where such features are to be included in the biodiversity offsetting metric to ensure they have been adequately considered.</p>
44	Appendix 6.3: Biodiversity offsetting	Biodiversity Offsetting	The ES should include sufficient detail with regard to the proposed compensation areas, including clear figures, together with the detailed calculations that have been used for the biodiversity offsetting metric. Any mitigation/compensation

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	strategy		measures relied upon in the ES should be appropriately secured through the draft DCO.
45	General point for the ES and Appendix 6.3: Biodiversity offsetting strategy	Existing mitigation/compensation	<p>The ES should clearly identify where any of the existing habitat that would be affected by the Proposed Development has previously been allocated as mitigation/compensation land for other development and consider what influence this would have on the assessment of likely significant effects and the proposed biodiversity offsetting metric approach.</p> <p>The Applicant's attention is drawn to the comments of eg Surrey CC and LB Hillingdon with regards to land within the Scoping Report study area that has been restored or used as mitigation for other development.</p>

### 4.3 Carbon and other Greenhouse Gases

(Scoping Report Chapter 7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
46	7.9.22 - 23	Exclusion of CO <sub>2</sub> emissions from arriving flights	The Inspectorate recommends that the ES assesses the impact on arriving flights to the extent that the new airspace design affects the arriving traffic consistent with the CAP1616a requirements.
47	Table 3.7	Airport supporting facilities	Table 3.7 indicates that the identified airport supporting facilities are not relevant to this aspect of the ES, apart from energy generation plant. The Inspectorate advises that airport supporting facilities should not be scoped out of the GHG emission calculations for this aspect of the ES until it can be demonstrated that these facilities do not give rise to a significant effect, for instance in combination with other elements of the Proposed Development.
ID	Para	Other points	Inspectorate's comments
48	7.9.3- 7.9.7	Approach to assessment of effects – temporal scope	The temporal scope of the assessment for the construction and operational phases for this aspect of the Proposed Development is anticipated to be 2021-2050. The ES should justify the choice of peak construction and operation years selected for the assessment of emissions scenarios.
49	7.7 Table 7.5	Likely significant effects requiring assessment	The Inspectorate recommends that loss of vegetation including trees and woodland should be included in the GHG calculations used for assessment. The Forestry Commission's response is highlighted in this respect.



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
50	7.9.8 - 7.9.10 Graphic 7.1	Assessment scenarios – future improvement assumptions	The Scoping Report highlights anticipated decreases in GHG emissions from improvements in the aviation sector in aircraft engine fuel consumption efficiencies, the adoption of biofuels, or improved airspace design in future. The assumptions and uncertainties regarding future improvements scenarios, including any sensitivity analysis, should be clearly set out in the ES, in order to understand the reliance placed on such measures in assessing likely significant effects.
51	7.9.18 – 7.9.31	Methodology - emissions from aircraft operations	As highlighted by the CAA in their consultation response, the Inspectorate advises that the impact from annual total tonnage of CO <sub>2</sub> emissions from aircraft operations should be presented. The ES should consider these emissions in the wider context of the UK carbon budgets and climate change obligations.
52	7.9.30 - 7.9.31	Methodology – CAP1616	In line with the methodology used for CAP1616, the ratio for conversion of aviation fuel burn to CO <sub>2</sub> should be 3.18 as highlighted by the CAA in their consultation response.

## 4.4 Climate Change

(Scoping Report Chapter 8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
53	8.8	Effects not requiring assessment	The Scoping Report states that no effects have been scoped out of the in-combination climate change impacts (ICCI) and climate change resilience (CCR) assessments but that Stage 1 of the ICCI assessment will consider all aspects (topics) and will determine which aspects remain scoped in for detailed assessment and which are scoped out. Any aspects or matters subsequently scoped out of the assessment should be fully justified within the ES and efforts made to agree these with relevant consultation bodies.
ID	Para	Other points	Inspectorate's comments
54	8.3 Table 8.2	Stakeholder engagement with statutory consultation bodies	The Inspectorate notes that the Applicant has consulted the Environment Agency regarding the proposed approach with respect to the water environment and intends to consult with the Heathrow Strategic Planning Group (HSPG). The Applicant should ensure that other consultation bodies with statutory responsibilities for other assessment aspects (eg biodiversity), such as Natural England, are consulted regarding the potential for climate change effects to influence the effectiveness of any proposed mitigation measures.
55	8.5 8.6, 8.9	Baseline conditions – UK Climate Projects (UKCP)09 and UKCP18	The ES should take into account the potential impacts of climate change using the latest UKCP available at the time of preparation. This should include where appropriate the anticipated UKCP18

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	Table 8.1 Appendix 8.1.		projections.
56	8.6 3.4.21	Assessment of decommissioning of infrastructure elements	<p>The Inspectorate notes that based on the nature of the Proposed Development, for the purpose of the climate change assessments its operational period is estimated as being 100 years.</p> <p>The Scoping Report describes the use of "<i>intermediate timeframes</i>" to allow consideration of infrastructure elements with more short-lived operational periods. The Inspectorate advises that the ES includes details of any infrastructure elements predicted to be decommissioned over a shorter time period and give consideration to the potential for likely significant effects to arise in relation to these elements.</p>
57	8.6.8 – 8.6.11	Future climate baseline	The ES should set out the assumptions and uncertainties in the projections and explain how these have informed the climate change risk and resilience assessments and influenced the design of the Proposed Development.
58	8.7 Tables 8.3 - 8.4	Likely significant effects requiring assessment	The ES should explain the duration of any temporary effects, ensuring consistency with the other aspect assessments.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
59	8.9 Tables 8.3 - 8.8	Study area and methodology – initial ICCI assessment and CCR assessment	Paragraph 8.9 notes that the as the DCO project is refined the study areas will be confirmed. The final study areas for the ICCI and CCR assessments should encompass the Proposed Development and any Associated Development that the Applicant tends to include within its application for development consent.
60	8.9.26 8.9.50 8.10	Mitigation measures	<p>The Inspectorate advises that the ES should clearly explain which mitigation measures would be 'embedded' and which would comprise further or additional mitigation including those incorporated into the Climate Change Adaptation Plan which is intended to be included in the application for development consent. The ES should set out how mitigation measures will be secured through the DCO.</p> <p>The ES should describe how the adaptation measures incorporated into a Climate Change Adaptation Plan will address the need for on-going review of climate "hazards" and risks</p>

## 4.5 Community

(Scoping Report Chapter 9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
61	Table 3.7 (Chapter 3)	Airport supporting facilities	Table 3.7 indicates that the airport supporting facilities are not relevant to this aspect of the ES, apart from the proposed new cargo floor space and car parking. The Inspectorate advises that insufficient justification has been presented to scope this matter out from further assessment and is therefore not scoped out.
ID	Para	Other points	Inspectorate's comments
62	9.7 9.9 Table 9.5 & Table 9.6	Proposed approach to assessment of likely significant effects - sensitivity criteria	<p>The Inspectorate notes that the sensitivity criteria in Table 1.2 of Appendix 9.1 give two examples of matters that could indicate user sensitivity, whereas Table 9.8 of the Scoping Report combines these examples into a single criterion with the addition of the word "and". This potentially reduces the number of receptors that may fall within a sensitivity category.</p> <p>The ES should ensure that the methodology does not exclude receptors from consideration or reduce their assessed sensitivity</p>
63	9.10	Mitigation measures	<p>The ES should explain how the design of any green infrastructure to mitigate the effects of the Proposed Development will be incorporated into the network of existing green infrastructure which may be used by the community for recreational purposes.</p> <p>Mitigation for significant adverse impacts on the existing green infrastructure network (eg including increased recreational pressure), other areas of open space, and to public access to National Trails such as the Colne Valley Trail, and other public</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			rights of way that are used as recreational facilities, should be clearly set out in the ES and secured within the dDCO.
64	9.10.11	Transitional effects on the provision of public services	<p>The Scoping Report indicates that mitigation of any significant effects on the provision of public services, related to temporary employment generated during the construction phase of the Proposed Development, would be limited to 'transitional' effects. These effects are not made explicit as to their nature or duration, and should be clearly set out in relation to the assessment of likely significant effects and any mitigation that may be required.</p> <p>The ES should address the potential for significant effects on public services to arise due to the provision of new worker accommodation including houses of multiple occupancy, where relevant.</p>

## 4.6 Economics and Employment

(Scoping Report Chapter 10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
65	Table 10.7	Increased trade, FDI and Tourism to the UK as a result of improved connectivity and aviation capacity	The EIA Regulations require an assessment of likely significant effects on population. The Scoping Report requests to scope out effects associated with increased trade, FDI and tourism however, the proposed methodology for the assessment includes consideration of policy positions and socio-economic objectives of local and regional authorities. The Scoping Report does not explain the extent to which any of the matters set out in Table 10.7 account for the objectives at a local and regional authority level. On this basis, the Inspectorate considers that these matters should be assessed where relevant to that methodology.
66	Table 10.7	Effect on property value and availability	The Applicant states that it is not possible to estimate " <i>empirically</i> " the quantitative effect of this Proposed Development on the wider property market because of the scale of the development and uncertainties due to the length of construction and operational periods. The Applicant however accepts that there will be effects on property and compensation will be made available to eligible parties. The ES should clearly explain how the compensation payments will mitigate the likelihood of significant effects.
ID	Para	Other points	Inspectorate's comments
	10.9.11	Projections of economic and demographic change at	The ES should set out details of economic projections applicable to the Proposed Development and the construction and operational scenarios applicable to the DCO, for the assessment as well as

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		assessment years	any assumptions or limitations with the projections.
68	10.9	Mitigation	The ES should explain the Applicant's strategy for securing the delivery of employment and apprenticeship opportunities.



## 4.7 Historic Environment

(Scoping Report Chapter 11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
69	11.8	Effects not requiring assessment	<p>The Applicant intends to scope out effects on the setting of heritage assets during the construction phase within a 'wider study area' as it is considered that likely significant environmental effects will only arise as a result of "<i>perceptual change</i>" to the setting of heritage assets during operation of the Proposed Development and only in relation to heritage assets that are considered sensitive to changes in noise levels and vibration.</p> <p>The Inspectorate agrees in principle that effects on the setting of heritage assets within the wider study area due to construction activities within the 'core study area' can be scoped out due to distance from the site boundary of the Proposed Development. However, the wider study area, as discussed in paragraph 11.4.5, should be clearly defined and the ES should assess the potential for adverse effects on heritage assets and their setting from noise and vibration from construction vehicles once the haul routes for these vehicles are clarified. This assessment should also include noise and other adverse effects from any increased aircraft movements during the construction phase. This assessment of potential adverse effects could be done for example through cross referencing to the noise and vibration and transport assessments supporting the ES.</p>

ID	Para	Other points	Inspectorate's comments
70	11.4	Study area	<p>The potential for significant effects from airport operations on the settings of heritage assets beyond the 'core' study area and also within the Zone of Theoretical Visibility (ZTV) should be considered in the ES.</p> <p>The study area should consider the inclusion of the Grade I Registered Park (Windsor Forest and Great Park) for assessment as this is located immediately outside the western limit of the study area within Surrey and the Royal Borough of Windsor and Maidenhead, and the Grade II Registered Park (Ditton Park) located within the borough of Slough.</p>
71	11.9	Proposed approach to the assessment	<p>The ES should set out the Applicant's proposed methodology for developing and implementing an archaeological research framework from the early stages of the project through to completion. This should include a commitment to analysis, publication and museum archiving. The ES should demonstrate how archaeological investigations to support the application for development consent have informed the methodology. The ES should set out how these commitments will be secured through the DCO.</p>
72	11.9.19	Assessment of likely significant historic environment effects during peak earthworks and peak above ground infrastructure construction	<p>The Inspectorate does not consider that peak earthworks or above ground infrastructure necessarily correlate with the worst case for the assessment of historic environment effects, since effects will relate to the sensitivity of a heritage feature and the extent of direct or indirect impacts on that feature. The construction assessment should consider the period in which the most substantial impacts arise to the most sensitive and greatest number of features.</p>

ID	Para	Other points	Inspectorate's comments
	11.10	Mitigation and enhancement measures	<p>The Inspectorate considers that the approach to mitigation section should emphasise the need to preserve heritage assets in-situ, where possible and appropriate.</p> <p>The Applicant should make effort to agree mitigation approaches with relevant consultation bodies.</p>

## 4.8 Health

(Scoping Report Chapter 12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
74	Table 3.6	Rivers and flood storage	The Scoping Report proposes to scope out the assessment of health impacts associated with rivers and flood storage out of the environmental assessment. The Inspectorate considers that insufficient information has been provided to justify the scoping out of this matter at this stage. Where significant effects are likely to occur, this should be assessed within the ES.
75	Table 3.7	Aviation fuel storage facilities	The Scoping Report proposes to scope out the assessment of health impacts associated with aviation fuel storage facilities out of the environmental assessment. The Inspectorate considers that insufficient information has been provided to justify the scoping out of this matter at this stage. Where significant effects are likely to occur, this should be assessed within the ES.
76	12.8	Health impacts associated with a changing global climate	The Scoping Report proposes to scope this matter out of the health assessment as a climate change assessment will be undertaken to consider resilience to global climate change and the measures that will need to be taken to adapt to climate change. The Inspectorate is satisfied that health impacts associated with changes to the global climate (as a result of the Proposed Development only) can be scoped out of the health assessment but would expect to see adequate cross-referencing and signposting to the matter within the health chapter of the ES.
77	12.8	Risks to construction workers from exposure to contamination	The Scoping Report proposes to scope this matter out of the health assessment as this will be addressed in the land quality

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		in soil	assessment. The Inspectorate is satisfied with this approach but would expect to see adequate cross-referencing and signposting to the matter within the health chapter of the ES.
78	12.8	Outbreaks of communicable diseases	The Scoping Report proposes to scope this matter out of the health assessment as the operational control measures that are currently in place are expected to continue to apply to the Proposed Development. The Inspectorate does not consider that sufficient information has been provided to justify the scoping out of these matters at this stage. The Applicant must provide an in-depth justification for such scoping out, including an explanation of the current systems, controls, procedures and requirements that are currently in place to address these matters. Where significant effects are likely to occur, this should be assessed within the ES
79	12.8	Emergency response measures to potential man-made and natural disasters	The Scoping Report proposes to scope this matter out of the health assessment as this is to be reported in the Major Accidents and Disasters section of the ES. The Inspectorate is satisfied with this approach but would expect to see adequate cross-referencing and signposting to the matter within the health chapter of the ES.
80	12.8 12.8.3	Effects to population health from water quality due to the Proposed Development	The Scoping Report proposes to scope this matter out of the health assessment as this is to be regulated by the Environment Agency as part of the consenting process. The Inspectorate is satisfied with this approach but would expect to see adequate cross-referencing and signposting to the assessment of water quality within the health chapter of the ES.
81	12.8	Effects to population health from	The Scoping Report proposes to scope this matter out of the

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	12.8.3	flooding due to the Proposed Development.	health assessment as this is to be regulated by the Environment Agency as part of the consenting process. As flooding could create a public health emergency in the area, and a perceptual risk of flooding along local communities could lead to impacts on health, the Inspectorate does not consider that enough information has been provided at this stage to demonstrate that there are no likely significant effects in this regard. Where significant effects are likely to occur, this should be assessed within the ES and mitigation proposals such as a flood risk management plan and the interaction of the Applicant with emergency services should be presented.
82	12.8 12.8.3	Effects to population health from hazardous waste due to the Proposed Development	The Scoping Report proposes to scope this matter out of the health assessment as this is to be regulated by the Environment Agency as part of the consenting process. The Inspectorate is satisfied with this approach but would expect to see adequate cross-referencing and signposting to the waste assessment and land quality within the health chapter of the ES.
83	12.8 12.8.4	Pest control measures	The Scoping Report proposes to scope this matter out of the health assessment as this will be covered by standard construction practice that will be followed, and reviewed by the relevant local planning authorities. The Inspectorate does not consider that enough information has been provided to demonstrate that there are no likely significant effects in this regard. The Applicant must provide an in-depth justification for such scoping out, including an explanation of the current systems, controls, procedures and requirements that are currently in place to address these matters. Where significant effects are likely to occur, this should be assessed within the ES.

ID	Para	Other points	Inspectorate's comments
84	12.1.9	Determinants of health and well-being	The Inspectorate welcomes the Applicant's intention to examine the ecological determinants of health and well-being shown in Graphic 12.1 of the Scoping Report in its assessment of human health. The Applicant should ensure that the ES also examines the social determinants of health and well-being, to include living and working conditions, social and community networks, and individual lifestyle factors.
85	12.3.4	Stakeholder engagement	The Inspectorate welcomes the Applicant's engagement with Health and Wellbeing Boards, Clinical Commissioning Groups and health trusts, as set out in Table 12.2 of the Scoping Report. The ES should clearly set out which specific trusts, board and clinical commissioning groups the Applicant has engaged with, and the outcome of such engagement.
86	12.3.4	Stakeholder engagement	Table 12.2 of the Scoping Report states that the Applicant has engaged with owners and operators of ' <i>specific facilities that are impacted by the project</i> '. The ES should clearly set out which facilities this refers to and the outcome of such engagement.
87	12.4.5	Study area	The Applicant states that the study area will vary depending on which determinant is being assessed. It should be clear in the text of the ES which study area is being applied to each determinant and effect in the assessment of health impacts. This should include a clear cross reference to the relevant sections of other chapters and, where relevant, the supporting plans in order to assist the reader.
88	12.5.2,	Baseline	The Scoping Report states that baseline data collection is on-going. The ES should clearly set out all studies and surveys

Scoping Opinion for  
Expansion of Heathrow Airport (Third Runway)

	12.9.4		undertaken to inform the final baseline dataset, including a description of the current health and community facilities within the study area. The Applicant should seek to agree its approach with the relevant consultation bodies. The ES should present the likely changes in health facilities and infrastructure within the relevant study area in the future baseline scenario, outlined in the Scoping Report as the full year of operations prior to the opening of a third runway.
89	12.7	Likely significant health effects – light pollution	Table 12.3 of the Scoping Report only identifies light pollution from the Proposed Development as a potentially significant effect during construction. The Inspectorate does not consider that enough information has been provided to demonstrate that there are no likely significant effects in relation to light pollution during operation. Where significant effects are likely to occur, this should be assessed within the ES.
90	12.7	Likely community health impacts – electromagnetic fields	The Scoping Report does not assess the health impact associated with electromagnetic fields around elements of the Proposed Development such as cabling. The Inspectorate does not consider that enough information has been provided to demonstrate that there are no likely significant effects in relation to electromagnetic fields at this stage. Where significant effects are likely to occur, this should be assessed within the ES.
91	12.7, 12.9.24	Receptors	The Scoping Report outlines that the general population scope of the health assessment considers residents of, and visitors to-, local communities, the workforce and passengers of the Airport, and construction workers for the Proposed Development. It then states that the focus of the health assessment is on 'community effects'. It is therefore unclear whether the assessment of health impacts will in practice be limited to local communities. The ES should contain an in-depth explanation of the approach to



Scoping Opinion for  
Expansion of Heathrow Airport (Third Runway)

			identifying the receptors forming part of the assessment, taking into account the various study areas applicable to the assessment of health impacts. Where this information is set out in another ES chapter, the Applicant should ensure there is adequate cross referencing and signposting to aid the reader.
92	12.9.1	Study area	The Scoping Report states that the various study areas to be used in the assessment of health impacts are to be kept under review as the design of the Proposed Development progresses. The ES should clearly evidence and justify the final extent of the study area used in the assessment of health impacts. Where this information is set out in another ES chapter, there should be adequate cross referencing and signposting to aid the reader.
93	12.9.7	Baseline	The Scoping Report states that the baseline to be used for most matters considered in the health assessment will be 2016. The ES should include justification for the selected baseline year.
94	12.9.7	Assessment years	The Scoping Report states that construction effects will be assessed at the point where “maximum environmental effects” are experienced. The ES should ensure that the assessment takes account of the different phases of the Proposed Development and the different impacts each phase could have on different receptors, including the early release of ATMs. For the purposes of the health assessment, the Inspectorate recommends that the assessment years mirror those in the air quality, noise and traffic and transport assessments as closely as possible. The ES should thoroughly justify the assessment years chosen and ensure that the worst case scenario has been assessed on all identified receptors.
95	12.9.10	Assessment methodology	The assessment methodology should be based on up to date and relevant information including tools prepared by the NHS London

			Healthy Urban Development Unit where applicable. The Applicant's attention is drawn to the Hillingdon Clinical Commissioning Group consultation response in this regard.
96	12.9.13	Health pathways	The Scoping Report states that the source-pathway-receptor model establishes the plausibility of a potential effect, and once a plausible association is established, a conclusion on the likelihood of an impact occurring is made. The Applicant should ensure that the ES sets out in detail the plausibility and likelihood for each potential effect. Where an effect is plausible but the Applicant concludes that an impact is not likely to result in a significant effect, this should be clearly presented and justified as part of the health assessment.
97	12.9.13, 12.9.16, Table 12.7	Scientific evidence and literature	The Scoping Report refers in numerous places to the use of scientific evidence and literature as part of the assessment methodology. The ES should clearly reference the evidence and literature relied upon to inform the assessment. If necessary, in order to inform understanding of the assessment this information should be provided in Appendices to the ES.
98	Table 12.6	Health effects subject to qualitative analysis	Table 12.6 details potential health effects from different sources. However, certain sources have been identified as having an impact on "wellbeing" only rather than "physical health and wellbeing". The Inspectorate considers that sources such as living conditions, environment and economy have the potential to impact on physical health in addition to wellbeing and should be assessed in the ES accordingly.
99	12.10.6 – 12.10.10	CoCP and Health Management Plan	The Scoping Report refers to the drafting of a CoCP and Health Management Plan as part of its mitigation proposals. Drafts of these documents should be provided with the DCO application. If the ES relies upon mitigation measures which would be secured through such documents, there should be clear cross-reference made to where such measures are set out in the documents.

## 4.9 Landscape and Visual Amenity

(Scoping Report Chapter 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
100	13.8	Adverse seascape effects, including cumulative effects.	The Applicant proposes to scope out an assessment of effects from the Proposed Development on the seascape, including any relevant cumulative effects. The justification for this is based on the fact that the Proposed Development does not lie within a marine or coastal location. The Inspectorate is satisfied that having regard to the location of the Proposed Development significant effects to seascape are unlikely to occur and this matter can be scoped out.
ID	Para	Other points	Inspectorate's comments
101	13.1.4; 13.6.2	Tranquillity	The Scoping Report sets out the intention to conduct an assessment of impacts to tranquillity (as it relates to character of the landscape) and makes reference to Campaign to Save Rural England's Tranquillity Mapping in this regard. In addition to acknowledging tranquillity as a key factor in landscape character area sensitivity assessments the ES should also include consideration of significant effects on tranquillity from overflying aircraft. The Applicant should also ensure that an assessment of impacts to tranquillity relevant to other aspects is assessed in the relevant ES chapters.
102	13.3	Stakeholder engagement	The Scoping Report explains that engagement with the HSPG on agreeing the approach to the assessment and mitigation of landscape and visual impacts of the Proposed Development. The Inspectorate recommends that similar effort is made to consult with any surrounding local authorities and other relevant organisations that may be affected by the Proposed Development

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			but not represented in the HSPG eg Chilterns AONB Conservation Board.
103	13.4	Study Area	The Scoping Report states that the study area extends to a 5km radius from the maximum amount of land being considered for the full range of options for the Proposed Development, but that this may continue to evolve to accommodate any changes as the design process progresses. The ES should clearly evidence and justify the final extent of the study area used in the assessment of landscape and visual impacts, having regard to the Zone of Theoretical Visibility. The study area should contain all likely significant effects of the Proposed Development on any component of landscape and visual resource and effort should be made to agree this with relevant consultation bodies, where possible.
104	13.5.1	Baseline Data Collection	The Scoping Report states that baseline data collection is on-going, with both desk studies and field surveys undertaken to date. The ES should clearly set out all studies and surveys undertaken to inform the final baseline information, including the timing of any site visit and how/if professional judgement has been applied. The Applicant should make effort to agree its approach with the relevant consultation bodies.
105	13.5.2	Zone of Theoretical Visibility (ZTV)	The Scoping Report states that a preliminary ZTV for operational infrastructure and development components has been mapped based on indicative height parameters for the various components of the Proposed Development, and that this will be updated as the DCO process progresses. The ES should clearly evidence and justify the final extent of the ZTV used in the assessment of landscape and visual impacts, based on actual height parameters.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>The ZTV should be agreed with relevant consultation bodies where possible. The ES should describe the model and methodology used and should provide information on the area covered and the seasonal timing of any survey work. The operational assessment should consider the movement of aircraft along the proposed runway, and stationary aircraft at the proposed stands in the operational ZTV to ensure that these elements are thoroughly assessed.</p>
106	13.6.7	Representative Viewpoints	<p>The Applicant should agree the viewpoints to be included in its assessment with relevant consultation bodies including the HSPG and other affected local authorities, where possible and should ensure that the ES consider such viewpoints both during the day and at night, and during both winter and summer. The ES should explain the reasons supporting the inclusion of each viewpoint to be assessed, and where relevant a justification for excluding any viewpoints that have been requested by the consultation bodies. The ES should include photographic visualisations of both the baseline view and the view incorporating the Proposed Development, which should be numbered and cross-referenced to accurately plotted locations on an OS map of appropriate scale, which should also show the angle of view. The importance of local landmarks and viewpoints, and the assessment of the extent and direction of views from properties should also be recorded. The assessment should also take into consideration any committed development.</p>
107	13.7.1	Cumulative effects	<p>The Scoping Report states that cumulative landscape and visual amenity effects will be assessed in accordance with the approach set out in section 4.6 of the Scoping Report. For the avoidance of doubt, the Inspectorate considers that such assessment should</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			include existing and proposed developments, including other proposals currently at the scoping stage. It should also consider the relevance of cumulative impacts in protected landscapes, such as the route of HS2 within the Chilterns AONB.
108	13.10	Mitigation	The Scoping Report states that mitigation will be considered during the preparation of a CoCP, and as part of the iterative design development process. The Applicant should ensure that the effectiveness of any proposed mitigation measures are thoroughly assessed in the ES, describing the likely significant effects of the Proposed Development both prior to mitigation and residually so that it is possible to understand the efficacy of proposed mitigation measures. The ES should also explain how measures proposed to mitigate landscape and visual effects, such as planting, may relate to other aspects, for instance impacts on ecological receptors. Appropriate cross-reference should be made between related aspects in the ES, such as Biodiversity, and Historic Environment.

## 4.10 Land Quality (including soils and geodiversity)

(Scoping Report Chapter 14)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
109	Table 14.7	Loss of non-Best and Most Versatile (BMV) agricultural land	The Inspectorate considers that the agricultural land quality assessment should focus on assessing the loss of BMV land (as defined in the National Planning Policy Framework). The Inspectorate therefore considers that an assessment of the loss of non-BMV agricultural land is not required, although such loss should be quantified within the ES.
110	Table 14.8	Temporary loss of access to mineral deposits preventing extraction	The Scoping Report does not provide any specific information to support the request to scope this matter out. In absence of detail relating to the specific sites and the consequential impacts that may occur should their current or planned mineral extraction status change, the Inspectorate considers that temporary loss of access to mineral deposits preventing their extraction may result in significant effects and this matter cannot be scoped out from assessment in the ES.
ID	Para	Other points	Inspectorate's comments
111	n/a	Study area	The Inspectorate recommends that interpretative reports are sectioned by local authority area in order to facilitate understanding of the potential effects at a local level.
112	14.9.7	Level of data collected to support the ES will be dependent on the availability of site access to undertake ground investigation	The Applicant must ensure that sufficient baseline information has been obtained to inform an adequate assessment of effects and to demonstrate the required mitigation within the ES.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		surveys	Additional baseline with respect to landfill and minerals sites is provided in the local authority consultation responses (eg Surrey CC, Spelthorne BC and South Bucks DC).
113	14.9.11	Agricultural Land Classification (ALC) survey methodology	In accordance with the Natural England guidance, the list of activities should also include consideration of local climate and site data as part of the reporting process.
114	14.9.55 Table 14.8	Significance criteria	<p>The Scoping Report indicates that only effects with major magnitude would be assessed as being significant. The Scoping Report does not explain why medium magnitude effects would not be significant when they include "permanent effects that will sterilise a <u>significant</u> proportion of a mineral deposit". The ES should provide further justification to support the methodology applied in determining significance.</p> <p>It is also unclear why the magnitude of effect criteria include temporary access effects, since the Scoping Report seeks to scope out such effects in Table 14.8.</p>
115	Appendix 14.1, 8	Bibliography	BS1075:2011+A2:2017 replaces the 2013 version of the standard and should be used to undertake the assessment.



## 4.11 Major Accidents and Disasters

(Scoping Report Chapter 15)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
116	Table 15.6-15.7 and Appendix 15.5	Various proposed matters to scope in / out of assessment	The Inspectorate has identified inconsistencies between Tables 15.6-15.7 and Appendix 15.5 of the Scoping Report with regards to matters to scope in or out of the assessment. The Inspectorate is therefore uncertain of the full extent of matters to be scoped out of the major accidents and disasters assessment. The ES should ensure that any matters applicable to this aspect and likely to result in significant effects are assessed.
117	Table 15.7 and Appendix 15.5	External transport accidents involving aircraft not under the control of the Airport during both construction and operation;  Absent or deficient safety/environmental management systems (e.g. inadequate planning, resource, provision, procedures);  Absent or deficient security provision (e.g. inadequate planning, resource provision, procedures)	The Scoping Report proposes to scope these matters out from the assessment of major accidents and disasters on the basis of the low risk and the requirement for air transport activities to be managed through a licensing regime and in compliance with CAA/EASA codes of practice. However sufficient information has not been provided to demonstrate that there are no likely significant effects in this regard, particularly due to the change in aircraft track interactions with other airports as a result of the Proposed Development which may have an impact on external transport accidents. Where significant effects are likely to occur, this should be assessed within the ES and the relevant CAA/EASA codes of practice to be relied upon by the Applicant to mitigate such effects should be presented.
118	Table 15.7 and Appendix	Structural failure caused by landslip/land movement due to natural phenomena during	The Scoping Report proposes to scope this matter out from the assessment of major accidents and disasters on the basis that the change in risk is not significant in comparison to the current

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	15.5	construction and operation	baseline. The Inspectorate does not consider that this provides suitable explanation to support a decision to scope this matter out of the assessment. The ES should assess impacts to land stability from the Proposed Development and where significant effects are likely to occur. The ES should be informed by any necessary investigations confirming that the Proposed Development its site and immediate surrounds will remain stable.
119	Table 15.7 and Appendix 15.5	Ash cloud, volcanic eruptions and other natural phenomena affecting in flight safety resulting in aircraft having an impact on construction activities or aircraft incident	The Scoping Report proposes to scope this matter out from the assessment of major accidents and disasters on the basis that the change in risk is not significant in comparison to the current baseline. While the Inspectorate considers that ash cloud and volcanic eruptions may be scoped out of the assessment, sufficient information to describe 'other natural phenomena' has not been provided to justify a scoping out of the other elements at this stage. The ES must detail the current baseline in order to justify this approach, and should provide clarity on the range of events defined as "other natural phenomena" along with a thorough evidence base to support the scoping out of such matters from the assessment.
120	Table 15.7 and Appendix 15.5	Malicious attack during construction or operation (terrorism, sabotage, vandalism or theft) including cyber-attack or widespread public disorder during construction either within the Proposed Development or external, leading to effects on the Proposed Development	The Scoping Report proposes to scope this matter out from the assessment of major accidents and disasters on the basis that security experts from the Centre for the Protection of National Infrastructure and the DfT to ensure that physical, procedural and personnel security measures have been adequately considered in the design process, and that adequate consideration has been given to the management of security risks. The Scoping Report does not provide adequate information to justify scoping out this matter at present. The ES should provide evidence of confirmation with relevant consultation bodies that such measures have been

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			adequately considered, in relation to both the operational airport and the other surrounding land forming part of the Proposed Development, in order for the Inspectorate to be satisfied that this matter can be scoped out. Where significant effects are likely to occur, these should be assessed within the ES
121	Table 15.7 and Appendix 15.5	Occupational safety incidents during construction or operation affecting at most 1-2 workers including exposure to hazardous substances (chemical, biological, radiological), physical agents, and hostile environments (confined spaces or extreme temperatures) including falls from heights, vehicle impact during operation only	The Scoping Report proposes to scope this matter out from the assessment of major accidents and disasters on the basis that the risk is managed by safe working practices and preventative, protective measures and health and safety legislation. Justification should be provided in the ES for the scoping out of falls from heights and vehicle impact during the construction phase of the Proposed Development. The Applicant should also provide details of the safe working practices and preventative, protective measures that are currently in place or likely to be in place for the Proposed Development. Where significant effects are likely to occur, these should be assessed within the ES
122	Table 15.7 and Appendix 15.5	<p>Events external to the site resulting in release of biological agents, biohazard, disease, food and water contamination having an effect on construction or operation;</p> <p>Importation of biological agents/ biohazard/ disease/ pathogen including disembarkation of passengers and/ or flight with controlled disease/ biohazard;</p> <p>Release/ exposure to hazardous substance (chemicals,</p>	The Scoping Report proposes to scope these matters out from the assessment of major accidents and disasters on the basis that current systems to address these matters will be extended to the Proposed Development. The Inspectorate does not consider that sufficient information regarding the existing control mechanisms been provided to justify the scoping out of these matters at this stage. The Applicant must provide an in-depth justification for such scoping out, including an explanation of the current systems, controls, procedures and requirements that are currently in place to address these matters. Where significant effects are likely to occur, this should be assessed within the ES

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		<p>radiological/biological) during import or export due to inadequate documentation/ screening;</p> <p>Release of disease/ biohazardous material from quarantine/ storage centres including waste and disposal;</p> <p>External aircraft interference (lasers, fireworks, sky lanterns, drones, wind turbine interaction with radar);</p> <p>Damage to artefacts of national or international importance during import or export;</p> <p>Industrial action or loss of widespread utility failure external to site resulting in failure of key mitigation measures;</p> <p>Space weather (e.g. geomagnetic storms, radiation storms and solar flares) leads to loss of systems (e.g. loss of primary navigation system or loss of communications);</p> <p>Food/water contamination due to failure of onsite monitoring,</p>	

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		<p>handling, control and management, including security; and</p> <p>Loss of essential air safety and airside systems or loss of safety critical workers (e.g. due to industrial action or pandemic illness).</p>	
123	Table 15.7 and Appendix 15.5	Disease outbreak in surrounding area with potential for further infection beyond the airport and/or impairment of essential services (including fire service and policing) or damage to valuable species	<p>The Scoping Report proposes to scope this matter out from the assessment of major accidents and disasters on the basis that the Airport, working with Public Health England, has passenger disembarkation controls in line with UK border control requirements, with facilities subject to inspection by the CAA. The Inspectorate notes however that Table 15.7 does not refer to damage to valuable species, which is only listed as scoped out in Appendix 15.5 with very limited justification. As explained above, the ES should clearly set out which matters are to form part of the assessment of major accidents and disasters. The ES should also provide details of the passenger disembarkation controls that are currently in place and to be relied upon for the purposes of the assessment in order to justify the scoping out of this matter. Where significant effects are likely to occur, this should be assessed within the ES.</p>
124	Table 15.7 and Appendix 15.5	Wake vortex leading to property damage	<p>The Scoping Report proposes to scope this matter out from the assessment of major accidents and disasters on the basis that this is below the threshold for a major accident and disaster. The Inspectorate is content that impacts associated with this matter are unlikely to represent major accident and disaster significant</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			effects and can be scoped out of the assessment.
ID	Para	Other points	Inspectorate's comments
125	Table 15.1	Policy and Legislation	Table 15.1 does not include the Civil Contingencies Act 2004, which the ES should have regard to in carrying out its assessment of major accidents and disasters.
126	Table 15.2	Stakeholder engagement	The Inspectorate notes the effort made to engage with the HSPG, and recommends that a similar level of effort is made to consult with local authorities likely to be affected by the Proposed Development but not otherwise represented in the HSPG.
127	15.6	Baseline conditions	The Scoping Report states that the baseline conditions have been largely informed by other topic chapters. The Applicant should ensure that the ES provides an in-depth description of the baseline for the assessment of major accidents and disasters, including cross referencing and signposting to the relevant sections of other chapters that are being relied upon. In addition to the conditions set out in other aspect assessments the ES should establish a baseline in respect of natural disasters, for example setting out the current susceptibility of the site to seismic movement, extreme storms, tornadoes, snow and fog.
128	15.4 15.9.1	Study Area	The Scoping Report states that the study area may continue to evolve to accommodate any changes as the design process progresses. The ES should clearly evidence and justify the final extent of the study area used in the assessment of landscape and visual impacts. The study area should contain all likely significant effects of the Proposed Development from the perspective of

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			major accidents and disasters and should be agreed with relevant consultation bodies including the CAA, HSPG and other affected local authorities.
129	Table 15.5	Flight phases	The Scoping Report does not assess the impact associated with how aircraft are moved to, from and around the airport or the impact associated with manoeuvring or missed approaches. The Inspectorate does not consider that sufficient information has been provided to demonstrate that there are no likely significant effects in relation to this. Where significant effects are likely to occur, this should be assessed within the ES.
130	Table 15.6	Likely significant effects	The Scoping Report does not assess the impact associated with mid-air accident risk. The Inspectorate does not consider that sufficient information has been provided to demonstrate that there are no likely significant effects in relation to this. Where significant effects are likely to occur, this should be assessed within the ES.
131	Table 15.6	Baseline conditions	The baseline description presented in the ES should take account of the major accident hazard sites and major accident hazard pipelines identified by the Health and Safety Executive in its consultation response, to ensure that a complete assessment of all likely significant effects can be undertaken.
132	15.9.3	Design evolution	The Scoping Report states that the progress in the design of the Proposed Development may lead to changes in the baseline, effects to be scoped into or out of the assessment and mitigation requirements. The ES must provide a clear explanation of the baseline and effects to be assessed from a major accidents and

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			disasters perspective, including a justification in respect of any deviation from this Scoping Opinion e.g. changes in matters to be scoped out of the assessment.
133	15.9.17	Assessment years	The assessment years for the purposes of the major accidents and disasters assessment in the ES should include the early release of ATMs to ensure that all likely significant effects have been identified.



## 4.12 Noise and Vibration

(Scoping Report Chapter 16)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
134	16.9.1	Vibration from construction and operational traffic on new, altered or existing roads.	The Inspectorate considers that an assessment of vibration effects arising from construction vehicles on the existing road network should be provided as part of the ES, in line with the methodological approach set out in the Design Manual for Roads and Bridges (DMRB).
135	16.9.2	Consideration of hearing loss.	The Inspectorate has had regard to information presented in paragraph 16.9.2 of the Scoping Report and considers that effects on hearing loss may be scoped out of the assessment as significant effects are unlikely to occur.
ID	Para	Other points	Inspectorate's comments
136	Table 4.6	Road traffic noise on the existing network	It is unclear from Table 4.6 whether the assessment includes consideration of road traffic noise within the site or on the new road network. For the avoidance of doubt, the impact of noise from traffic within the operational boundary of the Proposed Development should be assessed, where it has potential to give rise to likely significant effects on noise sensitive receptors in isolation or in combination with other noise sources.
137	16.6.20-30	Noise monitoring	The Scoping Report states that baseline noise monitoring will be undertaken but provides no detail regarding the proposed survey approach. Baseline noise monitoring should be undertaken to a recognised standard eg BS7445-1:2003 or equivalent. Baseline data should be up to date and representative of current

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			conditions.
138	16.7.8 16.10.34	Aircraft fleet mix	The Scoping Report proposes to make assumptions regarding future aircraft fleet mix. The assumptions regarding the potential fleet mix should be set out in the ES as well as the basis for any the sensitivity testing, allowing for a conservative, worst case assessment.
139	16.8.4	Town and Country Planning (EIA) Regulations 2017	Reference should be to an assessment of likely significant effects in respect of the Infrastructure Planning (EIA) Regulations 2017.
140	Table 16.7	L <sub>Amax</sub> LOAEL and SOAEL criteria	The L <sub>Amax</sub> / number of events and a risk assessment of objective sleep disturbance are currently not specified for aviation (although it is for rail). The ES should set a specific threshold based on relevant guidance (eg World Health Organisation or similar).
141	16.4.5 and Footnote 35	Effects above LOAEL over 4,000ft	Whilst considering noise exposure above LOAEL to be unlikely above 4,000ft, the Air Navigation Guidance goes on to state that "but where such exposure does occur the CAA should ensure that the focus remains on minimising these impacts". The Applicant should consider the potential for exposure above LOAEL, likely to result in likely significant effects between 4,000 and 7,000ft, where relevant.
142	16.10.20 Graphic 16.3 footnote b	Method 2 (the 'ABC' method)	The ABC method is example method 1 in Annex E of the British Standard BS5228-1+A1:2014. Reference to Method 2 creates confusion as to whether the assessment proposes to apply ABC criteria (method 1) or a 5dB magnitude of change (method 2) criterion to inform the assessment of significance. The ES should provide a consistent description of the ABC method and the

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			applied criteria.
143	16.10.37	AEDT, ANCON or both	The statement that modelling may be taken either with AEDT or ANCON contradicts subsequent paragraphs suggesting that both models will be used to assess noise emissions. It is also unclear why two modelling approaches are required. The ES should justify the scope of modelling work undertaken with reference to relevant guidance and standards for aviation.
144	16.10.49	Calculations using ISO9613-2	The ES should set out the parameters and assumptions applied to the calculations of sound propagation.
145	16.10.51	'Data describing noise levels of aircraft which may include baseline measurements...'	The Inspectorate considers that source noise levels for aircraft should include baseline measurements of current operations.
146	16.10.52	Model assumptions including ground levels, building/ elevations, screens and ground types.	The description of development provided at scoping stage recognises that further evolution of the design will occur. The ES should ensure that any model outputs that are predicated on a current design of the Proposed Development have sufficient certainty of delivery to merit their inclusion as part of the worst case assessment.
147	16.10.68	Groundborne noise	The ES should include an assessment of groundborne noise from rail and any other relevant sources.
148	16.10.86	Qualitative assessment of non-significant effects from more than one source	The ES should justify the use of a qualitative rather than a quantitative approach to the consideration of combined effects arising from more than one source on a single receptor or area.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
149	16.10.87 Graphic 16.3	"Receptor by receptor or area by area basis"	Reference is made to a receptor by receptor <u>or</u> area by area assessment at a number of points within the text. Later sections describe a staged process of considering effects by area then by individual receptor where thresholds have been exceeded. It is assumed that the either/or approach is intended to reflect the staged process, which the Inspectorate considers to be appropriate rather than suggesting that either areas <u>or</u> receptors will be assessed.
150	Table 16.6 Graphic 16.3	Unacceptable adverse effect level (UAEL)	Reference is made to the UAEL in Table 16.6 but no other reference to assessment of UAEL is included in the text or in the process outlined in Graphic 16.3. The ES should define and assess UAEL for the Proposed Development.
151	Table 16.8	Magnitude of effect criteria	The magnitude of effect criteria are noted to be consistent with other NSIP assessments for receptors currently experiencing noise levels between LOAEL and SOAEL. The Scoping Report states that " <i>Greater weight will be given to change, even slight change, where the existing exposure already exceeds the relevant SOAEL</i> ". The Inspectorate considers that additional criteria should be included to reflect the greater weight afforded to exposure already exceeding SOAEL. The ES should justify why more stringent criteria has not been adopted for the purposes of this assessment.
152	16.10.95	Updated World Health Organisation Community Noise Guidelines.	Where updated guideline values become available the ES should describe how the updated criteria have been taken into account.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
153	Graphic 16.3	Additional factors 3.	The description of additional factor three is missing text, making the intent of the statement unclear.
154	Table 16.9	Overflights	The threshold elevation angle used in consideration of overflights should be justified in the ES, with reference to relevant CAA guidance.
155	16.10.106c	Small or large population	The terms small or large population are combined with the magnitude of effect criteria. The ES should provide a clear definition of what will constitute a small or large population.
156	16.10.108	"is being developed"	The inclusion of methodological approaches that are in development limits the ability of the Inspectorate to comment on the scope of the assessment. The ES should set out the approach adopted for the assessment and efforts should be made to agree these with consultation bodies, where relevant.
157	16.10.111	Additional factors to determine significance	The Inspectorate considers that the scope of assessment identifies the factors relevant to determine significance of noise effects, however the weight given to each of these factors in making a final determination of significance is unclear. In order to allow a transparent understanding of the assessment conclusions, as far as it is possible, the ES should provide a simple description of how each factor has influenced the assessment of the significant effects identified.
158	16.10.118	These additional metrics could be used to support and refine the identification of likely significant	This statement creates uncertainty in the proposed approach to assessment of significance. The ES should be specific regarding the factors that have been used to determine significance.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		effects...	
159	16.10.127	Flight paths design	The Inspectorate acknowledges that flight path design cannot be fixed by the DCO and that detailed flight path evaluation will be considered as part of the Airspace Change Process (ACP). The ES should provide an indication of the level of certainty attached to the aircraft noise, recognising that flight paths are relatively fixed close to landing and take-off but are subject to increasing uncertainty with distance from the relevant runway.
160	Table 16.10	50dB $L_{Aeq, 16hour}$ daytime criteria for hospitals	The Inspectorate considers that the further justification is required for the use of a 50dB $L_{Aeq, 16hour}$ outdoor criterion rather than the indoor 30dB $L_{Aeq, 16hour}$ criterion set out in the WHO Community Noise Guidelines. Efforts should be made to agree the criteria with the relevant local authority Environmental Health Officers. It is also unclear why cross reference 30 is used to justify the use of this criterion, since it relates to the construction vibration standard BS5228-2.
161	Table 16.10	50dB $L_{Aeq, 16hour}$ daytime criteria for schools	The Inspectorate considers that further justification should be provided for use of the 16 hour reference time interval for schools rather than the school day, consistent with the WHO Community Noise Guidelines.
162	Table 16.10	55dB $L_{Aeq, 16hour}$ external amenity space screening criteria	The WHO Community Noise Guidelines state that 55dB $L_{Aeq, 16hour}$ is the threshold of serious annoyance for outdoor living areas. Further justification should be provided in the ES to explain why the more conservative 50 dB $L_{Aeq, 16hour}$ moderate annoyance threshold has not been identified as a screening threshold for inclusion of receptors within the assessment.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
163	Graphic 16.4	Temporary construction impacts	The ES should define the term 'temporary' in light of the potential long duration of predicted construction sites and activities.
164	16.10.142	'a large noise change'	This paragraph cross references to Table 16.8, which uses the terms slight, minor, moderate and major to describe magnitude of change criteria. The ES should apply consistent terminology for the magnitude of change descriptors.
165	16.10.148	'design of the receptor'	The ES should set out the relevant design feature criteria used to inform 'additional factor #2'.
166	16.10.155	Additional metrics in line...	The relevant cross reference is missing, making the intent of the statement unclear.
167	Table 16.11	Peak Particle Velocity (PPV) criteria for vibration damage to buildings.	The criteria are stated to be derived from BS7385-2, however the criteria for transient vibration set out in the standard identify that the risk of cosmetic damage to residential buildings starts at a PPV of 15 millimetres per second (mm/s) at 4 hertz (Hz). The standard also notes that below 12.5 mm/s PPV, the risk of damage tends to zero. The ES should provide further justification for the proposed criteria, including reference to frequency dependent effects, where relevant.
168	16.11	Mitigation	The proposed noise insulation offer should be described within the ES. Details should be provided of the terms and conditions of uptake to demonstrate the deliverability of such a scheme and therefore the certainty to be placed on such mitigation.
169	Appendix 16.2	Noise Expert Review Group (NERG)	The status of outputs produced by the NERG is unclear. The Inspectorate recommends that any recommendations regarding

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			the scope and methodological approach made by the NERG are documented within the Applicant's ES.



## 4.13 Traffic and Transport

(Scoping Report Chapter 17)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
170	n/a	n/a	No matters have been proposed to be scoped out of the assessment, however the matters to be considered in Table 4.6 does not list an assessment of vehicular traffic within the operational airport and it is unclear whether this matter is considered within the air quality assessment. For the avoidance of doubt, the Inspectorate considers that sufficient information should be provided regarding operational traffic movements within the airport to enable an assessment of future air quality emissions to be undertaken.
ID	Para	Other points	Inspectorate's comments
171	17.1.10 and Table 17.2	Transport consultees and working groups	The Scoping Report identifies numerous transport consultees including Transport for London (TfL), the Heathrow Airport Transport Forum (HATF), the Technical Working Groups (TWGs), HSPG transport subgroup, Heathrow Area Transport Forum (which includes four working groups) and the Heathrow Highways Steering Group (HHSG). For clarity, the ES should include a description of the relative roles, functions and hierarchy of these groups in order to allow transparent understanding of the decision making framework for transport related matters. Any agreements reached with relevant consultation bodies regarding the methodological approach should be documented in the ES, where possible. It is unclear from Table 17.2 what consultation has been undertaken with Network Rail in relation to the assessment of

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>effects on the rail network.</p> <p>The list of stakeholders should also include Royal Mail in consideration of the potential effects of the Proposed Development on Royal Mail operations within the Heathrow area.</p>
172	Figure 17.1	Error in boundary	To the east of Richmond the Rest of Fully Modelled Area boundary curves inwards and back along the Area of Detailed Modelling boundary. The figure should show two distinct polygons. The final study area boundaries should be clearly set out in the ES.
173	Figure 17.2	Clarity of text	The resolution of text is poor. The ES should ensure that all figures are clearly legible.
174	17.1.11	Best practice guidance	The Scoping Report refers to use of best practice guidance but does not set out what best practice guidance will be adopted. The Inspectorate recommends that the ES has regard to TfL best practice guidance on Transport Assessment, healthy streets, the promotion of active travel and constructions logistics.
175	Table 17.1	Department for Transport (DfT) Circular 02/2013: The strategic road network and the delivery of sustainable development	The ES should demonstrate how the DfT circular relating to the appraisal of development proposals affecting the strategic road network has been taken into account.
176	17.4.2	Heathrow Highway Assignment Surface Access Model (HHASAM)	<p>The ES should fully justify the use of a dedicated highway model for Heathrow instead of existing standardised models for the Greater London Area. Efforts should be made to agree the modelling approach with relevant consultation bodies.</p> <p>The assessment should take into account the influence of</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			technology such as satnav, in the assignment of trips.
177	17.4.5	140mmpa	This figure is inconsistent with the predicted 130 mppa described in paragraph 1.2 of the scoping report. The ES should use consistent assumptions and assess the likely worst case increase in passenger numbers.
178	17.4.9	Railplan modelling	The extent of the Railplan model, data and validation should be agreed with TfL and other stakeholders where possible.
179	17.4.5 17.9.18	Threshold of change defining study area boundary	Paragraph 17.4.5 states that a 5% change in peak hour traffic flows threshold will be used to define the initial study area boundary, whereas paragraph 17.9.18 suggests that the study area will be defined using a 10% change in flows prior to considering whether locations are sensitive. The two approaches would likely give rise to substantially different study areas. Care should be taken when considering whether to assess links since a 1% increase on a congested network may have a significant effect, compared with a 10% increase in traffic on a lightly trafficked road. Robust justification should be provided for any links to be excluded/included within the assessment.
180	17.4.13	Study area evolution	The Scoping Report suggests that the study area may be subject to further evolution. The ES should explain any departure from the proposed criteria for definition of the traffic and transport study area set out in the Scoping Report. The study area should include areas currently affected by on street parking by private hire vehicles.
181	17.6.5	Bus datasets	The baseline dataset for assessment of bus routes should

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			incorporate TfL's iBus data, where relevant.
182	Table 17.3	Movement of materials to and from site during construction	<p>Table 17.3 identifies that movement of materials to and from site will be for HGV movements. The ES should also consider the potential for significant effects from light duty vehicle (LDV) deliveries. The ES should also give consideration to the effects arising from increased material movement by other transport modes eg rail and water, where relevant.</p> <p>The potential for abnormal load deliveries is not discussed within the Scoping Report and should be addressed within the assessment.</p>
183	Table 17.3	Movement of people (colleagues)	The definition of 'colleagues' is unclear. The assessment scope should include all maintenance workers, cargo industry workers, those in service industries, offices, hotels and supply chain companies as well as direct Heathrow and airline employees.
184	17.9.3 - 17.9.5	Site observations	Baseline data will be supplemented by 'site observations'. No detail of the proposed site observation scope or methodological approach is provided. Baseline data used to supplement the traffic and transport assessment should be collected in accordance with relevant standards and guidance.
185	17.9.4	Cycling	TfL states that the cycling network model for London 'Cynemon' should be used to assess the impacts of the scheme on cycling. The Applicant should seek to agree the proposed cycling model with the relevant consultation bodies and explain any departures from standardised models, where relevant.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
186	17.9.25	5km/hour criteria	In accordance with DMRB, allowance should be made for different walking speed criteria for vulnerable groups.
187	17.10	Mitigation	<p>The assessment in the ES should have regard to TfL guidance on construction logistics and the protection of infrastructure.</p> <p>Construction traffic routes should be agreed with the relevant local planning authorities where possible.</p>
188	Appendix 17.1 para 1.6.7	Passenger forecasts and scenarios for the number of colleagues	The ES should provide details of all assumptions used to underpin the passenger forecasts and colleague number scenarios, including any consultation regarding those assumptions. The Applicant should make efforts to agree the passenger forecast projections used in the ES with relevant consultation bodies.

## 4.14 Water Environment

(Scoping Report Chapter 18)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
189	Table 18.9, 18.6.32, Table 18.11	Activities described in Table 18.7 – Tidal flood risk	Risk of tidal flooding to and from the DCO project is ruled out in Table 18.9. Paragraph 18.6.32 makes no reference to the increased risk of tidal flooding elsewhere due to the project and Table 18.11 states that the flood risk assessment will cover all sources of flood risk including tidal. The Inspectorate does not agree that this matter can be scoped out because the Scoping Report lacks a robust justification and does not quantify the discharges from the Proposed Development. The Applicant should make efforts to agree the need for a tidal flood risk assessment with the relevant consultation bodies.
190	Appendix 18.3, Table 18.3.1	Groundwater dewatering Mobile treatment plant (dewatering) Mobile treatment plant (sewage)	Table 18.3.1 identifies a number of matters that could be scoped out of the groundwater modelling. These matters are not identified as scoped out within section 18.8 of the Scoping Report. In the absence of justification within the main Scoping Report, these matters are not scoped out.
191	Appendix 18.3, Table 18.3.1	Portable toilet facilities	The Inspectorate considers that assessment of such facilities during construction may be scoped out from further assessment on the basis that a discharge is not required.
192	Appendix 18.3, 3.6.3	No accretion or detailed groundwater surveys are planned for the Crane/Thames catchments.	The Applicant should ensure that the assessment in the ES is underpinned by sufficient baseline survey information. Effort should be made to agree the need for more detailed baseline survey information with relevant consultation bodies. If no further survey effort is conducted the ES should include a robust

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			justification support the exclusion of such surveys from the identified catchments.
ID	Para	Other points	Inspectorate's comments
193	Table 4.6	Increased sediment loading to surface water (construction only)	Due to the proposed increase in impermeable area during operation, the Inspectorate considers that increased sediment loading to surface water during operation could result in a likely significant effect and should be assessed.
194	Table 18.3	Groundwater study area	The study area is defined only with respect to the Lower Thames Gravels WFD groundwater body. Paragraph 14.4 of the land quality chapter identifies the potential for effects on the underlying chalk aquifer to arise from construction works including basements or piled foundations that extend below the base of the London Clay and Table 18.7 and Appendix 18.2 highlight the need to consider effects on the Cretaceous chalk aquifer. The Applicant should ensure that the extent of the model is sufficient to address effects on all aquifers likely to be affected.
195	Table 18.4 Table 18.10	Baseline data	The Inspectorate considers that further justification is required for the additional surveys to be undertaken. Currently the listed surveys lack detail regarding their extent, timing, duration, detailed methodology or reference to recognised survey standards. In light of the Environment Agency's comments in relation to the lack of flow gauging and monitoring, particular consideration should be given to justifying any flow monitoring surveys. Effort should be made to agree the detailed scope of surveys with the relevant consultation bodies eg. Environment Agency and Lead Local Flood Authorities.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			The baseline data should include Local Authority data regarding the extent of functional floodplains and from the Catchment Data Explorer, strategic flood risk assessments and relevant water quality assessments (for example as referenced in the South Bucks, Buckinghamshire and Surrey CC responses).
196	Table 18.8	Change in land use and river diversion activity	The receptor WE10: Upper River Colne should be included in the change in land use and river diversion and linked effect changes to channel morphology in operation, where relevant.
197	18.9.10	Assessment scenarios	The ES should also consider the potential for likely significant water quality effects to arise during the early ATM uplift scenario due to increased pollutant deposition due to increased aircraft and ground vehicle activity.
198	Table 18.14 and Table 18.5	Receptor sensitivity and magnitude of effect criteria	Whilst there is no industry standard methodological approach to undertake water environment assessments, the Scoping Report makes no reference to existing methodological approaches that are commonly used to assess water environment effects. The source of the proposed sensitivity and magnitude criteria are not set out in Table 18.14 and Table 18.15, although they appear to be loosely based on DMRB Volume 11 Section 3 HD45/09 Road Drainage and the Water Environment (or WebTAG) and Table 18.2 makes reference to DMRB requirements. The criteria reference designated areas but do not reference specific ecological elements of affected waterbodies (eg fish) that contribute to the sensitivity of the waterbodies. The Inspectorate recommends that effort is made to agree the elements to be considered as part of the criteria with the relevant consultation bodies.



ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
199	18.10.9 5.10	'Possible' plans	<p>The draft CoCP is referenced as an example of a 'possible' plan, whereas section 5.10 of the Scoping Report states that a draft CoCP will be produced. The Inspectorate expects a draft CoCP to be submitted as part of the ES. The applicability of the CoCP to deliver environmental management of maintenance activities should be considered.</p> <p>The Inspectorate expects the ES to contain details of the proposed operational drainage strategy, in order to understand the potential effects of the development on the water environment and the effectiveness of any mitigation proposed.</p>
200	Appendix 18.1	Water Framework Directive (WFD) derogation	The appendices refer to the potential need for derogation under the WFD, with specific reference to Article 4.7 of the WFD. Any requirements under Articles 4.8 and 4.9 of the WFD should also be considered and addressed through the assessment.
201	Appendix 18.1, 5.2.3	Thames River Basin Management Plan (RBMP)	The interim WFD objectives for the Thames RBMP, which are due to be released in 2019, should be used to inform the ES and WFD assessment where relevant.
202	Appendix 18.1, 6.1.12	Water bodies currently attaining good status will not be subject to screening for effects on the achievement of WFD status objectives, as they are already at target status.	The screening assessment should take into account the interim WFD objectives for the Thames RBMP in case of changes in the status of waterbodies subject to assessment.
203	Appendix 18.1, 7.2.3	Temporary effects	The assessment relies on the European Commission, Common Implementation Strategy for the Water Framework Directive

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			(2000/60/EC), Guidance Document No. 20, 2009 and states that impacts are considered to be temporary, and therefore not to constitute deterioration of WFD status if the water body would "Recover without the need for any mitigation". The EC guidance actually uses the term "restoration" rather than mitigation. The ES should ensure consistent use of terminology between assessments and guidance. The duration of temporary effects should be fully defined.
204	Appendix 18.1-18.3	Climate change	Limited reference is made within the surface and groundwater modelling appendices to climate change. The ES should ensure that the modelling process takes account of future climate change scenarios and clearly cross references to the findings of the climate and climate change assessment.
205	Appendix 18.4, 6.2.2	Pluvial flood risk	Paragraph 6.2.2 suggests that existing publicly available Environment Agency surface water flood risk mapping will be sufficient to inform the flood risk assessment but that modelling may also be required. Efforts should be made to agree the requirement for pluvial flood risk modelling with the relevant consultation bodies e.g. Environment Agency and Lead Local Flood Authorities.
206	n/a	Canal and River Trust	If during design development the Proposed Development approaches within 100m of a relevant waterway, the Canal and River Trust, should be consulted.

## 4.15 Waste Impact Assessment

(Scoping Report Section 4.4 and Appendix 4.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
207	4.4.1, Table 4.5 and Appendix 4.1	Waste as a separate topic chapter	<p>The Scoping Report proposes to consider waste '<i>as part of the appropriate environmental topics and associated strategies</i>'. Table 4.5 cross references to aspect chapters that would consider waste related effects such as air quality and transport.</p> <p>The Scoping Report is somewhat confusing in providing a stand-alone assessment methodology including significance criteria for capacity impacts in Appendix 4.1 but not identifying where in the ES such an assessment would be provided. The Inspectorate considers that this should be provided as a stand-alone aspect chapter.</p> <p>The ES must include an assessment of effects on waste capacity, in particular addressing the reduction in waste treatment capacity caused by the loss of the Lakeside Energy from Waste Plant, including any contingency measures that would be required should it not be possible to relocate the facility.</p> <p>The waste assessment must demonstrate that the Applicant has proposed an effective process that will be followed to ensure effective management of hazardous and non-hazardous waste arising from all phases of the lifetime of the Proposed Development; that the types of waste produced during construction and operation are quantified; and any likely significant effects arising from the disposal and recovery of waste have been identified.</p> <p>The consultation responses incorporate baseline data relevant to</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			the assessment of waste impacts (eg Surrey CC), the Inspectorate advises that such data should be taken into account within the assessment to be presented in the ES.
208	Appendix 4.1, 1.6.6	Hazardous, inert and liquid Controlled Wastes during operation will not be considered.	The potential volume of hazardous, inert and liquid Controlled Wastes should be quantified and their disposal methods identified including confiscated liquids and liquid wastes generated during aircraft maintenance.
ID	Para	Other points	Inspectorate's comments
209	Section 4.4, Table 4.5	Resource Management Plan	Mitigation and enhancement for waste and resources management during construction is proposed to be set out in an overall CoCP, Resource Management Plan and contractor site waste management plans. A draft of the relevant plans used to inform the assessment including the Resource Management Plan should be provided as part of the ES.
210	Appendix 4.1, 1.2.10	Assessment area	For the construction phase, waste and material resources shall be assessed based on the boundary of the DCO Project having regard to the South East and London regional areas. The spatial scope should not be drawn so wide that the assessment of effects on existing and future waste capacity is underrepresented.
211	Appendix 4.1, 1.2.12	30 minute drive time assumption	Efforts should be made to agree the assumption of a 30 minute drive time with the relevant highways authority during development of the transport model. Justification should be provided for all such assumptions made in relation to disposal eg application of the proximity principle for disposal of waste.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
212	Appendix 4.1, 1.4.11	5.5 day working week	A 5.5 day working week is currently assumed to forecast waste generation rates from worker accommodation. Forecasts should be kept under review to allow for other patterns of working that may be identified as necessary for delivery of the Proposed Development.
213	Appendix 4.1, Tables 1.4.1-1.4.3	Significance criteria	The significance criteria set out in Appendix 4.1 are based on thresholds in the now withdrawn circular 02/99. The Applicant should consider the use of threshold criteria adopted by waste planning authorities within the South West as highlighted in Buckinghamshire CC's consultation response. The ES should justify the suitability of the criteria adopted.

## 4.16 Cumulative Effects Assessment

(Scoping Report Section 4.6 and Appendix 4.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
214	Appendix 4.2, 3.2.13	Effects on local plan development	The Scoping Report states that 'Given the lack of published information and the inherent uncertainty as to the delivery of developments referred to in development plans, it is not considered possible to take such developments into account in the CEA'. The Inspectorate considers that the CEA should follow the advice set out in Advice Note 17: Cumulative Effects Assessment (AN17) and include an assessment in relation to local plans.
ID	Para	Other points	Inspectorate's comments
215	4.6.6	5 year exclusion criteria	The use of a 'planning applications submitted and consented/ pending determination in the last 5 years' exclusion criteria may exclude some very large and complex developments from consideration as part of the cumulative effects assessment. Justification for exclusion of such projects should be provided.
216	Appendix 3.2 of Appendix 4.2	Table 3.2.1	The Inspectorate notes that the Scoping Report proposes to adopt the Mayor of London's call-in criteria for the purposes of screening Tier 1 development. These criteria only relate to development within the Greater London Authority administrative area. Outside this area, powers available under the Town and Country Planning Act 1990 may be more appropriate. In addition, the Scoping Report proposes to use criteria set out in Schedule 2 of the Town and Country Planning (EIA) Regulations 2017. The Inspectorate suggests that Schedule 1 criteria should also be applied.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
217	Appendix 3.4 of Appendix 4.2	Initial schedule of other developments	The list of developments considered should include the prospective Southampton to London Pipeline NSIP and Southern Rail project, where relevant. The ES should also have regard to the list of permitted and proposed minerals and waste developments identified by Buckinghamshire CC and Surrey CC.
218	Appendix 4.2, 3.4.1	Freeze date approximately 6 months prior to the DCO application being submitted	As set out in the AN17, where new 'other development' comes forward following the stated assessment cut-off date, the Examining Authority may request additional information during the examination in relation to effects arising from such development. The applicant should be aware of the potential need to conduct further assessments and provide more information.
219	Appendix 4.2, 3.5.2	Significance of cumulative effects	The Scoping Report states that ' <i>the same significance criteria will be used in relation to each topic as are used for their core assessment, considering whether the cumulative effects would have a higher level of significance than that identified in core assessments.</i> ' This suggests that a purely additive approach to cumulative effects is proposed. The ES should ensure that any synergistic cumulative effects are also identified, where relevant.





## 5. INFORMATION SOURCES

5.0.1 The Inspectorate's National Infrastructure Planning website includes links to a range of advice regarding the making of applications and environmental procedures, these include:

- Pre-application prospectus<sup>6</sup>
- Planning Inspectorate advice notes<sup>7</sup>:
  - Advice Note Three: EIA Notification and Consultation;
  - Advice Note Four: Section 52: Obtaining information about interests in land (Planning Act 2008);
  - Advice Note Five: Section 53: Rights of Entry (Planning Act 2008);
  - Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements;
  - Advice Note Nine: Using the 'Rochdale Envelope';
  - Advice Note Ten: Habitat Regulations Assessment relevant to nationally significant infrastructure projects (includes discussion of Evidence Plan process);
  - Advice Note Twelve: Transboundary Impacts;
  - Advice Note Seventeen: Cumulative Effects Assessment; and
  - Advice Note Eighteen: The Water Framework Directive.

5.0.2 Applicants are also advised to review the list of information required to be submitted within an application for Development as set out in The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009.

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<sup>6</sup> The Planning Inspectorate's pre-application services for applicants. Available from: <https://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/>

<sup>7</sup> The Planning Inspectorate's series of advice notes in relation to the Planning Act 2008 process. Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

## APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES<sup>8</sup>

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	NHS North West Surrey Clinical Commissioning Group
	NHS Slough Clinical Commissioning Group
	NHS Windsor, Ascot and Maidenhead Clinical Commissioning Group
	NHS Chiltern Clinical Commissioning Group
	NHS Hillingdon Clinical Commissioning Group
	NHS Hounslow Clinical Commissioning Group
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England - London Gt London
The relevant fire and rescue authority	Royal Berkshire Fire and Rescue
	Surrey Fire and Rescue Services Headquarters
	Buckinghamshire Fire and Rescue Service

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<sup>8</sup> Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')

Scoping Opinion for  
Expansion of Heathrow Airport (Third Runway)

<b>SCHEDULE 1 DESCRIPTION</b>	<b>ORGANISATION</b>
	London Fire Brigade
The relevant police and crime commissioner	Surrey Police and Crime Commissioner
	Metropolitan Police and Crime Commissioner
	Thames Valley Police and Crime Commissioner
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Colnbrook with Poyle Parish Council
	Old Windsor Parish Council
	Wraysbury Parish Council
	Horton Parish Council
	Datchet Parish Council
	Iver Parish Council
	Denham Parish Council
The Environment Agency	The Environment Agency - Hertfordshire & North London
	The Environment Agency – Thames
The Civil Aviation Authority	Civil Aviation Authority
The Relevant Highways Authority	Surrey County Council
	Slough Borough Council
	London Borough of Hillingdon
	London Borough of Hounslow
	Royal Borough of Windsor and Maidenhead
	Buckinghamshire County Council
The relevant strategic highways company	Highways England - South East
Transport for London	Transport for London

<b>SCHEDULE 1 DESCRIPTION</b>	<b>ORGANISATION</b>
The Canal and River Trust	The Canal and River Trust
Public Health England, an executive agency of the Department of Health	Public Health England
The Crown Estate Commissioners	The Crown Estate
The Forestry Commission	Forestry Commission - South East and London
The Secretary of State for Defence	Ministry of Defence

**TABLE A2: RELEVANT STATUTORY UNDERTAKERS<sup>9</sup>**

<b>STATUTORY UNDERTAKER</b>	<b>ORGANISATION</b>
The National Health Service Commissioning Board	NHS England
The relevant NHS Trust	London Ambulance Service NHS Trust
The relevant NHS Foundation Trust	South East Coast Ambulance Service NHS Foundation Trust
	South Central Ambulance Service NHS Foundation Trust
Railways	Network Rail Infrastructure Ltd
	Highways England Historical Railways Estate
Road Transport	Transport for London
Canal Or Inland Navigation Authorities	The Canal and River Trust
Civil Aviation Authority	Civil Aviation Authority
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-Route Safeguarding

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<sup>9</sup> 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008

Scoping Opinion for  
Expansion of Heathrow Airport (Third Runway)

<b>STATUTORY UNDERTAKER</b>	<b>ORGANISATION</b>
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	Environment Agency - Hertfordshire and North London
The relevant water and sewage undertaker	Affinity Water (Southeast region)
	Thames Water
The relevant public gas transporter	Cadent Gas Limited
	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
The relevant electricity distributor with CPO Powers	Energetics Electricity Limited
	Energy Assets Networks Limited
	Energy Assets Power Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited

<b>STATUTORY UNDERTAKER</b>	<b>ORGANISATION</b>
	G2 Energy IDNO Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Leep Electricity Networks Limited
	Murphy Power Distribution Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
	Utility Distribution Networks Limited
	UK Power Networks Limited
	National Grid Electricity Transmission Plc

**TABLE A3: SECTION 43 CONSULTEES (FOR THE PURPOSES OF SECTION 42(1)(B))<sup>10</sup>**

<b>LOCAL AUTHORITY<sup>11</sup></b>
Wycombe District Council
Surrey Heath District Council
Runnymede District Council
Elmbridge District Council
Spelthorne District Council

<sup>10</sup> Sections 43 and 42(B) of the PA2008

<sup>11</sup> As defined in Section 43(3) of the PA2008

Scoping Opinion for  
Expansion of Heathrow Airport (Third Runway)

<b>LOCAL AUTHORITY<sup>11</sup></b>
South Bucks District Council
Chiltern District Council
Three Rivers District Council
Slough (Borough Council
Royal Borough of Windsor and Maidenhead
Wokingham Borough Council
London Borough of Richmond upon Thames
London Borough of Hammersmith and Fulham
London Borough of Hounslow
London Borough of Ealing
London Borough of Hillingdon
Bracknell Forest Borough Council
London Borough of Harrow
Buckinghamshire County Council
Hertfordshire County Council
Surrey County Council
South Downs National Park Authority
London Borough of Kingston upon Thames
Milton Keynes Council
London Borough of Sutton
London Borough of Croydon
London Borough of Bromley
Central Bedfordshire Council
Kent County Council
Northamptonshire County Council

<b>LOCAL AUTHORITY<sup>11</sup></b>
Oxfordshire County Council
West Sussex County Council
East Sussex County Council
Hampshire County Council

**THE GREATER LONDON AUTHORITY**

<b>ORGANISATION</b>
The Greater London Authority

**TABLE A4: NON-PRESCRIBED CONSULTATION BODIES**

<b>ORGANISATION</b>
N/A



## APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

Consultation bodies who replied by the statutory deadline:

Affinity Water Limited
Buckinghamshire County Council*
Buckinghamshire Fire and Rescue Service
Cadent Gas Limited
The Canal and River Trust
Central Bedfordshire Council
Civil Aviation Authority
Datchet Parish Council
Ealing Council*
The Environment Agency
ESP Utilities Group Ltd
Forestry Commission
Health and Safety Executive
Highways England
Hillingdon Clinical Commissioning Group
Historic England
Horton Parish Council
London Borough of Hammersmith and Fulham
London Borough of Hillingdon
London Borough of Hounslow*
Ministry of Defence
National Grid
NATS

Scoping Opinion for  
Expansion of Heathrow Airport (Third Runway)

Natural England
Network Rail
Public Health England
Royal Borough of Kingston upon Thames*
Royal Borough of Windsor and Maidenhead*
Royal Mail
Runnymede Borough Council*
Slough Borough Council*
South Bucks District Council and Chiltern District Council*
Spelthorne Borough Council*
Surrey County Council*
Transport for London
West Sussex County Council
Wraysbury Parish Council

\*Consultation response includes or comprises the joint response prepared by Heathrow Strategic Planning Group (HSPG).



Affinity Water Limited  
Tamblin Way  
Hatfield  
Hertfordshire  
AL10 9EZ  
Direct Tel: 01707 268111

[patrick.campbell@affinitywater.co.uk](mailto:patrick.campbell@affinitywater.co.uk)

The Planning Inspectorate  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN.

Our ref: 138 of 2018. SMM

**POST and EMAIL**

Your ref: TR020003/Affinity Water

19 June 2018

Dear Sir/Madam,

**Planning Act 2008 (as amended) and The Infrastructure Planning  
(Environmental Impact Assessment) Regulations 2017 (the “EIA Regulations”)  
Regulations 10 and 11**

**Application by Heathrow Airport Limited (the “Applicant”) for an Order  
granting Development Consent for the Expansion of Heathrow Airport (Third  
Runway) (the “Proposed Development”)**

**Scoping consultation and notification of the Applicant's contact details and  
duty to make available information to the Applicant if requested**

We refer to your letter of 22 May 2018. This letter was sent to a regional office of Affinity Water Limited rather than that of our head office in Hatfield, which caused some lost time within our organisation to respond. Please can future correspondence be addressed to the registered office address and reference in this letter. Please can this be marked for my attention and Sean McGuigan within the Legal Team.

Affinity Water is appointed as a water undertaker under the Water Industry Act 1991; it provides drinking water to approximately 3.6 million customers in parts of North London and the Home Counties together with customers in the Dover and Folkestone and East Tendring area.

We have a statutory duty under section 37 of the Water Industry Act 1991 to develop and maintain an efficient and economical system of water supply and to ensure that all such arrangements have been made for providing supplies of water and for maintaining, improving and extending our water mains and other pipes.

The “Proposed Development” is located within our Central region, which extends from Guildford in Surrey to Saffron Walden in Essex, much of Hertfordshire and Buckinghamshire and north and west London including the area around Heathrow Airport. Around 60% of the water we supply to customers in our Central region is abstracted from groundwater sources. The remaining 40% of the water we provide to our customers is abstracted from the River Thames and treated at four water treatment works, one of which is our Iver water treatment works that is located approximately 4.25km from Heathrow Airport.

We have reviewed the request for a Scoping Opinion. We appreciate that the Planning Inspectorate has a statutory timetable to meet in issue its Scoping Opinion, but the time available has meant that we have not been able to give the issues raised in this request detailed consideration. We will be writing further directly to the Applicant in due course to discuss the Proposed Development in relation to the time, costs and resources needed to properly deal with this matter.

We have had preliminary discussions with the Applicant to the extent that we have been advised in general terms of the likely footprint of the Proposed Development and the possible effects it may have on our undertaking. These preliminary discussions indicate that overall water demand from the expanded airport will not increase significantly as water saving measures will be introduced across the airport. Diversions and other network related work will need to be made in relation to our existing and extensive network of water mains, service pipes, equipment, operational apparatus and accessories within the Proposed Development.

We have identified the following points of sensitivity and potential concern based on our preliminary review of the documents provided.

- We have major strategic pipelines that will be within the Proposed Development including a 450mm diameter trunk water main that will be directly affected.
- We have smaller distribution pipelines and service pipes that are in the Proposed Development that will be directly affected.
- We manage and control leakage and pressure to customers across leakage zones that are well understood; the reconfiguration of our network is likely to impact on this management.
- We anticipate there may be impacts on network resilience arising from the Proposed Development. We currently have multiple ways of providing water to household and non-household properties using different pipes and the number of options available to us could be reduced. This impact could extend 3-4km outside of the Proposed Development.
- The western edge of the Proposed Development impinges on Iver Water Tunnels. Iver Raw Water Tunnel No. 1 carries raw water from our abstraction point on the River Thames at Sunnymeads to Iver WTW. Iver Raw Water Tunnel No. 2 is an emergency link that carries water from Wraysbury Reservoir to Iver and is used if for operational reasons we are unable to abstract from River Thames at our own intake at Sunnymeads. The Proposed Development could impact on these tunnel structures in a number of ways:
  - The Proposed Development may increase the loading transmitted onto the tunnel, which could damage the structure or lead to increase deterioration of the fabric of the tunnel.

- Construction of runway may require excavation over the tunnel; removing the overburden above the tunnel could impact its structural integrity.
- The ongoing presence of the Proposed Development over the tunnel will create significant access issues over the tunnel that will need to be resolved.
- We have concerns that the Proposed Development could exacerbate the risk of contamination of the water quality at our surface water abstractions. This is due to the multiple landfills located in the vicinity which have the potential to create new pollutant pathways and potential turbidity related issues triggered by the proposed construction works.
- We also have concerns that the proposed river channel modifications could change the hydraulics between the associated rivers and lakes which are currently used for emergency supply.
- We would also be interested in the determination of the downstream impacts on flows in the rivers during extreme events such as drought and flood risk. The proposed changes to the baseflow of the rivers have the potential to affect the water quality at our surface water abstractions and could impact our ability to respond in the event of a pollution incident.

Please note this cannot be a fully comprehensive list because we have not yet seen the full detail of the Applicant's Proposed Development and we anticipate that we may identify additional concerns.

If you have any queries regarding our response please do not hesitate to contact me.

Yours faithfully



Patrick Campbell  
Head of Infrastructure Strategy  
Affinity Water Limited

## **Heathrow Expansion – Scoping Consultation**

Buckinghamshire County Council (BCC) welcomes the opportunity as a statutory consultation body for the prospective Development Consent Order (DCO) application to respond to the request to The Planning Inspectorate (PINS) by Heathrow Airport Limited (HAL) for a Scoping Opinion, (the 'Scoping'). From previous meetings with the Heathrow team I understand that Buckinghamshire will be a 'host authority' for the DCO and a statutory consultee on the Airspace Change Process (ACP). In view of the current division of responsibilities in a two tier area, such as Buckinghamshire, we continue to work with our district colleagues including South Bucks District Council (SBDC) and countywide bodies such as Buckinghamshire Thames Valley LEP (BTVLEP) in considering expansion proposals.

BCC is also working with key partners, not least the Colne Valley Park Community Interest Company (CVP) to consider HAL's proposals, their impact and potential mitigation within Buckinghamshire, on the county's communities, businesses and environment. As the strategic authority in Buckinghamshire, BCC recognises the potential economic benefits that the expansion of Heathrow could bring to the county and the wider South East. From my and the Council Leader's discussions with the HAL team, I know that HAL recognise the increasing importance of surface connectivity through the county to the England's Economic Heartlands area for business and leisure passengers, as well as freight.

BCC was one of the first Councils to publicly support the growth of the airport, on the proviso that adverse economic, community and environmental impacts including noise, air quality and traffic are appropriately mitigated. I recognise the importance therefore in ensuring that HAL consider the impacts - including potential benefits - on our communities, businesses and environment within the geographic area of Buckinghamshire. It is important that at this early stage HAL does not scope out these interests and impacts without suitable assessment and the agreement of BCC in our statutory role.

Turning to the DCO proposal we understand from the consultation documents that:

- HAL now identifies one site for Airport Related Development at Thorney Sidings, Iver.
- HAL continues to identify sites for potential flood storage capacity including BCC land at Thorney Park and New Denham Quarry. Other land in southern Buckinghamshire is likely to be needed for ecology and landscape mitigation.
- HAL propose removing the cap on flight numbers in 2022, increasing passenger numbers and freight before new rail and coach/ bus capacity is available to serve a third runway.

- It is too early in the airspace change process (ACP) to know the flightpaths and the precise impacts of noise on residents and on Council service locations including Schools and Country Parks and the impact on service and park users.

Following the Council Leader's responses to Government consultations in 2017 and HAL's non statutory consultations (DCO and ACP) earlier this year, two key issues remain for Buckinghamshire.

### **Local impacts**

Impacts around the Iver area in southern Buckinghamshire must be appropriately mitigated, including cumulative impacts arising from a number of national infrastructure schemes. These include the expansion of Heathrow Airport, HS2, Western Rail Link to Heathrow (WRLtH), Crossrail and the approved M4 & future M25 Smart Motorway Projects. The Ivers Area is unique in being subject to so much change and the Council continues to request that the Department for Transport (DfT) commits dedicated co-ordinating resources to support the alignment and joint programming of these nationally significant infrastructure projects to minimise the extended construction impacts and mitigate cumulative transport and environmental impacts on the local community. In view of the existing cumulative impacts, Green Belt protection and the potential harm to the landscape of the CVP, BCC supports the HAL proposal not to bring forward multiple airport related development sites in the Ivers area.

As a 'host' community for airport expansion and other major projects, we support the local aspiration for an Iver Relief Road to provide mitigation from construction traffic and to prevent the current HGV issue worsening leading to local congestion, air quality and health issues and road user safety concerns. The mitigation, which the Iver Relief Road would provide, has wide stakeholder support and is endorsed by Council Leaders and the three LEP's represented on the Heathrow Strategic Planning Group.

### **Aircraft Noise**

On airspace and aircraft noise, BCC support the national modernisation programme. HAL's redesign of airspace has the potential to continue the airport's track record of reducing its noise footprint. Airspace modernisation alongside HAL's financial incentives for airlines to upgrade fleets can lower emissions with both air quality and carbon benefits.

Whilst consideration of detailed flight paths (Stage 3 of the ACP) is planned by HAL to follow the DCO process we note that a number of options could mean aircraft using the expanded airport and third runway after 2025 may overfly areas within southern Buckinghamshire that have not been previously overflowed. From the CAA/ DfT and HAL consultation events over the past year you will have gathered from residents and elected members that the extended process for the ACP creates unnecessary uncertainty for those communities in the county.

New flightpaths could have a significant adverse impact on not just the quality of life of residents in the county but also have negative health impacts for residents, service users, business and workers in the newly affected areas. HAL's consultants have advised the BCC team that the effects on health for communities not previously overflowed is greater than for communities already overflowed and to an extent have become acclimatised to aircraft noise. Minimising the need to affect new populations and business should be the first principle in Heathrow's redesign of airspace. This principle can and should guide HAL's EIA noise assessment and mitigation design and would complement the reduction in the footprint of the noise envelope which Heathrow has achieved for communities already affected by noise. With regard to the Scoping, applying this 'minimise newly overflowed' principle can in turn provide some certainty to communities during the DCO process that requirements and obligations set out in the Secretary of State's future DCO Order(s) will not be overturned by ACP or other CAA regulatory decisions. If new communities, businesses and services are to be affected in Buckinghamshire

then the area of that impact should be minimised through appropriate baseline work and design of envelopes so that residents have confidence in the current noise assessment and that HAL will keep them informed of monitoring and changes to impacts during the DCO process, construction and then operation. This includes respite from noise for predictable periods which should be applied equally across all affected populations.

As the Lead member for Heathrow, and working with Cabinet colleagues for transport and public health in Buckinghamshire, I want to highlight two opportunities which Heathrow's first consultation - and on which the Scoping request is based - provides for the next stage in designing the airport, assessment and mitigation. Perhaps most importantly these can also assist in providing information to the residents on the current situation and future position on these issues and are areas where BCC have and will be seeking HAL commitments and HAL reporting in their Consultation Report.

- **Rail Surface Access**

Access from Buckinghamshire to Heathrow is usually by private car, as rail travel currently requires a journey into London, a number of connections and then back out to the airport. Many airport workers and travellers from Buckinghamshire to Heathrow therefore drive, in view of the proximity – if not journey time reliability – to Heathrow. Iver's position close to the airport, mean it is the location of many airport workers homes and given that there is no bus service to the airport many drive direct. This unnecessary traffic adds to congestion on the local road and motorway network. There are limited bus services to Heathrow from a number of the county's towns. Better public transport connectivity to Heathrow is needed throughout Buckinghamshire via hubs in our major towns. HAL's Transport Assessment and Surface Access Strategy should consider the current missing transport links and bring forward funded options to deliver local and sub regional connections and the links to those stations via sustainable transport modes.

We support HAL's objective of securing 'no net increase in traffic' to the expanded airport and recognise the important part that transport schemes within and connecting Buckinghamshire can play in delivering an airport which is accessible to more people by enhanced rail and public transport. BCC continues to advocate that HAL sign up to a 'triple lock' on surface access to an expanded airport which then enables capacity from a third runway to become operational when Heathrow demonstrates to local planning, transport and health authorities that :

1. Transport interventions including funding for new local bus and cycle routes for Heathrow workers and appropriate financial for support for WRLtH, for example, are delivering HAL's '**no net increase in traffic**' commitment.
2. Committed projects to enable passengers, workers, commuters and freight to move to more sustainable and accessible modes of travel, including links by rail and coach to High Wycombe and from other towns in Buckinghamshire will enable delivery on Heathrow's and the draft Airports National Policy Statement NPS **mode share targets** when new aircraft movement capacity is released.
3. **Air quality** requirements are and can continue to be delivered in and around Heathrow, including southern Buckinghamshire and that Heathrow's contribution to emissions does cause not worsening air quality and consequent health impacts in the Ivers area as a result of construction traffic from the multiple major projects or from displacement of road traffic on to local roads, for example when the M25, M4 and A4 are heavily congested. For Buckinghamshire, HAL must provide monitoring at locations which are near to the current air quality hotspots to the north and west of the airport. This is required to provide a baseline for residents and service users, for example at Country Parks, to show the current position and provide monitoring information which demonstrates HAL actions at the hotspots isn't simply displacing poor air quality to locations in the Ivers area.



Our expectation from the proposed expansion of Heathrow is that HAL will clearly set out what mitigation is required to address transport impacts - including through the Health Impact Assessment and Cumulative assessment – and how communities will be engaged in these options and when schemes will be delivered to mitigate impacts and/ or compensate the local community. Mitigation should first look to address impacts during construction, particularly at sensitive locations such as schools. On compensation, the guiding principle should be to put in place long lasting legacy projects with multiple benefits, such as investment in landscape along transport and river corridors including tree planting, flooding and ecology protection and public access enhancements within the Colne Valley Park.

- **New noise impacts**

The third runway means that the Dorney and Taplow communities would be directly under the east – west flight path of planes landing and taking off from the expanded airport. They are likely to be severely impacted in the mid- 2020s for the first time by aircraft noise when the third runway is operational. We are also concerned that increased aircraft noise from Heathrow will affect the tranquillity and rural experience of visitors and users of Black Park, Langley Park and Thorney Park. The Parks are regularly used by Pinewood Studios for filming and an increase in noise is likely to jeopardise the use of the Parks and so increase costs for Pinewood. This would significantly reduce income which supports the park’s management and use by one million visitors a year.

We request HAL fund noise monitoring locations in Dorney, Taplow and at BCC service locations in the Ivers including schools and Country Parks to ensure that sufficient data is available for HAL, regulators and for residents and business to understand current noise levels and how potential changes approved under the DCO and ACP process may impact on health, particularly night time noise, and the use and enjoyment of public space in southern Buckinghamshire and the Colne Valley Park.

I and the BCC team look forward to continue working with PINs, the DCO Examiners and HAL to assist in making a robust decision and in explaining the Heathrow expansion plans to residents and business in the County and so ensure appropriate mitigation and benefits are felt by the local community. This may include a need to revisit the Scoping when HAL identify additional land in Buckinghamshire as part of design iteration and preferred mitigation. BCC therefore reserves its final position on Scoping to ensure that effects not currently set out in the HAL report are assessed following and agreed methodology. The BCC technical response to the Scoping is appended.

Yours sincerely,



Bill Chapple  
Cabinet for Planning & Environment  
Buckinghamshire County Council

cc:  
Buckinghamshire’s Members of Parliament  
Bucks Planning Group  
Colne Valley Park  
Chilterns AONB  
County Councillors  
Iver Member Liaison Group

LEP Board Members  
England’s Economic Heartlands  
Chiltern Railways  
London Luton Airport Limited

## Appendix One - BCC Technical Response

The BCC response follows the structure of the report submitted by HAL to PINS. The job title(s) in brackets denotes the position of the main technical lead for BCC on that topic.

### 1. Introduction

1. BCC's technical team have welcomed the Workshops offered by HAL to Councils, LEPs and Colne Valley Park officers setting out the Scoping process. One general comment is that the limited detail in HAL's Consultation one (Q1 2018) means that the Scoping Report although long is also relatively short on detail. As a consequence de scoping aspects of the Project now appears to be based on limited information (at least that visible to BCC). When considering cumulative aspects and the May 2017 EA Regulations the proposed areas of de scoping are highly likely to be required to be reintroduced to the assessment. For example, (Table 1 and Table 3.6) the use of land for flood storage in Bucks may preclude that land from being used for new employment or may aid adjacent/ up & down stream areas being used for job creation through betterment which removes a delivery obstacle. This impact scope not be de scoped at this stage & not be considered for de scope until the land for flood mitigation is more definitively identified by HAL.
2. BCC consider that 'local roads' (paragraph 1.1.2, line 3) are likely to include those in southern Buckinghamshire including the A4 and local roads from junctions off the motorway network. This is based on initial modelling by HAL as well previous DCO and non DCO schemes BCC has considered.
3. With reference to paragraph 1.2.3, BCC's submission to HAL'S Consultation One set out a triple lock on airport capacity coming forward including the need to meet air quality standards through investment in surface access capacity and connectivity. This is also a policy requirement in the draft ANPS laid before in early June 2018 (ANPS 1.37, 3.36, 3.38 and 5.9, for example, with the need to consult BCC as a highway and transport authority at ANPS 5.11).
4. HAL at Scoping paragraph 1.9.21 onwards should refer to statutory planning (minerals and waste) policy and transport policy which will be material considerations for those aspects of the DCO. This includes the adopted [Buckinghamshire Minerals and Waste Core Strategy](#). The ES should also include our 'Saved' Minerals and Waste Local Plan policies, and the Minerals and Waste Core Strategy adopted in 2012. These form part of the statutory development plan.

### 2. Description

1. BCC notes that there is not reference to the Ivers villages (Richings Park, Iver and Iver Heath). BCC welcomes though the initial work by HAL to engage with these communities acknowledging that the Ivers will become near neighbours of expanded airport and that design iteration and mitigation is highly likely to include land with the Ivers community area of southern Buckinghamshire.
2. BCC supports the proposed night time ban on flights (paragraph 2.2.27) and would ask that HAL and PINs ensure that the ES Scope clarifies the respective roles and timing of the DCO decision, CAA economic regulation and the Airspace Change Process (ACP) and government in setting night time restrictions on Heathrow as a regulated airport.

### 3. DCO Project

1. BCC notes that the project is currently defined by the parameters and geographic area essentially drawn from the Davies Commission and HAL's Consultation One information

(Paragraph 3.2.1). HAL have confirmed, most recently in early June 2018 after the scoping request was submitted, that land and sites in Buckinghamshire will be required for flood capacity. Given the size of areas involved and opportunities flagged to HAL for other mitigation in the county, including land in BCC control, the redline and/ or areas required to be HAL control for the duration of construction and with access and revenue/ maintenance cost agreements in place will require the DCO project 'redline' to be drawn more widely. For the construction phase, and in view of rail and motorway access points the centroid for consideration of impacts across all topics will move significantly north including the Ivers area and potentially Denham and Stoke Poges.

2. BCC acknowledges and supports the process (paragraph 3.2.13) for development not in the DCO application to be brought forwards as part of the local plan making process. This follows NNPF principles for a 'plan led' planning system (NPPF, para.17)
3. BCC notes the potential extended period of construction to 2035 (3.4.12) and that whilst this may reduce the intensity of construction impacts on the Ivers area it would extend the duration of impacts which may then impact on sites cumulative construction impacts (HGVs etc) and the other development sites' phasing, as identified in the emerging South Bucks Local Plan.
4. BCC as transport authority supports the maximum use of rail for both construction materials and operational freight serving Heathrow (3.4.14), which then minimises HGV movements on local Buckinghamshire roads.

#### **4. Scoping Approach**

1. BCC is reassured by the confirmation from several different members of the HAL team, covering a number of topics at workshops in May and June 2018 setting out the Scoping approach, that the area to be assessed will increase as HAL confirm the inclusion of mitigation and associated works in land to the north of the M4 i.e. in southern Buckinghamshire. The nature of this work including flooding, access, recreation, archaeology and biodiversity will necessarily require the future agreement with BCC as either the statutory body or the local authority hosting the local topic experts on behalf of other councils and groups to the scope and methodology the EA for this land and works.
2. BCC reiterates that the number of projects in and around Iver, with their attendant HGV impacts requires cumulative assessment by HAL. With reference to Future Baseline (4.3.5(2)), first phase capacity (4.3.5(3)) and Year of maximum construction effects (4.3.5(4)) BCC requests that HAL assess the impact of an uplift in ATM with the increasing size/ load factor of aircraft and freight growth to ensure that traffic impacts and resultant air quality effects are not pushed into southern Buckinghamshire, as a consequence of surface access capacity not being in operation to enable an early mode shift by passengers, employees and freight.
3. BCC as M&WPA requests early sight of the Resource Management Plan (Table 4.5) and in particular the waste sections to enable an Inspector at the forthcoming M&WLP Examination to be advised on the implications of Heathrow construction and operation. For construction BCC considers that HAL should, even at this early stage, be able to provide an outline of the construction and waste management methodology which will be passed through to contractors bidding for Tier 1 contracts and then passed down through contract awards to sub- contractors.

#### **5. Air Quality and Odour**

1. BCC will continue to work with our District colleagues through the Bucks Air Quality Management Group to ensure that the air quality and odour sources and receptors within the BCC remit are considered and design changes and mitigations sought from HAL which deliver improved Public Health outcomes. Where possible the Council's other roles, such as right of way, Country Parks and Schools will be used to both inform that design and facilitate mitigation delivery.

## **6. Biodiversity (Ecology Advisor and Consultant to SBDC)**

1. The approach to the EIA appears satisfactory with respect to the predicted impacts and methods of assessment. BCC's main concern is that the scope of the DCO must be fully accounted for, especially with respect to the ecological vectors which are scoped in and out and the value placed on them.

2. BCC understand that HAL advise that detailed design and therefore full impacts cannot be applied initially (i.e. initially during the EIA assessment) but will be left until after the determination of the order or application. As a consequence, BCC is concerned that vital information may therefore be omitted and vectors scoped out incorrectly. It is important therefore to adopt a precautionary approach to biodiversity and over scoping rather than under scoping occurs.

3. For instance, the current level of surveys (south of the M4) has, it is reported, found no major ecological constraints. However once the survey area has been extended to the north (i.e. into Buckinghamshire) to cover road developments and flood prevention elements, this may impact on the Colne valley more and more constraints may be present. Therefore changes to the scope of the DCO need to be incorporated into the EIA at all times and survey and data searches need to reflect these changes.

4. Paragraph ii of the scoping document states 'environment assessment does not rely upon precise component location or detailed design information but informs the Preliminary Environmental Information Report to be published with the preferred plans' This approach potentially will mean vectors are undervalued, scoped out or impacts predicted incorrectly. They may not then be considered during changes/ the addition of new land areas which come later.

5. HAL's desk studies and surveys must also take into account the fact that ecology impacts can occur a long way from the source of impact, especially when river catchments and protected sites are being considered. Data collection and surveys covering a restricted buffer of 2km (as currently requested by HAL) may not be adequate.

6. The Colne Valley and chalk river catchments are particularly important areas for the vital movement of biodiversity. Therefore the impact to connectivity of habitat need to be carefully considered, not just in relation to the most protected species but also more common species or assemblages (such as migrating birds and mammals of open spaces and reptiles) All these groups (and others) contain species which are in decline, but once considered common (e.g. hares, hedgehogs, adders, common lizard) The danger is that these species will suffer extinctions if connectivity is cut off. Therefore it is vital that HAL in the EIA does not just value our most protected species but places them in the context of other species and habitats.

7. In a major development such as this it may be common species assemblages that are most at risk of local extinction because of fragmentation of habitat. This should be fully considered within the EIA.

8. BCC notes that HAL's surveys have identified the presence of protected species to the north and west of the airport i.e. close to the administrative boundary of the county. This

reinforces the need to consider the wider connectivity of the ecology network particularly along river/ water course corridors.

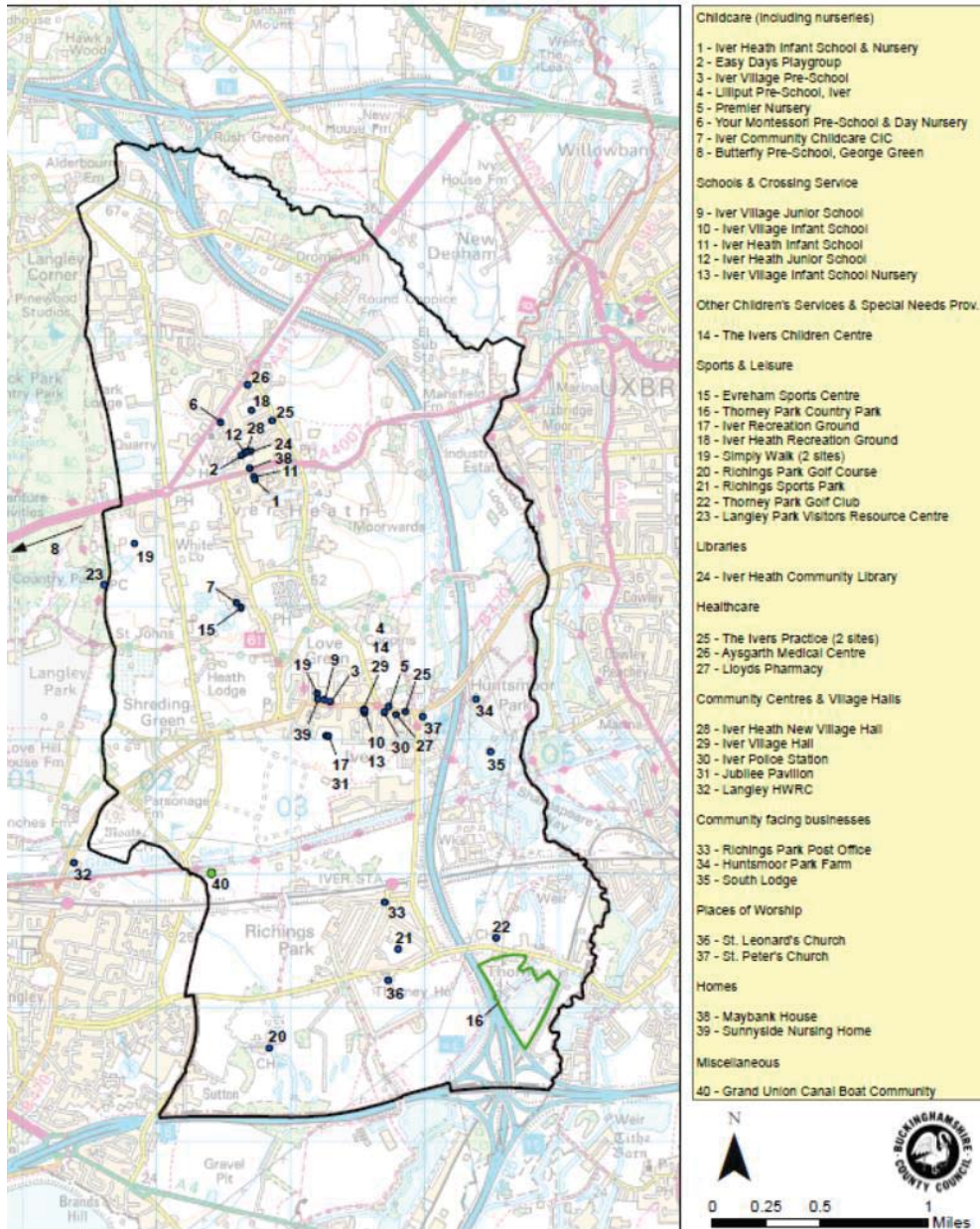
## **7. Carbon & Other GHG and 8. Climate Change**

1. BCC will address Carbon. GHG and Climate Change matters through interrelated topics including Transport.

## **9. Community (Strategic Infrastructure Project Lead and Strategic Access Officer)**

1. BCC has been working with HAL and as a founding member of the Iver Member Liaison Group: a partnership between the parish, district and county councillors, to ensure that the Ivers community is fully considered as part of the multiple major projects permitted, planned and to be constructed and operated in the area. The Community Facility Plan below has been provided to HAL to show the community assets (in response to the HAL: Socio Economic technical note (April 2018)) to assist HAL's consideration of these services and locations as part of master planning, DCO design iteration, mitigation and compensation.
2. With reference to Table 9.4 BCC has provided comments to HAL on its Socio economic technical note (provided to HSPG members on 24 April 2018) which includes Iver within the Inner Study Area. BCC acknowledges that the ES is a 'work in practice' and that HAL themselves recognise that the Study Area is highly likely to increase to cover more of southern Bucks as mitigation areas are confirmed in the county. It is unfortunate that Table 9.4 does not include or reference the Ivers community. BCC requests that HAL re confirm the Ivers community is in the Inner Study Area, as set out in the April 2018 Technical Note.

## Heathrow: Community Service Locations & Facilities in Iver



3. BCC notes that footpaths are considered in the Community topic rather than Traffic and Transport. BCC has responsibility for the maintenance of public rights of way, including footpaths, bridleways, restricted byways and byways. These routes are legally recorded on the definitive map and statement, and the council has a statutory duty to review and keep it up-to-date. BCC is strategically guided by the Buckinghamshire Rights of Way Improvement Plan 2008-18 and The Buckinghamshire Local Access Forum.
4. Rights of Way form an important part of the strategic sustainable transport network by allowing public access for walking and cycling between communities and for travelling to work as an alternative to the private car. They are part of an integrated transport network, linking transport modes such as railway stations, bus and cycle routes. Much of the National Cycle Network follow rights of way. BCC in view of the local access opportunities that the Project can provide **recommends** that Rights of Way be considered in the Transport and Traffic topic. BCC suggests that rights of way also need to be addressed under the socio-economic, health and landscape and visual impact topics and be considered in the Cumulative assessment. This includes impacts with other projects including the Western Rail Link to Heathrow DCO.

5. Impacts on the severance of footpaths and bridleways needs to be addressed by HAL and convenient alternative routes provided. More ambitious walking and cycling routes, separated from roads, and part of a wider green infrastructure network, should also be addressed as mitigation for the local communities affected by the Project. Examples where cross-boundary improvements could be made include the Grand Union Canal, sections of the Colne Valley Trail and Thames Path (National Trail) corridor from Maidenhead to Windsor. Another link is a potential M4 crossing at Old Slade Lane where a bridge is being replaced under the M4 Smart Motorway DCO project. Footpath links including current permissive routes under the M25 should link with Colne Valley Trail. HAL should follow Sustrans construction standards and also ensure bridleway rights are recorded.
6. The rights of way network also provides recreational opportunities for people seeking fresh air and exercise. Local, regional and nationally promoted routes need to be identified in the EIA, as well as locally popular routes. Open access land, common land, village greens and other recreational open spaces should be assessed. Impacts should be recognised and measures proposed to mitigate any restricted access to green spaces and open countryside as a result of the scheme. If rights of way need to be formally closed during construction, suitable alternatives should be available.
7. BCC has provided Information on rights of way in the Buckinghamshire to HAL.

## **10. Economics and Employment**

1. BCC is working with BTVLEP to consider and support the economic benefits of expansion for the county's residents and businesses and the wider England's Economic Heartlands area. BCC will consider the adverse economic impacts of the Project through the Transport topic and seek to ensure that mitigation provides for improved local and wider county access to employment, training and business opportunities. The key measures of this will be:
  - reducing journey times to the Heathrow area from High Wycombe, Aylesbury and other Bucks towns and so for all residents and businesses
  - improving the availability and frequency of travel options for residents and businesses in southern Bucks

## **11. Historic Environment (Senior Archaeology Officer)**

1. BCC's Buckinghamshire County Archaeological Service maintains the local Historic Environment Record and provide expert advice on archaeology and related matters.
2. BCC welcome that the Historic Environment is included in all of the design components and development phases in Table 1 on page iv of the EIA Scoping Report Vol 1 Main Report May 2018. We also welcome the inclusion of the Historic Environment in Chapter 4: Approach to EIA Scoping, page 4.26, which includes the direct loss of significance and the change in significance during construction and change in significance through the material and/or perceptual change to heritage assets during the operation phase.
3. BCC especially welcomes the inclusion of Chapter 11 of the EIA Scoping Report Vol 1 Main Report May 2018 starting on page 11.2. Stakeholder engagement has taken place as stated in section 11.3 and welcome that ...This dialogue will continue throughout the pre-application period as part of the EIA process...
4. BCC expect that the impact area of the proposed scheme will increase as ecological and flood mitigation schemes are developed and welcome that 11.4 includes ...As the design and consultation processes progress and the DCO Project is refined, the study areas may

continue to evolve to accommodate any changes that are generated. As the study areas change, data collection may also be reviewed and updated...

5. Paragraph 11.4.3 on page 11.7 of Vol 1 Main report states, the core historic environment study area will be used to develop an understanding of the historic environment relating to the development footprint of the DCO Project. BCC consider this extensive study area allows for a holistic approach to the characterisation and assessment of the historic landscape and informs the identification of designated and non-designated historic environment assets, especially their setting, across the wider area.
6. We welcome the inclusion of the following paragraphs:
  - Paragraph 11.5.6 on page 11.10 states, Archaeological monitoring of the on-going investigation works and review of borehole logs is currently underway.
  - Paragraph 11.6.28 on page 11.14 states, Base line data on non-designated heritage assets will be incorporated as part of the detailed baseline studies and non-designated heritage assets will form part of the historic environment assessment ...
  - Paragraph 11.9.8 on page 11.18 states, In accordance with Historic England advice and guidance, the historic environment baseline surveys (incorporating existing HERs) will include:
    1. Historic Landscape Characterisation
    2. Historic Area Assessment
    3. Historic Aerial Photographic Survey
    4. Archaeological Archive Review
    5. Archaeological Field Evaluation
  - Paragraph 11.9.13 on page 11.19 states, A programme of archaeological field evaluation will be undertaken in accordance with the overarching written scheme of investigation to be produced in agreement with Historic England, the HSPG and Greater London Archaeology Advisory Service (GLASS). This may include non-intrusive geophysical survey and a programme of targeted trial trench evaluation. These arrangements will be subject to further agreement with those stakeholders following consultation of the archaeological archive review.
  - Paragraph 11.9.14 on page 11.19 states, Design of any future archaeological field evaluation will be based on the extent of the design, which will define the spatial extent of intrusive groundworks...
7. BCC welcome section 11.10 Approach to Mitigation on page 11.25 and its two principle elements:
  1. Appropriate historic environment mitigation will be embedded within the design of the DCO Project. Where possible, scheme design, construction and operational practices will be used to avoid or reduce impacts on known historic environment assets. These measures will be taken as part of the assessment of effects of the DCO Project against baseline conditions.
  2. Where such built in design changes have not fully addressed likely environmental effects on the historic environment, a mitigation strategy will be developed. The approach to historic environment mitigation, where required, will be developed in consultation with Historic England and relevant stakeholders and follow appropriate guidelines and current best practice and in reference to mitigation proposed or other environmental topics.



8. Whilst BCC had concerns over the approach to the historic environment being focussed on designated assets and the built environment these issues appear to have been addressed and BCC welcome the commitment to consultation with stakeholders. We understand that an additional document is currently being produced entitled the Archaeology Strategy Plan and we look forward to reviewing this and the overarching written scheme of investigation when these are available.

## **12. Health (BCC Public Health Consultant)**

1. Overall the Scoping Report appears comprehensive, if generic, given the unique elements of the Heathrow project. BCC will need to consider the initial HAL baseline work and findings before being able to advise on whether HAL have considered the community in southern Buckinghamshire appropriately, their public health characteristics and the likelihood that HAL will assess these and mitigate the health impacts of the development. The HIA study area should cover all of the Iver parish area and be extended when and if HAL identify land and communities outside of this area that may be impacted by sources of potential impact including construction traffic, air quality and aircraft noise.
2. Mental health is not specially mentioned even though wellbeing is mentioned. HAL need to include mental health as part of this assessment.
3. Baseline: It remains unclear what this assessment will do if there is no current baseline measurement of our communities and at locations which may be affected worsening air quality or aircraft noise for example/. Will HAL undertake a quick baseline measurement or will PINs recommend that baseline measurement is undertaken? BCC has identified four locations in the Ivers requiring baseline assessment (air quality and noise). These are at clusters of community facility locations, including schools, at Richings Park, Iver High Street, Iver Heath School and Langley Park. At least one location in Iver should also have a ANPR vehicle monitoring to identify the split between different roads users. Part of the approach to mental health should be to provide information and an explanation to the community of the current baseline and how this will change in order to reduce anxiety.
4. BCC supports SBDC in its work with other Councils and HAL as a member of the Heathrow Airwatch Partnership and the Heathrow Community Noise Forum. The wider communication of the work of these partnerships/ groups can assist communities to understand the current baseline and direction of travel of the airport.
5. Vulnerable groups: How are HAL going to ensure they have vulnerable representatives from southern Bucks (the Ivers and locations affected by aircraft noise) part of the qualitative assessment? This includes the residents on the Grand Union Canal and the Mansion Lane residential park. BCC would welcome continued involvement to ensure that the level of 'significance' is appropriate (quantitative & qualitative) for vulnerable groups/ members of southern Bucks communities.

## **13. Landscape & visual amenity**

1. BCC is working with the Colne Valley Park on landscape matters. BCC support the approach of Historic England that HAL should assess the historic landscape value of areas proposed for development and mitigation and the reasons why those areas of land have been designated as nationally important. BCC will consider historic landscape character matters in part under the Historic Environment topic. BCC will also consider tranquillity (ANPS 5.213) in Green Belt land and the AONB in assessing the noise impacts on services as part of the Community and Socio Economic topics.
2. With reference to BCC's previous comments and HAL's acknowledgement that the study area is highly likely to widen (Scoping paragraph 13.4.1), BCC will consider the landscape

and visual impacts of the DCO elements within the county when these are confirmed by HAL and the 5km radius (13.4.2) extended to cover a wider area of southern Bucks.

3. With reference to Table 13.3, BCC ask that HAL includes BCC data including that within and supporting the Buckinghamshire Minerals and Waste Core Strategy and emerging Local Plan as well as data historic data already provided to HAL and with the search area appropriately extended to assess new land take options.

#### 14. Land Quality (including Minerals) (Senior Planning Officer)

- VOLUME 1

1. The review of the development plans does not include the emerging Minerals and Waste Local Plan.

- VOLUME 2

2. Comments in relation to Figure 14.7: Minerals safeguarding sites:

The following sites should be included by HAL as part of the revised baseline:

- All Souls Farm quarry at Wexham Park Lane, Wexham, Buckinghamshire SL3 6LA- for the history of the site, red line area please refer to Delegated Report for application no. CM/46/17;
- Park Lodge quarry at Pinewood Road, Iver Heath Buckinghamshire, SL0 ONE- for the history of the site, red line area please refer to Committee Report for application no. CM/34/17; site in restoration phase. As discussed with HAL this site may be suitable for biodiversity offsetting and / or enhancement/ re provision of Parks and informal recreation;
- George Green quarry at Land Adjacent to Uxbridge Road, George Green, Slough SL2 5NH- for the history of the site, red line area please refer to Committee Report for application no. 13/00575/CC;
- Thorney Mill Sidings at Thorney Mill Road, Iver, Buckinghamshire UB7 7EZ- outstanding application CM/19/17. Given direct rail access and links into the construction area (south of the M4 the site has potential for materials stockpiling if serviced directly by rail without HGV movements.

b) Other Matters - Fig 14.7

- North Denham quarry and North Richings Park sites are not Mineral Safeguarded Sites but North Denham North West extension is a Mineral Preferred Area in the draft MWLP for Bucks;
- North Park Richings Park is a site with Planning Permission (CM/51/16)

Site and planning application information can be accessed at <https://publicaccess.buckscc.gov.uk/online-applications/> using the reference numbers.

- VOLUME 3

Appendix 1.2

3. Para 1.2.12 The last sentence appears not to be finished, unsure what comment HAL seeking to be made in relation to 'drive time'.

#### Appendix 4.1

4. Cumulative effects Para 1.5.9. It would be beneficial for HAL to provide some level of certainty and provide a list of existing projects which will be taken into consideration. Also rather than relying on 'professional judgment' only it may be useful to look at other major projects and their assessment which will then allow HAL to estimate expected waste increase. BCC has provided HAL with the principles document developed by on behalf of all the HS2 Phase 1 Councils which should guide this work excepting that the position will change as the DCO progresses and Tier 1 contractors and below are appointed.
5. Significance criteria for waste, Table 1.41 and Table 1.4.2 in appendix 4.1. As Waste Planning Authorities within the South East, BCC and other WPAs have identified, and agreed, significant waste movement threshold from one authority into another. For the South East these are:
  - a) Non Hazardous /HIC - 2,500tpa
  - b) Inert/CDE - 5,000tpa
  - c) Hazardous - 100tpa
6. The amounts identified within table 1.4.1 are significantly above these thresholds and not acceptable to BCC. The addition of up to 2,000,000 tpa, as set out to be minor adverse impact, would if all managed in Bucks would be double the amount of inert waste received in Bucks compared to 2016 figures. While we acknowledge this would not all go to one authority, across the South East Region this is a significant increase to capacity requirements, and not a minor adverse impact.
7. Table 1.4.1 and 1.4.2 each identify a decrease in landfill void space on varying scale based on severity. There is no definition or measurement placed against local or regional scale. BCC's particular concern is with the Non-inert landfill void space. This is a particular issue that WPAs within the South East are working together on. Any net increase in non-inert landfill and a reduction in void space were it on a local or regional scale would be a major adverse impact for authorities within the South East. This is not just a South East issue, the waste management 2016 summary published by the EA [Waste management 2016 summary](#) shows it is a wider issue across England. As a consequence it is vital that schemes of this scale pushes waste up the hierarchy (as set out in our HS2 Principles) and where appropriate look at options for the scheme to manage its own waste before considering offsite disposal.
8. Are HAL proposing that non-inert waste (construction and operation) needs to go to disposal, rather than recycling or recovery? If so this will have an impact on emissions and greenhouse gases implications of the scheme.

#### **15. Major accidents and hazards** (Head of Resilience)

1. BCC understanding of the in scope area is that flights above the new footprint are included in the risk assessment. That is good. We are concerned that the disassociation of this DCO and the Airspace Change would mean this would be a gap in the DCO and overall consent process. This DCO must consider the impact of the higher levels of air traffic and the greater likelihood of an air crash and the impact on the environment of that.
2. What role does the Environment Agency and Public Health England have on this topic for the DCO?

3. The methodology for terminology / risk assessment needs to be aligned to the UK system of civil contingencies as practised currently. Civil Contingencies Act (2004), Regulations, Statutory Guidance, National Risk Register and National Risk Management process need to be applied to ensure consistency across the board and to ensure that the risk appetite etc is to a single national standard and not a Heathrow adopted standard which may be inappropriate for the DCO and/ or other regulatory approval processes.
4. Note that Heathrow (HAL) is a Category 2 Responder under the CCA and therefore has a statutory duty to share information and cooperate – i.e. they are a part of the Local resilience Forum (LRF). With a footprint in Slough – and prospective land take in Bucks – HAL must also be part of the Thames Valley LRF and so must be expected to liaise with the TVLRF as well as any other they are affecting.
5. The CCA is not mentioned in the list of legislation, nor is the statutory guidance of Emergency Planning & Preparedness – which explains the risk management process. As a Category 2 responder, HAL has a duty to be a part of the LRF and contribute information to the LRF's Risk Groups if requested. This must be part of the consultation and ES process.
6. There is a Risk assessment group in each LRF – HAL should work with that group to assess the risks and associated gaps before putting anything out of scope.
7. Major Accident / Disaster terminology is understandable as the title is MA / D, but HAL should be using the terminology and definitions based on CCA and Integrated Emergency Management – the MA definition from COMAH is about an industrial site going wrong, we are talking emergencies:

“An event or situation which threatens serious damage to human welfare in a place in the UK, the environment of a place in the UK, or war or terrorism which threatens serious damage to the security of the UK”.

The threat to human welfare is an emergency only if it involves, causes or may cause:

- Loss of human life,
  - Human illness or injury,
  - Homelessness,
  - Damage to property,
  - Disruption of a supply of money, food, water, energy or fuel,
  - Disruption of a system of communication,
  - Disruption of facilities for transport, or
  - Disruption of services relating to health”
8. Consultees should be advised of the risk appetite of HAL – are they only interested in very high risks or will they also consider high / medium risks.
  9. The risk matrix needs to be consistent with the LRF's CRR and the UK's NRR to ensure commonality and agreed levels of risk.

## 10. Appendix 15.3:

a. What is the study area – consultees should be provided with a reference from within the 2000 odd pages.

b. HAL and consultees need to consider the receptors outside of the study area (assuming it's not very big?) but which may be impacted by the impacts of any hazard / threat / risk caused by an event.

c. Population and human health. This is a list of names. It needs to provide more detail on the component elements of the locations, with particular attention to the vulnerable, who are more likely to be affected in the event of an emergency. HAL should identify hospitals, surgeries, schools, nurseries, care homes, nursing homes, residential homes / shelters etc. This information has been provided to HAL by BCC and is referenced in the response on Community.

## 11. Appendix 15.4:

a. These hazards and threats need to be drawn from the CCA / NRR risk management procedure.

b. HAL to include local threats / hazards identified by local risk managers and the LRF that may impact – e.g. public disorder, heightened likelihood of terrorism, strikes / bad weather impacting on flights with greater numbers of people unable to fly from the airport and stacking up.

## 12. Appendix 15.5:

a. As a principle HAL shouldn't 'scope out' without talking to the LRF risk groups and agreeing the approach.

b. HAL can't scope out security risks if they are going to impact on the environment / people. HAL need to risk assess this and then ensure that control measures are put in place, look at the residual risk and see if this is tolerable. Although unlikely to be any impact that a non-malicious hazard would produce, HAL could arguably take those out via other routes by not looking at airspace change in this document. IF a plane was brought down by terrorism it could land on a built up area causing catastrophic levels of casualties – are HAL saying that HAL and the Secretary of State saying the DCO will not look at that impact because Security will always prevent a bomb being put on a plane. Are LRF and Councils not able to comment on a non-malicious accident because airspace change is outside the DCO scope?

c. Scoping out biosecurity – rationale given for scoping this out is inadequate (and 1.1.7.3 is irrelevant to the consultation).

d. Appears to be confusion between having a risk assessment for the construction process and having an environmental impact assessment. Similarly HAL is incorrect not to scope things like artefacts / rare species travelling through Heathrow as it has no impact on the environment. As an operational matter this needs to be set out based on HAL's own current risk register.

e. 1.1.14. Don't scope out and instead consider them and assess them and then state whether they are covered elsewhere.

f. With an extension of the footprint of development into the Thames Valley, HAL MUST now engages with the Thames Valley Local Resilience Forum. This needs to be part of the DCO ES requirements (as well as a statutory duty).

### 13. Table 15.5.2:

a. Sect 1.2: SARS / Ebola gets in – need to be included.

b. Also mosquitos – not only gets in but could settle in the environment with novel diseases to the UK – HAL needs to monitor mosquito populations in the environment. Suggest discussion with PHE who attend the TVLRF Risk group.

c. Radiological device legally in a plane comes down in the study area – why shouldn't this be in scope? Ditto chemical / biological.

d. Malicious attack – range from environmental protesters to terrorism – this remain in scope.

e. In summary, don't take anything out of scope unless agreed by the LRF risk group – and then assess everything and record control measures in place.

f. Wild fire – large smoke plumes across the area. Not in scope...?

g. Animal disease in vicinity of Heathrow – if a protective zone was covering Heathrow's footprint, then they would need to consider what measures are required. In scope.

h. Space weather – CME / EMP could take out multiple aircraft with catastrophic impacts. Secondary consequences loss of electricity; tertiary consequences loss of fuel pumps, security measures, water pumps etc. Still not in scope?

### 14. Table 15.7.1:

a. Human populations – severe should include loss of life in low numbers; Large should have a greater number.

b. With all these, HAL should cross-reference with the National Risk Register for consistency.

### 15. CONCLUSION:

a. HAL should make the ES consistent with the current practice in the UK for Civil Contingencies planning and preparedness, specifically using Integrated Emergency Management and the national risk management process. If done, then this will follow tried and tested approach and assist in assessment and the agreement of design changes and mitigation.

### 16. Noise and vibration

1. Noting the role of the CAA (paragraph 1.7.3) and prospectively that of ICCAN, BCC will continue to work with our District colleagues on noise issues. Having set out BCC's principles for Airspace Change Process and for the consideration of noise impacts in previous consultation responses, BCC will now take forward these through related sections in the EIA including Health. BCC statutory and service functions i.e. schools, Country Parks will seek to work with HAL to ensure that service users are informed of possible impacts and

have an opportunity to make comments to meaningfully influence HALs design and mitigation decision.

## **17. Traffic and transport** (Transport Strategy Lead Officer)

1. It is difficult to comment properly on the Scoping Report document because the precise nature of the interplay between the Surface Access Strategy, the Transport Assessment and Travel Plan, and the EIA is not specified in enough detail to help a reader understand.
2. BCC's principal concern (shared with HSPG) is that there is insufficient 'red line' information. The commitment to 50% public transport boundary should at least be measured from a point beyond the car parking zones, rather than at the perimeter fence.
3. Discussion about the timing of transport modelling needs to take into account when construction starts. This needs to be realistic and flexible. To provide current traffic data it would reassure us if HAL started now installing automatic traffic counting technology at key locations. Sites could be chosen with HSPG to represent sensitive locations and would also serve to allow comparisons with transport models to be made. The HHASAM model looks impressive but we need precise control points on our network (such as on Iver High Street, Burnham Beeches and M40) so we can check outputs against the BCC Countywide model. BCC is in the process of agreeing these with HAL.
4. Some assumptions (such as walk and cycle speeds of 5&10kph) are mentioned, but with a mode as complex as HASSAM more details of assumptions should already have been provided to modelling experts at HSPG to consider and agree or revise.
5. Accepting that specific schemes are not mentioned by name, HS2 is such a significant project with existing approval and in construction that it deserves consideration even at this stage. A connection to the Chiltern Line at Old Oak Common has particular interest to Buckinghamshire and indeed was referenced by the Secretary of State in his statement to the House of Commons when the draft ANPS was laid before the house.
6. Some mentions of principles or clear statements of intent would have been welcome. For example, bus journey times on the last 5km of their journey to be at least 20% less than journey times car, or similar.
7. Although freight and taxi use will be included in the modelling, there is enough significance in their impact that a special study is needed to include factors such as industry practice and cultural trends. Freight, for example, where it uses small vans in large numbers, and the role and influence of the black cab industry group would not be normally reflected in standard models.
8. Freight consolidation centres do not have a reliable history in the UK, and a special study of this would be required to reassure us about potential long-term use. This should address current practice, lessons from other projects and international best practice.
9. Whilst accepting that it is early days to talk about mitigation; although HAL are doing so with reference to air quality impacts from transport, there is a section on this in the report and it could be made clearer exactly how and when there will be an approach to working with highway authorities to fund, design and build mitigation measures.
10. Para 5.13 of the ANPS talks about reducing community severance. This also applies to non-highway access including bridleways and informal 'desire line' routes. This is important for trips from and within the Colne Valley and should be recognised.

11. It is good that para 17.5.2 mentions 'walkovers' as these are important for the bridleway network and to identify key informal routes (the holes in the fence). BCC would be happy to contribute mapping and knowledge to this study. (see map below) Other parts of the EIR mention user surveys, which could be cross-referenced here.
12. As a key point there should be mention of improvements that start before construction begins. For example, the introduction of controls over drop-offs by non back-loaded taxis, and the introduction of realistic car parking charges for staff could precede full construction. As the draft policy references percentages, the early introduction of measures now to achieve quick wins and start to prove the case for interventions should not weigh against the DCO decision balance but rather enable community and business support for the overall mitigation and compensation package.
13. The engagement table (17.2) slightly exaggerates the outcome of meetings, for example describing one as has having 'no comments or queries'. Some meetings have been organised at late notice and had fewer than ten people there, though even that small number have made consistent comments and queries, not least about the location of the red line. BCC is recording meetings and outcomes as part of the DCO engagement process to enable HAL and BCC to reach an agreed Statement of Common Ground. It would be unfortunate if in response to an adequacy of consultation request during DCO acceptance if, BCC or others considered the Consultation Report did not accurately reflect views expressed particularly if this then led to a public misrepresentation of views to residents and business.
14. Whilst acknowledging the political difficulties with TfL and Hillingdon, at least some mention should be made of how their objective technical requirements are being dealt with.
15. BCC is pleased that is recognition that sensitive areas such as Iver will be examined at a potentially lower threshold. HAL has agreed this requires more clarity. Numbers such as 5%, 10% and 30% are mentioned in the report in different paragraphs at different stages.
16. Table 17.3 includes a good section on Construction Traffic which is a concern for us. Specific mention of Iver High Street would be good here, as well as specific mention of off-highway cycle routes as a potential source of severance. Early geographic de scoping of transport impacts could allays community fears and enable HAL to work on more deliverable options.
17. The Iver Relief Road should be specifically mentioned in Table 17.3 as a potential highway improvement.
18. Positive Bus operation improvements could be added to the bus route changes. For example, an extension of the free bus zone. BCC is also supportive of appropriately located bus priority routes and bus only gateways which enable local employees and passengers to choose bus travel. BCC notes that a number of bus gateways already operate and enable efficient local movement of staff on the 'last mile' of the journey.
19. It is noted that consideration of residents has almost no mention in this entire section.
20. Table 17.4 describes how significance will be assessed. Other document sections, such as air quality, are stronger at this – using such things as expert panels. Developing a consensus with HSPG would appear to be desirable aim here.
21. The construction section 17.10 contains good aspirations. BCC would like early input, along with HSPG colleagues, to ensure HGV routes that a feasible and supported by policy are defined. Adherence to the good standards developed by TfL should be mentioned here.



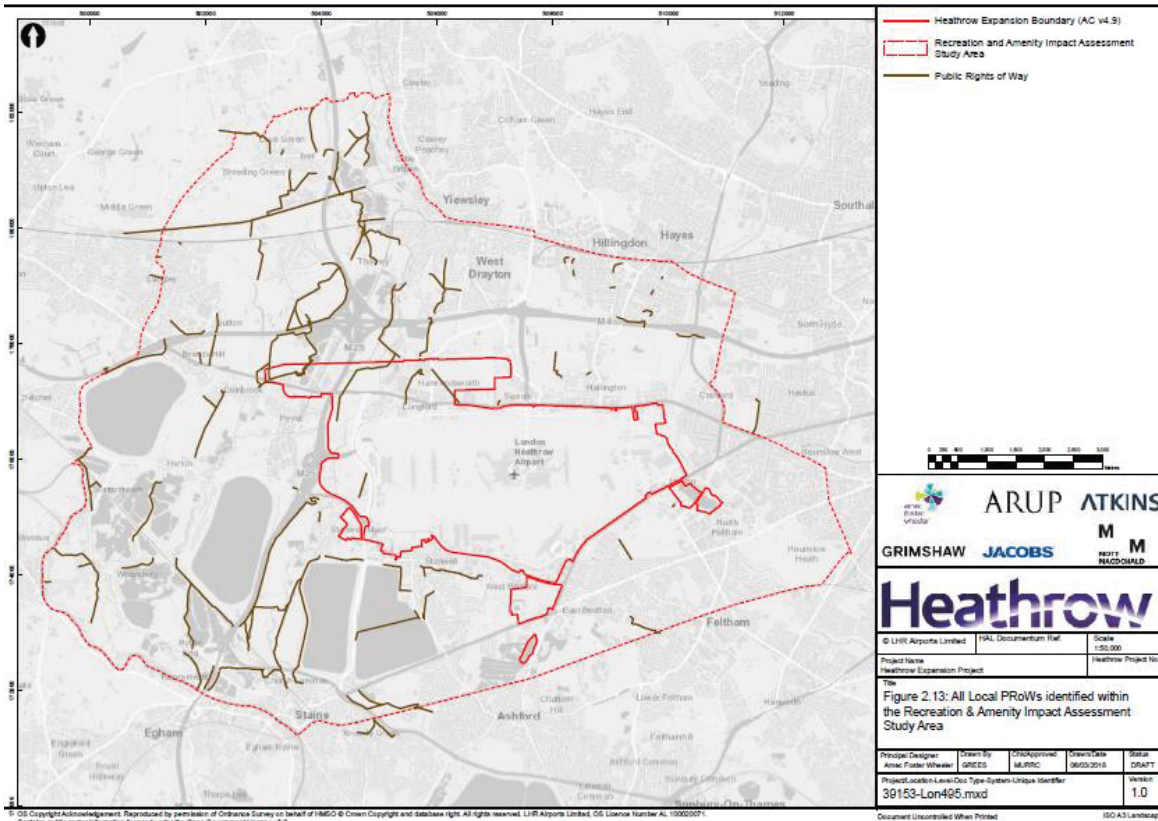
22. At the earliest possible opportunity, the use of freight by rail should have a separate study with numerical targets and delivery dates.
23. There are many references to transport issues in other parts of the document. For example para 5.10.16 mentions that Heathrow is “exploring the potential for ...access charges”. This is not cross-referenced in section 17 (and is not a useful form of phrase). As a significant issue in the recent Silverton DCO, HAL should set out the process for consideration of charging with other ‘carrot & stick’ measures.
24. Although it is a data table Iver is mentioned in Figure 9.1 but not included where it should be in Table 9.4
25. BCC note that boundaries have to be drawn for the study area and BCC would like to see the air quality study area in Fig 5.1 drawn at least 2km to the North of Iver High Street, to include Iver Heath and the A4007 rather than 1km to the South. BCC has explained the reasoning to HAL and HAL acknowledge that the inclusion of further land in southern Buckinghamshire for the project and mitigation will require a change to most, if not all study areas. With reference to Air Quality and Noise, BCC as Public Health body as well as Highway and Transport Authority and service provider recommends baseline air quality and noise monitoring is undertaken by HAL at:
- Iver Village Infant School, Iver High Street (B470)
  - St Leonards Church, Richings Park
  - Iver Heath Infant School, A4007
  - Langley Park Visitor Centre

Baseline air quality monitoring on Iver High Street (see Health comments), should be supplemented by HAL through the installation of ANPR equipment to provide data on the mix of vehicles and so inform decisions on Iver Relief Road based on traffic flows and the source of vehicle emissions.

26. Some sections of the Report, such as 12.10 Health, include a lot of words and good basic principles but lack any kind of highlighting of what would be unique to this project. Examples might include specific mention of contact with GPs, a construction worker health check scheme etc.

**Appendix** – from the appendix (not included in the volume of figures or referenced in the main report)

27. The extract below illustrates a BCC concern that is evident gaps in the PROW network from, to and indeed within the Buckinghamshire network. Some of these are connected by other routes but some are not. Some sections are informally connected (via a hole in the fence) but there is a very high risk that consideration of PROW in one section and cycling in another section presents a risk of the issue of providing coherent routes ‘falling between two stools’.



**18. Water environment (Strategic Flood Management Team Leader)**

1. Legislative and planning context: The BCC Flood Management team comment on issues concerned with Surface Water, ordinary watercourses and Groundwater Flooding. These being a BCC area of responsibility under the Flood and Water Management Act 2010. The EIA needs to take into account the Local Flood Risk Management Strategy of the LLFAs. For BCC this can be found here: <http://www.bucksc.gov.uk/environment/flooding/strategic-flood-management/flood-management-strategy/>
2. It should be noted that for ordinary watercourse any modelling work or discussions around this watercourse need to be held with the Lead Local Flood Authority (LLFA) in addition to the Environment Agency (EA).
3. Figure 3.11: The area of land impacted by the diversion and/or culverting of the watercourses seems quite restricted. Is there a definition of what these impacts are – is it just conveyance? If not then the impacts would be wider (environmentally) and if it is conveyance how can HAL be sure that the impacts are constrained to these locations?
4. Section 3.3.31: How will impacts of these different options be assessed by HAL – water flows, water quality, geomorphology and sediment transport, ecology and impact on flora/fauna, transport and movement of mammals, fish and invertebrates?
5. Table 3.6: The environmental topics relevant to operation should include health as having an open water course as opposed to a culvert can impact on the health and wellbeing of a community.
6. Section 3.3.32: The sites identified for potential flood storage do not show the capacity potential of these sites and therefore it is difficult to judge how many of these sites would be required for flood storage. The section states the overall compensation storage required for

each river, however no estimate has been given for each of the proposed flood storage locations. If the areas are over 10,000m<sup>3</sup>, they will be classed as a reservoir.

7. Will the compensation areas be in the ground, if so will an assessment on the displacement of groundwater be completed? The location of proposed compensation next to the junction of the M4 and the M25 has been identified as an area with high groundwater levels (JBA groundwater mapping). We are therefore concerned that groundwater will be displaced towards the tunnel for Western Rail Link to Heathrow. This will need to be considered as part of the WRLtH scheme and then by HAL including as part of the Cumulative Impacts Assessment.
8. Section 3.4.8: Are any of the locations for temporary construction or stockpiling in the fluvial or surface water floodplain? If so how would this be dealt with within the construction period?
9. Section 8.2.3 and 18.2.3 Due regard will be given to local policies and Governments 25 year Plan. What will HAL do to consider policy and how will this be undertaken with LLFA?
10. Table 18.2: Whilst Groundwater modelling has been discussed with the Environment Agency the responsibility for Groundwater management lies with the LLFAs so BCC and other LLFA should be involved in these discussions and be given more time (outside the Scoping timeframe) to assess the Groundwater modelling method statement in Appendix 18.2.
11. Table 18.4: Other groundwater data is available from JBA Ltd and ESI?? Local data may be available from local authorities on locations of local flood risk and flood hotspots. Local landowner and resident information can also add to this flood picture.
12. Appendix 18.2 and associated figures 18.7 and 18.8 show the fluvial flood risk but there is no reference to the surface water flood risk mapping or impacts on that existing surface water flood risk
13. Section 18.10.2 – point 3: This is the only mention of Sustainable Drainage in the document. SuDS should be prioritised when managing existing and proposed surface water runoff and given greater prominence in the document in line with national guidance.
14. Appendix 18.4 Flood Risk assessment – method statement: This was not circulated to the Lead Local Flood Authorities for review.
15. Section 2.2.1: Although the impact on the surface water runoff from the new runway is to be assessed there is no recognition of the existing surface water flood risk which will be impacted in a similar way to the fluvial flood risk across the area of the new runway. Compensation areas are being provided for fluvial flood risk but what about the surface water – where does that flood water go which is being displaced by the new runway and area of expansion. Interaction and impacts on ordinary watercourses has not yet been defined – when will this be undertaken by HAL and shared with LLFA?
16. Section 2.3.2: Length of watercourse being shorter is indicated as a good thing, but this is not necessarily so. General principle around replicating natural processes, Sustainable drainage (SuDS) and Natural Flood Management all favour slowing down the flow in part to prevent adverse impacts of increased flows downstream. This should be done closer to the source or by replicating natural processes rather than using structures to play that role.
17. Table 18.4.2 – Buckinghamshire County Council have a Sustainable Drainage Developer Pack on our website
18. BCC requests that HAL provide data (shapefiles) for:

- Local surface water study area boundary
- Wider surface water study area boundary
- Groundwater study area boundary
- Locations of the proposed flood storage areas
- Locations of any monitoring locations (Groundwater and Surface Water) in Buckinghamshire

**19.** As the LLFA for the principle area where HAL are considering flood storage areas, BCC requests that HAL clarify the approach and timeline for information, assessment and mitigation design. This may require HAL and BCC to enter into a PPA to ensure resources are available to respond to and assist HAL during the DCO process.

-End-





The Planning Inspectorate  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

Our ref: C0000  
Enquiries to: Jonathan James  
Ext no: 1128  
Direct line: 01296 744 498  
Date: 11 June 2018  
Email: jjames@bucksfire.gov.uk

Dear Sir/Madam,

**Planning Act 2008 (as amended) and The Infrastructure Planning  
(Environmental Impact Assessment) Regulations 2017 (the EIA  
Regulations) – Regulations 10 and 11  
Ref: TR020003**

Further to your recent submission of documents relating to the above development, this authority's comment at this stage is as follows:

- **All applications must give due consideration to Approved Document B, Section 15 (Fire Mains & Hydrants) and section 16 (Vehicle Access)**
- **Buckinghamshire & Milton Keynes Fire Authority support the installation of automatic fire suppression sprinkler installations, in new developments or in significant alterations of existing buildings. Sprinkler systems can facilitate improved safety for the occupants of buildings, greater protection of buildings and contents; they can also improve the resilience profile of the "as build environment". Sprinkler systems should be designed, installed and maintained in accordance with BS EN 12845**

Further comment will be made via Building Control as and when detailed plans are submitted.

Yours faithfully,

*Jonathan James*

Jonathan James  
Inspecting Officer

On behalf of the Buckinghamshire & Milton Keynes Fire Authority



**By email to:**  
[heathrowairport@pins.gsi.gov.uk](mailto:heathrowairport@pins.gsi.gov.uk)



## **TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation**

This is a response on behalf of Cadent Gas Limited (Cadent).

I refer to your email dated 22<sup>nd</sup> May 2018 regarding the Proposed Expansion of Heathrow Airport (Third Runway) DCO. Cadent has reviewed the scoping information and wishes to make the following comments:

In respect of existing Cadent infrastructure, Cadent will require appropriate protection for retained apparatus including compliance with relevant standards for works proposed within close proximity of its apparatus,

### **Cadent Infrastructure within or in close proximity to the Proposed Order Limits**

Cadent has identified the following apparatus within the vicinity of the proposed works:

- Above ground installations and sites
- High or Intermediate pressure (above 2 bar) Gas Pipelines and associated equipment
- Low or Medium pressure (below 2 bar) gas pipes and associated equipment. (As a result it is highly likely that there are also gas services and associated apparatus in the vicinity)

**Where the Promoter intends to acquire land, extinguish rights, or interfere with any of Cadent's apparatus, Cadent will require appropriate protection and further discussion on the impact to its apparatus and rights including adequate Protective Provisions.**

### **Key Considerations:**

- Cadent has a Deed of Grant of Easement for each pipeline, which prevents the erection of permanent / temporary buildings, or structures, change to existing ground levels, storage of materials etc.

### **Pipeline Crossings:**

- Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at previously agreed locations.
- The pipeline shall be protected, at the crossing points, by temporary rafts constructed at ground level. The third party shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the raft required.
- The type of raft shall be agreed with Cadent prior to installation.
- No protective measures including the installation of concrete slab protection shall be installed over or near to the Cadent pipeline without the prior permission of Cadent.
- Cadent will need to agree the material, the dimensions and method of installation of the proposed protective measure.





- The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to Cadent.
- Please be aware that written permission is required before any works commence within the Cadent easement strip.
- A Cadent representative shall monitor any works within close proximity to the pipeline.
- A Deed of Consent is required for any crossing of the easement

#### New Service Crossing:

- New services may cross the pipeline at perpendicular angle to the pipeline i.e. 90 degrees.
- A new service should not be laid parallel within an easement
- A Cadent representative shall supervise any new service crossing of a pipeline. Any exposed pipeline should be suitably supported and removed prior to backfilling
- An exposed pipeline should be suitable supported and removed prior to backfilling
- An exposed pipeline should be protected by matting and suitable timber cladding
- For pipe construction involving deep excavation (<1.5m) in the vicinity of grey iron mains, the model consultative procedure will apply therefore an integrity assessment must be conducted to confirm if diversion is required
- A Deed of Consent is required for any new service crossing the easement.
- Where a new service is to cross over the pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved the service shall cross below the pipeline with a clearance distance of 0.6 metres.

#### General Notes on Pipeline Safety:

- You should be aware of the Health and Safety Executives guidance document HS(G) 47 "Avoiding Danger from Underground Services", and Cadent's specification for Safe Working in the Vicinity of Cadent High Pressure gas pipelines and associated installations - requirements for third parties T/SP/SSW22. Digsafe leaflet Excavating Safely - Avoiding injury when working near gas pipes
- Cadent will also need to ensure that our pipelines access is maintained during and after construction.
- The actual depth and position must be confirmed on site by trial hole investigation under the supervision of a Cadent representative. Ground cover above our pipelines should not be reduced or increased.
- If any excavations are planned within 3 metres of Cadent High Pressure Pipeline or, within 10 metres of an AGI (Above Ground Installation), or if any embankment or dredging works are proposed then the actual position and depth of the pipeline must be established on site in the presence of a Cadent representative. A safe working method agreed prior to any work taking place in order to minimise the risk of damage and ensure the final depth of cover does not affect the integrity of the pipeline.
- Excavation works may take place unsupervised no closer than 3 metres from the pipeline once the actual depth and position has been confirmed on site under the supervision of a Cadent representative. Similarly, excavation with hand held power tools is

#### **Cadent Gas Limited**

Registered Office Ashbrook Court, Prologis Park  
Central Boulevard, Coventry CV7 8PE  
Registered in England and Wales No.10080864

#### **National Gas Emergency Service**

**0800 111 999\* (24hrs)**

\*Calls will be recorded and may be monitored

5000419 (01/13)

Page 2 of 4



not permitted within 1.5 metres from our apparatus and the work is undertaken with NG supervision and guidance.

- The above guidance is not exhaustive and your works proposals must always be submitted to Cadent's Plant Protection department in advance of commencement of works on site.

Yours Faithfully



**Vicky Stirling**

Land & Property Services

Continuation sheet.



## **Guidance**

To download a copy of the HSE Guidance HS(G)47, please use the following link:

<http://www.hse.gov.uk/pubns/books/hsg47.htm>

Dial Before You Dig Pipelines Guidance:

<https://cadentgas.com/Digging-safely/Dial-before-you-dig>

Essential Guidance document:

[https://cadentgas.com/getattachment/Digging-safely/Work-safely-library/Promo-Essential-guidance/Essential\\_Guidance.pdf](https://cadentgas.com/getattachment/Digging-safely/Work-safely-library/Promo-Essential-guidance/Essential_Guidance.pdf)

Excavating Safely in the vicinity of gas pipes guidance (Credit card):

[https://cadentgas.com/getattachment/Digging-safely/Work-safely-library/Promo-Excavating-safely-credit-card-gas/Excavating\\_Safely\\_Leaflet\\_Gas-1.pdf](https://cadentgas.com/getattachment/Digging-safely/Work-safely-library/Promo-Excavating-safely-credit-card-gas/Excavating_Safely_Leaflet_Gas-1.pdf)

Copies of all the Guidance Documents can also be downloaded from the National Grid Website:

<https://cadentgas.com/Digging-safely/Work-safely-library>



Tuesday 19<sup>th</sup> June 2018

Your ref: TR020003

3D Eagle Wing  
Temple Quay  
House  
2 The Square  
Bristol, BS1 6PN

HeathrowAirport@pins.gsi.gov.uk

Dear Sirs,

**NSIP: Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development)- Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested**

Thank you for your consultation.

The Canal & River Trust (the Trust) is the guardian of 2000 miles of historic waterways across England and Wales. We are among the largest charities in the UK. Our vision is that "living waterways transform places and enrich lives". The Trust is a prescribed consultee in the Nationally Significant Infrastructure Project (NSIP) process.

The Trust has reviewed the proposals, and on the basis that they appear unlikely to have any impact on its waterways, the nearest waterway being 200m away from the proposed development, the Trust has **no comment** to make at this time. However, if following the consultation period the proposals become significantly altered so as to come within 100m of the nearest waterway, the Trust would require to be re-consulted in order that it has the opportunity of re-considering its position.

Yours sincerely

Tessa Craig  
Area Planner

[Tessa.Craig@canalrivertrust.org.uk](mailto:Tessa.Craig@canalrivertrust.org.uk)  
+44 7917 616832

**Canal & River Trust, Fradley Junction, Alrewas, Burton-upon-Trent, Staffordshire, DE13 7DN**  
T 0303 040 4040 E [planning@canalrivertrust.org.uk](mailto:planning@canalrivertrust.org.uk) W [www.canalrivertrust.org.uk](http://www.canalrivertrust.org.uk)

Patron: HRH The Prince of Wales  
CRT: A charitable company limited by guarantee registered in England & Wales. Company number 7807276  
Registered charity number 1146792  
Registered address First Floor North, Station House, 500 Elder Gate, Milton Keynes, MK9 1BB

# Development Management

## Central Bedfordshire Council

Priory House, Monks Walk  
Chicksands, Shefford  
Bedfordshire SG17 5TQ  
www.centralbedfordshire.gov.uk



The Planning Inspectorate  
Temple Quay  
Bristol  
BS1 6PN

**Contact** Peter Vosper  
**Direct Dial** 0300 300 4157  
**Email** peter.vosper@centralbedfordshire.gov.uk  
**Your Ref**  
**Date** 01 June 2018

Dear Sir/Madam,

**Application No:** CB/18/01896/OAC  
**Location:** Heathrow Airport Limited, The Compass Centre, Nelson Road, Hounslow, Middlesex, TW6 2GW  
**Proposal:** Other Authority Consultation - EIA Scoping Notification and Consultation by Heathrow Airport Limited for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development).

I refer to your letter of 22 May 2018 regarding the Scoping Notification as shown above and would confirm that Central Bedfordshire Council do not have any comments at this stage.

Yours faithfully,

**Andrew Davie**  
**Assistant Director - Development Infrastructure**

# Civil Aviation Authority's response to Heathrow Airport Limited's Environmental Impact Assessment Scoping Report

19 June 2018

## Introduction

1. The CAA is the UK's specialist aviation regulator. We work so that:
  - the aviation industry meets the highest safety standards. We regulate the safety of airport design against UK, European and international safety criteria.
  - consumers have choice, value for money, are protected and treated fairly when they fly. We regulate the costs of operating Heathrow airport and, if the Airports National Policy Statement (ANPS) is designated, will regulate the costs of expanding the airport.
  - airspace is well managed. We make decisions on proposals to change airspace design, which we do against the background of Directions and environmental guidance from the Secretary of State.
  - the aviation industry manages security risks effectively.

We also provide the government, and third parties on a commercial basis, with environmental advice as requested, including information about the noise effects of aviation operations.

In general, it is for government to determine environmental policy and for the CAA, where required, to implement such policy as it relates to our functions.

2. We welcome the opportunity to respond to Heathrow Airport Limited's (HAL) Environmental Impact Assessment (EIA) scoping report in our capacity as a prescribed statutory consultee in the planning process.
3. By way of general introductory comment, in paragraphs 5 to 15 we provide a high-level overview of our regulatory roles and how they relate to the Development Consent Order (DCO) process. In paragraphs 16 -20 we explain how we approached our consideration of HAL's EIA scoping report. In paragraphs 21 – 59 we provide such comments as we have at this stage on those chapters of HAL's EIA scoping report that relate to the CAA's regulatory roles.
4. For further information about the CAA's responsibilities or on any of our comments in this paper, please contact us at [DCO.Coordination@caa.co.uk](mailto:DCO.Coordination@caa.co.uk).

## The DCO and CAA's Regulatory Processes

5. In addition to obtaining a DCO, HAL will also be required to obtain a number of regulatory approvals from the CAA in order for a new third runway to become operational. The CAA's regulatory approval processes will continue throughout the planning and construction phases. The environmental statement that will form part of HAL's DCO application will contain topics which are relevant to the CAA's regulatory processes. The three most significant regulatory areas are as follows.

## Economic Regulation

6. The CAA is the economic regulator of HAL. In this capacity, we regulate the maximum revenue per passenger that HAL can make from airport charges. In setting that maximum the CAA's primary duty, as set out in s. 1(1) of the Civil Aviation Act 2012 (the Act), is to carry out its functions "*in a manner which it considers will further the interests of users of air transport services regarding the range, availability, continuity, cost and quality of airport operation services*". The other matters to which we must have regard are set out in s.1(3) of the Act.

7. S.1(3)(d) requires us to have regard to the need to secure that HAL can take reasonable measures to reduce, control or mitigate the adverse environmental effects of the airport and associated facilities. We will make appropriate allowances for the efficient costs of environmental mitigations and seek to put in place incentives to minimise these costs, including so that capacity expansion does not become unaffordable for airport users.
8. Accordingly, the efficiency of the costs (which we interpret broadly to include that there is a clear statutory driver on HAL to incur the costs, that HAL has identified the most efficient option and that its costs of delivering such options are efficient) of HAL's environmental mitigations falls to be considered in the context of the CAA's primary duty to airport users as specified in s.1(1) of the Act.

### ***Safety Regulation***

9. The CAA has a number of safety oversight responsibilities in the UK. The CAA oversees the safety of aircraft and air navigation, the control of air traffic, air traffic services personnel, the licensing of aerodromes and air crew. In recent years, the European Commission, the European Aviation Safety Agency (EASA) and International Civil Aviation Organisation have played an increasingly significant role.
10. The CAA is the national supervisory authority for the certification of air navigation services (ANS) providers covering the requirements of Regulation (EU) No. 1035/2011. Those requirements include technical and operational competence and capability, specific requirements for the provision of air traffic services, meteorological services, aeronautical information services and communication, navigation or surveillance services.
11. The CAA is also the designated competent authority for the licencing of aerodromes under Regulation (EU) No. 139/2014. The licensing process ensures continuous oversight of safety standards at civil aerodromes. Since this regulation came into force in 2014, Heathrow Airport's aerodrome licence has been converted to an EASA compliant licence.
12. Safety assurance of proposed changes can only be provided if the proposer submits to the approving authority a fully detailed concept of operations for how it intends to achieve an acceptable level of safety.
13. It might not be possible to issue some approvals without trialling the operation first. In such circumstances, permission to operate a trial may sometimes be given so that the operator can demonstrate that the concept works as intended (potentially with further mitigating action required to ensure the concept meets all requirements).

### ***Airspace Change***

14. The CAA is responsible for making decisions on proposals to change airspace design. As part of that decision-making role, we take into account a range of factors including safety, efficiency and guidance on environmental objectives from the Secretary of State. The evidence we use to consider those factors, and how it should be prepared, is set out in our regulatory process 'Airspace Design: Guidance on the regulatory process for changing airspace design including community engagement requirements' (CAP1616).
15. As set out in the Government's final ANPS, we expect any airspace changes associated with the new runway proposals to follow the CAA's airspace change process as set out in our guidance in CAP1616. Our guidance specifies the evidence we need from the organisation sponsoring an airspace change, including the relevant environmental data and the methodologies for producing it. The process and evidence are iterative and HAL is not yet at the stage of designing flightpaths to support their proposals. This means that some assumptions will need to be made in due course for the purposes of EIA.

## **CAA's response to HAL's EIA Scoping Report**

16. The CAA's regulatory processes will to a significant extent run in parallel with the DCO process, but not conclude until after the DCO application has been submitted. Accordingly, the CAA may be asked by the Planning Inspectorate ("PINS") and the Secretary of State to provide an interim opinion regarding the viability of HAL's scheme.
17. It would therefore be prudent for the EIA scope and methodology to be consistent with the requirements of the CAA's regulatory processes in order to avoid duplication and aid clarity for stakeholders. Where this is not possible, we suggest that HAL explains its choice of methodology with great care and sets out the difference between the methodology used for EIA purposes and that to be used for the purposes of any submissions seeking CAA approval.
18. We have considered HAL's EIA scoping report on that basis, and we are using this response to inform PINS of the information we consider should be provided in HAL's environmental statement. We have in particular considered HAL's proposed scope and methodology to assess and mitigate the environmental effects of expansion. We have only commented on relevant chapters/EIA topics.
19. Our response below contains comments on those chapters of HAL's EIA Scoping Report that relate to our regulatory roles. In respect of airspace change CAP 1616 and CAP 1616a<sup>1</sup> provide the relevant methodologies for use in environmental assessments to assist those preparing airspace change proposals. To facilitate consistency between HAL's EIA and our approach to assessing the environmental impacts of airspace change proposals, we comment in detail on the relevant chapters of the EIA.
20. In contrast, our economic regulation powers relate to the development of the airport infrastructure. Capacity expansion is a bespoke project which will have a range of environmental impacts and the scope of these will only become clear as HAL's plans are crystallised through the planning process. In these circumstances, it is not practicable or appropriate for us to set out standard methods for the assessment of plans that remain under development and, rather than comment on the detail of HAL's EIA scope and methodology, we have set out our general approach above.

### ***Chapter 5 - Air Quality and odour***

21. The CAA's airspace change process, set out in CAP1616, includes methods for assessing air quality and odour issues as part of the Options appraisal a sponsor must undertake. That appraisal is required at stage 2A 'Define Options'.
22. At the core of the options appraisal is an assessment of the cost and benefits of the proposal. As part of the assessment, the change sponsor is required to monetise as many costs and benefits as possible to allow direct comparison between options. To achieve this the DfT's WebTAG<sup>2</sup> assessment tool is to be used.
23. CAP 1616 states that changes to local air quality impacts (which would likely include changes in both ground and air traffic movements) are to be included in the options appraisal process. These changes to local air quality must be explained in consultation material.
24. Changes to local air quality impacts must be identified when any such change affects emissions below 1000ft. Air Quality levels referred to for an aviation project such as that envisaged by HAL are SO<sub>2</sub>, NO<sub>2</sub>, and NO<sub>x</sub>. The threshold for these levels is contained within section A of annex 11 to the Local Air Quality Directive: 2008/50/EC. That

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<sup>1</sup> CAP 1616a is CAA publication 'Airspace Design: Environmental requirements technical annex'

<sup>2</sup> <https://www.gov.uk/guidance/transport-analysis-guidance-webtag>



Directive requires review of the situation every five years, or whenever significant changes in the activities may affect levels of these pollutants. The proposal contained within HAL's DCO application will result in significant changes in activities.

25. Assessment of increase in Particle Matter (PM) from aircraft should not solely focus on fuel emissions as there is also the potential for PM from other aircraft aspects, such as the wear of brake linings and tyres. Other environmental impacts will need to include those that occur as incidental impacts on and from other airspace users. For example, there may be impacts that arise from changes to General Aviation activity or changes in activity at other airports.

### **Chapter 6 - Biodiversity**

26. In relation to biodiversity, CAP1616 requirements are unspecific. In essence, the CAA does not have any specified or preferred methodology for assessing biodiversity impacts, but the CAA will be seeking to verify that any biodiversity impacts that arise from the new airspace design have been considered.
27. Based upon the proposed scope, it is likely that the biodiversity assessment undertaken by Heathrow will also satisfy our CAP1616 requirements, provided that the assessment also makes explicit consideration of any impacts specific to the operation of the airspace design. In this regard, the scoping document does indicate that "*Production of aural and visual stimuli and vibration produced by departing/arriving aircraft*" will be an element of the biodiversity assessment (Table 6.10, page 6.41). The document also includes reference to the legislation and policy that is also cited in the DfT's Air Navigation Guidance 2017.
28. CAP1616 makes clear that biodiversity relates to areas of landscape with specific statutory purposes (AONBs and National Parks and seeks to secure their continued protection). WebTAG contains a biodiversity impacts worksheet and a landscape worksheet, completion of which focuses on descriptions of the feature in terms of tranquillity and landcover, and its classification in terms of their rarity, importance, substitutability and impact.
29. We note the list of bodies HAL is engaging in relation to biodiversity. HAL should consider whether it also needs to engage with the CAA as a potential competent authority in relation to, for example, nesting birds, under the Conservation of Habitats and Species Regulations 2017.

### **Chapter 7 - Carbon and other greenhouse gases**

30. Paragraph 7.10.4, should include a list of mitigations to be used in the assessment, as has been done for other topics.
31. The CAA's airspace change process requires the assessment of CO<sub>2</sub> emission (in the context of climate change impacts); it does not require the assessment of any other greenhouse gases. The scoping document appears to limit the scope of the assessment of CO<sub>2</sub> emissions: for example, Table 7.4 (page 7.12). In setting out baseline conditions, the document only refers to emissions from aircraft in the landing and take-off (LTO) cycle being within scope. For the purposes of CAP1616, the CAA would require the scope of the CO<sub>2</sub> emissions assessment to reflect the "point to point" change in airspace design, i.e. the point at which the procedure design changes to the point at which it "re-joins" the existing procedure. This may extend beyond the LTO cycle (e.g. the cruise phase). Table 7.5 (page 7.13) does refer to flight phases beyond the LTO cycle (i.e. cruise). HAL should clarify the scope of this part of the assessment.
32. The temporal scope proposed by HAL (to 2050) appears adequate for CAP1616 purposes. CAP 1616 would necessitate a period that is at least 10 years from the implementation of the new airspace design. Scenarios will also reflect 2R and 3R which

is also consistent with the likely CAP1616 requirements. This temporal scope in relation to airspace change should be consistent across other environmental topics.

33. There are aspects of the methodology for CAP1616 that are not set out in HAL's scoping document. These are:
  - The ratio for conversion of aviation fuel burn to CO<sub>2</sub> should be 3.18.
  - The use of the DfT's WebTAG to produce a monetised value of the CO<sub>2</sub> emission impact for aircraft operations.
  - A statement that the impact will also include an annual total tonnage for the CO<sub>2</sub> emission impact from aircraft operations.
34. Additionally, paragraph 7.9.22 notes that only emissions from departing flights will be assessed. This is inconsistent with the CAP1616 requirements which require a sponsor to assess the impact on arriving flights if the new airspace design affects the arriving traffic. It would seem likely that any airspace design that is proposed in order to utilise a new third runway would affect arriving flights.

### ***Chapter 8 - Climate Change***

35. The assessment, especially for flood risk should consider use of a longer time frame than 50 years. One hundred years is typical.
36. This Chapter is limited to the impacts upon Heathrow from climate change effects. On that basis the scoping methodology has no reference to CAP1616 requirements other than to ensure that any relevant assumptions used for environmental impact modelling (e.g. noise, CO<sub>2</sub> emissions, local air quality) properly reflect any estimated impacts from climate change over the assessment period. These should be revealed by the document's proposed 'In-combination Climate Change Impacts' assessment.

### ***Chapter 9 - Community***

37. Paragraph 9.3.5 – 5.a notes that schools will be considered as part of the assessment. We suggest that schools could be broadened out to include other education institutions and organisations, such as universities.
38. Paragraphs 9.4.7 and 9.6.1 both state that a data source for community insight will be National Statistics (Census data). The current data drawn upon is from 2011 – the report could note that the most up to date Census data will be used to inform monitoring, where possible.

### ***Chapter 12 - Health***

39. If HAL uses WebTAG as an element of their methodology for assessing noise and local air quality, then health impacts will be captured to the extent that they are required by CAP1616.
40. Whilst the scoping document does recognise that the health impacts from aviation's noise and local emissions need to be included in the Health Impact Assessment (HIA), it does not explicitly state that WebTAG will be used as part of that assessment other than a single reference at paragraph 12.9.30.
41. The methodology should include the use of WebTAG for both noise impacts and local air quality impacts.

### ***Chapter 15 - Major Accidents and Disasters***

42. Air travel, as with all other forms of transport, presents safety risks to consumers on board aircraft and the public (third parties).

*Safety on board the aircraft (in flight or at the aerodrome)*

43. From a safety perspective, it is noted that there is currently little or no material pertaining to how aircraft are moved to, from and around the airport. This material will be required to consider the significance of the risks consequent on those matters.
44. Regarding Appendix 15.2, we note that not all CAA Civil Aviation Publications (CAP) references are relevant following the UK's transition to EASA oversight rules e.g. CAP168. HAL should include correct references to current EASA and ICAO Standards and Recommended Practices (SARPS).
45. In terms of accident risks, the proposals will impose changes on operations or functions that are not all in Heathrow's control but are relevant to safety. The following should therefore be considered:
  - Para 15.4.3 and Para 15.8.2 (point 8): It is unclear if NATS' London Terminal Control (LTC) functions pertaining to moving aircraft to and from Heathrow are included in scope. They should be included and are not considered 'external' to Heathrow's operation.
  - Para 15.7.9: The need for airspace re-design should be acknowledged. Specifically, on completion of the initial climb, aircraft are likely to follow newly designed routes (possibly over populations currently not over-flown) in order to ensure safe integrated route separation for all airspace users. In addition, the need for re-designed missed approach procedures (and routings) may be of significance.
  - Table 15.5: As above in 15.7.9 this should also consider manoeuvring and missed approaches, as new procedures will be required.
  - Table 15.7 footnotes 13 and 14: Aircraft track interactions with other airports may change as a result of the new runway development, and therefore potential risks should be assessed.
46. Regarding Table 15.6, the 'Transport Accident' entries do not appear to include mid-air accident risk. Such a risk could arise from new routings to and from the revised runway configuration, alternation patterns and (in the construction phase) interference with communications, navigational aids or surveillance equipment necessary for the safe conduct of flight.
47. Regarding paragraph 15.9.17, the assessment year does not include the 'Early ATMs' scenario where the risks are different: for example, there will be more flights and potentially different procedures involved. HAL should therefore include an assessment of the Early ATMs case, as they have proposed under other EIA topics.

*Public Safety*

48. Public or third party risks are often described as individual or societal risk. In the context of the DCO process, the responsibility for judging the tolerability of public safety lies with the relevant decision maker who is able to weigh the benefits of a proposal against the safety risks. This would include the Secretary of State designating the ANPS and PINS and the Secretary of State in considering the DCO application.
49. The CAA has no specific policy or regulatory role regarding the tolerability of third party safety risks. The CAA can provide support to aid the assessment or decision maker e.g. accident statistics or mandatory occurrence reporting.
50. The CAA would make the following comments:

- The study area for major accidents involving aircraft appears to be ambiguous. In Table 15.5 the phases of flight are included, however, Paragraph 15.4.1 and Figure 15.1 show the study area as areas approx. 1km from the airport boundary for land receptors, including human populations beyond the airport. We would expect the study area to be greater than 1km from the airport boundary, taking into account risks associated with the phases of flight.
- Paragraph 15.7.10 suggests that the study area is conservative, as it is larger than the Public Safety Zone (PSZ). This is potentially misleading. The PSZ is an area where individual risk mitigation is applied in the form of development control, as set out in DfT's PSZ policy<sup>3</sup>, aimed at reducing people congregating in the higher risk areas at the end of the runways. Risks still exist outside these areas including societal risks, and the expansion of Heathrow will change these risks either by increasing the number of flights or by affecting different populations.
- Table 15.6 includes the 'likely significant effects requiring assessment'. The M25 motorway system will have to be diverted and placed in a tunnel to accommodate the new runway overhead. The assessment should therefore include the risks associated with an aircraft and/or its fuel load, involved in a runway excursion close to the location of the tunnel, as this could result in a major accident scenario involving vehicles on the motorway.
- Table 15.6 also includes 'birdstrike' risks. It will also be important to ensure that any landscaping or water features proposed as mitigation of the development do not increase the risk of bird strike to aircraft using the aerodrome.

### **Chapter 16 - Noise and vibration**

51. CAA is responsible for the environmental assessment of airspace change proposals, to be aligned with government policy aims to:
  - a. limit and, where possible, reduce the number of people in the UK significantly affected by the adverse impacts from aircraft noise;
  - b. ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions; and
  - c. minimise local air quality emissions and in particular ensure that the UK complies with its international obligations on air quality
52. The CAA has a statutory duty<sup>4</sup> to publish environmental information on the environmental effects of civil aviation in the UK.
53. We welcome the risk-based approach to the assessment of noise and support the proposed LOAEL and SOAEL noise levels for air noise.
54. With a risk-based approach to identifying significant adverse impacts there is greater need to control and, where necessary, limit these impacts. We believe the proposed noise envelope needs to be aligned with the adverse impacts that will be set out in the environmental statement.
55. We note the emphasis on identifying those at risk of significant adverse effects due to noise exposure in the context of the EIA Regulations, but feel that the proposed methodology needs to more clearly set out how it will demonstrate that the DCO project

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<sup>3</sup> <https://www.gov.uk/government/publications/control-of-development-in-airport-public-safety-zones>

<sup>4</sup> S. 84 Civil Aviation Act 2012

will 'mitigate and minimise adverse impacts on health and quality of life', i.e. between LOAEL and SOAEL, where not identified as significant adverse effects.

56. The proposed mitigations make no mention of a night noise insulation scheme. Whilst a 6.5-hour night ban is proposed, depending on how the runways are operated some locations could see increases within the overall 8-hour night noise exposure period.
57. Whilst these may be addressed by the proposed daytime noise insulation schemes, there is a need for additional insulation criteria based on night noise exposure in order to ensure that night noise impacts are appropriately mitigated.
58. Spatially, the extent for noise consideration extends at least to an altitude of 7000ft. In this regard, HAL will need to make sure that they use CAP1498 as the metric for assessing "overflight" by aircraft up to 7,000ft.
59. Airspace change submissions must follow the CAAs revised process which is set out in CAP1616 (references to earlier draft guidance in paras 16.11.8 and 16.11.10 to CAP1520 should be removed).

From: [Katy Jones](#)  
To: [Expansion of Heathrow Airport \(Third Runway\)](#)  
Cc: [REDACTED]  
Subject: TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation  
Date: 18 June 2018 14:28:35  
Attachments: [image001.jpg](#)  
[image002.jpg](#)

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Dear Sir,

At the Council meeting on Monday 11<sup>th</sup> June 2018, Datchet Parish Council **RESOLVED** to inform the planning inspectorate that the following information should be considered in the Environmental Statement (ES)

- Air pollution
- Noise pollution
- Increase of road traffic
- Increase of rail traffic
- Increased housing and impact on local housing re where are all the new employees going to live
- Implications for the M/4 Smarter motorway scheme.

The council would also like a full Environmental Impact Assessment (EIA) carried out to ensure that the we are given early and effective opportunities to participate in the decision making procedures.

Kind Regards,

*Katy*

Katy Jones  
Clerk to Datchet Parish Council

Tel: 01753 773499  
email: [katy.jones@datchetparishcouncil.gov.uk](mailto:katy.jones@datchetparishcouncil.gov.uk)

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**From:** [Steve Barton](#)  
**To:** [Expansion of Heathrow Airport \(Third Runway\)](#)  
**Subject:** RE: TR020003 - Proposed Expansion of Heathrow Airport (Third Runway)  
**Date:** 19 June 2018 13:59:49  
**Attachments:** [image001.gif](#)

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Dear colleague,

Thank you for consulting Ealing Council. We have input into a collective response that will be submitted by the Heathrow Strategic Planning Group (HSPG). We believe this is comprehensive and is representative of our concerns.

If you have any further queries, please do let me know.

Kind Regards,

*Steve Barton*

Steve Barton  
Strategic Planning Manager,  
Regeneration and Planning Services,  
Regeneration and Housing Directorate,  
Ealing Council

Tel : 0203-882-3552 (Direct Dial Skpe for Business)

Email: [bartons@ealing.gov.uk](mailto:bartons@ealing.gov.uk)

(NB Please be aware that email correspondence is preferred as I'm not always sat at my desk and will usually ensure a faster response!)

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**From:** Expansion of Heathrow Airport (Third Runway) [mailto:HeathrowAirport@pins.gsi.gov.uk]  
**Sent:** 18 May 2018 09:37  
**To:** Steve Barton <BartonS@ealing.gov.uk>  
**Subject:** RE: TR020003 - Proposed Expansion of Heathrow Airport (Third Runway)

Mr Barton,

Many thanks for the below confirmation.

We await a hard copy of the Scoping Report from Heathrow Airport Limited, which we are expecting today. Once we have carried out our initial checks we will publish the Scoping Report on our website and send notification letters (including links to the Scoping Report) to the relevant statutory consultation bodies, as defined in The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, for comment. All such consultees will have a 28 day period within which to provide comments.

Kind regards,  
The Planning Inspectorate

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**From:** Steve Barton [<mailto:BartonS@ealing.gov.uk>]  
**Sent:** 18 May 2018 09:14  
**To:** Expansion of Heathrow Airport (Third Runway)  
**Subject:** Re: TR020003 - Proposed Expansion of Heathrow Airport (Third Runway)

Yes it is. For information I'm the councils Strategic Planning manager and have been lead officer for the council on Heathrow Strategic Planning Group.

Are you able to send me the EIA scoping report which I understand HAL have tabled. I understand that we have 4 weeks to give you any comments or feedback?

Kind regards,

Steve Barton

Sent from my iPhone

On 17 May 2018, at 16:21, Expansion of Heathrow Airport (Third Runway)  
<[HeathrowAirport@pins.gsi.gov.uk](mailto:HeathrowAirport@pins.gsi.gov.uk)> wrote:

Dear Sirs,

Heathrow Airport Limited has notified the Planning Inspectorate (the Inspectorate) that it will be seeking a Scoping Opinion from the Inspectorate, on behalf of the Secretary of State, as to the information to be provided in an Environmental Statement relating to the proposed Expansion of Heathrow Airport (Third Runway).

The Inspectorate has identified you as a consultation body which must be consulted before adopting its Scoping Opinion, and understands that the Applicant has been in direct contact with you in relation to this.

Please can you therefore confirm that this is the correct email address to be used by the Inspectorate for all correspondence in relation to the upcoming consultation prior to the adoption of a Scoping Opinion.

Kind regards,

The Planning Inspectorate, Temple Quay House, Temple Quay, Bristol BS1 6PN  
Helpline: 0303 444 5000  
Web: [www.gov.uk/government/organisations/planning-inspectorate](http://www.gov.uk/government/organisations/planning-inspectorate) (The Planning Inspectorate)  
Twitter: [@PINSgov](https://twitter.com/PINSgov)

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Planning Inspectorate  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

**Our ref:** NE/2018/128660/01-L01  
**Your ref:** TR020003

**Date:** 19 June 2018

Dear Sir/Madam

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (The EIA Regulations) – Regulations 10 and 11**

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested**

**Heathrow Airport Hounslow, Middlesex, TW6 1QT**

Thank you for consulting us regarding our opinion as to the information to be provided in the Environmental Statement (ES) relating the proposed expansion of Heathrow airport.

We have reviewed the Environmental Impact Assessment (EIA) Scoping report comprising Volume 1 – Main Report; Volume 2 – Figures; and Volume 3 - Appendices with regards to our remit.

The Environment Agency vision is to create great places for living that bring communities together and improve physical and mental wellbeing. We have a key role in delivering and enabling infrastructure which helps to protect people and the environment. We are a delivery body, and regulator on a range of flood and coastal erosion risk, environmental, and energy infrastructure; the competent body for the Water Framework Directive (WFD); and an advisor on climate change resilience and spatial planning.

We are a statutory consultee under the Planning Act 2008 upon submission by the Applicant of the application for a Development Consent Order (DCO) for the Expansion of Heathrow Airport (Third Runaway). We are also currently engaging with the Applicant on a non-statutory basis and we wish to continue to do so up to the submission of the DCO application.

Cont/d..

Our early engagement with the Applicant will ensure the range of environmental issues and their interactions with the development are taken into account so that better and at pace outcomes and opportunities are achieved with greater certainty during the DCO process.

We have provided the main points of our response below and provided detailed comments as Appendix 1.

### **Environment Agency Position**

We broadly agree with the Applicant's proposed scope of the Environmental Impact Assessment (EIA). We specifically agree that the following environmental topics should be included and carefully assessed in the EIA and/or the Preliminary Environmental Information Report (PEIR): Biodiversity, Climate change, Land quality and Water. We strongly support the Applicant's commitment to achieve environmental net gain. This is a principle included in The Government's Environment Plan; A Green Future: Our 25 Year Plan to Improve the Environment.

The scale of the project in this location combined with both the quality and sensitivity of the environment in this location means that the project may present significant risks to the environment. It will therefore be imperative that baseline conditions are adequately established and agreed with all relevant parties. At this point in time the Applicant is yet to share all baseline condition survey with us or agree baseline study methodologies. This will be key to ensuring that the risks to the environment are fully understood, avoided, mitigated or compensated for.

We are also currently not clear which environmental permits the Applicant will be seeking from us for activities regulated under the Environmental Permitting Regulations. This will be important in informing us of which specific activities should be in scope of the EIA and/or PEIR and the level of detail we would expect to be included in these documents and inform any protected provisions we would seek to be included in the DCO, should the Secretary of State grant consent for the scheme. We encourage the Applicant to begin more detailed conversations with us on these matters at the earliest opportunity.

After we have formally agreed the scope to establish baseline agreement we will need to begin discussions and agree the scope for the Applicant's post-consent monitoring. This will clearly be required to ensure any agreed design principles have been followed, mitigation measures have been implemented, habitat creation has been successful and established as planned. We would have liked the Applicant to include more information and for us to have a better understanding of these proposals within these consultation documents.

We agree that the Biodiversity and Water topics will be assessed for all design components of the DCO Project and for both the construction and operation phase. We do not think that it is appropriate that for the Airport supporting facilities component of the DCO Project, climate change has been considered as an environmental topic to be scoped in only for the Energy generation plant. Most Airport supporting facilities outlined within Table 3.7 in Chapter 3 are infrastructure and assets that could be affected by climate change impacts. We consider that all Airport supporting facilities should be scoped in as a potential receptor to the impacts of future climate change. This is justified as the consequence and impacts of climate change can affect the Airport support facilities resilience to the impacts of climate change and therefore potentially impact on operation and potentially safety of staff and visitors, which may be the case

when considering increased flood risk as a result of climate change.

Our comments above and included in Appendix 1 are based on our available records and the information as submitted to us. We thank you for consulting us on this scoping opinion and welcome you to review our detailed comments. If you have any queries please feel free to contact Phillip Petrou at [phillip.petrou@environment-agency.gov.uk](mailto:phillip.petrou@environment-agency.gov.uk)

Yours faithfully



Phillip Petrou  
Environment Programme Manager  
Hertfordshire & North London Area

Att:

**Appendix 1 – Detailed comments**

Appendix 1

Chapter	Paragraph/table	Environment Agency Comments
<p><b>Chapter 4</b>  <b>Approach to EIA</b>  <b>scoping</b></p>	<p>Table 4.6            Summary scope of the assessment            – Environmental topic 'Water'</p>	<p>We note the 7. <u>Increased sediment loading to surface water</u> will be assessed only during the construction phase. We recommend this is assessed also during the operation phase as sediment from the increased impermeable area washing off into the rivers and drains will still occur after the construction phase, albeit at lower volumes.            There is also no mention of connectivity change between surface water and groundwater. These changes are mentioned separately, however, there could be a change in the connectivity between the surface water and groundwater at various locations.            We note the possibility of contamination of the groundwater and the impact on public water supply network are mentioned respectively within 13. <u>Changes to groundwater quality</u> and 15. Impacts on the capacity of the local public water supply network. However, there is no mention of the possibility of contaminating public (groundwater) water supply.</p>
<p><b>Chapter 6</b>  <b>Biodiversity</b></p>	<p>Table 6.1 Policy and legislation relevant to biodiversity assessment            Paragraph 6.6.15 Open Water            Table 6.10 Likely effect requirement assessment            Paragraph 6.9.7</p>	<p>We recommend the EU Water Framework Directive is included as a relevant piece of legislation.            Clarifications should be provided as to when river / stream becomes a ditch with regard to Main River and ordinary watercourse classification.            Within the activity 'Re-alignment, diversion of rivers and streams' the impacts to riparian habitat and lateral connectivity should be included within the effects requiring an assessment.            Clarifications should be provided as to why a deviation from the <i>Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal</i> (2016) produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) is proposed for ecological features that are of local or negligible importance. The implications/risks of this should be assessed and provided.</p>

<p><b>Chapter 18 Water Environment</b></p>	<p>Paragraph 18.1.3 footnote 2</p> <p>Table 18.4 Water environment data sources</p> <p>Paragraph 18.5.4</p> <p>Paragraph 18.6.39</p> <p>Paragraph 18.6.45</p> <p>Table 18.8 Likely significant effects requiring assessment</p>	<p>Within the 'definition' of groundwater there is no mention of pathways of groundwater, only <u>bodies</u> of groundwater. There will be some known pathways between Surface Water and GW and through the groundwater system.</p> <p>Please note you should request from the neighbouring Local Planning Authority (LPAs) data relating to the identification of the functional floodplain (flood zone 3b) and its boundaries within the LPAs Strategic Flood Risk Assessments (SFRAs).</p> <p>Clarification should be provided as to:</p> <ul style="list-style-type: none"> <li>• why the baseline field surveys have been completed to an extent and/or whether the field work element has been underestimated;</li> <li>• how it has been ascertained that the desk study data available is adequate;</li> </ul> <p>Please note many, if not all of the catchments within the project boundary are not the most gauged or monitored. There are a lot of unknowns in terms of flows and volumes of water across this complex River Basin.</p> <p>This paragraph states: <i>The likely maximum volume of water discharged would be limited by control structures that bound individual canal reaches, such that it is unlikely to present a major risk to flooding in the vicinity of the Project.</i></p> <p>We believe it should read: <i>... such that it is unlikely to present a major risk to flooding in the vicinity of the Project.</i></p> <p>It is noted here that "water supply to the current site is provided by Affinity Water".</p> <p>Please note that there are two abstraction licences held by Heathrow Airport Limited (TH/039/0028/007 and 28/39/31/0185/R01) which enable non-potable water to be used on site for specific purposes, and within the permitted volumes. There are additional conditions associated with the use of this water which should be adhered to. This information is detailed on the relevant licence document, a copy of which can be requested by the Licence Holder if required.</p> <p>The Receptor WE10: Upper River Colne should be included within Activity "Change in Land use" and "River Diversion" and linked effect "Changes to channel morphology (operation only)</p> <p>The requirement to review the impacts of the proposed expansion on Water Supply and Foul Drainage is detailed within this table under specifically within the activities "water</p>
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use during construction and operation”, “discharge to sewers during construction” and “operation of drainage system”. It is noted that the potential effect could be “increased water demand from the site in the construction and operation phases effecting the sustainability of supply in the local water resource zone”.

Whilst it is positive to note this is being ‘scoped into’ the EIA, it is expected that any increase in potable water use for the operational phase of the expansion will not delay or prevent Heathrow Airport Limited from achieving the targets and metrics set out in Heathrow 2.0. Affinity Water’s supply zone is classified as an area of ‘Serious’ water stress, highlighting the need to use resources efficiently and reduce water consumption in this area.

It is expected that new buildings would be configured to ensure sustainable use of water including water recycling schemes to reutilise non-potable water for appropriate activities, rainwater harvesting from impermeable surfaces (if water is deemed to enter a ‘source of supply’ then this would become a licensable activity) and installation of water efficient appliances. As a major commercial activity in this region, we would expect Heathrow to operate responsibly, setting an example for other airports and companies to follow.

It would be consistent to utilise Heathrow 2.0 to understand and maintain Heathrow’s current commitments to water resources. This should be incorporated into the Assessment A7: Resource Management Plan detailed in Table 18.11 - Assessments supporting the assessment of effects on water environment receptors in the construction and operational phases

- ‘River Accretion profiles – More details should be provided on:
  - Which points are part of the accretion profile?
  - What was measured and how?
  - How was the timing chosen?
  - Are 3 surveys for each site enough?
- ‘Continuous flow and level gauging – More details as to what equipment, where, why, for how long and how should be provided. Additionally, if new ‘continuous

Table 18.10 Site baseline data collection and surveys

		<p>flow gauging' is to be installed, what sort of time frame is being proposed? It can take years for a good rated section to be set up and gauged in order for reliable flows to be calculated.</p> <ul style="list-style-type: none"> <li>• Geomorphological walkover – These were undertaken in 2017 and 2018. Any others planned?</li> </ul>
Paragraph 18.10.9		<p>We recommend that the Code of Construction Practice (CoCP) is also used for maintenance standards as this will aid in ensuring compliance for WFD and other legislation.</p>
	Table 18.15 Definitions of water environment magnitude of change	<p>It is noted that the "water environment assessment will be divided into a number of assessment years covering the current baseline, <u>future baseline</u> (without the <u>DCO Project</u>), enabling works, construction phase(s) and operational phases of the development". It is positive to see specific reference to the "future baseline (without the DCO Project)", this is expanded further within Paragraph 18.9.8 and, in particular, the consideration of the "inclusion of works being undertaken to improve the condition of the watercourses in line with WFD objectives".</p> <p>However, the intention does not appear to be a consistent application of this approach. Table 18.15 details the criteria and associated examples for each of the magnitudes of change (High, Medium, Low &amp; Negligible). Both High and Medium reference WFD within their examples, indicating that a High and Medium magnitude of change would be a "downgrading of WFD status (deterioration in current thresholds as defined by current WFD status, including supporting elements)". If the water environment assessment is considering a future baseline (without the DCO Project), then the criteria for assessing the magnitude of change should be consistent and have regard to the future baseline. In addition, the emphasis of WFD is to prevent deterioration and secure Good Ecological Status/Potential for these water bodies. Therefore, it is expected that the 'deterioration' of a water body's status would be considered a significant change, and assessed appropriately as High.</p> <p>Additionally, it is detailed within the Medium criteria examples, that the "Water quality status may impact upon potential future thresholds in relation to objective WFD status – potential for water body reaching its future WFD objectives". Please note that it is not</p>



		<p>only the water quality status which may impact on a water body's ability to reach future WFD objectives, as the classifications are built from a number of elements which should be given equal regard.</p> <p>The intention is to achieve Good Ecological Status/Potential for all WFD water bodies. Therefore, the consideration of a possible failure of a water body to achieve its future WFD objective as a 'Medium' definition of change is inconsistent with this intention. We consider that this is a High magnitude of change, and should be updated accordingly within the criteria.</p>
	<p>Paragraph 18.10.8</p>	<p>It is disappointing to see that the "mitigation approach will seek to avoid deterioration of the current ecological conditions around the airport" rather than working to the future baseline referenced in Paragraph 18.9.6 and what these water bodies would achieve without implementation of the DCO Project.</p>
<p><b>Appendix 6.1 Biodiversity Method Statements</b></p>	<p>Section 11.3 Field surveys – Paragraph 11.3.8 Section 11.3 Field surveys – Paragraphs 11.3.11 to 11.3.13 Table 6.2.8 Habitats of Principal Importance</p>	<p>Please note that more than three electro-fishing runs may be necessary to obtain the necessary depletion to result in a worthwhile analysis.</p> <p>More detailed reference for the use of new techniques like eDNA should be provided.</p>
<p><b>Appendix 6.2 Biodiversity desk study report</b></p>	<p>Paragraph 5.2.3</p>	<p>The River Crane (Priority Habitat) and the River Colne (Priority for Restoration) should be included within table 6.2.8.</p> <p>Please note that Natural England guidelines on riverine priority habitat classifies Priority for Restoration in the same way as Priority Habitat.</p>
<p><b>Appendix 18.1 Water Framework Directive Compliance Assessment methodology</b></p>	<p>Paragraphs 5.2.13 and 15.2.14</p>	<p>It is noted in this paragraph that the water body status and status objectives information for the relevant WFD water bodies in the Assessment Area have been derived from the Thames RBMP. Please note that the published data are from the 2015 RBMP. There is an interim classification due for release in 2019, and we recommend this data is used when available.</p> <p>It is stated that "temporary flow gauges will be installed on 11 water courses. Detailed information on where, when, how? For what levels and and/or flows would need to be provided.</p>

Paragraph 5.2.15	<p>It is stated here that two rounds of flow accretion surveys will be undertaken along all water bodies. It is unclear whether these surveys are the same as the ones indicated within Table 18.10 in Chapter 18 Volume 1. Flow accretion surveys are useful in WFD to understand the nature, volume, of flows and where they go etc. Clarification should be provided on how these surveys are carried out.</p>
Table 18.1.2 Data sources to inform the WFD assessment, and purpose	<p>An important data source is the latest information which can be found on <u>Catchment Data Explorer (CDE)</u>. This should be included and referenced throughout when completing the WFD Compliance Assessment. Please note, CDE is frequently updated.</p>
Paragraph 5.2.8 Hydromorphology Surveys	<p>There is reference to “targeted detailed surveys of a number of watercourses that are judged by the Environment Agency to be in good condition will also be undertaken specifically to inform mitigation solutions and provide proxy conditions for future baseline” (The intention of this statement and understanding of the context for ‘good condition’ is unclear. This does need to be clarified as the EIA progresses.</p>
Paragraph 5.2.9 Aquatic Ecology Walkover Surveys and Section 5.2.10 Ecological Monitoring	<p>The scope for these surveys should include identification and mapping of in-channel and riparian invasive plants. Whilst it’s acknowledged that relevant species will be identified during macrophyte, macroinvertebrate and fish surveys, these won’t cover the full water body length. Therefore, this should also be incorporated into the walkover surveys to help inform the risks of channel conversions and site operations within multiple catchments, and appropriate mitigation.</p>
Paragraph 5.1.19	<p>This paragraph details that “the data collected from both sets of monitoring will be used to provide information on the <u>status</u> of the WFD water bodies”. This may relate to the groundwater monitoring detailed immediately above. Regardless of which monitoring it does relate to, it’s important to emphasise that the status of WFD water body <u>will not</u> change as a consequence of monitoring for the purposes of Heathrow expansion. The Status will be reported as an outcome of triennial classification, with the next interim update released in 2019 and in 2022. The Environment Agency is constantly working with our partners and stakeholders to prevent deterioration and seek improvements to the water bodies. Therefore, the statuses may change and the most up to date information should be reviewed and referred to as it becomes available.</p>

Table 18.1.4	<p>There are inconsistencies in the defined Assessment Areas which are provided in both Chapter 18: Water Environment and in this Appendix 18.1. Chapter 18 details a "Wider Surface Water Study Area" in Table 18.3 which "incorporates the wider catchment extent of the Colne and Crane operational catchments beyond the local study area...from their source to the Thames". This is reflected in the Receptor Groups detailed in Table 18.7 where WE10: Upper River Colne details "The full catchment of the River Colne and its tributaries".</p> <p>However, the water bodies listed in Table 18.1.4 in Appendix 18.1 does not contain the full list of tributaries for the River Colne and the water bodies which form the Colne Operational Catchment. Furthermore, there are water bodies which detail additional and relevant extents of the Grand Union Canal which haven't been included. It is unclear as to the reasons for these inclusions/exclusion. However, it is advised that the table is revised to take account of these omissions. Information on the appropriate water bodies can be found on the <a href="#">Catchment Data Explorer (CDE)</a>.</p>
Paragraph 7.2.2	<p>Reference is made to the provision of "some working definitions...to understand the significance of spatial impact and therefore inform a conclusion on the risk of activity causing deterioration". We expect to be consulted on and have very early sight of these definitions as they emerge and are formulated.</p>
Paragraph 7.2.3	<p>Please define a short period of time. The recover without the need for any mitigation should also be time bound. For example, recovery without mitigation over 20 years would not be acceptable.</p>
Paragraph 7.4.7	<p>Calculating length of impact as a percentage of 1:50,000 OS river network within the WFD water body catchment may not be an appropriate method to understand importance of impact at a waterbody scale as length of river does not equate to ecological importance as different lengths will have different quality and connectivity. The intention of the WFD Compliance Assessment is to determine the likely impact that this proposal will have with regard to WFD. At a water body scale, this relates to ensuring no deterioration of the affected water bodies or their ability to achieve their future target WFD objective. This will be based and assessed on monitoring which occurs on the WFD 'blue line'. Therefore, whilst connectivity and the wider catchment</p>

	<p>water environment, including tributaries, are extremely important, it does not feel appropriate to represent risk and/or improvements as a percentage of the wider river network. The 'blue line' defines the extent against which WFD assessment and performance are monitored and should be used to measure risk and permanent/temporal impacts. If the proposed approach is taken forward, we would need reassurances that this would not compromise/conflict with our obligations to protect and enhance these water bodies under WFD.</p> <p>Additionally, this needs to be reflected in the definitions of 'likely impact' where this approach has introduced inconsistencies between the methodology and terms. This is because the scale of impact on the "status of/for the quality element", which would have been classified according to the WFD 'blue line', is determined according to the percentage of impact on a river network which includes non-WFD river. It is assumed that "quality element" refers to all elements which are assessed under WFD and are used to build classifications, rather than just the water quality elements.</p>
Paragraph 7.4.9	<p>Percentage of waterbody length is an old method from historic WFD guidance. A 100 metres stretch may be important spawning habitat for the waterbody. If the preferred method is a percentage method, it should be as a percentage of similar quality and habitat type in the waterbody but this level of data is not available.</p>
Paragraph 7.4.14	<p>Sensitivity of reach will require baseline information of the whole waterbody being effected to understand reaches sensitivity in relation to waterbody extent. If it is proposed to use 1:50,000 river network, then baseline information on this full network will be required. Otherwise, it will be down to professional judgment and consultation with us through design and mitigation phases.</p>
<b>Appendix 18.3</b> <b>Surface water</b> <b>quality modelling</b> <b>Method Statement</b>	<p>Table 18.3.2 Data sources and description</p> <p>It is unclear whether the 'Accretion FLOW data – flow in the stream attributable to seepage GW discharge – field monitoring, is the same accretion work as mentioned by other parts of the scoping report.</p>

From: [ESP Utilities Group Ltd](#)  
To: [Expansion of Heathrow Airport \(Third Runway\)](#)  
Subject: Your Reference: TR020003. Our Reference: PE136206. Plant Affected Notice from ES Pipelines  
Date: 22 May 2018 11:30:40

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Heathrow Airport  
The Planning Inspectorate

22 May 2018

Our Ref: PE136206  
Your Ref: TR020003

**Expansion of Heathrow Airport (Third Runway).**

Dear Sir/Madam,

Further to your enquiry received on 22/05/2018, I can confirm that ES Pipelines Ltd and ESP Electricity Ltd may be affected by the proposed works in the area of Expansion of Heathrow Airport (Third Runway). ES Pipelines Ltd and ESP Electricity Ltd has gas and electricity networks serving the area in question (Reference **1910/PPS14182, 9001996, 9010719, 9011467, ESN010136, ESN010646, ESN012771, ESN014490, ESN017240, ESN017939, ESN019292, ESN019472, 245/PPS6412, ESPE0428, ESPE0567, ESPE0954, ESPE1023**) at grid reference E507459, N175694 and security of supply is vitally important.

**Due there being so many networks, project drawing as laids for these sites will be sent separately** but for your information a location drawing which shows the approximate locations of the gas and electricity networks within your utility search boundary, is enclosed. Over time it is fairly unlikely that these existing networks will expand and that any proposed new development within the perimeter line will be subject to planning permission regulations.

As your plans for the proposed work develop you are required to keep ES Pipelines Ltd and ESP Electricity Ltd regularly updated about the extent and nature of your proposed works in order for us to fully establish whether any additional precautionary or diversionary works are necessary to protect our networks.

Arrangements can be set in place so that one of our representatives can meet on site (date to be agreed) and we will be happy to discuss the impact of your proposals on the networks once we have received the details.

A list of precautionary measures is attached for your information. This must be passed on to the appointed contractors carrying out the work and any other associated parties.

ESP are continually constructing new gas and electricity networks and this notification is valid for 90 days from the date of this letter. If your proposed works start after this period of time, please re-submit your enquiry.

If you wish to discuss the matter further please contact myself or the team on 01372 587500, alternatively you can email us at [PlantResponses@espug.com](mailto:PlantResponses@espug.com).

Yours faithfully,

Alan Slee  
Operations Manager



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<http://www.espug.com>

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## **PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK IN THE VICINITY OF ELECTRICITY CABLES**

### **ADVICE TO SITE PERSONNEL**

#### **MANAGEMENT NOTE**

Please ensure that a copy of this note is read by your site management and to your site operatives.

Early consultation with ESP Electricity Ltd prior to excavation is recommended to obtain the location of plant and precautions to be taken when working nearby.

This has been produced after consultation with and at the request of the Health and Safety Executive, the construction industry and the electricity companies.

#### **1.0 Introduction**

This procedure should be read in conjunction with the ESP Electricity Distribution Safety Rules and other relevant procedures. The object of this procedure is:

- a) To lay down the rules for the location of cable before work is started.
- b) To specify the safe working procedure to be adopted by persons who have to work on or in the vicinity of cables.

#### **2.0 Reference**

ESP Electricity G81 – Design and Planning  
ESP Electricity G81 – Installation and Records  
National Joint Utilities Group (NJUG) Guidance Notes  
Avoiding danger from underground services HSG47 HSE Advice Booklet.

#### **3.0 Work**

- 3.1 All cables and apparatus to which the cables are connected shall be treated as being live, until they have been proved dead and all points of isolation have been established and controlled.
- 3.2 All work carried out under this procedure shall also be carried out in strict accordance with the ESP Electricity Distribution Safety Rules and other relevant procedures.
- 3.3 For the purpose of this procedure:
  - a) Work on a cable includes the intentional cutting or removal of its Sheath or Armour, cutting of its core(s) or conductor(s) and the removal of a spiking gun.
  - b) Work in the vicinity of a cable includes digging or any activity carried out at any work location where cables are or may be present, whether or not for the specific purpose of preparation for work on a cable.

#### **4.0 Cable Locating Devices**

- 4.1 An approved cable locating device is to be used on every occasion before any surface is removed or any digging is started. It must also be used during the course of any digging work.
- 4.2 Cable location devices provide information on the position of cables. They must not be used as the only means of cable location.
- 4.3 Cable locating devices must be regularly checked for correct operation.

All persons using cable locating devices must be adequately trained in their use and must be Competent Persons.

#### **5.0 Location of Cables**

- 5.1 The depth of underground cables varies greatly. It is essential that a site specific risk assessment is undertaken for the proposed work you are planning this must include obtaining an up-to-date map of the electricity cables in the area and to make use of it. The electricity cable records must be checked before any work is started. Changes in surface level or reference points, and work carried out by other people may affect the reliability of these records. Anybody excavating must be told of these possibilities.
- 5.2 Before the start of any excavation work, a cable locating device shall be used to establish the run of live cables. Reasonable steps should be taken to establish the runs of cables both along and across the length of the intended area of digging. The cable avoidance tool shall be used together with mains records and where provided, service records.



5.3 All cable runs either confirmed by use of the cable locating device or indicated on the mains records must be marked out on the surface using a waterproof marker. Marked cable runs must be extended 300mm beyond either end or side of the intended digging area, and must stay visible while the digging is going on. The trial hole dig method can be used to identify the run of cables using hand dig tools only.

#### **6.0 Precautions to be Taken while Working in Vicinity of Cables**

- 6.1 Work in the vicinity of cables must be carried out as if the cables are live and all excavation work must be personally supervised by a Competent Person. All persons shall wear a minimum of safety footwear, Safety Glasses, hard hat, Task Specific Gloves flame retardant overalls.
- 6.2 Approved hand tools should always be used in preference to power tools in the vicinity of cables, unless site conditions make this impracticable. Spades should always be used in preference to forks. Extreme care must always be taken when using a fork or pick. Forks must be of approved type with shortened chisel ended tines. Spades must have sharp corners of the blade rounded. The selection of a fork or pick will be assessed on a Task Specific Risk Assessment.
- 6.3 A proprietary air digging tool, which removes soil with a high-velocity jet of air, can be used to expose buried services without damage to the service. However, it will not penetrate asphalt, concrete or frozen ground. Also precautions need to be taken that will prevent injury to the operator and members of the public from ejected soil and other materials.
- 6.4 When site conditions require the use of hand held power tools they must be fitted with a short bit. The following method of work must be used:
- Using all the information provided, together with an approved cable locating device, the line of all known cables must be marked out at least 300mm past the hole that will be dug using waterproof marker.
  - Encroachment lines must be drawn 300mm parallel to and away from the outer and innermost cable marker lines. And as in (a) above these must be drawn to extend at least 300mm beyond the edge of the hole that will be dug.
  - Hand held power tools must not be used below ground level in between the encroachment lines. Hand tools must be used for progressive and careful undermining from outside the encroachment lines towards the cable(s). Hand power tools must only be used to break up any hard surface, keeping pace with, but not going past the undermining. Extreme care must, in particular, be exercised when using power tools above cables already exposed by undermining. The use of power tools must stop if at any time the cutting rate quickens, indicating softer ground. At all times, attention must be paid to the cable run marker lines outside the edges of the holes.
  - The safe digging procedure in (c) above must be followed until all cable(s) required for work or for identification have been located.
  - If all recorded or detected cables inside the digging area have been located then hand held power tools may be used below ground level to break up concrete or similar structures, but even then only when site conditions render the use of hand tools impractical.
- 6.5 During excavation, full use must be made of cable locating devices which must be used to assist in establishing the exact location of live cables.
- 6.6 Where exposed cables are likely to be damaged in any way they shall be adequately protected and/or supported. Where in the opinion of the person in charge on site it is appropriate, warning notices must be attached to cables e.g. 'live cable exposed above ground level' or 'live coiled cables'.
- 6.7 Irrespective of the color of the electricity cable it shall be considered as being in a 'live' status unless it has been confirmed and proven that the cable has been physically isolated or turned off.

#### **If damage is caused or suspected the following action should be taken at once:**

- ❖ Remove all personnel from the immediate vicinity
- ❖ Contact ESP Electricity 01372 227560 or out of hours Emergency contact Number 0800 731 6945
- ❖ Prevent any approach by the public.
- ❖ Assist electricity personnel, Police or Fire Service as requested.

### **REMEMBER - IF IN DOUBT, SEEK ADVICE FROM ESP Electricity Ltd.**

#### **ESP Electricity Ltd can be contacted at:**

**Office Address:** Hazeldean, Station Road, Leatherhead, Surrey, KT22 7AA

**Office Tel:** 01372 227560; **Fax:** 01372 377996; **email:** plantresponses@espipelines .com



## PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK IN THE VICINITY OF UNDERGROUND GAS PIPES

### ADVICE TO SITE PERSONNEL

#### MANAGEMENT NOTE

Please ensure that a copy of this note is read by your site management and to your site operatives.

Early consultation with ES Pipelines Ltd prior to excavation is recommended to obtain the location of plant and precautions to be taken when working nearby.

This note has been produced after consultation with and at the request of the Health and Safety Executive, the construction industry and the local authorities as an interim measure pending the issue of an HSE Guidance Note.

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#### Introduction

Damage to ES Pipelines Ltd's plant can result in uncontrolled gas escapes which may be dangerous. In addition these occurrences can cause expense, disruption of work and inconvenience to the public.

Various materials are used for gas mains and services. Cast Iron, Ductile Iron, Steel and Plastic pipes are the most widely found. Modern Plastic pipes are either bright yellow or orange in colour.

Cast Iron and Ductile Iron water pipes are very similar in appearance to Cast Iron and Ductile Iron gas pipes and if any Cast Iron or Ductile Iron pipe is uncovered, it should be treated as a gas pipe. ES Pipelines Ltd do not own any metallic gas pipes but their gas network infrastructures may be connected to Cast Iron, Ductile Iron or Steel pipes owned by Transco.

The following general precautions apply to Intermediate Pressure (2-7barg MOP), Medium Pressure (75mbarg-2barg MOP), Low Pressure (up to 75mbarg MOP) and other gas mains and services likely to be encountered in general site works and are referred to within this document as 'pipes'.

#### Locating Gas Pipes

It should be assumed when working in urban and residential areas that gas mains and services are likely to be present. On request, E S Pipelines Ltd will give approximate locations of pipes derived from their records. The records do not normally show the position of service pipes but their probable line can be deducted from the gas meter position. E S Pipelines Ltd's staff will be pleased to assist in the location of gas plant and provide advice on any precautions that may be required. The records and advice are given in good faith but cannot be guaranteed until hand excavation has taken place. Proprietary pipe and cable locators are available although generally these will not locate plastic pipes.

#### Safe working Practices

##### **To achieve safe working conditions adjacent to gas plant the following must be observed:**

Observe any specific request made by E S Pipelines Ltd's staff.

Gas pipes must be located by hand digging before mechanical excavation. Once a gas pipe has been located, mechanical excavation must proceed **with care**. A mechanical excavator must not in any case be used within 0.5 metre of a gas pipe and greater safety distances may be advised by E S Pipelines Ltd depending on the mains maximum operating pressure (MOP).

Where heavy plant may have to cross the line of a gas pipe during construction work, the number of crossing points should be kept to a minimum. Crossing points should be clearly indicated and crossings at other places along the line of the pipe should be prevented.

Where the pipe is not adequately protected by an existing road, crossing points should be suitably reinforced with sleepers, steel plates or a specially constructed reinforced concrete raft as necessary. E S Pipelines Ltd staff will advise on the type of reinforcement necessary.

No explosives should be used within 30 metres of any gas pipe without prior consultation with E S Pipelines Ltd.

**E S Pipelines Ltd must be consulted prior to carrying out excavation work within 10 metres of any above ground gas installation.**

Where it is proposed to carry out piling or boring within 15 metres of any gas pipe, E S Pipelines Ltd should be consulted prior to the commencement of the works.

Access to gas plant must be maintained at all times during on site works.



#### **Proximity of Other Plant**

A minimum clearance of 300 millimetres (mm) should be allowed between any plant being installed and an existing gas main to facilitate repair, whether the adjacent plant be parallel to or crossing the gas pipe. No apparatus should be laid over and along the line of a gas pipe irrespective of clearance.

No manhole or chambers shall be built over or around a gas pipe and no work should be carried out which results in a reduction of cover or protection over a pipe, without consultation with E S Pipelines Ltd.

#### **Support and Backfill**

Where excavation of trenches adjacent to any pipe affects its support, the pipe must be supported to the satisfaction of E S Pipelines Ltd and must not be used as an anchor or support in any way. In some cases, it may be necessary to divert the gas pipe before work commences.

Where a trench is excavated crossing or parallel to the line of the gas pipe, the backfill should be adequately compacted, particularly beneath the pipe, to prevent any settlement which could subsequently cause damage to the pipe.

In special cases it may be necessary to provide permanent support to the gas pipe, before backfilling and reinstatement is carried out. Backfill material adjacent to gas plant must be selected fine material or sand, containing no stones, bricks or lumps of concrete, etc., placed to a minimum depth of 150mm around the pipes and well compacted by hand. No power compaction should take place until 300 mm of selected fine fill has been suitably compacted.

If the road construction is in close proximity to the top of the gas pipe, a "cushion" of selected fine material such as sand must be used to prevent the traffic shock being transmitted to the gas pipe. The road construction depth must not be reduced without permission from the local Highway Authority.

No concrete or other hard material must be placed or left under or adjacent to any Cast Iron pipe as this may cause fracture of the pipe at a later date.

Concrete backfill should not be used closer than 300 mm to the pipe.

#### **Damage to Coating**

Where a gas pipe is coated with special wrapping and this is damaged, even to a minor extent E S Pipelines Ltd must be notified so that repairs can be made to prevent future corrosion and subsequent leakage.

#### **Welding or "Hot Works"**

When welding or other "hot works" involving naked flames are to be carried out in close proximity to gas plant and the presence of gas is suspected, E S Pipelines Ltd must be contacted before work commences to check the atmosphere. Even when a gas free atmosphere exists care must be taken when carrying out hot works in close proximity to gas plant in order to ensure that no damage occurs.

Particular care must be taken to avoid damage by heat or naked flame to plastic gas pipes or to the protective coating on other gas pipes.

#### **Leakage from Gas Mains or Services**

If damage or leakage is caused or an escape of gas is smelt or suspected the following action should be taken at once:

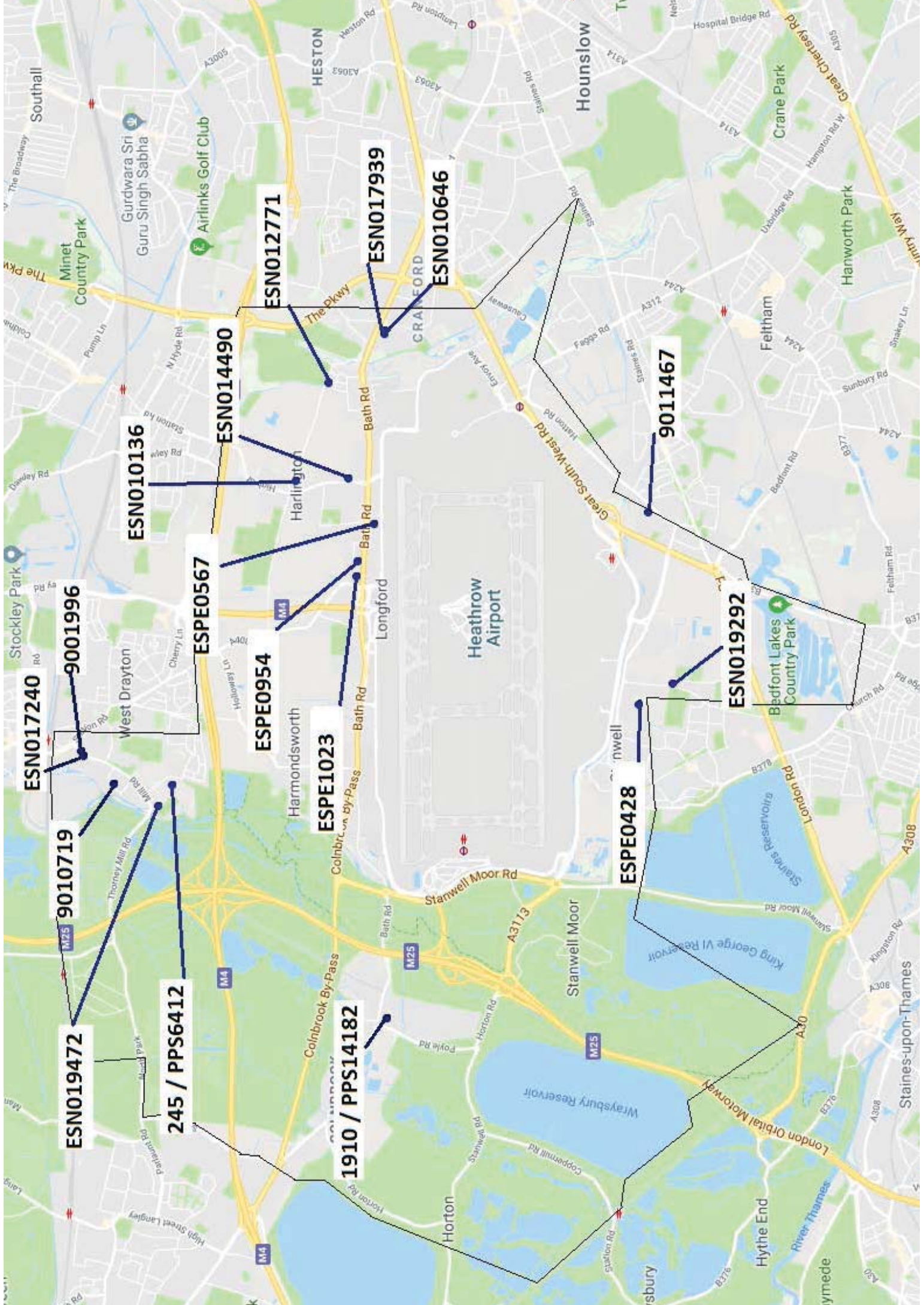
- ❖ Remove all personnel from the immediate vicinity of the escape;
- ❖ Contact Transco's National Gas Escape Call Centre, on: **0800 111 999**;
- ❖ Prevent any approach by the public, prohibit smoking, extinguish all naked flames or other source of ignition for at least 15 metres from the leakage;
- ❖ Assist gas personnel, Police or Fire Service as requested.

**REMEMBER - IF IN DOUBT, SEEK ADVICE FROM E S PIPELINES LTD.**

**ES Pipelines Ltd can be contacted at:**

**Office Address:** Hazeldean, Station Road, Leatherhead, Surrey, KT22 7AA

**Office Tel:** 01372 227560; **Fax:** 01372 377996; **email:** plantresponses@espipelines.com



ESN017240

9010719

ESN019472

245 / PPS6412

9001996

ESN010136

ESPE0567

ESPE0954

ESPE1023

1910 / PPS14182

ESN012771

ESN017939

ESN010646

ESPE0428

ESN019292

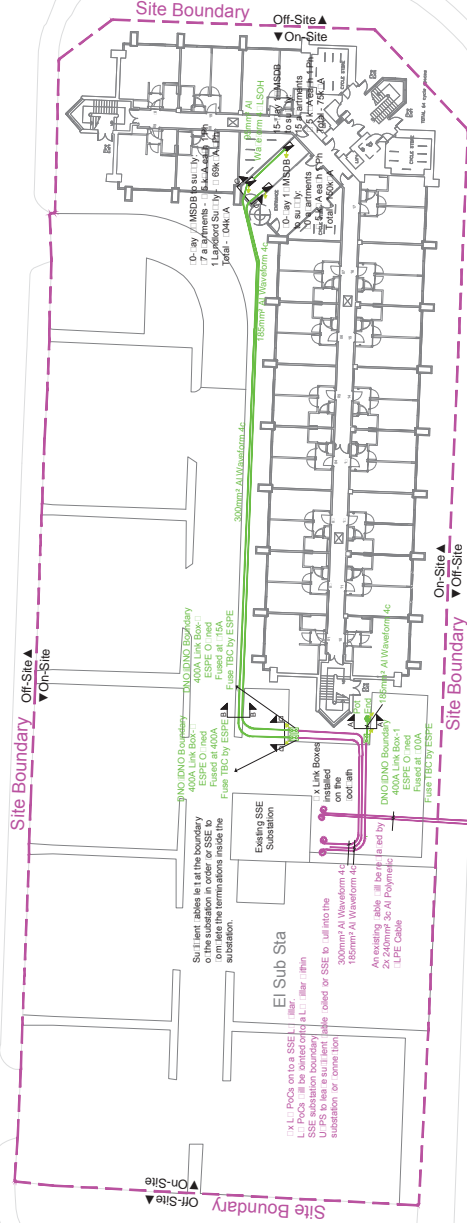
9011467



1:150

EGERTON WAY

DOGURST AVENUE



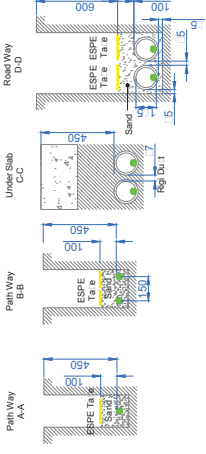
64 to 70

1:116

Cable Installation Chart

Cable Type	Max Pulling Tension	Minimum Bending Radius	Minimum Duct Size
300mm <sup>2</sup> Al Waveform 4c	7000N	1000mm	1.5mm
300mm <sup>2</sup> Al Waveform 4c LSCH	7000N	1000mm	1.5mm
180mm <sup>2</sup> Al Waveform 4c	7000N	800mm	1.5mm
180mm <sup>2</sup> Al Waveform 4c LSCH	7000N	800mm	1.5mm
90mm <sup>2</sup> Al Split Concentric 1c LSCH	1000N	650mm	1.5mm
30mm <sup>2</sup> Al Waveform 4c LSCH	Manual	1.5mm	50mm
			50mm

Cable Data



Excavation, installation of ducting, laying of cable, reinstatement to be carried out in accordance with the ESPE Guidelines.

Trench Cross Sections

Legend

No. L. Cable	
H. Point to Cable Box	
DNO L. Work	
Site Boundary	
Grading	
UK Box	
Emergent Cable	
MSB	

For Provisions and Materials to be used on this project, please refer to the Project Specification Document - DNO

Design U. date	Design U. date	Design U. date	Design U. date	AMENDMENT	DATE
4	01/07/15	PZ			
0	11/08/15	PZ			
1	08/15	PZ			
1	07/04/15	PZ			



Riverdale House  
Bonds Mill Estate  
Stonehouse  
Gloucestershire  
GL10 1RF

Sheet

RGSE Group

Project

Axis House

Title

Site Layout and Cable Routes - DNO

Revision

Rev	By	Date	Description
1	Paul Zahedi	07/08/15	07/08/15 07/10/15
2	Tony O'Hara	18/10/15	
3	PZ	18/10/15	
4	Paul Zahedi	11/11/15	

Drawn By: Paul Zahedi

Checked By: Tony O'Hara

Scale: 1:1

Project No: 15-001

Sheet No: 1 of 1

Project Name: Axis House

Project Ref: 15-001-DWG000

Scale: 1:1

Project Ref: 15-001-DWG000

Scale: 1:1

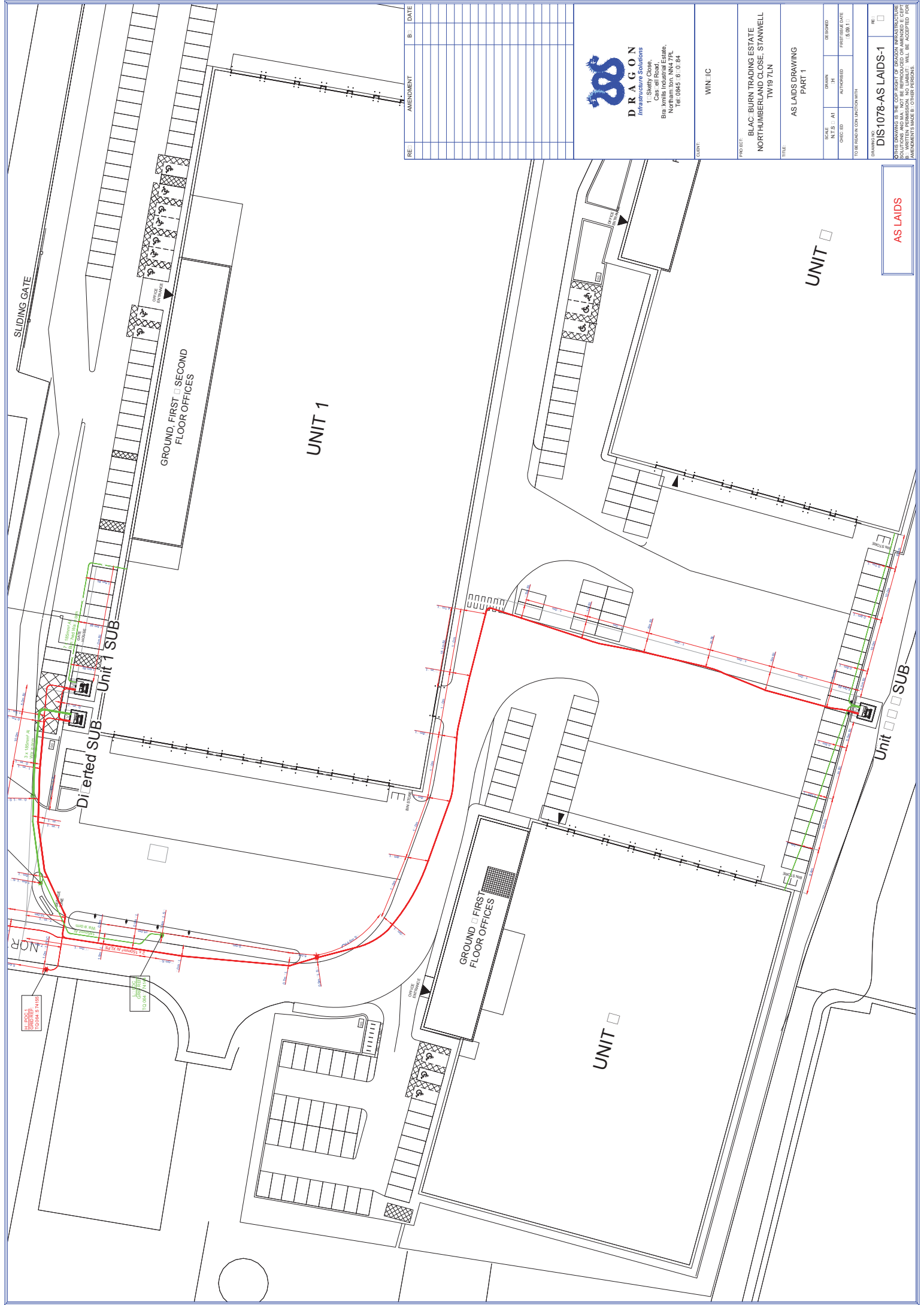
Project Ref: 15-001-DWG000

Scale: 1:1

Not for Construction

Site Layout and Cable Routes

For Design A.1 to al



SLIDING GATE

GROUND - FIRST FLOOR OFFICES

UNIT 1

Unit 1 SUB

Unit 2 SUB

GROUND - FIRST FLOOR OFFICES

UNIT

Unit SUB

UNIT

AS LAIDS

RE:	AMENDMENT	B:	DATE


  
**DRAGON**
  
 Infrastructure Solutions

1. Sketty Close,
   
 Cas - oŷ Road,
   
 Bra Janolis Industrial Estate,
   
 Plymouth PL6 6PL
   
 Tel: 01752 63 184

CLIENT: WIN TIC
   
 PROJECT: BLAC BURN TRADING ESTATE
   
 NORTHUMBERLAND CLOSE, STANWELL
   
 TW19 7LN

TITLE: AS LAIDS DRAWING
   
 PART 1

NO.	DATE	BY	CHKD.	APPD.

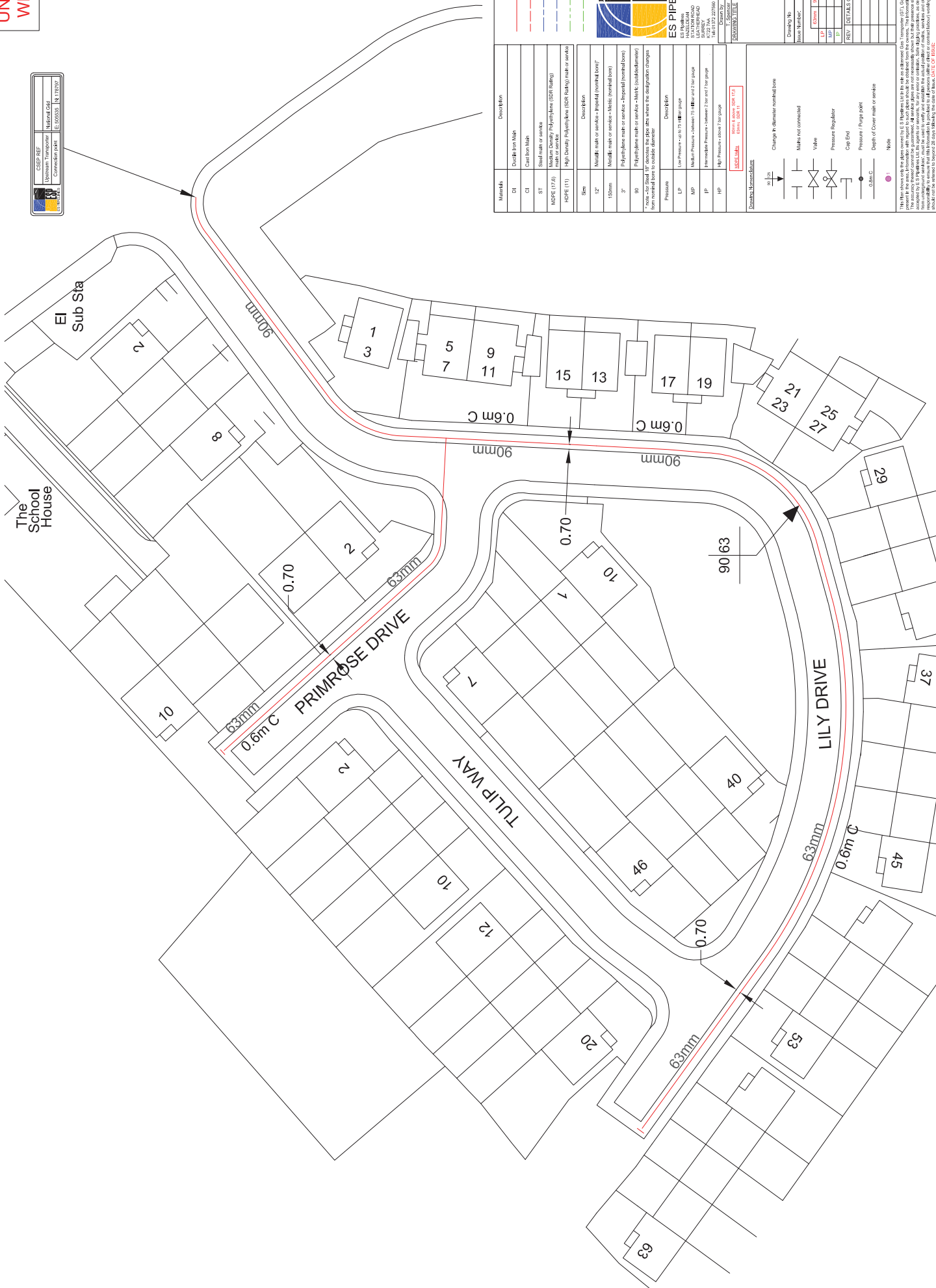
DRAWING NO: DIS1078-AS LAIDS-1

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ESR 1000	ESR 1000
ESR 1000	ESR 1000
ESR 1000	ESR 1000
ESR 1000	ESR 1000



Material	Description
DI	Ductile Iron Main
CI	Cast Iron Main
ST	Steel main or service
MDPE (17.5)	Medium Density Polyethylene (SDR 34.5)
MDPE (11)	High Density Polyethylene (SDR 34.5) (mark or service)
Size	Description
12"	Manhole main or service - Imperial (nominal bore)
150mm	Manhole main or service - Metric (nominal bore)
3"	Polyethylene main or service - Imperial (nominal bore)
90	Polyethylene main or service - Metric (nominal bore)
*Note: All pipe materials are shown in their designations from nominal bore to outside diameter.	
Pressure	Description
LP	Low Pressure - below 7.5 bar range
MP	Medium Pressure - between 7.5 - 16 bar and 2 bar range
HP	High Pressure - between 16 - 25 bar and 2 bar range
HP	High Pressure - above 25 bar range

**ES PIPELINES**

ES Pipelines  
57-21-201 ROAD  
SURREY  
SURREY  
TEL: 01753 227556 FAX: 01753 277996

Scale: 1:1000

Date issued: 10/10/2010

Project Title: **Townmead School  
West drainage  
Middlesex UB7**

Drawn No: PPS0412 246

Issue Number: PPS0412 246

REV	DATE	BY	DESCRIPTION
1	10/10/2010	1000mm	131mm
2	10/10/2010	1000mm	131mm
3	10/10/2010	1000mm	131mm

Change in diameter nominal bore

Make not connected

Valve

Pressure Regulator

Cap End

Pressure / Pump Point

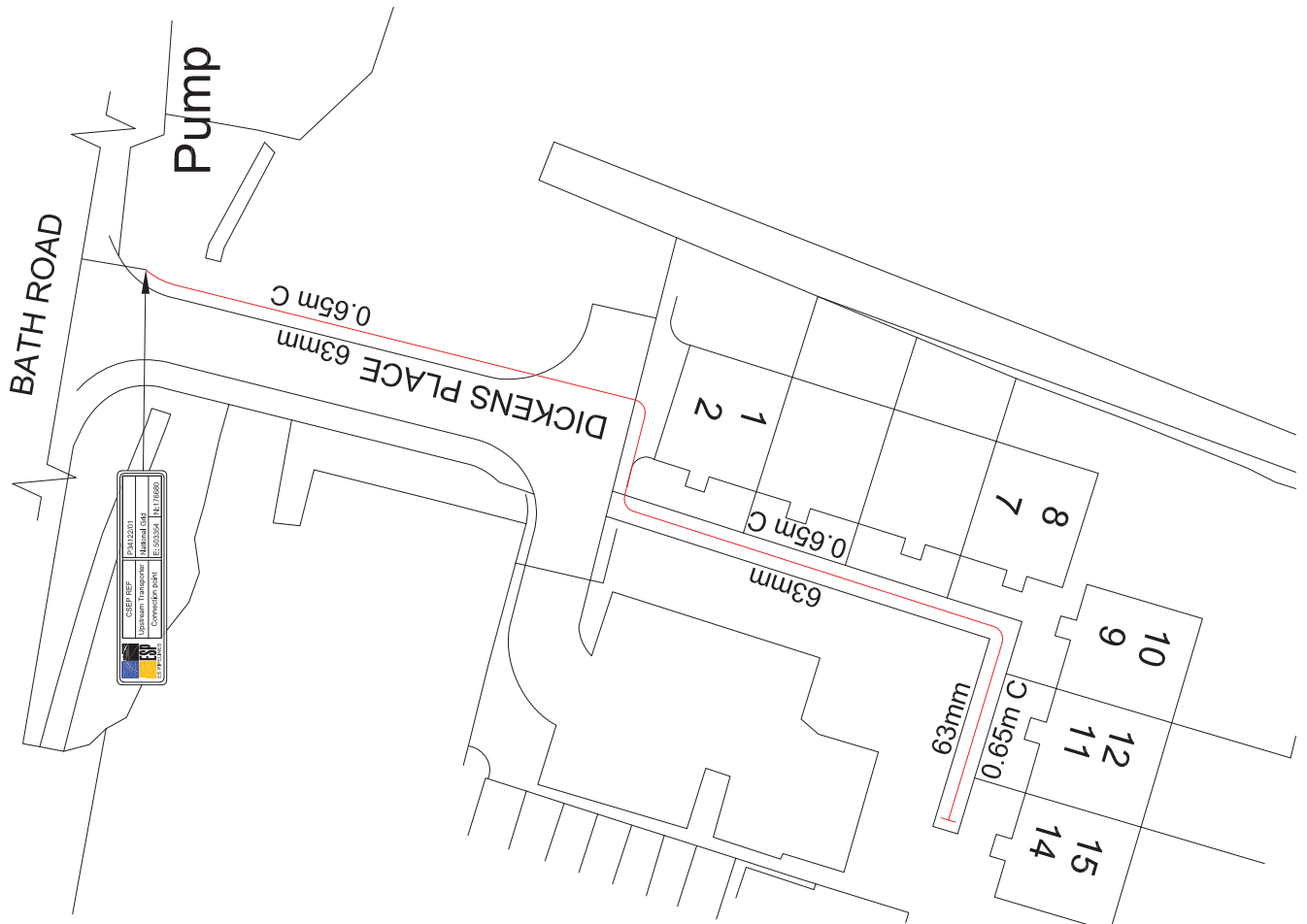
Depth of Cover main or service

Note

This plan shows only the pipes owned by ES Pipelines Ltd in its licensed area (as shown on the map). It does not show any other pipes or services which may be present in the area. The user of this plan should be aware that the presence of other pipes or services is not shown on this plan. The user should be aware that the presence of other pipes or services is not shown on this plan. The user should be aware that the presence of other pipes or services is not shown on this plan.

UNCONTROLLED WHEN PRINTED





Materials	Description
CM	Cast Iron Main
CI	Cast Iron High
ST	Steel main or service
MSPE (150)	Medium Density Polyethylene (SDR 31) pipe
HDPE (11)	High Density Polyethylene (SDR 35) main or service

Stops	Description
12"	Manhole main or service - Inground (normal bore)
150mm	Manhole main or service - Metric (normal bore)
3"	Polypropylene main or service - Inground (normal bore)
50"	Polypropylene main or service - Metric (normal bore)

Pressure	Description
LP	Low Pressure - up to 0.2 bar gauge
MP	Medium Pressure - between 0.2 bar and 2 bar gauge
HP	High Pressure - between 2 bar and 7 bar gauge
HPH	High Pressure - above 7 bar gauge

**ES PIPELINES**  
 ES Pipelines  
 25 BATH ROAD  
 SUDBURY GROVE  
 SUDBURY  
 MK 5 3 17 2 22 0 90 (FACE) 01332 377998

Drawing No: 2306  
 Scale: 1:500  
 Date: 20/07/23  
 Drawing Title: SEWER MAINS

**Bath Road  
Slough  
Berks  
SL3**

**Key to Main & Service Pipework**  
 Proposed main or service shown in red  
 Proposed main or service shown in blue  
 Existing main or service shown in green  
 Existing main or service shown in orange  
 Existing main or service shown in purple  
 Existing main or service shown in yellow  
 Proposed main or service shown in brown  
 Proposed main or service shown in grey

Revisions:  
 1. Change in diameter received from client.  
 2. Manhole not connected.  
 3. Valve.  
 4. Pressure Regulator.  
 5. Cap End.  
 6. Pressure / Pump point.  
 7. Depth of cover main or service.  
 8. Note.

Details:  
 Date: 18/07/23  
 Project: 13/011  
 Issue: 1  
 Drawing Length (mm): 3000x1500  
 Drawing Width (mm): 3000x1500  
 Drawing Area (mm<sup>2</sup>): 4500000  
 Drawing Volume (mm<sup>3</sup>): 67500000

Approved By: [Signature]  
 Date: 20/07/23

Author: [Signature]  
 Date: 20/07/23

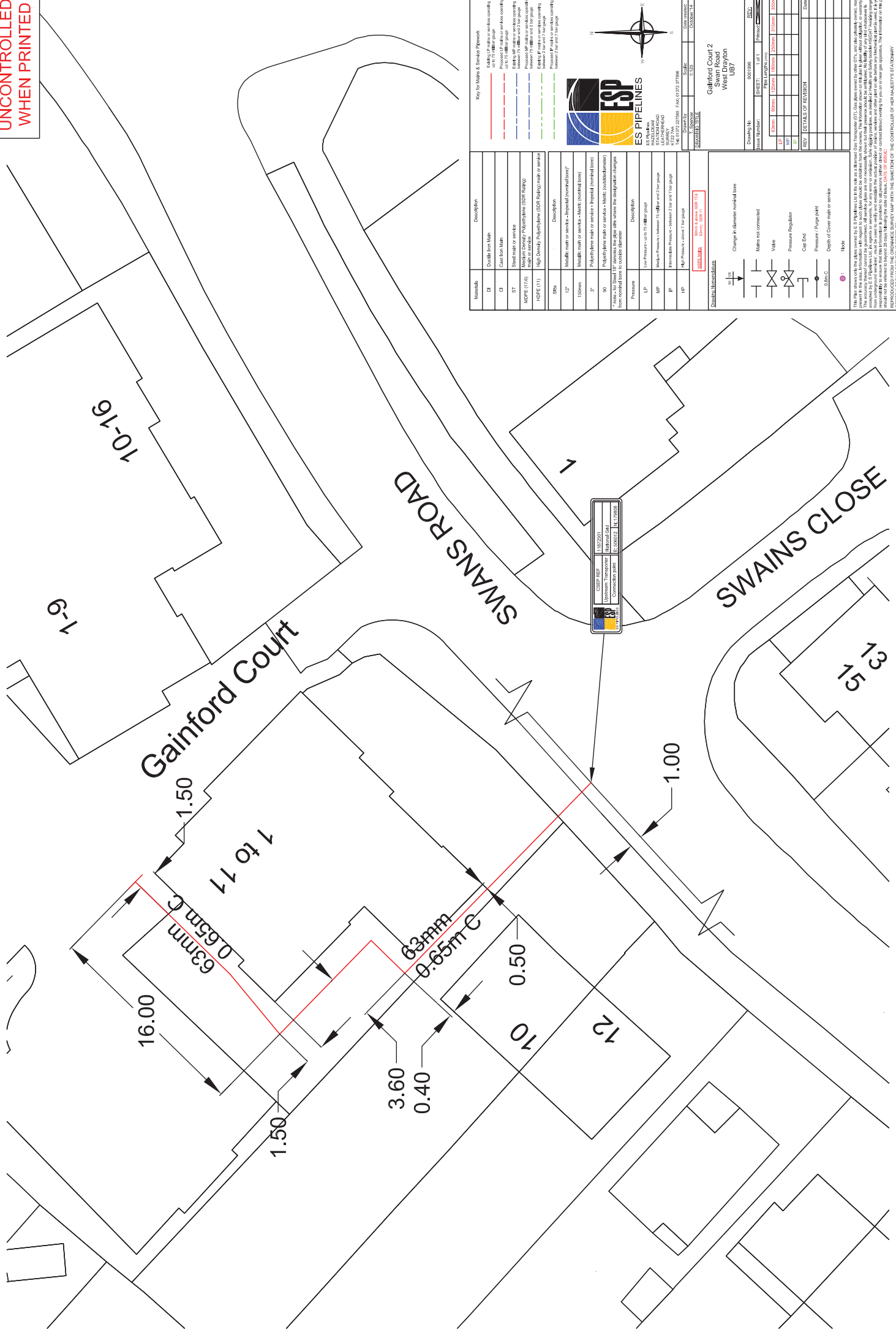
Checked: [Signature]  
 Date: 20/07/23

Drawn: [Signature]  
 Date: 20/07/23

Rev'd: [Signature]  
 Date: 20/07/23

This drawing shows the proposed sewerage system for the site. It is for information only and does not constitute an offer of any service. The contractor is responsible for ensuring that the sewerage system is installed in accordance with the requirements of the Building Regulations and the relevant standards of the British Standards Institution (BSI). The contractor is responsible for ensuring that the sewerage system is installed in accordance with the requirements of the Building Regulations and the relevant standards of the British Standards Institution (BSI). The contractor is responsible for ensuring that the sewerage system is installed in accordance with the requirements of the Building Regulations and the relevant standards of the British Standards Institution (BSI). The contractor is responsible for ensuring that the sewerage system is installed in accordance with the requirements of the Building Regulations and the relevant standards of the British Standards Institution (BSI).

UNCONTROLLED  
WHEN PRINTED



Key to Mains & Services Pipework	
---	Proposed Mains or services (to be constructed)
---	Proposed Mains or services (existing)
---	Existing Mains or services (to be retained)
---	Existing Mains or services (to be removed)
---	Existing Mains or services (to be relocated)
---	Existing Mains or services (to be replaced)
---	Existing Mains or services (to be upgraded)
---	Existing Mains or services (to be replaced & upgraded)

ES PIPELINES		
ES Pipelines Ltd 5th Floor, The Old Bank 100 Victoria Road, West Drayton, UB7 8LW Tel: 01895 222950 Fax: 01895 277998		
Project No:	10015	
Date:	15/08/14	
Scale:	AS SHOWN	
Revision	NO.	DATE
1	Issue	15/08/14
2	Drawn	15/08/14
3	Checked	15/08/14
4	Approved	15/08/14
REV: DETAILS OF REVISION		
REV	DESCRIPTION	DATE

Materials		Description
DI	12"	Ductile iron main
CI	12"	Cast iron high
ST		Steel main or service
MSPE (150)		Medium Density Polyethylene (SDR 35) pipe
HDPE (11)		High Density Polyethylene (SDR 11) pipe or service

Sizes		Description
12"		12" ductile iron or service - bi-inlet (normal bore)
100mm		100mm ductile iron or service - bi-inlet (normal bore)
3"		3" polypropylene main or service - bi-inlet (normal bore)
50		50mm polypropylene main or service - bi-inlet (normal bore)
Pressures		Description
LP		Low Pressure - up to 7.5 bar gage
MP		Medium Pressure - between 7.5 bar g and 2 bar gage
HP		High Pressure - between 2 bar g and 7 bar gage
HP		High Pressure - above 7 bar gage

Change in diameter received here

Matrix not completed

Valve

Pressure Regulator

Cap End

Pressure / Flange joint

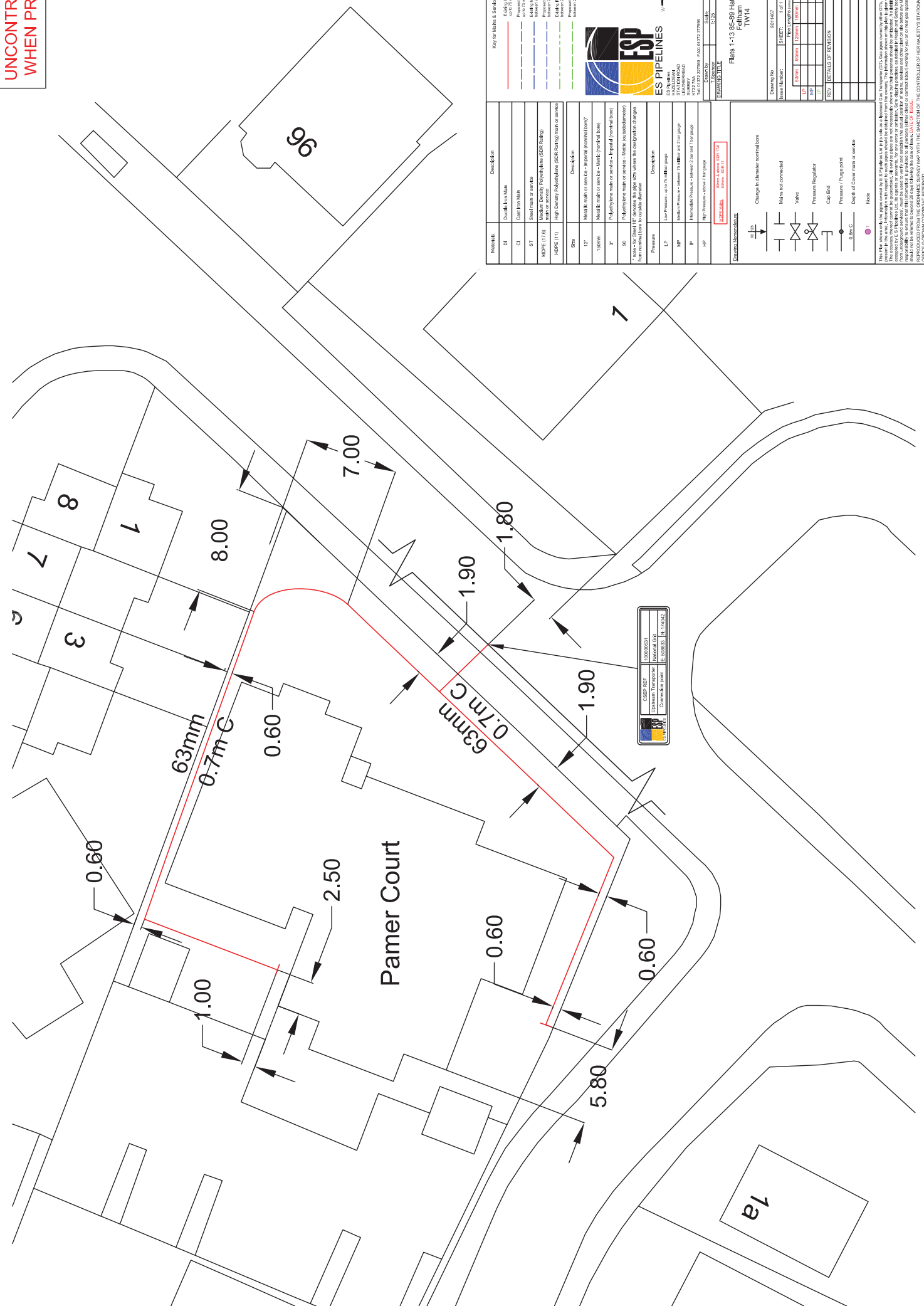
G.M.C.

Note

This plan shows only the Mains owned by ES PIPELINES. It is the responsibility of the client to ensure that all other Mains, services and structures are correctly located and shown on this plan. The client is responsible for any errors in this plan and for any damage to property caused by any work done in accordance with it. ES PIPELINES is not responsible for any damage to property caused by any work done in accordance with it. This plan is issued as an advisory service only and should not be used for any purpose other than that for which it is intended. It is issued as an advisory service only and should not be used for any purpose other than that for which it is intended. It is issued as an advisory service only and should not be used for any purpose other than that for which it is intended.



**UNCONTROLLED  
WHEN PRINTED**



ES PIPELINES  
 10000, 5th Street, 1st Floor, Dallas, TX 75243  
 Tel: 972.227.9900 Fax: 972.227.9999  
 www.espipelines.com

**ES PIPELINES**  
 10000, 5th Street, 1st Floor, Dallas, TX 75243  
 Tel: 972.227.9900 Fax: 972.227.9999  
 www.espipelines.com

Material	Description
01	Cast Iron Main
02	Cast Iron Main
03	Cast Iron Main
04	Cast Iron Main
05	Cast Iron Main
06	Cast Iron Main
07	Cast Iron Main
08	Cast Iron Main
09	Cast Iron Main
10	Cast Iron Main
11	Cast Iron Main
12	Cast Iron Main
13	Cast Iron Main
14	Cast Iron Main
15	Cast Iron Main
16	Cast Iron Main
17	Cast Iron Main
18	Cast Iron Main
19	Cast Iron Main
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96	Cast Iron Main
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98	Cast Iron Main
99	Cast Iron Main
100	Cast Iron Main

Drawing No: 6011467  
 Issue Number: SHEET: 1 of 1  
 Project Name: Flats 1-13, 85-89 Hatton Road, Feltham, TW14  
 Date: 12/01/2011  
 Drawn By: [Name]  
 Checked By: [Name]  
 Approved By: [Name]

**REVISIONS**  
 No. | Description | Date  
 1 | [Description] | [Date]  
 2 | [Description] | [Date]

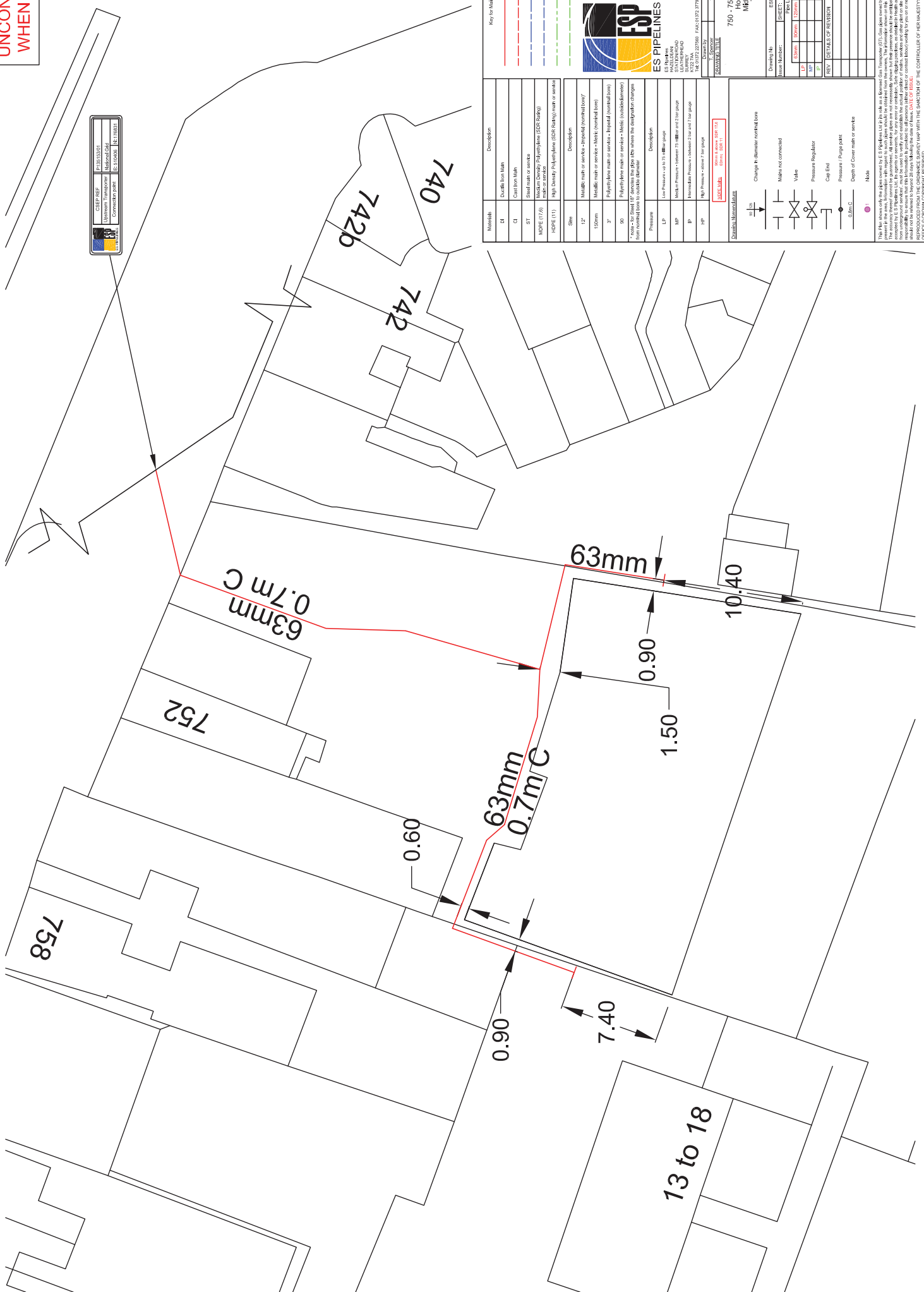
Change to diameter nominal bore  
 Main not connected  
 Valve  
 Pressure Regulator  
 Cap End  
 Pressure / Fridge point  
 0.6m C  
 Hole

This Plan shows only the basic cover by ES Pipelines Ltd. It is not a permit to dig. It is the responsibility of the contractor to ensure that the correct cover is provided for all services shown on this plan. The contractor is advised to check the ground conditions and to ensure that the correct cover is provided for all services shown on this plan. The contractor is advised to check the ground conditions and to ensure that the correct cover is provided for all services shown on this plan. The contractor is advised to check the ground conditions and to ensure that the correct cover is provided for all services shown on this plan.




UNCONTROLLED  
WHEN PRINTED


 ESEP REF: P13515301  
 Drawn: Tomlinson  
 Checked: J. Smith  
 Date: 11/05/11



Material	Description
DI	Casttle Iron Main
CI	Cast Iron Main
ST	Steel main or service
MCPE (17.5)	Medium Density Polyethylene (SDR 35) pipe
HDPE (17.5)	High Density Polyethylene (SDR 35) pipe
Size	Description
12"	Middle main or service - Imperial (nominal bore)
150mm	Middle main or service - Metric (nominal bore)
3"	Polyethylene main or service - Imperial (nominal bore)
90	Polyethylene main or service - Metric (nominal bore)
* 6000 - 50' (nominal 12" diameter) for 400' (nominal 12" diameter) from manhole to outside boundary	
Pressure	Description
LP	Low Pressure - under 75' water head
MP	Medium Pressure - between 75' water head and 2 bar gauge
HP	High Pressure - above 2 bar gauge


 ES PIPELINES  
 151 Park Road  
 St Albans, Hertfordshire  
 SG8 5JG  
 Tel: 01763 227000 Fax: 01763 277006  
 Email: sales@espipelines.co.uk  
 Website: www.espipelines.co.uk

Key for Mains & Services Pipework:  
 - Solid line: Mains or services under 75' water head  
 - Dashed line: Mains or services over 75' water head  
 - Blue line: Mains or services over 2 bar gauge  
 - Green line: Mains or services over 2 bar gauge  
 - Red line: Mains or services over 2 bar gauge  
 - Yellow line: Mains or services over 2 bar gauge

**REVISIONS**  
 No. | Date | Description  
 1 | 11/05/11 | Issue for approval  
 2 | 11/05/11 | Issue for approval  
 3 | 11/05/11 | Issue for approval  
 4 | 11/05/11 | Issue for approval  
 5 | 11/05/11 | Issue for approval  
 6 | 11/05/11 | Issue for approval  
 7 | 11/05/11 | Issue for approval  
 8 | 11/05/11 | Issue for approval  
 9 | 11/05/11 | Issue for approval  
 10 | 11/05/11 | Issue for approval

**DETAILS OF REVISION**  
 No. | Description | Date

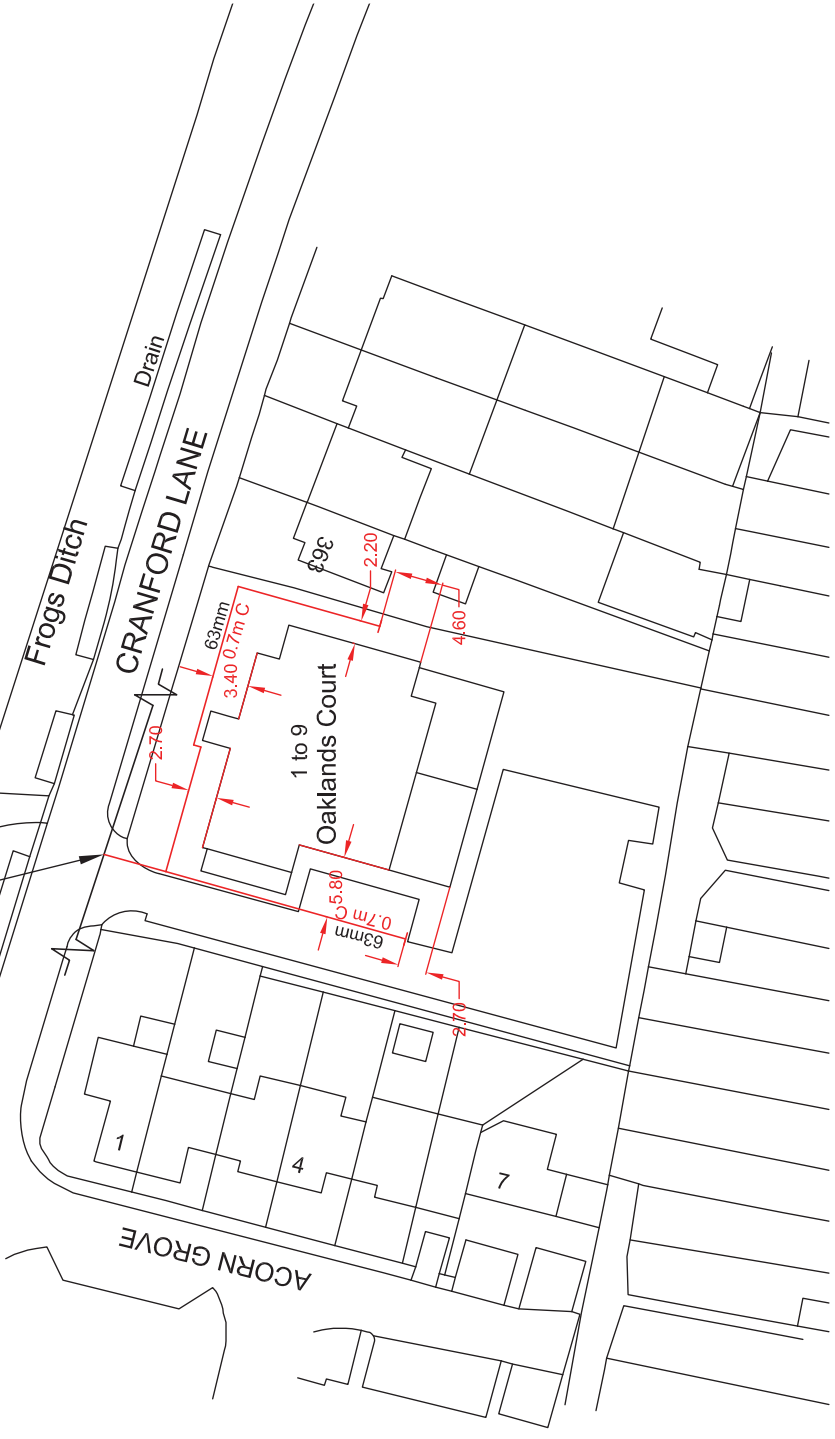
Drawing No: ESH/0666  
 Issue No: 1  
 Issue Date: 11/05/11  
 Issue By: J. Smith  
 Issue For: 750 - 754 Bath Road  
 Hounslow  
 Middlesex  
 TW5

Scale: 1:100  
 Date: 11/05/11  
 Drawn: Tomlinson  
 Checked: J. Smith

This Plan shows only the basic control by ESEP Pipelines Ltd. It is not a final design. It is subject to change without notice. The contractor shall be responsible for the accuracy of the information shown. The contractor shall be responsible for the accuracy of the information shown. The contractor shall be responsible for the accuracy of the information shown.

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WHEN PRINTED

CSEPP REF: 18337401  
 Minimum Transverse  
 National Grid  
 Coordinates: E: 508150, N: 477550



Material	Description
DI	Casttle Iron Man
CI	Cast Iron Man
ST	Steel man or article
MDPE (17.5)	Medium Density Polyethylene (SDR 21)
HDPE (17)	High Density Polyethylene (SDR 26)
Size	Description
12"	Medium High or service - (head normal base)
150mm	Medium High or service - (head inverted base)
3"	Polypropylene man or article - (normal base)
90	Polypropylene man or article - (head normal base)
90	Polypropylene man or article - (head inverted base)
* 60mm x 500mm 12" MDPE (17) or HDPE (17) man or article - (normal base) from manhole down to outside boundary	
Pressure	Description
EP	Low Pressure - up to 7.5 bar pipe
MP	Medium Pressure - between 7.5 bar and 2 bar gauge
IP	Intermediate Pressure - between 2 bar and 2 bar gauge
HP	High Pressure - above 2 bar gauge

**ES PIPELINES**  
 ES Pipeline  
 55 PLYMOUTH ROAD  
 STURTON  
 LEICESTERSHIRE  
 LE19 2JZ  
 Tel: 01532 227600 Fax: 01532 377996

Key for Manhole & Service Pipework:  
 - Red line: 450mm dia. manhole or service pipe  
 - Blue line: 150mm dia. manhole or service pipe  
 - Green line: 100mm dia. manhole or service pipe  
 - Yellow line: 75mm dia. manhole or service pipe  
 - Purple line: 60mm dia. manhole or service pipe  
 - Orange line: 450mm dia. manhole or service pipe  
 - Brown line: 150mm dia. manhole or service pipe  
 - Grey line: 100mm dia. manhole or service pipe  
 - Black line: 75mm dia. manhole or service pipe  
 - White line: 60mm dia. manhole or service pipe

ES PIPELINES  
 55 PLYMOUTH ROAD  
 STURTON  
 LEICESTERSHIRE  
 LE19 2JZ  
 Tel: 01532 227600 Fax: 01532 377996

Scale: 1:200

Revision Table:  
 1. Issue  
 2. Issue  
 3. Issue

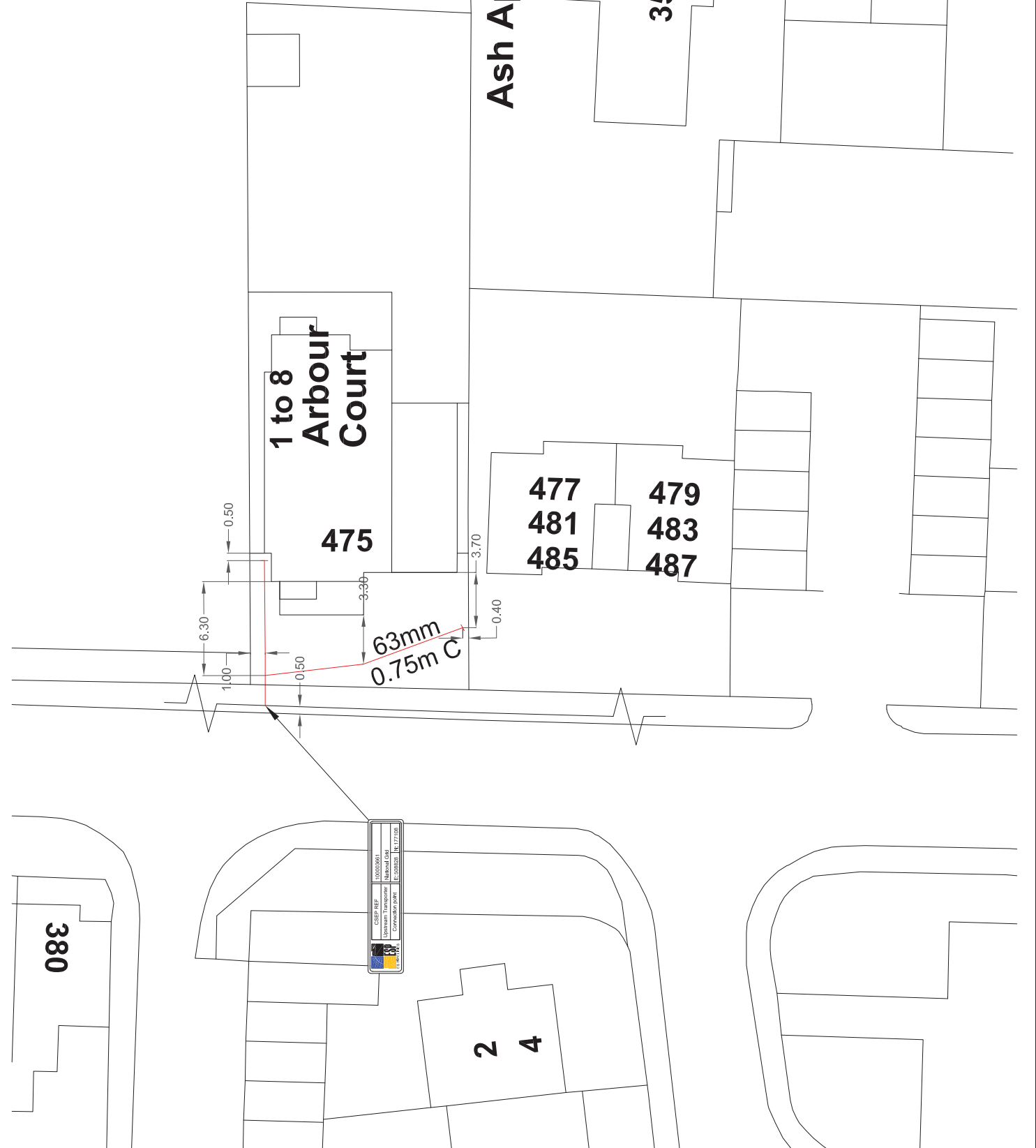
Drawn By: ESK2271  
 Issue Number: ESK2271  
 Project: 18337401  
 Client: 18337401  
 Date: 18/01/2018

1 to 9 Oaklands Court  
 Cranford Lane  
 Midsleshex  
 UES

Change to diameter inverted base  
 Manhole not connected  
 Valve  
 Pressure Regulator  
 Cap End  
 Pressure / Fridge point  
 0.6m C.  
 Inverts

This Plan shows only the basic cover by ES Pipelines Ltd. It does not show any other details of the ground level, any other services, or any other structures. It is not a site plan. It is a plan showing the location of the proposed drainage system. It is not a site plan. It is a plan showing the location of the proposed drainage system. It is not a site plan. It is a plan showing the location of the proposed drainage system.

UNCONTROLLED  
WHEN PRINTED



CSEFP REF: 10005061  
 Upstream Topographic  
 National Data  
 Contour Interval: 100mm  
 Elevation: 0.00m  
 Date: 16/11/2018

# Ash Apartments

Materials	Description
DI	Ductile Iron Main
CI	Cast Iron Main
ST	Steel Main or Service
MSPE (150)	Medium Density Polyethylene (SDR 15) Pipe
HDPE (11)	High Density Polyethylene (SDR 11) Pipe or Service
Items	Description
12"	Metallic main or service - In-situ (nominal bore)
150mm	Metallic main or service - Metallic (nominal bore)
3"	Polyethylene main or service - In-situ (nominal bore)
SD	Polyethylene main or service - Metallic (manufactured)
SR	Steel Service Pipe - In-situ (nominal bore) - See notes for details of installation
SP	Steel Pipe - In-situ (nominal bore) - See notes for details of installation
Pressure	Description
LP	Low Pressure - up to 7.5 bar gauge
MP	Medium Pressure - between 7.5 bar and 2 bar gauge
HP	High Pressure - between 2 bar and 7 bar gauge
HPP	High Pressure - above 7 bar gauge

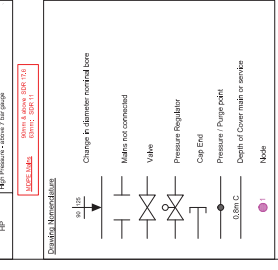
Drawing No: ESR/12482  
 Issue Number: 01  
 Date Issued: 10/01/17  
 Project: Hayes  
 Client: Hayes  
 Location: Hayes UEB

Scale: 1:100  
 Date: 10/01/17

REV	DESCRIPTION
01	Issue for construction

**ES PIPELINES**  
 ESR JAMES Group Ltd  
 140 South Street  
 Leithhead  
 K12 2 7BA  
 Main No: 01753 851 600  
 Fax No: 01753 851 650

- Key to Notes & Services Pipework
- Proposed for main or service (nominal bore)
  - Proposed for main or service (metallic)
  - Existing main or service (nominal bore)
  - Existing main or service (metallic)
  - Proposed for main or service (nominal bore)
  - Proposed for main or service (metallic)
  - Proposed for main or service (nominal bore)
  - Proposed for main or service (metallic)



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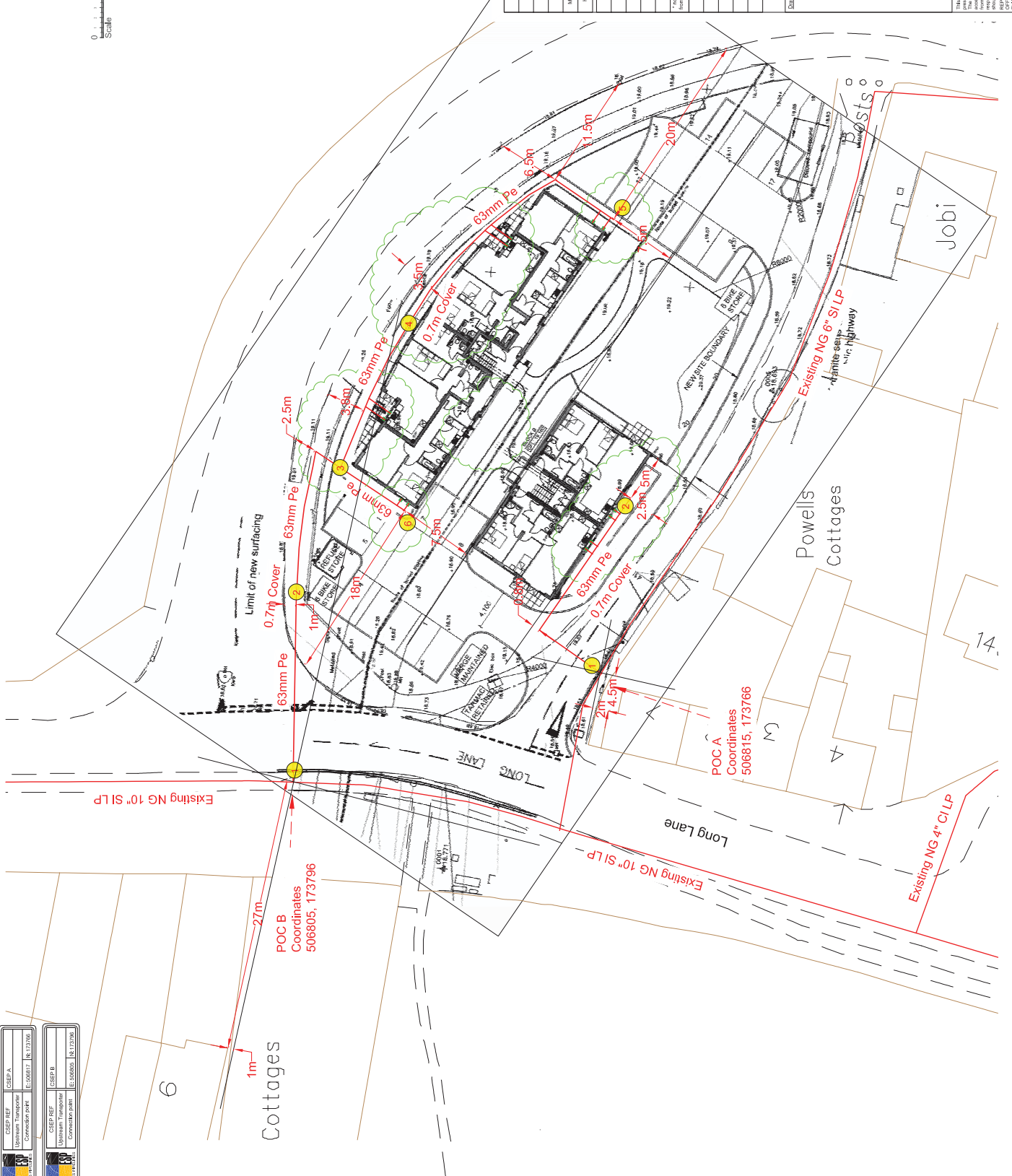








 <b>ES PIPELINES</b> 25th Floor, 135 Broad Street, London SE1 1TT, UK T: +44 (0)20 7923 5000 F: +44 (0)20 7923 5001 E: sales@es-pipelines.co.uk W: www.es-pipelines.co.uk	CSEP REF Upstream Transcoche Connection P088 E: 5068117 N: 173796
	CSEP REF Upstream Transcoche Connection P088 E: 5068005 N: 173796



Materials	Description
DI	Cast Iron Main
CI	Cast Iron High
ST	Steel main or service
MCPPE (150)	Medium Density Polyethylene (SDR 50) for main or service
HDPE (11)	High Density Polyethylene (SDR 50) for main or service
2Bx	Description
12"	Metallic main or service - Internal (normal bore)
150mm	Metallic main or service - Metric (normal bore)
3"	Polyethylene main or service - Internal (normal bore)
50"	Polyethylene main or service - Metric (normal bore)
Notes: 1. Dimensions are in millimeters unless otherwise stated. 2. Dimensions are in meters unless otherwise stated. 3. Dimensions are in feet unless otherwise stated. 4. Dimensions are in inches unless otherwise stated.	
Pressure	Description
LP	Low Pressure - up to 7 bar gauge
MP	Medium Pressure - between 7.5 bar and 2 bar gauge
HP	High Pressure - between 2 bar and 7 bar gauge
HIP	High Pressure - above 7 bar gauge

**Key to Main & Service Pipework**

- Proposed 12" main or service from boundary to 15' after gauge
- Proposed 150mm main or service from boundary to 15' after gauge
- Proposed 150mm main or service from boundary to 15' after gauge
- Proposed 150mm main or service from boundary to 15' after gauge
- Proposed 150mm main or service from boundary to 15' after gauge
- Proposed 150mm main or service from boundary to 15' after gauge

**Scale:** 1:500  
**Date:** 15/08/2018  
**Drawn by:** JSD  
**Check:** JSD  
**ES PIPELINES**  
**Long Lane Middlesex TW19 7AL**

Drawn by	JSD
Checked by	JSD
Scale	1:500
Date	15/08/2018

**Issue Number:** 001  
**Revision:** 1

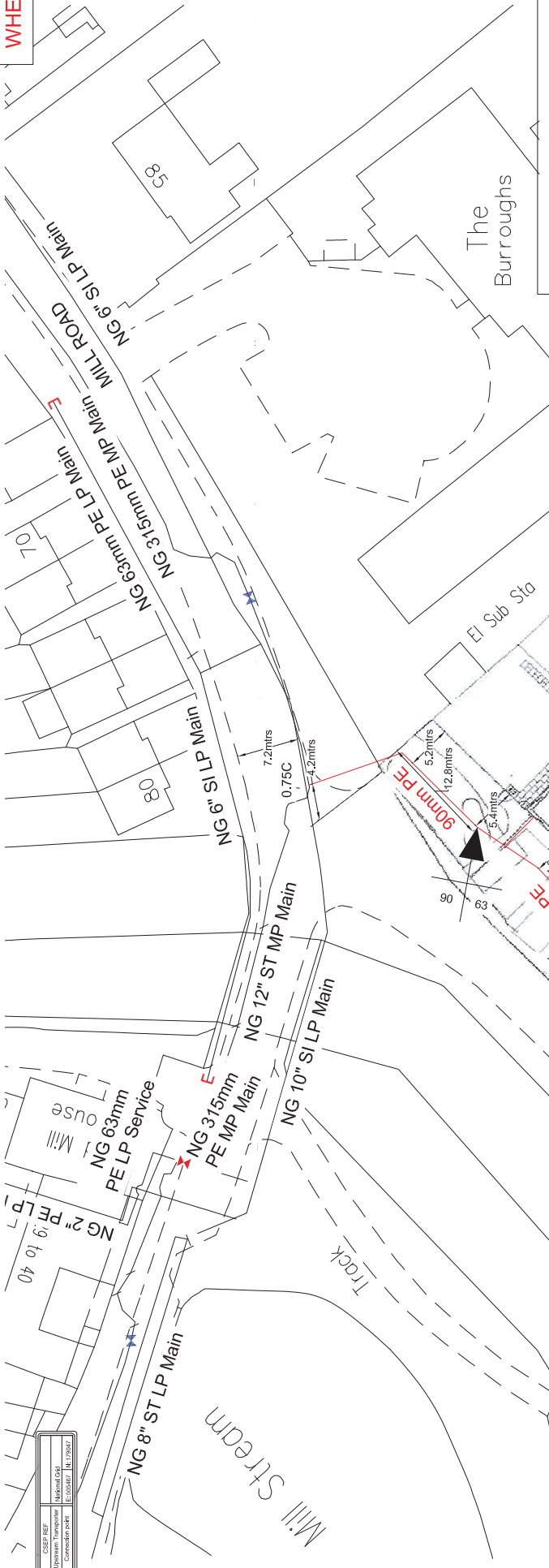
Rev	1	1	1	1	1	1
Author	1	1	1	1	1	1
Check	1	1	1	1	1	1
Date	1	1	1	1	1	1

**REV: DETAILS OF REVISION**

**Scale:** 1:500  
**Date:** 15/08/2018  
**Drawn by:** JSD  
**Checked by:** JSD

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**UNCONTROLLED  
WHEN PRINTED**



**All mains laid at standard depth of cover 0.75m.**

Mains Size	Description
12"	Metallc main or service - Internal (normal bore)
100mm	Metallc main or service - Metlic (normal bore)
3"	Polypropylene main or service - Internal (normal bore)
100	Polypropylene main or service - Metlic (normal bore)
150	Polypropylene main or service - Metlic (normal bore)
200	Polypropylene main or service - Metlic (normal bore)
250	Polypropylene main or service - Metlic (normal bore)
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650	Polypropylene main or service - Metlic (normal bore)
700	Polypropylene main or service - Metlic (normal bore)
750	Polypropylene main or service - Metlic (normal bore)
800	Polypropylene main or service - Metlic (normal bore)
850	Polypropylene main or service - Metlic (normal bore)
900	Polypropylene main or service - Metlic (normal bore)
950	Polypropylene main or service - Metlic (normal bore)
1000	Polypropylene main or service - Metlic (normal bore)

Material	Description
CI	Cast Iron Main
CI	Cast Iron Man
ST	Steel main or service
MDPE (150)	Medium Density Polyethylene (SDR 31.5)
HDPE (11)	High Density Polyethylene (SDR 31.5)
SP	Steel Pipe
12"	Metallc main or service - Internal (normal bore)
100mm	Metallc main or service - Metlic (normal bore)
3"	Polypropylene main or service - Internal (normal bore)
100	Polypropylene main or service - Metlic (normal bore)
150	Polypropylene main or service - Metlic (normal bore)
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Drawn By	Scale	Date
ES/10/10/10	1:100	25/10/2017

Drawn By	Scale	Date
ES/10/10/10	1:100	25/10/2017

This plan shows the proposed water mains layout for the site. It is intended to be used in conjunction with the site plan and other drawings. The contractor is responsible for ensuring that the proposed layout is in accordance with the relevant standards and regulations. The contractor is also responsible for ensuring that the proposed layout is in accordance with the relevant standards and regulations. The contractor is also responsible for ensuring that the proposed layout is in accordance with the relevant standards and regulations.

The Planning Inspectorate  
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Bristol  
BS1 6PN

South East & London Area Office  
Bucks Horn Oak  
Farnham  
GU10 4LS

Tel: 0300 0674420  
[southeast.fce@forestry.gsi.gov.uk](mailto:southeast.fce@forestry.gsi.gov.uk)

19 June 2018

Your Ref: **TR020003 - Expansion  
of Heathrow Airport  
(Third Runway)**

**Area Director**  
Alison Field

Dear Sir/Madam,

Thank you for your consultation on the above scheme dated 22 May 2018, which was received by Forestry Commission via email on 22 May 2018.

The Forestry Commission's summary points are:

- Ancient Woodlands<sup>1</sup> and Veteran Trees are acknowledged as irreplaceable habitats and a part of our Historic Natural Heritage. It is not possible to fully compensate for the loss of any irreplaceable habitat such as Ancient Woodlands, therefore, the Forestry Commission recommends:
  - doing everything possible to avoid the loss or damage to ancient woodland and veteran trees;
  - where this is not possible, a significant package of ecologically significant compensation, which collectively delivers ecological enhancement to our ancient woodlands and veteran tree infrastructure, is secured in perpetuity.
- Encourage a thorough assessment of any loss of trees and woodlands within the project boundary.
- Compensation and the use of buffer zones to enhance the resilience of neighbouring ancient woodlands. These zones could include further tree planting or a mosaic of semi-natural habitats.
- Encourage you to design the associated infrastructure (green space, woodlands, public footpaths and cycleways) to build on the evolving network of green infrastructure to link the existing conurbations to adjacent countryside. When combined with an assessment of the impacts on health & wellbeing, this will aid the promotion for local residents to access the countryside. There is a range of options for green infrastructure delivery and the Forestry Commission would draw your attention to what has already been achieved in just 10 years at Jeskyns<sup>2</sup>.
- Locally sourced timber is used in construction of appropriate structures including sound baffles.
- For the chosen option, the Forestry Commission would welcome the opportunity to provide advice at the appropriate time to ensure the most appropriate

<sup>1</sup> Ancient Woodlands includes Ancient Semi-Natural Woodland (ASNW) and Plantations (including conifers) on Ancient Woodland Sites (PAWS). See the Natural Environment section of the National Planning Practice Guidance (NPPG) under Biodiversity and ecosystems for more information.

<sup>2</sup> <https://www.forestry.gov.uk/jeskyns>

measures are adopted to minimise and / or compensate for the impacts on Ancient Woodlands.

The Forestry Commission is the Government Department that works with others to protect, improve and expand our nation's forests and woodland, increasing their value to society and the environment. As recognised in the *Making Sure Our Land Plays a Central Role in Capturing Carbon and Enhancing Natural Capital* section of the Government's Clean Growth Strategy (Updated April 2018)<sup>3</sup>:

"During the 2020s we need to accelerate the rate of tree planting, working towards our 12 per cent tree cover aspiration by 2060. To do this will require investment by the private and charitable sectors, not just government. A number of our policy proposals will create the conditions for that investment to come forward. We will need new skills in forest design, a reliable supply of resilient planting stock, new opportunities for domestic timber, and a new generation of skilled people helping to enhance our towns, cities and countryside. Recently published natural capital accounts by the Office for National Statistics show that Britain's woodlands provide services of £2.3 billion per year to the economy in terms of recreation, carbon sequestration, timber and air pollutant removal."

The Forestry Commission is the Government experts on forestry & woodland and a statutory consultee (as defined by Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms And Procedures) Regulations 2009)<sup>4</sup> for major infrastructure (Nationally Significant Infrastructure Projects (NSIPs)) that are likely to affect the protection or expansion of forests and woodlands (Planning Act 2008)<sup>5</sup>.

The Forestry Commission's response is based on information provided in the Heathrow Expansion Environmental Impact Assessment Scoping Report (the Report). This response highlights matters which should be resolved as part of the pre-application process. We believe that these issues should be addressed by the applicant as part of the examination and consenting process before a development consent order is granted.

## **6 Biodiversity**

### **6.2 Policy and legislation**

#### **Table 6.1 Policy and legislation relevant to biodiversity assessment**

This section of the Report has highlighted key policy and legislative documents to be used in the Environmental Impact Assessment (EIA) scoping report.

The Forestry Commission appreciates that, through assessing the relevant sections of the Revised Draft Airports National Policy Statement (ANPS), National Policy Statement for National Networks (NPSNN) report, the Planning Inspectorate has drawn attention to the importance of biological, and ecological conservation through avoiding environmental impacts in line with the principles set out in the government's planning guidance. Noting that since publishing this consultation document, the revised draft ANPS has now been withdrawn and replaced with the proposed ANPS published June 2018, all ANPS references below will be in relation to the June 2018 publication.

<sup>3</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf)

<sup>4</sup> <http://www.legislation.gov.uk/uksi/2009/2264/contents/made>

<sup>5</sup> <http://www.legislation.gov.uk/uksi/2009/2264/schedule/1/made>

In addition to the paragraphs already outlined in the report, the Forestry Commission would also highlight the *Irreplaceable habitats including ancient woodland and veteran trees* section of both the ANPS and the NPSNN:

ANPS Paragraph 5.103; and

NPSNN Paragraph 5.32:

“Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.”

Ancient woodlands and veteran trees are included in the list of protected species as highlighted on the Natural England website<sup>6</sup>. Ancient woodlands and veteran trees are irreplaceable and considered important for their wildlife, soils, recreation, cultural value, history and contribution to the landscape. Therefore, Ancient Woodlands and veteran trees must be included in all future habitat and species surveys in relation to this DCO. The Woodland Condition Assessment (WCA) guidance and forms<sup>7</sup> available on the Forestry Commission’s website have been developed by the England Woodland Biodiversity Group. This WCA is suitable for your ecological consultants to use as it is broad in scope and suitable for use with all woodland types. If a BS5837:2012 Cascade chart<sup>8</sup> is used to carry out a tree quality assessment, ancient woodland sites would automatically be classified as A3 due to their natural heritage and ecological value.

In addition to the regulatory and policy framework outlined, the Forestry Commission considers the relevant documents and guidance notes outlined below as being pertinent to this DCO in relation to ancient woodland and veteran trees and should also be included in the report considerations.

[The UK Forestry Standard](#) (4<sup>th</sup> edition published August 2017).

[Ancient woodland and veteran trees: protecting them from development](#) (last updated January 2018)

[National Planning Practice Guidance](#) – Natural Environment Guidance (Published January 2016)

[Government Forestry and Woodlands Policy Statement](#) (Published January 2013)

[Managing ancient and native woodland in England](#) (last updated August 2016)

[Keepers of Time](#) – A Statement of Policy for England’s Ancient and Native Woodland (published June 2005)

[A Habitats Translocation Policy for Britain](#) – (published July 2003)

[Natural England Commissioned Report \(NERC 132\) Edition 3](#) (published November 2013)

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<sup>6</sup> <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

<sup>7</sup> <https://www.forestry.gov.uk/england-hs2>

<sup>8</sup> [http://www.flac.uk.com/wp-content/uploads/2012/09/Table-1\\_flac.pdf](http://www.flac.uk.com/wp-content/uploads/2012/09/Table-1_flac.pdf)

[European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment](#) (published 2013)

[BS 42020: 2013 Biodiversity. Code of practice for planning and development](#) (published August 2013)

[Ancient and other veteran trees: further guidance on management](#) (published February 2013)

[Impacts of nearby development on ancient woodland – addendum](#) (published December 2012)

[BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations](#) (published April 2012)

[Natural Environment White Paper “The Natural Choice”](#) (published June 2011)

[Impacts of nearby development on the ecology of ancient woodland](#) (published October 2008)

[Veteran Trees: A guide to good management](#) – (published February 2000)

The Forestry Commission also considers the relevant paragraphs and guidance notes outlined in the appendices below with respect to biodiversity in planning decisions as being pertinent to any DCO and should be included in a report prepared for considerations.

The Forestry Commission would welcome the opportunity to provide advice at the appropriate time to ensure the most appropriate measures are adopted to minimise and / or compensate for the impacts on Ancient Woodlands and Habitats of Principle Importance.

## **6.6 Baseline condition**

The Forestry Commission welcomes the inclusion of woodland habitats recognised as a habitat of principal importance under Section 41 of the NERC Act 2006 to be included in all survey work and study reports.

As highlighted in the Natural Environment section of the National Planning Practice Guidance (NPPG) under Biodiversity and ecosystems<sup>9</sup>:

“Both Ancient Semi-Natural Woodland (ASNW) as well as Plantations on Ancient Woodland Sites (PAWS) are ancient woodland. Both types should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework.”

All ASNW and PAWS areas should be included in the study area to:

- ensure these areas are treated equally in terms of protection afforded to ancient woodlands; and,
- to secure the future of one of the most diverse ecosystems in perpetuity.

As outlined in the NPPG, this will ensure these irreplaceable habitats continue to provide local ecological networks important for securing and enhancing ecosystem services including biodiversity, and for holding nature conservation value of the area.

In line with the NPPG, the Forestry Commission recommends that the baseline condition assessment clearly defines the location, status and number of hectares of

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<sup>9</sup> <https://www.gov.uk/guidance/natural-environment>



ancient woodland sites, to include ASNW and PAWS sites, veteran trees, alongside woodland habitats recognised as a habitat of principal importance under Section 41 of the NERC Act 2006. By including this data in all survey work and study reports, and using the Forestry Commission's Woodland Condition Assessment methodology, a thorough assessment of these differing habitats will acknowledge the impacts on any potential losses of irreplaceable and important habitats and veteran trees. This work will support decisions required for meeting the objectives outlined in *Chapter 11 Conserving and enhancing the natural environment* of the National Planning Policy Framework (NPPF) as outlined in Table 6.1 is met.

Due to the nature of ancient woodlands and veteran trees being an irreplaceable habitat, the Forestry Commission recommends that every effort is afforded to avoid this scheme affecting ancient woodlands or veteran trees. The Planning Inspectorate and developer should start by looking for ways to avoid the development affecting ancient woodland or veteran trees e.g. where possible, redesigning the scheme in line with the recommendations outlined in BS 5837:2012<sup>10</sup>.

It is not possible to fully compensate for the loss or damage to ancient woodlands, thus compromising the government's aim to achieve environmental net gain as set out in their strategy document: '*A Green Future: Our 25 Year Plan to Improve the Environment* (the 25 year plan)' (HM Government, 2018)<sup>11</sup>.

## 6.9 Proposed approach to the assessment

### Table 6.12 Importance of habitats/species populations a the DCO Project level

The Forestry Commission welcomes the recognition of Ancient Woodlands as having National Importance alongside nationally designated sites including Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR) as outlined in Table 6.12. However, not all ancient woodlands are within a designated site such as a SSSI or NNR. Therefore, these woodland habitats, recognised as having National Importance, must be clearly defined. To facilitate this, the Forestry Commission recommends that Table 6.6 is renamed to: *Table 6.6 Sites of Special Scientific Interest + Ancient Woodlands / irreplaceable habitats within 2km*.

## 6.10 Approach to mitigation and compensation

As an irreplaceable habitat, it is not possible to fully compensate against the loss of ancient woodland and veteran trees; therefore, compensation would be required. For that reason, the Forestry Commission recommends that every effort is afforded to avoid this scheme affecting ancient woodlands or veteran trees. The Planning Inspectorate and developer should start by looking for ways to avoid the development affecting ancient woodland or veteran trees e.g. by redesigning the scheme in line with the recommendations outlined in the guidance: *Ancient woodland and veteran trees: protecting them from development*<sup>12</sup> page on GOV.UK and in BS 5837:2012<sup>13</sup>.

Due to the fact that it is not possible to fully compensate for the loss or damage to these irreplaceable habitats, this will compromise the UK government's ambition "not just to preserve, but to enhance our natural capital – the air, water, soil and

<sup>10</sup> <https://shop.bsigroup.com/ProductDetail/?pid=000000000030213642>

<sup>11</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf)

<sup>12</sup> <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#assess-the-impacts>

<sup>13</sup> <https://shop.bsigroup.com/ProductDetail/?pid=000000000030213642>

ecosystems that support all forms of life” as stated in their Industrial Strategy White Paper (2017)<sup>14</sup>. This White Paper has also acknowledged advice from the Natural Capital Committee:

“The Natural Capital Committee has advised that carefully planned and targeted investments in natural capital – such as woodland planting, peatland restoration and wetland creation – can deliver significant economic growth, and generate returns of up to nine times the costs.”  
(Page 148)

If the final Scheme Option results in the loss of Ancient Woodland, the Forestry Commission would refer the developers to the Joint Nature Conservation Committee (JNCC) Habitat Translocation Policy document<sup>15</sup>:

“Available information shows that it is not possible to move species assemblages without substantial changes taking place in the structure of the habitat and its species composition, thus rendering the translocation unsuccessful.”

Through a literature review of case studies to address environmental impacts of linear transport infrastructure on protected species and habitats, Edition 3 of the Natural England Commissioned Report (NERC 132)<sup>16</sup> reiterates the message that “translocation of ancient woodland soils and coppiced stools does not imply that these methods mitigate the loss of ancient woodland.” and that “the measure should not be interpreted as a successful means of mitigating the fragmentation of ancient woodland; a resource which cannot be re-created through tree planting or habitat translocation due to its complex structure and wider-ranging biodiversity.”

As highlighted in Appendix 6.4, paragraph 3.2.5 of the Report:

“Defra guidance also makes clear that compensation for proposed losses to irreplaceable habitats (e.g. ancient woodland) or nationally designated sites (e.g. Sites of Special Scientific Interest) must be considered separately from the biodiversity offset. This principle will be followed by the Project.”

Where a loss is deemed unavoidable, the Forestry Commission would welcome the opportunity to provide advice at the appropriate time to ensure the most appropriate measures are adopted to minimise and / or compensate for the impacts on Ancient Woodlands. With the government’s new approach to “put the environment at the heart of planning and development to create better places for people to live and work. ... We will seek to embed a ‘net environmental gain’ principle for development to deliver environmental improvements locally and nationally” as outlined in the new 25 Year Environment Plan<sup>17</sup>, it is important that this, and any new scheme, could be an exemplar for achieving a net gain in biodiversity.

As highlighted in the *Irreplaceable habitats including ancient woodland and veteran trees* section (Paragraph 5.103) of the ANPS and in line with the NPPG under Biodiversity and ecosystems, once an irreplaceable habitat is lost, it cannot be recreated. Therefore, putting a value on the loss of ancient woodland soils is challenging. To ensure an informed decision can be made, the Forestry Commission recommends that all surveys clearly define the ancient woodland sites, to include

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<sup>14</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf)

<sup>15</sup> [http://jncc.defra.gov.uk/pdf/habitats\\_policy.pdf](http://jncc.defra.gov.uk/pdf/habitats_policy.pdf)

<sup>16</sup> <http://publications.naturalengland.org.uk/publication/6184646404472832>

<sup>17</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf)

ASNW and PAWS sites and the location of Veteran Trees, are identified to ensure that a thorough assessment will acknowledge the impacts on any potential losses of irreplaceable habitats.

As part of the valuation process, the cost of compensation for loss of irreplaceable and principally important habitats must be included in the test of public benefit to demonstrate accurately that the substantial harm or loss of significant habitats is necessary in order to deliver substantial public benefits that outweigh that loss or harm.

In assessing these schemes, if the Planning Inspectorate decides to grant planning permission in line with the ANPS, NPSNN, NPPF and NPPG, it should seek appropriate compensation from the developer. As the government experts on forestry & woodland and a statutory consultee (as defined by Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms And Procedures) Regulations 2009) for major infrastructure (Nationally Significant Infrastructure Projects (NSIPS)), the Forestry Commission would welcome the opportunity to discuss with the developer options for addressing issues with regard to this scheme and to ensure appropriate ecological monitoring is established for a significant period of time – at least 30 years, preferably up to 50 years.

The Planning Inspectorate should use planning conditions or obligations to secure compensation measures and subsequent ecological monitoring. The joint Standing Advice<sup>18</sup>, prepared by Forestry Commission and Natural England, provides advice and the assessment tools to be used when assessing the impacts of all options for the scheme.

Where the impacts cannot be fully avoided, a package of compensatory habitat provision and management of existing ancient woodlands will be required. It would appear appropriate for this to be delivered in conjunction with other projects. The Forestry Commission can provide advice on impacts to ancient woodland outside of SSSI sites. For ancient woodlands within SSSI sites, we would provide advice alongside colleagues from Natural England as the scheme progresses towards the submission stage.

## **Chapter 7: Carbon and other greenhouse gases**

This chapter of the report focusses on carbon dioxide (CO<sub>2</sub>) and Greenhouse Gas (GHG) emissions of the airport in alignment with the annual sustainability performance report and Airports Commission report. The CO<sub>2</sub> reporting is for Department of Transport and Committee on Climate Change purposes. The GHG assessment, which focuses on direct and indirect emissions, will be for the purposes of the DCO project.

As highlighted in the 25 Year Environment Plan<sup>19</sup>:

“The value of natural capital is routinely understated. If we look at England’s woods and forests, for example, as a national asset, using a natural capital approach, the value of the services they deliver is an estimated £2.3bn. Of this sizeable sum, according to a recent study, only a small proportion – 10% – is in timber values. The rest derives from other benefits provided to society, such as human recreation and carbon sequestration – the process by which trees lock-up and store carbon from the atmosphere.”

<sup>18</sup> <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

<sup>19</sup> <https://www.gov.uk/government/publications/25-year-environment-plan>

Therefore, the Forestry Commission would recommend that as part of the assessment, any loss of trees or woodlands as part of this DCO are included in the GHG calculations. This will help to inform the compensation package required to ensure overall no net gain in GHG emissions and secure the UK's commitment to the COP21 Paris Agreement of limiting temperature increases to below 2 degrees Celsius, and be in alignment with the UK's Climate Change Act target of an 80% reduction by 2050.

To meet the requirements, the Forestry Commission would like to reiterate the importance of all woodlands in making our rural and urban landscapes more resilient to the effects of climate change and contribution to wider climate change adaptation. Consideration for how sustainable woodland creation and management of England's Woodlands can be secured and the use of timber as a construction material is utilised within this scheme will secure the role that woodlands have in reducing greenhouse emissions and carbon sequestration.

The Forestry Commission suggests that the Environmental Statement for Heathrow Airport Expansion includes an assessment of the:

- proposed loss of carbon stored in existing woodlands, trees, soils, peat etc. that will be negatively impacted from the airport expansion
- carbon cost of construction (reduced by the use of timber where appropriate)
- carbon cost of running the airport in perpetuity (excluding aircraft)
  - carbon lean power/heat using locally sourced fuelwood as per Terminal 2&5 Biomass CHP power station (calculations to include the carbon related environmental benefits of encouraging markets for locally sourced timber and the biodiversity benefits of bringing local woods into management)
  - carbon cost of commuting vs the promotion of green corridors

As part of this assessment, the Forestry Commission can provide advice on appropriate tree selection in the design and mitigation plans to ensure the contribution this scheme can deliver to achieve long-term resilience to climate change.

## **Chapter 9 Community**

### **Chapter 12 Health**

The Forestry Commission welcomes the inclusion of assessing recreational routes for walking and cycling, and the likely impacts as an outcome of this DCO in Chapter 9. Chapter 12 focusses on the World Health Organisation definition of health and wellbeing, then goes on to highlight the factors that influence health and wellbeing both at the local and wider society level.

The Forestry Commission is encouraged by your interest in working with partners to develop an integrated network of green infrastructure to include wildlife and access corridors enhancing local wildlife habitats, providing commuter routes as well as recreational access to local residents. Therefore, we would promote the inclusion of measures to build the evolving network of green infrastructure to link the existing conurbations to adjacent countryside. Assessment of the impact of such positive inclusions should be part of the scoping of wider carbon balance and community health & wellbeing. This will aid the promotion of and help encourage people to access the countryside by the local community for quiet enjoyment – important factors for health and wellbeing, both physical and mental health. There are a range of options for green infrastructure and the Forestry Commission would bring attention to what has been

achieved at Jeskyns<sup>20</sup>. Linking Jeskyns to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of landscape scale green infrastructure.

### **Conclusion:**

From the information supplied in the EIA Scoping Report, we advise that in respect of loss of any woodland, particularly the loss of irreplaceable and principally important habitats and ecosystems must be included in the test of public benefit to demonstrate accurately that “In considering the impact of a proposed development on any heritage assets, the Secretary of State will take into account the particular nature of the significance of the heritage asset and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal” as outlined in bullet point 5.198 of the ANPS.

For the loss of any woodland, the Forestry Commission would ask:

1. To explore with you how this loss could be further reduced and how direct and indirect impacts on ancient woodlands can be minimised;
2. It is made clear how creation of new woodland will be targeted to compensate for the loss of all trees and woodlands;
3. That the applicant engages with the Forestry Commission at the earliest opportunity so that our expertise can be used to support the development of options and design of the chosen way forwards.

Outlined above are the key areas of information would be required in order to allow the applicant to proceed with delivery of this scheme with least detrimental impact to the surrounding environment, and the Examining Authority properly to undertake its task or where further work is required to determine the effects of the project and/or to flesh out compensation proposals to provide a sufficient degree of confidence as to their efficacy.

Forestry Commission’s headline points are that on the basis of the information submitted, if approved, the project must be subject to all necessary and appropriate requirements which ensure that unacceptable environmental impacts either do not occur or are sufficiently compensated, as proposed in the proposed Code of Construction Practice.

If you have any further questions, then please do not hesitate to consult the Forestry Commission.

Yours sincerely,

Caroline Parker  
Local Partnership Advisor  
Forestry Commission - South East & London  
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<sup>20</sup> <https://www.forestry.gov.uk/jeskyns>

## Appendix 1: Airports National Policy Statement 2018

Section 105 of the Planning Act 2008 sets out what the Secretary of State must have regard to in making his or her decision where a relevant NPS is not designated. This includes any matter that the Secretary of State thinks is important and relevant to the Secretary of State's decision. This could include a draft NPS, if one exists.

The revised draft Airports National Policy Statement (ANPS) was withdrawn on 5<sup>th</sup> June 2018 and replaced with the proposed ANPS in June 2018.

The proposed Airports National Policy Statement sets out:

- the need for additional airport capacity in the south-east of England
- why government believes that need is best met by a north-west runway at Heathrow Airport
- the specific requirements that the applicant for a new north-west runway will need to meet to gain development consent

This Airports National Policy Statement updates the [revised draft Airports National Policy Statement](#), published for the [second consultation](#) in October 2017.

The revised draft Airports National Policy Statement was subject to public consultation and [Parliamentary scrutiny](#). All sections below are taken directly from the June 2018 proposed ANPS.

### Chapter 1. Introduction

#### Background

**1.5** In its Final Report in July 2015, the Airports Commission unanimously concluded that the proposal for a Northwest Runway at Heathrow Airport, combined with a significant package of measures to address its environmental and community impacts, presented the strongest case and offered the greatest strategic and economic benefits.

#### Purpose and scope of the Airports NPS

**1.18** Under section 104 of the Planning Act 2008, the Secretary of State must decide any application in accordance with any relevant NPS unless he or she is satisfied that to do so would:

- *Lead to the UK being in breach of its international obligations;*
- *Be unlawful;*
- *Lead to the Secretary of State being in breach of any duty imposed by or under any legislation;*
- *Result in adverse impacts of the development outweighing its benefits; or*
- *Be contrary to legislation about how the decisions are to be taken.*

#### Appraisal of Sustainability

**1.27** An Appraisal of Sustainability is required by the Planning Act 2008 in relation to any NPS. An Appraisal of Sustainability, which describes the analysis of reasonable alternatives to the preferred scheme, has been carried out to inform the Airports NPS. The Appraisal of Sustainability informs the development of the Airports NPS by assessing the potential economic, social and environmental impacts of options to increase airport capacity.

**1.29** The overall conclusions of the Appraisal of Sustainability show that (provided any scheme remains within the parameters and boundaries in this policy), whilst there will be inevitable harm caused by a new Northwest Runway at Heathrow Airport in relation to some topics, the need for such a scheme, the obligation to mitigate such harm as far as possible, and the benefits that such a scheme will deliver, outweigh such harm. However, this is subject to the assessment of the effects of the preferred scheme, identification of suitable mitigation, and measures to secure and deliver the relevant mitigation.

**1.30** The preferred scheme has been subject to further refinement by Heathrow Airport since the conclusion of the work of the Airports Commission. These refinements were not captured within the Airports Commission's appraisals and are not expected to significantly alter the key appraisal findings. The Government expects any applicant to carry out a further and more detailed study, and to secure appropriate mitigation measures, ahead of seeking development consent.

#### Relationship between the Airports NPS and the Aviation Policy Framework

**1.39** On 21 July 2017, the Government issued a call for evidence on a new Aviation Strategy. Having analysed the responses, the Government has confirmed that it is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have positive and negative impacts, including on noise levels. We consider that any proposals should be judged on their individual merits by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts.

### **Chapter 3. The Government's preferred scheme: Heathrow Northwest Runway**

#### Local environmental, health and community impacts

**3.49** Decisions on airport capacity must rightly balance local, environmental and social considerations against the national and local benefits stemming from expansion. As set out above, in terms of economic and strategic benefits, expansion via the Heathrow Northwest Runway scheme best meets the need for additional capacity in the South East of England. However, set against these positive impacts, airport expansion can also have negative impacts. For example, all three schemes will have significant impacts on the environment and local communities.

**3.53** The Appraisal of Sustainability identifies that, in addition to changes due to local noise and air quality impacts, communities may be affected by airport expansion through loss of, and/or additional demand for housing, community facilities or services, including recreational facilities. In addition, there will be effects on parks, open spaces and the historic environment, which will affect the quality of life of local communities which benefit from access to these facilities and features. These effects will be of a higher magnitude for the two Heathrow expansion schemes and a lower magnitude for Gatwick Second Runway. Overall, each of the three schemes is expected to have negative impacts on local communities, with more severe impacts expected from the Heathrow schemes. Impacts of all three schemes will not be felt equally across social groups. Equality impacts are set out in chapter four.

**3.54** The Heathrow Northwest Runway scheme will be accompanied by a package of measures to mitigate the impact of airport expansion on the environment and

affected communities. The Government agrees with the Airports Commission's conclusion that "to make expansion possible...a comprehensive package of accompanying measures [should be recommended to] make the airport's expansion more acceptable to its local community, and to Londoners generally". This is expected to include a highly valued scheduled night flight ban of six and a half hours between 11pm and 7am (with the exact start and finish times to be determined following consultation), and the offer of a predictable, though reduced, period of respite for local communities.

### Conclusion

**3.75** A number of mitigation measures will need to be applied to reduce the impacts of the Heathrow Northwest Runway scheme felt by the local community and the environment. Airport expansion is also expected to be accompanied by an extensive and appropriate compensation package for affected parties. With these safeguards in place, the Government considers that the Heathrow Northwest Runway scheme delivers the greatest strategic and economic benefits, and is therefore the most effective and appropriate way of meeting the needs case.

## **Chapter 4. Assessment principles**

### General principles of assessment

- 4.4** In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State will take into account:
- *Its potential benefits, including the facilitation of economic development (including job creation) and environmental improvement, and any long term or wider benefits; and*
  - *Its potential adverse impacts (including any longer term and cumulative adverse impacts) as well as any measures to avoid, reduce or compensate for any adverse impacts.*
- 4.5** In this context, environmental, safety, social and economic benefits and adverse impacts should be considered at national, regional and local levels. These may be identified in the Airports NPS, or elsewhere. The Secretary of State will also have regard to the manner in which such benefits are secured, and the level of confidence in their delivery.
- 4.7** Where the applicant's proposals in relation to surface access meet the thresholds to qualify as nationally significant infrastructure projects under the Planning Act 2008, or is associated development under section 115 of the Planning Act 2008, the Secretary of State will consider those aspects by reference to both the National Networks NPS and the Airports NPS, as appropriate. To the extent that discrete aspects of the surface access proposals do not qualify as nationally significant and cannot be included in a development consent application as associated development (for example), the applicant will be expected to pursue or secure necessary consent(s) through the most appropriate alternative consenting regime. This might include, for example, the Town and Country Planning Act 1990, the Highways Act 1980, or the Transport and Works Act 1992, promoted by a third party if need be.



### Environmental Impact Assessment

**4.12** All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive, and are likely to have significant effects on the environment, must be accompanied by an environmental statement, describing the aspects of the environment likely to be significantly affected by the project. The Directive specifically requires an Environmental Impact Assessment to identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. Schedule 4 to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 sets out the information that should be included in the environmental statement. This includes a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short-, medium- and long-term, permanent and temporary, positive and negative effects of the project, and also the measures envisaged for avoiding or mitigating significant adverse effects.

**4.13** When examining a proposal to which the Airports NPS applies, the Examining Authority should ensure that likely significant effects at all stages of the project have been adequately assessed. The effects of any changes in operations, including the number of air traffic movements, during the construction and operational phases must be properly assessed and appropriate mitigation secured for any significant effects. Any requests for environmental information not included in the original environmental statement should be proportionate and focus only on likely significant effects. In the Airports NPS, the terms 'effects', 'impacts' or 'benefits' should accordingly be understood to mean likely significant effects, impacts or benefits.

**4.14** When considering significant cumulative effects, any environmental statement should provide information on how the effects of an applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been granted, as well as those already in existence if they are not part of the baseline).

**4.15** The Examining Authority should consider how significant cumulative effects, and the interrelationship between effects, might as a whole affect the environment, even though they may be acceptable when considered on an individual basis or with mitigation measures in place.

### Habitats Regulations Assessment

**4.22** Where a development may negatively affect any priority natural habitat type or priority species, any imperative reasons of overriding public interest case would need to be established solely on one or more of the grounds relating to human health, public safety or beneficial consequences of primary importance to the environment. The competent authority may only rely on other (i.e. social or economic) imperative reasons of overriding public interest if it has first obtained an opinion from the European Commission.

### Assessing alternatives

**4.28** The applicant should comply with all legal obligations and policy set out in the Airports NPS on the assessment of alternatives. In particular:

- *The Environmental Impact Assessment Directive requires projects with significant environmental effects to include a description of the reasonable alternatives studied by the applicant which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the significant effects of the project on the environmental effects;*
- *There may also be other specific legal obligations requiring the consideration of alternatives, for example, under the Habitats and Water Framework Directives; and*
- *There may be policies in the Airports NPS requiring consideration of alternatives, for example the flood risk sequential test.*

#### Criteria for 'good design' for airports infrastructure

**4.31** A good design should meet the principal objectives of the scheme by eliminating or substantially mitigating the adverse impacts of the development, for example by improving operational conditions. It should also mitigate any existing adverse impacts wherever possible, for example in relation to safety or the environment. A good design will also be one that sustains the improvements to operational efficiency for as many years as is practicable, taking into account capital cost, economics and environmental impacts.

**4.33** The scheme should take into account, as far as possible, both functionality, including fitness for purpose and sustainability, and aesthetics, including the scheme's contribution to the quality of the area in which it would be located. The applicant will want to consider the role of technology in delivering new airports projects. Professional, independent advice on the design aspects of a proposal should be undertaken to ensure good design principles are embedded into infrastructure proposals.

**4.34** There may be opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform, and vegetation.

#### Climate change adaptation

**4.42** This section sets out how the Airports NPS puts Government policy on climate change adaptation into practice, and in particular how the applicant and the Secretary of State will take into account the effects of climate change when developing and considering airports infrastructure applications. Climate change mitigation is essential to minimise the most dangerous impacts of climate change, as previous global greenhouse gas emissions will already mean some degree of continued climate change for at least the next 30 years. Climate change is likely to mean that the UK will experience on average hotter, drier summers and warmer, wetter winters. There is potentially an increased risk of flooding, drought, heatwaves, intense rainfall events and other extreme events such as storms and wildfires, as well as rising sea levels.

**4.43** Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure.

**4.45** New airports infrastructure will typically be a long-term investment which will need to remain operational over many decades, in the face of a changing climate. Consequently, the applicant must consider the impacts of climate change when planning design, build and operation. Any accompanying environmental statement should set out how the proposal will take account of the projected impacts of climate change.

## **Chapter 5. Assessment of impacts**

### Decision making

**5.21** The applicant's proposals will give rise to impacts on the existing and surrounding transport infrastructure. The Secretary of State will consider whether the applicant has taken all reasonable steps to mitigate these impacts during both the development and construction phase and the operational phase. Where the proposed mitigation measures are insufficient to effectively offset or reduce the impact on the transport network, arising from expansion, of additional passengers, freight operators and airport workers, the Secretary of State will impose requirements on the applicant to accept requirements and / or obligations to fund infrastructure or implement other measures to mitigate the adverse impacts, including air quality.

### Carbon emissions

**5.69** The Planning Act 2008 requires that a national policy statement must give reasons for the policy set out in the statement and an explanation of how the policy set out in the statement takes account of Government policy relating to the mitigation of, and adaptation to, climate change. The Government has a number of international and domestic obligations to limit carbon emissions. Emissions from both the construction and operational phases of the project will be relevant to meeting these obligations.

**5.76** Pursuant to the terms of the Environmental Impact Assessment Regulations, the applicant should undertake an assessment of the project as part of the environmental statement, to include an assessment of any likely significant climate factors. The applicant should provide evidence of the carbon impact of the project (including embodied carbon), both from construction and operation, such that it can be assessed against the Government's carbon obligations, including but not limited to carbon budgets. The applicant should quantify the greenhouse gas impacts before and after mitigation to show the impacts of the proposed mitigation. This will require emissions to be split into traded sector and non-traded sector emissions, and for a distinction to be made between international and domestic aviation emissions.

**5.80** Mitigation measures at the construction stage should also be provided and draw on best practice from other major construction schemes, including during the procurement of contractors. Specific measures could include but are not limited to:

- *Development of a construction traffic management plan (which may include the possible use of rail and consolidation sites);*
- *Transport of materials to site by alternative modes to road (for example by rail or water);*
- *Increased efficiency in use of construction plant;*

- *Use of energy efficient site accommodation;*
- *Reduction of waste, and the transport of waste;*
- *Construction site connection to grid electricity to avoid use of mobile generation;*
- *Selection of construction material to utilise low carbon options; and*
- *Selection of construction material to minimise distance of transport.*

**5.81** The implementation of mitigation measures may require working with partners to support their delivery.

**5.83** Evidence of appropriate mitigation measures (incorporating engineering plans on configuration and layout, and use of materials) in both design and construction should be presented as part of any application for development consent. The Secretary of State will consider the effectiveness of such mitigation measures in order to ensure that, in relation to design and construction, the carbon footprint is not unnecessarily high. The Secretary of State's view of the adequacy of the mitigation measures relating to design, construction and operational phases will be a material factor in the decision making process.

#### Biodiversity and ecological conservation

**5.84** Biodiversity is the variety of plant and animal life in the world or in a particular habitat, and encompasses all species of plants and animals and the complex ecosystems of which they are a part. Government policy for the natural environment, including on biodiversity, is set out in the *Natural Environment White Paper*. The biodiversity section in the *Natural Environment White Paper* sets out a vision of moving progressively from new biodiversity loss to net gain, by supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks that are more resilient to current and future pressures. It is also a requirement of the Water Framework Directive to protect and enhance biodiversity associated with the water environment. Geological conservation relates to the sites that are designated for their geology and / or geomorphological importance.

**5.85** The Government's biodiversity strategy is set out in *Biodiversity 2020: A Strategy for England's wildlife and ecosystem services*. Its aim is to halt overall biodiversity loss, support healthy, well-functioning ecosystems, and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. The contribution that the planning system should make to enhancing the local and natural environment, including establishing coherent ecological networks, is set out in the National Planning Policy Framework, to which the applicant should also refer.

**5.86** The National Planning Policy Framework states that pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life. This includes moving from a net loss of biodiversity to achieving net gains for nature.

**5.87** The wide range of legislative provisions at the international and national level that can impact on planning decisions affecting biodiversity and ecological conservation is set out in the Planning Practice Guidance on biodiversity and ecosystems. This includes a description of the potential impacts on internationally, nationally and

locally protected sites which may arise through development, and should therefore be considered through further assessment.

- 5.89** The applicant should ensure that the environmental statement submitted with its application for development consent clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological importance, protected species, and habitats and other species identified as being of principal importance for the conservation of biodiversity.
- 5.90** The Environmental Impact Assessment should reflect the principles of *Biodiversity 2020* and identify how the effects on the natural environment will be influenced by climate change, and how ecological networks and their physical and biological process will be maintained.
- 5.91** The applicant should show how the project has taken advantage of and maximised opportunities to conserve biodiversity and geological conservation interests.
- 5.94** The applicant's proposal should address the mitigation hierarchy (which supports efforts to conserve and enhance biodiversity), which is set out in the National Planning Policy Framework.
- 5.95** Compensation ratios relating to the effects of the preferred scheme should be considered in more detail during the design. The application of 2:1 compensation ratio is considered to represent the minimum requirement. However, there are other mechanisms for establishing compensation ratios, such as Defra's biodiversity offsetting metric. Equally, it is important to note that habitat ratios form only one part of potential compensation which should be considered, and the location and quality of any compensation land is of key importance. In this regard, habitat creation, where required, should be focused on areas where the most ecological and ecosystems services benefits can be realised.
- 5.96** As a general principle, and subject to the specific policies set out below and the Infrastructure Planning (Decisions) Regulations 2010, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort appropriate compensation measures should be sought. The development consent order, or any associated planning obligations, will need to make provision for the long term management of such measures.
- 5.97** In taking decisions, the Secretary of State will ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.
- 5.103** Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost, it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including

ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.

- 5.104** The proposed development comprised in the preferred scheme should provide many opportunities for building in beneficial biodiversity as part of good design. When considering proposals, the Secretary of State will consider whether the applicant has maximised such opportunities in and around developments, and particularly to establishing and enhancing green infrastructure. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered.
- 5.105** In addition to the habitats and species that are subject to statutory protection or international, regional or local designation, other habitats and species have been identified as being of principal importance for the conservation of biodiversity in England and Wales and therefore requiring conservation action. The Secretary of State will ensure that the applicant has taken measures to ensure that these other habitats and species are protected from the adverse effects of development. Where appropriate, requirements or planning obligations may be used in order to deliver this protection. The Secretary of State will refuse consent where harm to these other habitats, or species and their habitats, would result, unless the benefits of the development (including need) clearly outweigh that harm. In such cases, compensation will generally be expected to be included in the design proposals.

#### Land use including open space, green infrastructure and Green Belt

- 5.106** Access to high quality open spaces and the countryside and opportunities for sport and recreation can be a means of providing necessary mitigation and / or compensation requirements. Green infrastructure can enable developments to provide positive environmental and economic benefits.
- 5.109** Development of land will affect soil resources, including physical loss of and damage to soil resources, through land contamination and structural damage. Indirect impacts may also arise from changes in the local water regime, organic matter content, soil biodiversity and soil process.
- 5.118** The applicant can minimise the direct effects of a project on the existing use of the proposed site, or proposed uses near the site, by the application of good design principles, including the layout of the project and the protection of soils during construction.
- 5.119** Where green infrastructure is affected, the applicant should aim to ensure the functionality and connectivity of the green infrastructure network is maintained and any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space, including appropriate access to National Trails and other public rights of way.

**5.123** Public rights of way, National Trails and other rights of access to land are important recreational facilities for walkers, cyclists and equestrians. The applicant is expected to take appropriate mitigation measures to address adverse effects on National Trails, other public rights of way and open access land and, where appropriate, to consider what opportunities there may be to improve access. In considering revisions to an existing right of way, consideration needs to be given to the use, character, attractiveness and convenience of the right of way. The Secretary of State should consider whether the mitigation measures put forward by an applicant are acceptable and whether requirements or other provisions in respect of these measures might be attached to any grant of development consent.

**5.125** Where networks of green infrastructure have been identified in development plans, they should normally be protected from development and, where, possible, strengthened by or integrated within it. The Secretary of State will also have regard to the effect of the development upon and resulting from existing land contamination, as well as the mitigation proposed.

#### Historic environment

**5.188** The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

**5.189** Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called 'heritage assets'. Heritage assets may be buildings, monuments, sites, places, areas or landscapes, or any combination of these. The sum of the heritage interests that a heritage asset holds is referred to as its significance. Significance derives not only from a heritage asset's physical presence, but also from its setting.

**5.193** As part of the environmental statement, the applicant should provide a description of the significance of the heritage assets affected by the proposed development, and the contribution of their setting to that significance. The level of detail should be proportionate to the asset's importance, and no more than is sufficient to understand the potential impact of the proposal on the significance of the asset. Consideration will also need to be given to the possible impacts, including cumulative, on the wider historic environment. At a minimum, the relevant Historic Environment Record should be consulted and the heritage assets assessed using appropriate expertise. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, the applicant should include an appropriate desk-based assessment and, where necessary, a field evaluation. The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage asset affected can be adequately understood from the application and supporting documents.

**5.195** The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible:

- *Enhancing, through a range of measures such as sensitive design, the significance of heritage assets or setting affected;*
- *Considering measures that address those heritage assets that are at risk, or which may become at risk, as a result of the scheme; and*
- *Considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to or interpretation, understanding and appreciation of the heritage assets affected by the scheme.*

Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary or permanent

**5.197** The Secretary of State must also comply with the regime relating to Listed Buildings, Conservation Areas and Scheduled Monuments set out in The Infrastructure Planning (Decisions) Regulations 2010.

**5.198** In considering the impact of a proposed development on any heritage assets, the Secretary of State will take into account the particular nature of the significance of the heritage asset and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between their conservation and any aspect of the proposal.

**5.199** The Secretary of State will take into account: the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets; the contribution of their settings; and the positive contribution their conservation can make to supporting sustainable communities – including to their quality of life, their economic vitality, and to the public's enjoyment of these assets. The Secretary of State will also take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials, use and landscaping (for example screen planting).

**5.201** Once lost, heritage assets cannot be replaced, and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, any harm or loss should require clear and convincing justification.



## Appendix 2: National Policy Statement for National Networks 2014

The National Networks National Policy Statement (NN NPS), hereafter referred to as 'NPS', sets out the need for, and Government's policies to deliver, development of nationally significant infrastructure projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of nationally significant infrastructure projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.

### Chapter 1. Introduction

#### Purpose and scope

**1.2** The Secretary of State will use this NPS as the primary basis for making decisions on development consent applications for national networks nationally significant infrastructure projects in England. Other NPSs may also be relevant to decisions on national networks nationally significant infrastructure projects. Under section 104 of the Planning Act the Secretary of State must decide an application for a national networks nationally significant infrastructure project in accordance with this NPS unless he/she is satisfied that to do so would:

- *lead to the UK being in breach of its international obligations;*
- *be unlawful;*
- *lead to the Secretary of State being in breach of any duty imposed by or under any legislation;*
- *result in adverse impacts of the development outweighing its benefits;*
- *be contrary to legislation about how the decisions are to be taken*

**1.3** Where a development does not meet the current requirements for a nationally significant infrastructure project set out in the Planning Act (as amended by the Threshold Order), but is considered to be nationally significant, there is a power in the Planning Act for the Secretary of State, on application, to direct that a development should be treated as a nationally significant infrastructure project. In these circumstances any application for development consent would need to be considered in accordance with this NPS. The relevant development plan is also likely to be an important and relevant matter especially in respect of establishing the need for the development.

#### Consistency of NPS with the National Planning Policy Framework

**1.17** The overall strategic aims of the National Planning Policy Framework (NPPF) and the NPS are consistent, however, the two have differing but equally important roles to play.

**1.18** The NPPF provides a framework upon which local authorities can construct local plans to bring forward developments, and the NPPF would be a material consideration in planning decisions for such developments under the Town and Country Planning Act 1990. An important function of the NPPF is to embed the principles of sustainable development within local plans prepared under it. The NPPF is also likely to be an important and relevant consideration in decisions on nationally significant infrastructure projects, but only to the extent relevant to that project.

**1.19** However, the NPPF makes clear that it is not intended to contain specific policies for NSIPs where quite particular considerations can apply. The National Networks

NPS will assume that function and provide transport policy which will guide individual development brought under it.

**1.20** In addition, the NPS provides guidance and imposes requirements on matters such as good scheme design, as well as the treatment of environmental impacts. So, both documents seek to achieve sustainable development and recognise that different approaches and measures will be necessary to achieve this.

## **Chapter 2. The need for development of the national networks and Government's policy**

### Summary of needs

**2.9** Broader environment, safety and accessibility goals will also generate requirements for development. In particular, development will be needed to address safety problems, enhance the environment or enhance accessibility for non-motorised users. In their current state, development, the national networks will act as a constraint to sustainable economic growth, quality of life and wider environmental objectives.

### The need for development of the national road Network

**2.16** Traffic congestion constrains the economy and impacts negatively on quality of life by:

- *constraining existing economic activity as well as economic growth, by increasing costs to businesses, damaging their competitiveness and making it harder for them to access export markets. Businesses regularly consider access to good roads and other transport connections as key criteria in making decisions about where to locate.*
- *leading to a marked deterioration in the experience of road users. For some, particularly those with time-pressured journeys, congestion can cause frustration and stress, as well as inconvenience, reducing quality of life.*
- *constraining job opportunities as workers have more difficulty accessing labour markets.*
- *causing more environmental problems, with more emissions per vehicle and greater problems of blight and intrusion for people nearby. This is especially true where traffic is routed through small communities or sensitive environmental areas.*

## **Chapter 3. Wider Government policy on the national networks**

### Environment and social impacts

**3.2** The Government recognises that for development of the national road and rail networks to be sustainable these should be designed to minimise social and environmental impacts and improve quality of life.

**3.3** In delivering new schemes, the Government expects applicants to avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the Government's planning guidance. Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes. The Government's detailed policy on environmental mitigations for developments is set out in Chapter 5 of this document.

- 3.5** Outside the nationally significant infrastructure project regime, Government policy is to bring forward targeted works to address existing environmental problems on the Strategic Road Network and improve the performance of the network. This includes reconnecting habitats and ecosystems, enhancing the settings of historic and cultural heritage features, respecting and enhancing landscape character, improving water quality and reducing flood risk, avoiding significant adverse impacts from noise and vibration and addressing areas of poor air quality.

## **Chapter 4. Assessment principles**

- 4.3** In considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State should take into account:
- *its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits;*
  - *its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.*
- 4.4** In this context, environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and local levels. These may be identified in this NPS, or elsewhere.
- 4.5** Applications for road and rail projects (with the exception of those for SRFIs, for which the position is covered in paragraph 4.8 below) will normally be supported by a business case prepared in accordance with Treasury Green Book principles. This business case provides the basis for investment decisions on road and rail projects. The business case will normally be developed based on the Department's Transport Business Case guidance and WebTAG guidance. The economic case prepared for a transport business case will assess the economic, environmental and social impacts of a development. The information provided will be proportionate to the development. This information will be important for the Examining Authority and the Secretary of State's consideration of the adverse impacts and benefits of a proposed development. It is expected that NSIP schemes brought forward through the development consent order process by virtue of Section 35 of the Planning Act 2008, should also meet this requirement.

### Environmental Impact Assessment

- 4.15** All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive and are likely to have significant effects on the environment, must be accompanied by an environmental statement (ES), describing the aspects of the environment likely to be significantly affected by the project. The Directive specifically requires an environmental impact assessment to identify, describe and assess effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 sets out the information that should be included in the environmental statement including a description of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project,

and also the measures envisaged for avoiding or mitigating significant adverse effects. Further guidance can be found in the online planning portal. When examining a proposal, the Examining Authority should ensure that likely significant effects at all stages of the project have been adequately assessed. Any requests for environmental information not included in the original environmental statement should be proportionate and focus only on significant effects. In this NPS, the terms 'effects', 'impacts' or 'benefits' should accordingly be understood to mean likely significant effects, impacts or benefits.

#### Habitats Regulations Assessment

**4.25** Where a development may negatively affect any priority habitat or species on a site for which they are a protected feature, any Imperative Reasons of Overriding Public Interest (IROPI) case would need to be established solely on one or more of the grounds relating to human health, public safety or beneficial consequences of primary importance to the environment.

#### Alternatives

**4.26** Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:

- *The EIA Directive requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects.*
- *There may also be other specific legal requirements for the consideration of alternatives, for example, under the Habitats and Water Framework Directives.*
- *There may also be policy requirements in this NPS, for example the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads and Areas of Outstanding Natural Beauty (AONB).*

#### Criteria for "good design" for national network infrastructure

**4.34** Whilst the applicant may only have limited choice in the physical appearance of some national networks infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation.

#### Climate change adaptation

**4.37** This section sets out how the NPS puts Government policy on climate change adaptation into practice, and in particular how applicants and the Secretary of State should take the effects of climate change into account when developing and consenting infrastructure. Climate change mitigation is essential to minimise the most dangerous impacts of climate change, as previous global greenhouse gas emissions have already committed us to some degree of continued climate change for at least the next 30 years. Climate change is likely to mean that the UK will experience hotter, drier summers and warmer, wetter winters. There is an increased risk of flooding, drought, heatwaves, intense rainfall events and other extreme events such as storms and wildfires, as well as rising sea levels.

**4.38** Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When

new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure.

**4.40** New national networks infrastructure will be typically long-term investments which will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning location, design, build and operation. Any accompanying environment statement should set out how the proposal will take account of the projected impacts of climate change.

## **Chapter 5. Generic impacts**

### Overview

**5.2** Sufficient relevant information is crucial to good decision-taking, particularly where formal assessments are required (such as Environmental Impact Assessment, Habitats Regulations Assessment and Flood Risk Assessment). To avoid delay, applicants should discuss what information is needed with statutory environmental bodies as early as possible.

### Biodiversity and ecological conservation

**5.20** Biodiversity is the variety of life in all its forms and encompasses all species of plants and animals and the complex ecosystems of which they are a part. Government policy for the natural environment is set out in the *Natural Environment White Paper* (NEWP). The NEWP sets out a vision of moving progressively from net biodiversity loss to net gain, by supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks that are more resilient to current and future pressures. Geological conservation relates to the sites that are designated for their geology and/or their geomorphological importance.

**5.22** Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems.

**5.23** The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.

**5.24** The Government's biodiversity strategy is set out in *Biodiversity 2020: A Strategy for England's wildlife and ecosystem services*. Its aim is to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. This aim needs to be viewed in the context of the challenge of climate change: failure to address this challenge will result in significant impact on biodiversity.

**5.25** As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests,

including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.

**5.26** In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.

**5.32** Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.

**5.33** Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design.<sup>80</sup> When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered.

**5.36** Applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how these will be secured. In particular, the applicant should demonstrate that:

- *during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works;*
- *during construction and operation, best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised (including as a consequence of transport access arrangements);*
- *habitats will, where practicable, be restored after construction works have finished;*
- *developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where reasonable;*
- *opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals, for example through techniques such as the 'greening' of existing network crossing points, the use of green bridges and the habitat improvement of the network verge.*

## Appendix 3: National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) set out the Government's planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF).

### **Achieving Sustainable Development:**

#### Chapter 11: Conserving and enhancing the natural environment

**109** *The planning system should contribute to and enhance the natural and local environment by:*

- *Protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *Recognising the wider benefits of ecosystem services; and*
- *Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*

**114** *Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.*

**117** *Local planning authorities should set out a strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. To minimise impacts on biodiversity and geodiversity, planning policies should:*

- *Plan for biodiversity at a landscape-scale across local authority boundaries; identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;*
- *Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan; and, \_ Aim to prevent harm to geological conservation interests; and where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas.*

**118** *When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:*

- *If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.*
- *Proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments)*

*should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly*

- *outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;*
- *Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;*
- *Opportunities to incorporate biodiversity in and around developments should be encouraged; and,*
- ***Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and.***
- *the following wildlife sites should be given the same protection as European sites:*
  - *potential Special Protection Areas and possible Special Areas of Conservation;*
  - *listed or proposed Ramsar sites; and*
  - *sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

**119** *The presumption in favour of sustainable development (paragraph 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.*

## **Plan-making**

### *Local Plans*

**157.** *Crucially, Local Plans should:*

- *plan positively for the development and infrastructure required in the area to meet the objectives, principles and policies of this Framework;*
- *be drawn up over an appropriate time scale, preferably a 15-year time horizon, take account of longer term requirements, and be kept up to date;*
- *be based on co-operation with neighbouring authorities, public, voluntary and private sector organisations;*
- *indicate broad locations for strategic development on a key diagram and land-use designations on a proposals map;*
- *allocate sites to promote development and flexible use of land, bringing forward new land where necessary, and provide detail on form, scale, access and quantum of development where appropriate;*
- *identify areas where it may be necessary to limit freedom to change the uses of buildings, and support such restrictions with a clear explanation;*
- *identify land where development would be inappropriate, for instance because of its environmental or historic significance; and*
- *contain a clear strategy for enhancing the natural, built and historic environment, and supporting Nature Improvement Areas where they have been identified.*



*Environment*

**165.** *Planning policies and decisions should be based on up-to-date information about the natural environment and other characteristics of the area including drawing, for example, from River Basin Management Plans. Working with Local Nature Partnerships where appropriate, this should include an assessment of existing and potential components of ecological networks. A sustainability appraisal which meets the requirements of the European Directive on strategic environmental assessment should be an integral part of the plan preparation process, and should consider all the likely significant effects on the environment, economic and social factors.*

## **Appendix4: National Planning Practice Guidance**

As highlighted in the Natural Environment section of the NPPG under Biodiversity and ecosystems, the Forestry Commission consider the following sections to be relevant:

### ***What are local ecological networks and what evidence should be taken into account in identifying and mapping them?***

*The components of an ecological network are explained at section 2.12 of the Natural environment white paper<sup>21</sup>.*

*Relevant evidence in identifying and mapping local ecological networks includes:*

- *the broad geological, geomorphological and bio-geographical character of the area, creating its main landscapes types;*
- *key natural systems and processes within the area, including fluvial and coastal;*
- *the location and extent of internationally, nationally and locally designated sites;*
- *the distribution of protected and priority habitats and species<sup>22</sup>;*
- *areas of irreplaceable natural habitat<sup>23</sup>, such as ancient woodland or limestone pavement, the significance of which may be derived from habitat age, uniqueness, species diversity and/or the impossibilities of re-creation;*
- *habitats where specific land management practices are required for their conservation;*
- *main landscape features which, due to their linear or continuous nature, are important for the migration, dispersal and genetic exchanges of plants and animals, including any potential for new habitat corridors to link any isolated sites that hold nature conservation value, and therefore improve species dispersal;*
- *areas with potential for habitat enhancement or restoration, including those necessary to help biodiversity adapt to climate change or which could assist with the habitats shifts and species migrations arising from climate change;*
- *an audit of green space within built areas and where new development is proposed;*
- *information on the biodiversity and geodiversity value of previously developed sites and the opportunities for incorporating this in developments; and*
- *areas of geological value which would benefit from enhancement and management.*

### ***How are ecosystems services taken into account in planning?***

*The National Planning Policy Framework states that the planning system should recognise the wider benefits of ecosystem services. Information about ecosystem services is in Biodiversity 2020: A strategy for England's biodiversity and ecosystem services<sup>24</sup>. An Introductory guide to valuing ecosystem services<sup>25</sup> has also been published by Defra along with a practice guide, which could, where appropriate, inform plan-making and decision-taking on planning applications. The National pollinator strategy: for bees and other pollinators in England<sup>26</sup> is a 10 year plan to protect*

<sup>21</sup> <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>

<sup>22</sup> <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

<sup>23</sup> <https://www.gov.uk/guidance/protected-sites-and-areas-how-to-review-planning-applications>

<sup>24</sup> <https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services>

<sup>25</sup> <https://www.gov.uk/government/publications/an-introductory-guide-to-valuing-ecosystem-services>

<sup>26</sup> <https://www.gov.uk/government/publications/national-pollinator-strategy-for-bees-and-other-pollinators-in-england>

*pollinating insects which support our food production and the diversity of our environment.*

(Relevant to NPPF paragraph 109)

***How can I find out whether an area is 'ancient woodland'?***

*A starting point to establish whether an area is ancient woodland is to look at the relevant ancient woodland inventory. These inventories comprise county maps of sites (generally greater than 2 hectares) that are thought to have been continuously wooded since 1600 AD. The national inventory<sup>27</sup> is published and updated by Natural England. Both Ancient Semi-Natural Woodland (ASNW) as well as Plantations on Ancient Woodland Sites (PAWS) are ancient woodland. Both types should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework.<sup>28</sup>*

***How can I find out whether trees that could be affected by a development proposal are 'aged or veteran' trees?***

*Guidance on the features and importance of veteran trees<sup>29</sup> is provided by Natural England. Local Records Centres and other organisations with an interest in trees may be able to advise on the location of known veteran trees.*

(Relevant to NPPF paragraph 118)

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<sup>27</sup> [http://www.gis.naturalengland.org.uk/pubs/gis/tech\\_aw.htm](http://www.gis.naturalengland.org.uk/pubs/gis/tech_aw.htm)

<sup>28</sup> <https://www.gov.uk/guidance/natural-environment#biodiversity-and-ecosystems>

<sup>29</sup> <http://publications.naturalengland.org.uk/publication/75035>

## Appendix 5: Other relevant documents

**The Clean Growth Strategy: Leading the way to a low carbon future**<sup>30</sup> (Updated April 2018)

**Page 107: What is natural capital?** “Natural capital enables us to think about our natural environment and the countryside as a set of valuable assets (for example, forests, clean air, soils, species, freshwaters, oceans and minerals). Like any asset, natural capital, if maintained and invested in, provides flows of services to the economy and society. These include food, energy, carbon sequestration, pollutant removal, flood risk reduction, recreational and educational opportunities, health benefits and many others.”

**Paragraph 7:** “During the 2020s we need to accelerate the rate of tree planting, working towards our 12 per cent tree cover aspiration by 2060. ... Recently published natural capital accounts by the Office for National Statistics show that Britain’s woodlands provide services of £2.3 billion per year to the economy in terms of recreation, carbon sequestration, timber and air pollutant removal.”

**A Green Future: Our 25 Year Plan to Improve the Environment**<sup>31</sup> (Updated February 2018)

**Foreword from the Prime Minister:** “Our natural environment is our most precious inheritance. The United Kingdom is blessed with a wonderful variety of natural landscapes and habitats and our 25 Year Environment Plan sets out our comprehensive and long-term approach to protecting and enhancing them in England for the next generation. ... By using our land more sustainably and creating new habitats for wildlife, including by planting more trees, we can arrest the decline in native species and improve our biodiversity.”

**Foreword from the Secretary of State:** “Respecting nature’s intrinsic value, and the value of all life, is critical to our mission. For this reason we safeguard cherished landscapes from economic exploitation, protect the welfare of sentient animals and strive to preserve endangered woodland and plant life, not to mention the greening of our urban environments. ... We need to replenish depleted soil, plant trees, support wetlands and peatlands, rid seas and rivers of rubbish, reduce greenhouse gas emissions, cleanse the air of pollutants, develop cleaner, sustainable energy and protect threatened species and habitats.”

**Page 19:** “The value of natural capital is routinely understated. If we look at England’s woods and forests, for example, as a national asset, using a natural capital approach, the value of the services they deliver is an estimated £2.3bn. Of this sizeable sum, according to a recent study, only a small proportion – 10% – is in timber values. The rest derives from other benefits provided to society, such as human recreation and carbon sequestration – the process by which trees lock-up and store carbon from the atmosphere.”

**Page 47:** “We will increase tree planting by creating new forests, and incentivising extra planting on private and the least productive agricultural land, where appropriate. This will support our ambition to plant 11m trees. ... We will not focus solely on planting, however; we will also support increased protection of existing trees and forests. ... Beyond the economic benefits, the Government recognises the significant heritage value and irreplaceable character of ancient woodland and veteran trees. We are committed to ensuring stronger protection of our ancient woodlands, making sure

<sup>30</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/700496/clean-growth-strategy-correction-april-2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/700496/clean-growth-strategy-correction-april-2018.pdf)

<sup>31</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf)

they are sustainably managed to provide a wide range of social, environmental, societal and economic benefits.”

### **Industrial Strategy White Paper “Building a Britain fit for the future”<sup>32</sup>**

(Published November 2017)

**Page 43:** “We also want everyone to feel the benefits of clean growth, so we will work to create a future where our cities benefit from cleaner air, our businesses from enhanced resource security and our countryside from regenerated natural capital.”

**Page 135:** “We will work not just to preserve, but to enhance our natural capital – the air, water, soil and ecosystems that support all forms of life – since this is an essential basis for economic growth and productivity over the long term.”

**Page 148:** “We are committed to moving towards a more circular economy – to raising productivity by using resources more efficiently, to increasing resilience by contributing to a healthier environment, and to supporting long-term growth by regenerating our natural capital.”

**Page 148:** “The Natural Capital Committee has advised that carefully planned and targeted investments in natural capital – such as woodland planting, peatland restoration and wetland creation – can deliver significant economic growth, and generate returns of up to nine times the costs.”

### **The UK Forestry Standard<sup>33</sup>** (4<sup>th</sup> edition published August 2017)

**Page 22-23** “Areas of woodland are material considerations in the planning process and may be protected in local authority Area Plans. These plans pay particular attention to woods listed on the Ancient Woodland Inventory and areas identified as Sites of Local Nature Conservation Importance SLNCIs).

### **Managing ancient and native woodland in England<sup>34</sup>** (updated August 2016)

Ancient woodlands are increasingly being recognised and valued for the more subtle yet vital environmental services they provide, including flood alleviation, clean water supplies and carbon sequestration. The Guide provides guidance on how to help woodlands adapt to climate and includes guidance on harvesting woodfuel from native woodland in ways that will enhance biodiversity and heritage.

### **European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment<sup>35</sup>** (published 2013)

“climate change and biodiversity are generally complex issues with long-term impacts and consequences. EIAs that aim to properly address biodiversity and climate should take this into account and assess the combined impact of any number of different effects. This requires an understanding of evolving baseline trends and an assessment of the cumulative effects of the project on the changing baseline.”

### **Natural England Commissioned Report (NERC 132) Edition 3: Literature review and analysis of the effectiveness of mitigation measures to address environmental impacts of linear transport infrastructure on protected species and habitats<sup>36</sup>** (Published November 2013)

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf)

<sup>33</sup> <https://www.forestry.gov.uk/ukfs>

<sup>34</sup> <https://www.forestry.gov.uk/forestry/infd-8azkv9>

<sup>35</sup> <http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf>

<sup>36</sup> <http://publications.naturalengland.org.uk/publication/6184646404472832>

**Contents:** “translocation of ancient woodland soils and coppiced stools does not imply that these methods mitigate the loss of ancient woodland. Ancient woodland is an irreplaceable resource, the loss of which cannot be mitigated or compensated.”

**Table 4.1:** the measure should not be interpreted as a successful means of mitigating the fragmentation of ancient woodland; a resource which cannot be re-created through tree planting or habitat translocation due to its complex structure and wider-ranging biodiversity.

**BS 42020:2013 Biodiversity. Code of practice for planning and development**<sup>37</sup>  
(published August 2013)

The UK commitment to halt overall loss of biodiversity by 2020 in line with the European Biodiversity Strategy and UN Aichi targets, is passed down to local authorities to implement, mainly through planning policy.

**Ancient and other veteran trees: further guidance on management**<sup>38</sup> (published February 2013)

This book is about managing ancient and other veteran trees to help prolong their lives and to ensure the continuity of habitat required by many of their associated species.

**Government’s Policy Statement on forestry and woodlands**<sup>39</sup> (published January 2013)

**Page 10** “New and better managed woodland also has a role in making our rural and urban landscapes more resilient to the effects of climate change. Our objectives for sustainable woodland creation and management will improve woodlands’ resilience to climate change and other threats and enhance its contribution to wider climate change adaptation. Carbon will be sequestered through the growth of new woodlands. The wood products that are harvested from England’s woodlands will help to reduce greenhouse emissions from the energy sector directly as woodfuel and from other sectors where timber replaces more energy intensive materials. In addition, our focus on protection will help to ensure that we can safeguard the large store of carbon in England’s woodlands.”

**Impacts of nearby development on ancient woodland – addendum**<sup>40</sup>  
(published December 2012)

“If disturbance of ancient woodland is to take place then it is vital that the ecology of the wood is well documented and understood before the disturbance takes place. The connection between that woodland and other woods or remnants of woods in the area also needs to be understood as connectivity between patches of woodland is important for promoting species diversity within a landscape. Structural complexity of both the interior of the wood and the woodland edges should also be ensured to maintain habitat quality. Any restoration of woodland patches should be spatially targeted to ensure maximum success.”

**BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations**<sup>41</sup> (published April 2012)

<sup>37</sup> <https://shop.bsigroup.com/ProductDetail?pid=000000000030258704>

<sup>38</sup> [http://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF\\_book.pdf](http://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf)

<sup>39</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/221023/pb13871-forestry-policy-statement.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221023/pb13871-forestry-policy-statement.pdf)

<sup>40</sup> <https://www.woodlandtrust.org.uk/mediafile/100168353/Impacts-of-nearby-development-on-the-ecology-of-ancient-woodland-addendum.pdf>

<sup>41</sup> <https://shop.bsigroup.com/ProductDetail/?pid=000000000030213642>

Trees are important elements of green infrastructure, contributing to urban cooling through evapotranspiration and providing micro-climatic effects that can reduce energy demands in buildings. They therefore represent a key resource that can significantly contribute to climate change adaptation.

**Biodiversity 2020: a strategy for England's wildlife and ecosystem services**<sup>42</sup> (published August 2011).

**Paragraph 2.16** - Further commitments to protect ancient woodland and to continue restoration of Plantations on Ancient Woodland Sites (PAWS).

**Natural Environment White Paper "The Natural Choice"**<sup>43</sup> (published June 2011)

**Paragraph 2.53** - This has a "renewed commitment to conserving and restoring ancient woodlands".

**Paragraph 2.56** – "The Government is committed to providing appropriate protection to ancient woodlands and to more restoration of plantations on ancient woodland sites".

**Natural Environment and Rural Communities Act 2006**<sup>44</sup> (published October 2006)

**Section 40(1)** imposes a duty to conserve biodiversity:

"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

**Section 40(3)** of the Act explains that:

"Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat".

The duty applies to all public body (including government departments and local authorities) and extends beyond just conserving what is already there to carrying out, supporting and requiring actions that may also restore or enhance biodiversity.

**'Making Space for Nature: A review of England's Wildlife Sites and Ecological Network' (the Lawton Report)**<sup>45</sup> (published September 2010)

The Lawton Report concluded that isolated nature reserves across England are not sufficient to maintain ecological connectivity because species are unable to move, or adapt quickly enough, in landscapes fragmented by development and intensive agriculture. To reverse the effects of environmental degradation, the Report recommended action at a 'whole landscape' level, interconnecting sites of high quality, which are biologically diverse, and to allow species to move between them.

**Impacts of nearby development on the ecology of ancient woodland**<sup>46</sup> (published October 2008)

Ancient woodland is a functionally irreplaceable resource for biodiversity that is also an important part of our cultural heritage. The aim of this review is to synthesise existing

<sup>42</sup> <https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services>

<sup>43</sup> <https://www.gov.uk/government/news/natural-environment-white-paper-discussion-document-record-response>

<sup>44</sup> <http://www.legislation.gov.uk/ukpga/2006/16/section/40>

<sup>45</sup>

<http://webarchive.nationalarchives.gov.uk/20130402170324/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf>

<sup>46</sup> <https://www.woodlandtrust.org.uk/mediafile/100168350/Impacts-of-nearby-development-on-the-ecology-of-ancient-woodland.pdf>

literature on the direct, indirect and cumulative effects of development on nearby woodland.

**Keepers of Time**<sup>47</sup> (published June 2005)

A Statement of Policy for England's Ancient and Native Woodland.

**Page 10** "The existing area of ancient woodland should be maintained and there should be a net increase in the area of native woodland".

**A Habitats Translocation Policy for Britain**<sup>48</sup> (published July 2003)

"Available information shows that it is not possible to move species assemblages without substantial changes taking place in the structure of the habitat and its species composition, thus rendering the translocation unsuccessful."

**Veteran Trees: A guide to good management**<sup>49</sup> (published February 2000)

This handbook provides understanding of best practice in veteran tree management. It gives practical advice on all aspects of managing veteran trees, their habitats and dependent species. All is set in context by an understanding of the way in which trees grow, age and decay.

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<sup>47</sup> <https://www.forestry.gov.uk/keepersoftime>

<sup>48</sup> [http://jncc.defra.gov.uk/pdf/habitats\\_policy.pdf](http://jncc.defra.gov.uk/pdf/habitats_policy.pdf)

<sup>49</sup> <http://publications.naturalengland.org.uk/publication/75035>



CEMHD Policy - Land Use Planning  
NSIP Consultations  
Building 2.2, Redgrave Court  
Merton Road, Bootle  
Merseyside, L20 7HS

Your ref: TR020003  
Our ref: 4.2.1.6419  
HSE email: [NSIP.applications@hse.gov.uk](mailto:NSIP.applications@hse.gov.uk)

FAO  
Heathrow Third Runway Team  
The Planning Inspectorate  
Bristol  
BS1 6PN  
By e-mail

19/06/2018

Dear Heathrow Third Runway Team

**PROPOSED Heathrow Airport Third Runway - EIA scoping consultation (the project)  
PROPOSAL BY Heathrow Airport Limited (the applicant)  
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as  
amended) – Regulations 10 and 11**

Thank you for your letter of 22<sup>nd</sup> May 2018 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

**HSE's land use planning advice**

Will the proposed development fall within any of HSE's consultation distances?

According to HSE's records there are three major accident hazard sites and one major accident hazard pipeline within the proposed redline boundary of this nationally significant infrastructure project:

Major accident hazard sites

- 1) HSE ref H3791; operated by Heathrow Hydrant Operating Company
- 2) HSE ref H4367; operated by BA plc and Heathrow airport limited
- 3) HSE ref H3093; operated by Eveready Hire limited

Major accident hazard pipelines

- 1) HSE ref 8014; Transco reference 2272; operated by Cadent Gas – Fulmer to Staines bypass

HSE's Land Use Planning advice would be dependent on the location of areas where public may be present and so it is possible that HSE may advise against this proposal. When we are consulted by the Applicant with further information, under Section 42 of the Planning Act 2008, we can update our advice.

Hazardous Substance Consent

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) will probably require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015.

Hazardous Substances Consent would be required to store or use any of the Named Hazardous Substances or Categories of Substances at or above the controlled quantities set out in schedule 1 of these Regulations.

Further information on HSC should be sought from the relevant Hazardous Substances Authority.

#### Explosives sites

HSE has no comment to make as there are no licensed sites in the vicinity, regards.

#### **Electrical Safety**

No comment from a planning perspective.

#### Waste

In respect of waste management the applicant should take account of and adhere to relevant health and safety requirements. Particular attention should be paid in respect of risks created from historical landfill (buried waste) sites. More details can be found on HSE's website at: <http://www.hse.gov.uk/waste/index.htm>

Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 An Annex on the Planning Inspectorate's website - [Annex G – The Health and Safety Executive](#). This document includes consideration of risk assessments on page 3.

Please send any further electronic communication on this project directly to the HSE's designated e-mail account for NSIP applications. Alternatively, any hard copy correspondence should be sent to:

Mr Dave Adams (MHPD)  
NSIP Consultations  
2.2 Redgrave Court  
Merton Road, Bootle,  
Merseyside L20 7HS

Yours sincerely,



Marion Davies

PP  
Dave Adams  
(CEMHD4 Policy)

Heathrow Strategic Planning Group  
c/o Slough Borough Council,  
St Martins Place, 51 Bath Rd,  
Slough, SL1 3UF

Your contact: Brendon Walsh

Date: 19<sup>th</sup> June 2018

**Email to:** HeathrowAirport@pins.gsi.gov.uk

Dear Sir/Madam,

**Re: Application by Heathrow Airport Limited for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) EIA Scoping consultation.**

We have pleasure in providing the Heathrow Strategic Planning Group (HSPG) written response to the Heathrow Airport Scoping Consultation. HSPG welcomes the opportunity to comment on Heathrow Airports EIA Scoping Report.

**Background to the HSPG**

HSPG is a group of 9 authorities, 3 Local Enterprise Partnerships and a Community Interest Company, working together to proactively plan ahead for expansion of Heathrow airport, regardless of support or opposition. The Group is seeking to maximise the benefits of expansion (e.g. economic and infrastructure improvements) and minimise and mitigate against the negative impacts (environmental, such as noise and air quality).

The purpose of the HSPG is to:

- work collaboratively in creating and delivering a vision for the Heathrow sub-region;
- enable more coordinated and consistent planning for and management of the local and sub-regional benefits and impacts of the airport through strategy and policy formulation;
- share information and expertise and collaborate where appropriate; and
- build partnership, lobby and be a collective voice on matters of sub-regional planning.

The Group is essentially strategic but practical and its precise role and ways of working will evolve and change to best respond to the decisions of Government, Heathrow Airport Limited and events. However, initiatives and projects arising from the spatial relationship of local authorities with Heathrow, but not necessarily predicated on the outcome of the decision of the third runway, would still benefit from wider sub regional engagement.

The members of the HSPG represent the local authorities and other public organisations responsible for land use planning, transport, environment, economic development and sustainable development in the sub-region area surrounding Heathrow Airport. The Group is independent from Heathrow Airport Ltd and individual member organisations have their own policy positions on the proposal for a third runway and changes to aircraft flightpaths and operations.

**Summary of Response to Scoping Report**

**Individual member organisations of HSPG and local authorities may be making their own representations to the Scoping Consultation. Our full Scoping Report response is appended to this letter in Appendix 1, a summary of our response is provided below:**

**Further Scoping Report** - The Scoping Report implies that a further Scoping Report could be produced once a greater level of design detail is available. HSPG would support production of a further Scoping Report to ensure the focus of the EIA is properly directed and identify appropriate mitigation measures as early in the assessment process as possible.

**Relationship between ACP and DCO** - Further detail on the relationship and interaction between the ACP and DCO should be provided to ensure that the EIA provides a fair and accurate assessment of the environmental effects of the proposal.

**Rochdale Envelope Approach** - HSPG recognises that the scheme is still at options masterplanning stage and there are elements of each component which are undefined, and will need a degree of flexibility up to and including the final DCO scheme. However, the Rochdale Envelope Approach is currently poorly defined in the Scoping Report in relation to individual environmental topics and does not fully adopt best practice and the approach set out in PINS Advice Note Nine. The Rochdale Envelope approach should ensure the assessment of a reasonable worst case, i.e. a conservative approach to each of the topic areas. The scheme parameters to be assessed may therefore vary by topic area, depending on what configuration of elements are the 'worst-case' for each topic. This is a standard approach adopted on several similar major schemes where design flexibility has been required, but is not adequately set out in the Scoping Report at present. Transparency in method and application of a Rochdale Envelope approach will allow for a comprehensive assessment and identification of mitigation measures for the local community, whilst retaining flexibility for amendments as the plans evolve.

**Waste assessment** - HSPG would like to see waste issues included as a fully integrated part of the EIA. This will ensure cumulative and in-combination waste effects are identified and addressed and the significance of any potential effects are identified.

**Water environment (surface water) assessment** - It is considered that there are significant flaws in the methodology proposed for surface water assessment which does not adhere to best practice guidance and appears to adopt methods which are not relevant to the types of issues likely to be associated with the proposal. HSPG recommend a full review and update of the proposed assessment approach for surface water issues as it is currently not considered fit for purpose. See further comments below and attached.

**Significance of 'moderate' effects** - Moderate effects should be considered significant in all cases and appropriate mitigation applied accordingly – this is in accordance with best practice. Otherwise, a very robust argument and transparent process for determining which moderate effects are not significant needs to be demonstrated in the EIA process.

**Air Quality** – Key observations include:

- The core assessment area should be extended to take account of (i) the DCO boundary; (ii) Additional Development Areas; (iii) existing and proposed AQMAs for all affected local authorities
- IAQM Screening Criteria should be used to identify affected road links
- The assessment of compliance should include consideration of the National Emission Ceilings Regulations, in addition to the AQS Regulations.
- Assessment of compliance with EU limit values should be broader than use of the PCM model alone
- Monitoring data from relevant local authorities in a wider study area should be incorporated in the assessment.
- Detailed air quality assessment of traffic emissions during the construction phase should be undertaken, including HGV movements, worker vehicles, and temporary traffic management, and any increase in freight movements once operational.
- Detailed screening of construction rail emissions should be undertaken.

**Biodiversity**- Key observations include:

- HSPG would like to see a commitment to ensuring all effects of local or negligible significance are captured in the Biodiversity Offsetting strategy and the mechanisms for achieving this. Clarification of the value of Local sites (LNRs and SLINCs).
- Clarification required on how ecosystem services and long-term management of compensation sites are being taken into consideration in the EIA and design process.
- Provision of preliminary biodiversity net gain calculations.
- Clarification that surface water run-off will be assessed in terms of volumes and flooding and the effects on biodiversity.
- Effects on bat species in relation to SACs should be assessed under the HRA.

**Carbon and other greenhouse gases and climate change** – Key observations include:

- Further detail required on what specific items will be included in the carbon assessment, which parts of the calculation will be based on actual project data and which will be based on proxy data.
- Details on the approach to quantify and present carbon offsetting/sequestration to be provided.
- Further detail required on how 'professional judgement' will be used to determine significance of emissions.
- Clarification on reasons why airport supporting facilities have been scoped out of the GHG emission calculations.
- Local measures to address climate change should be considered in the package of mitigation measures.
- HSPG to be consulted on the Climate Change Adaptation Plan.

**Community** – Key observations include:

- Set out approach to assessing effects on other community facilities, currently the method is focused on recreational spaces and routes.
- Clarify how the effects on community viability will be assessed with reference to the effect on population and demographics.

- Local workers should be included as a potential receptor.
- Confirm that the airport supporting facilities that have been scoped out as not relevant for the community topic could not potentially affect the community (either temporary or permanent)
- Further detail required on the level of parking required has been calculated and whether this allows for scenarios for reduced levels of parking
- Further detail required on embedded mitigation measures such as the compensation package and community mitigation fund.

**Economics and employment** – Key observations include:

- The assessment needs to include analysis of the net additionality of socio-economic impacts The Industrial Strategy is the key national economic development document and the socio-economic assessment needs to show how the scheme aligns with it.

**Historic Environment** – Key observations include:

- Significant operational effects relating to visual changes to the settings of heritage assets beyond the Core Study Area, within the ZTV, should be included in the assessment.
- Criteria for assessing the contribution of setting to the significance and appreciation of the assets should be clearly set out and defended in the assessment.
- HSPG would expect to see responsive nonstandard, detailed design around historic village cores and in areas where historic character survives, to enhance it and the sense of place.

**Health** – Key observations include:

- The health assessment should consider the health and wellbeing impacts of changes in local house prices and difficulties in selling homes
- Safety issues should be considered as part of both construction and operation.
- There should be explicit mention that the health assessment will consider the key health outcomes: non-communicable disease, mental health and wellbeing, injury and nutritional disorders.
- Mental health and wellbeing should be the term used not just wellbeing which is too broad and is decoupled from the fact that adverse effects on wellbeing can lead to mental health/ill health effects.
- The following receptors should be included: Users of the airport, Airport staff/ People who work in the airport, Visitors to the local area and Open, green and play spaces.
- Flooding (assessment and mitigation) should be included in the assessment.
- The health assessment should assess individual components separately e.g. using a health impact table/matrix, and then develop a combined assessment of significance.
- A quantification of the health outcomes of modelled changes in air quality and noise should be provided to HSPG, particularly for sensitive receptors like schools.

**Landscape and visual amenity-** Key observations include:

- Integrate additional considerations into the design including London Green Grid, landscape character variations, vegetated and open space areas and land requiring remediation.
- Develop and share a 3D model for visualisation of the scheme.
- Review views westwards from selected high points in outer London and protected views or views within and surrounding Windsor.
- Provide a strategy which sets out the equivalency of open space and a rationale for its location to demonstrate that the land for open space is on an 'equally advantageous' basis.

**Land quality** – Key observations include:

- HSPG would like to see integration of landfill remediation into the mitigation package for the scheme including commitments for specific sites.

**Noise and vibration** – Key observations include:

- Worst case scheme parameters should be adopted in the assessment in relation to flight paths.
- Quantitative approaches to cumulative assessment in relation to noise should be explored and justification for a qualitative/quantitative method provided.
- If the project is taking existing noise insulation into account, HSPG would expect to see verification that noise insulation is still working as intended in the relevant properties.

**Traffic and transport** – Key observations include:

- A list of sensitive areas on the local road network should be developed in conjunction with HSPG to inquerate in the assessment.
- We note the ES Scope states at Chapter 17, para 17.8.1 that “no effects have been scoped out of the assessment”, however the prescriptive use of the thresholds outlined in the IEA Guidelines may potentially

scope out sensitive locations due to the simplistic nature of this approach. Further evidence that no effects will be overlooked is required.

**Water Environment** – Key observations include:

- It is considered that there are significant flaws in the methodology proposed for surface water assessment (see comments above) which is not considered fit for purpose.
- In relation to groundwater, the methodology is considered appropriate, but potential effects in relation to the Chalk should be included in the assessment, or justification provided for scoping out.
- In relation to flood risk, the FRA and EIA should adopt DMRB significance criteria and be NPPF compliant. The risk of sewer flooding should be included in the assessment. All floodplain compensation areas should be located away from any areas of development allocated in the local plan and HSPG will expect to receive more detail of the ownership and maintenance responsibilities of the floodplain compensation areas. Hydraulic modelling should be undertaken to demonstrate that there are no adverse impacts to flood risk as a result of culverting the river corridor or any new open channels.

**The Scoping Report states in places there is agreement from HSPG on a number of matters, it should be noted HSPG have not yet given agreement to any of the emerging proposals. Consultation is still underway on a range of proposals including environmental specialist areas. .**

Should you have any questions or require any further information, please do not hesitate to contact me at [admin@heathrowstrategicplanninggroup.com](mailto:admin@heathrowstrategicplanninggroup.com).

Yours faithfully,



**Brendon Walsh**  
**Chair of the Heathrow Strategic Planning Group**

On behalf of the following HSPG member organisations:

- London Borough of Hounslow,
- Slough Borough Council,
- South Bucks District Council,
- Buckinghamshire County Council,
- London Borough of Ealing,
- Spelthorne Borough Council,
- Runnymede Borough Council,
- Surrey County Council,
- Thames Valley Berkshire LEP,
- Bucks and Thames Valley LEP,
- Enterprise M3 LEP,
- Colne Valley Park CIC; and
- Royal Borough of Windsor and Maidenhead,

**Appendix 1 – HSPG full response to Scoping Report.**

INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES					
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary	
General	Contents	No overall contents page	Future reports should include an overall contents page to facilitate better navigation of the document for consultees.	Include an overall contents page in future reports.	
Chapter 1 - Introduction	Volume 1, Chapter 1 (Introduction), Paragraph 1.2.5	<i>The components themselves are well determined and their final locations and detailed design are being refined</i> – It is unclear exactly what this statement means and how it related to the scheme to be assessed.	Refer to comments below regarding Rochdale Envelope approach and the need to clearly set out the parameters and flexibility of each of the design components at each stage of assessment.	HSPG to be consulted on the Rochdale Envelope approach to be applied to ensure assessment of reasonable worst case.	
	Volume 1, Chapter 1 (Introduction), Paragraph 1.2.5	Section notes that a 'further Scoping Opinion' may be sought in future. In what circumstances would a further Scoping Report be issued for consultation? HSPG is concerned that the need for a further Scoping Report implies that the scheme is insufficiently developed at present for an informed Scoping Opinion to be adopted by PINS. The current Scoping Report suffers due to a very high degree of uncertainty on scheme elements at present.	HSPG would support production of a further refined Scoping Report for consultation once further scheme details have been developed; this would ensure the assessment effort is focussed on the key environmental risks and appropriate mitigation is built into the design at an early stage.	HSPG would support production of a further Scoping Report once a greater level of design detail is available to ensure the focus of the EIA is properly directed and identify appropriate mitigation measures as early in the assessment process as possible.	
	Volume 1, Chapter 1, Section 1.7.11	The relationship between the ACP and DCO processes is not clearly set out here, i.e. <i>'coordinated but kept separate throughout'</i> . It is accepted that indicative flight paths will need to be adopted in the EIA, but what will the mechanisms be to ensure some integration in the approach?	Greater clarity on the relationship and interaction between the ACP and DCO going forward is required, which will ensure that the EIA provides a fair and accurate assessment of the environmental effects of the proposal.	Further detail on the relationship between the ACP and DCO and the mechanisms to be adopted to ensure an integrated approach.	
Chapter 2 – Description of the existing site and its surroundings	Volume 1, Chapter 2	Provides an appropriate summary of the existing site.	More detailed information on the existing site would be expected to be included in the PEIR and ES.	More detailed information on the existing site would be expected to be included in the PEIR and ES.	

INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Chapter 3 – The DCO Project	Volume 1, Chapter 3	<p>Rochdale Envelope Approach</p> <p>HSPG recognises that the scheme is still at options masterplanning stage and there are elements of each component which are undefined, and will need a degree of flexibility up to and including the final DCO scheme.</p> <p>However, at present HSPG consider that the approach to the Rochdale Envelope to be adopted at later stages of assessment is poorly defined in the Scoping Report in relation to treatment of individual environmental topics.</p> <p>The Rochdale Envelope approach should ensure the assessment of a reasonable worst case, i.e. a conservative approach to each of the topic areas. The scheme parameters to be assessed may therefore vary by topic area, depending on what configuration of elements are the 'worst-case' for each topic. This is a standard approach adopted on several similar major schemes where design flexibility has been required, but is not adequately set out in the Scoping Report at present.</p> <p>The flexibility requirements inherent in each major component of the development is considered to be adequately addressed in the Scoping Report but will need to be reviewed and updated as the scheme design progresses.</p>	<p>Transparency in method and application of a Rochdale Envelope approach will allow for a comprehensive assessment and identification of mitigation measures for the local community, whilst retaining flexibility for amendments as the plans evolve.</p>	<p>The Rochdale Envelope Approach is currently poorly defined and does not fully adopt best practice and the approach set out in PINS advice note Nine. Recommend review of PINS advice note Nine and the setting out of a more clearly defined approach. HSPG to be consulted on the Rochdale Envelope approach to be applied to ensure assessment of reasonable worst case.</p>
Chapter 4 – Approach to EIA Scoping	Volume 1, Chapter 4, Section 4.2.6	<p>This section states that ..<i>the topic chapters consider the environmental effects of the full range of options, to ensure that the likely significant effects of each of the component</i></p>	<p>The combination of elements representing the worst case for each environmental topic would represent a</p>	<p>The Rochdale Envelope Approach is currently poorly defined and does not accurately adopt best practice and the approach set out in PINS advice note Nine.</p>



**INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p><i>options have been scoped into the assessment, meaning the scoping exercise will remain applicable and robust after the options have been further refined...</i> Refer to comments above on Rochdale Envelope approach – this statement does not suggest the adoption of a transparent and robust Rochdale Envelope approach.</p>	<p>more comprehensive and useful method while still retaining flexibility in the design.</p>	<p>Recommend review of PINS advice note 9 and more clearly defined approach. HSPG to be consulted on the Rochdale Envelope approach to be applied to ensure assessment of reasonable worst case.</p>
	<p>Volume 1, Chapter 4, Section 4.4</p>	<p>Consideration of waste is proposed to be excluded from the EIA as it will be covered in other DCO products including the Resource Management Plan. This is not typical of similar DCO EIAs, and the approach risks ignoring significant environmental effects of the proposal in relation to waste and materials management, difficulties in identifying cumulative effects, and the effects on traffic and local communities, if not fully integrated in EIA process.</p>	<p>An integrated waste assessment within the EIA process will ensure that all potentially significant effects are considered, mitigation measures identified and the receptors directly and indirectly affected by waste-related issues clearly identified.</p>	<p>HSPG would like to see waste issues included as a fully integrated part of the EIA. This will ensure cumulative and in-combination waste effects are identified and addressed and the significance of any potential effects are identified.</p>
	<p>Volume 1, Table 4.3</p>	<p>Generic significance matrix and preceding text indicates that 'moderate' effects would be considered usually significant, but in some topic specific circumstances, may be deemed not significant. All other levels of effect are deemed non-significant (marked green in Table 4.3). EIA best practice almost always adopts an approach which defines major and moderate effects as significant. It is also not clear how the decision as to whether a moderate effect is significant will be made.</p>	<p>Moderate effects should be considered significant in all cases and appropriate mitigation applied accordingly – this is in accordance with best practice. Otherwise, a very robust argument and transparent process for determining which moderate effects are not significant needs to be demonstrated.</p>	<p>Moderate effects should be considered significant in all cases and appropriate mitigation applied accordingly – this is in accordance with best practice. Otherwise, a very robust argument and transparent process for determining which moderate effects are not significant needs to be demonstrated.</p>
<p>Chapter 19 – Outline Structure of the ES</p>	<p>Volume 1, Chapter 19</p>	<p>HSPG question the logic of separating the cumulative effects and in-combination effects. A combined chapter in the PEIR/ES would be in keeping with best practice and ensure all interactions are identified and visible in one place.</p>	<p>A combined cumulative and in-combination assessment would reflect best practice and ensure all interactions and effects on local communities are identified.</p>	<p>Combined cumulative/in-combination chapter recommended for PEIR/ES.</p>
	<p>Volume 1, Chapter 19</p>	<p>A section describing the Rochdale Envelope approach to be adopted and any remaining</p>	<p>See comments above re Rochdale Envelope approach and clearly setting out parameters and</p>	<p>See comments above re Rochdale Envelope approach and clearly setting out parameters</p>

**INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		flex in the design should be included in the PEIR and ES. The assessment parameters of the scheme for each environmental topic should also be set out in each topic chapter.	flexibility for each scheme element and environmental topic assessment.	and flexibility for each scheme element and environmental topic assessment.

**Chapter 5 – Air Quality and Odour**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
EIA Methodology	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), Para 5.4.4 Volume 2, Figure 3.1 and 5.1	<b><u>Extent of the core assessment area</u></b> The initial core assessment area is proposed as a grid 12 km by 11 km centred on the existing Heathrow Planning Boundary. Whilst it is noted that the boundaries may be subject to change (based on identification of affected roads, it is our view that the initial assessment area is too limited in spatial extent, particularly to the west where it appears not to acknowledge the location of the new runway. It also omits the Additional Development areas shown in Figure 3.1.	The initial core assessment area should as a minimum use the DCO boundary as a basis, not the existing planning boundary, and apply a suitable buffer around it on a precautionary basis so as to not exclude important baseline information. Slough Borough Council is expected to declare an AQMA in Langley, slightly further west than the extent of the core assessment area, in addition to their existing AQMAs adjacent to the M4 which may be affected by the proposals. The study area should actively include these existing and proposed AQMAs which may similarly have been excluded on the basis of the initial, limited study area.	Extend the core assessment area to take account of (i) the DCO boundary; (ii) Additional Development Areas; (iii) existing and proposed AQMAs for all affected local authorities (HSPG to coordinate provision of data?)
	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), para 5.4.9	<b><u>Identification of affected roads</u></b> The spatial limit of the core assessment area may be extended if traffic modelling indicates that traffic movements on links outside the proposed 12 km by 11 km grid are likely to be affected. The report states that Highways	A precautionary approach to identification of affected road network, particularly in light of the limited extent of the initial core assessment area and poor air quality in some local urban areas, is preferred. The IAQM <sup>2</sup> (2017) land-use planning guidance includes more stringent screening criteria, set specifically with land development in mind, including that	Use IAQM Screening Criteria to identify affected road links

<sup>2</sup> EPUK & IAQM Land Use Planning & Development Control: Planning for Air Quality, January 2017.

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
	<p>England DMRB (2007)<sup>1</sup> screening criteria will be used to determine whether road links will be affected:</p> <ul style="list-style-type: none"> <li>- Road alignment will change by 5 m or more</li> <li>- Daily traffic flows will change by 1,000</li> <li>- Annual Average Daily Traffic (AADT) or more</li> <li>- HDV flows will change by 200 AADT or more</li> <li>- Daily average speed will change by 10km/hr or more</li> <li>- Peak hour speed will change by 20km/hr or more.</li> </ul> <p>The HE's guidance is intended for use on schemes affecting the Strategic Road Network, which would typically move traffic away from populated areas. It was not intended for land development which has the potential to increase flows on roads in urban areas.</p> <p>The DMRB air quality guidance was developed over 10 years ago, at a time when (i) less was known about the health effects of NO<sub>2</sub>, now understood to be associated with morbidity (not just in combination with PM), and (ii) when vehicle emission reductions were expected to result in lower concentrations in future, a trend which has not been realised in many areas (despite certain of the newest, mostly petrol, vehicles having lower emissions closer to the latest standards).</p> <p>The scoping report shows that local NO<sub>2</sub> concentrations are high and a downward trend is not clearly apparent, thus a smaller change now may be of greater importance than it was in 2007. AQMAs continue to be declared, specifically in congested areas where emission rates have historically underestimated actual</p>	<p>within urban areas. It includes the following traffic flow thresholds:</p> <ul style="list-style-type: none"> <li>- Changes in LDV flows by (i) more than 100 AADT within or adjacent to an AQMA; or (ii) more than 500 AADT elsewhere;</li> <li>- Changes in HDV flows by (i) more than 25 AADT within or adjacent to an AQMA; or (ii) more than 100 AADT elsewhere.</li> </ul> <p>The IAQM notes that “where whole authority AQMAs are present and it is known that the affected roads have concentrations below 90% of the objective, the less stringent criteria are likely to be more appropriate.”</p> <p>For example, using DMRB, any roads where there is an increase of fewer than 200 HGVs per day would not be assessed in detail in the EIA. By contrast, IAQM guidance states that an increase of 25 HGV per day in an AQMA should trigger a detailed air quality assessment, or 100 outside an AQMA. These criteria are considered more appropriate in urban settings where smaller changes in air quality may be critical to achieving compliance with EU limit values.</p> <p>Given (i) the proximity to current and planned AQMAs, (ii) the proximity to areas of known Limit Value exceedance as modelled by Defra's PCM (see comments on the limitations of this national scale model), and as demonstrated by local monitoring, (iii) the magnitude of the proposed development and duration of the construction period, (iv) uncertainty of future baseline projections, (v) the range of uncertainty of the forecast impacts of the Surface Transport and Freight Strategies, it is recommended the study takes a precautionary approach and applies IAQM screening criteria for changes to traffic flows, as a minimum those in urban areas and existing and proposed AQMAs, in order to identify a robust study area and ensure potentially significant impacts are not missed.</p>	Summary

<sup>1</sup> Highways Agency, Design Manual for Roads and Bridges. Volume 11. Section 3. Environmental Assessment Techniques. Part 1. HA207/07. Air Quality, 2007

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
	Volume 1, Chapter 17 (Traffic and Transport), Section 17.4 (Study Area), para 17.4.8	<p>exhaust conditions (a point acknowledged in Appendix 5.1, para 1.4.6). Arguably, then, a smaller increment could now result in a significant effect, particularly within AQMAs in town centres.</p> <p>The traffic assessment will consider only areas with change in flows of 30% or 10% HGV flows in sensitive areas.</p> <p>It is important that potential air quality impacts within AQMAs are given due consideration even where these may not fall below the thresholds for the traffic assessment. A numerical change in HGV numbers is preferable as a criterion to a percentage change.</p>	<p>The traffic assessment should include consideration of impacts on AQMAs even where the change may be less than 10% of the total flow.</p>	<p>Review traffic assessment methodology to ensure all potential air quality impacts within AQMAs are given due consideration.</p>
	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), para 5.4.13-14 Volume 2, Figure 5.2	<p><b>Assessment of compliance</b></p> <p>The methodology proposes comparison with selected PCM links to assess compliance with EU limit values.</p> <p>In fact, the wording in the Airports National Policy Statement is broader than this, requiring the applicant to demonstrate that construction and operation “<i>will not affect the UK’s ability to comply with legal obligations</i>”. These include EU limit values (as established under the Air Quality Directive 2008), but reference is also made to the National Emission Ceilings Directive. The NPS requires the environmental statement to assess “<i>existing air quality levels for all relevant pollutants referred to in the AQS Regulations 2010 and the National Emission Ceilings Regulations 2002</i>” in addition to “<i>forecasts of levels for all relevant air quality pollutants at the time of opening</i>”.</p> <p>The Airports NPS does not specifically refer to Defra PCM compliance, but “<i>areas above the</i></p>	<p>A broader assessment of compliance would provide local authorities in the surrounding areas with more confidence that the development will not affect their ability to comply with legal requirements.</p>	<p>The assessment of compliance should include consideration of the National Emission Ceilings Regulations, in addition to the AQS Regulations.</p> <p>Assessment of compliance with EU limit values should be broader than use of the PCM model alone.</p>

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>limit value", requiring a broader definition of compliance (ref. also the recent Silvertown DCO). Revisions to the text of the National Planning Policy Framework signal that it is now not only areas of exceedance that are of concern.</p> <p>Project compliance with objectives and EU limit values must look beyond the PCM modelled area and Greater London Agglomeration as impacts may occur at sites not in the model, and further to the west including M4 Slough AQMA. Given the uncertainties and gaps in Defra's crude nationwide PCM model, which are well known to AQ specialists, it seems wholly inadequate for the proposed development only to focus on compliance on PCM links, not least because it omits the entire M25 as well as M4 through Slough.</p> <p>Furthermore, the rates of decline in concentrations assumed in the PCM model (Table 5.7) bear little resemblance to the trends in the study area (Table 5.3). For example, the PCM model suggests that concentrations in Colnbrook AQMA at roadside are meeting the NO<sub>2</sub> AQ objective; Slough monitoring (Figure 5.5) suggests otherwise.</p>	
		<p><b>Figure 5.2</b> shows the "key Defra PCM locations" just as centre points rather than the full extent of the model links.</p>	<p>Assess the full extent of PCM links, not only at the centre points. Revise figure to show the full length.</p>
		<p><b>Para 5.4.14:</b> As written, this seems to suggest that airport related emissions will not be included in the assessment of compliance.</p>	<p>Compliance along the full extent of PCM links should be assessed not simply as a point, to ensure the worst case receptors are considered.</p> <p>Emissions from all sources should be included within the compliance assessment, to ensure that all impacts are considered when calculating total change with the proposals.</p>
		<p><b>Construction Dust</b></p>	<p>Include emissions from all sources within the assessment of compliance</p>

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), para 5.4.15, paras 5.9.10-16	The dust assessment must be transparent in its definition of construction dust emission magnitudes, and of receptor/area sensitivity. A Rochdale Envelope approach should ensure the assessment of a reasonable worst case, i.e. a conservative approach to construction dust emissions estimates.	Transparency in method and application of a Rochdale Envelope approach will allow for a comprehensive assessment and identification of mitigation measures for the local community, whilst retaining flexibility for amendments as the plans evolve.	HSPG to be consulted in definition of construction dust emission magnitudes and area sensitivity and on the Rochdale Envelope approach is applied to ensure assessment of reasonable worst case.
	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), para 5.4.17, para 5.9.17	<b>Odour</b> More detail on potential odour sources locations, strength, and emission type required to allow comment on the proposed assessment method. A qualitative Source-Pathway-Receptor approach for odour (as outlined in IAQM guidance) is reasonable during construction. It is unclear whether detailed modelling of aircraft odorous emissions of VOCs including diffuse emissions from fuel handling is proposed.	Further information should be presented in the PEIR to justify the chosen approach to odour assessment.  Good practice mitigation measures for handling, containing and disposing of any contaminated soil or other odour sources should be adequate to ensure no significant impacts on the local community.	Present further analysis in the PEIR to justify chosen approach to odour assessment.  Consult with HSPG on recommended odour containment methods
	Volume 1, Chapter 5 (Air Quality), Section 5.5 (Sources of data used in scoping), paras 5.5.4-5 Volume 2, Figures 5.4 and 5.5	<b>Baseline monitoring data</b> Figures 5.4 and 5.5 do not include any monitoring from within the Slough AQMA on the M4 It would be more informative to present the data with an intermediate colour for sites approaching/just exceeding the AQS objective (e.g. within 10%), as these may exceed/meet in future with the proposals	Inclusion of additional monitoring data from nearby AQMAs, coupled with more detailed presentation of results, would enhance understanding of the baseline conditions at sensitive locations and potential for improvements/small deteriorations to have a significant impact.	Include monitoring data from relevant local authorities in a wider study area.  Present monitoring data with an intermediate colour for sites approaching the objective (e.g. within/over 10%).
	Volume 1, Chapter 5 (Air Quality), Section 5.6 (Baseline Conditions)	<b>Baseline Conditions</b> <b>Para 5.6.3:</b> This could also acknowledge the portion of PM that is formed by secondary particulate formation following emission of NO <sub>x</sub> and SO <sub>2</sub> (of which aircraft and land transport are a key source)		

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p><b>Table 5.3:</b> - Although not formally removed from the air quality strategy<sup>3</sup>, the higher benzene objective for 2003 is essentially superseded by the lower limit to be achieved by 2010. The annual mean objective for PM<sub>2.5</sub> (as alluded to in 5.6.7) is not included in this table.</p> <p><b>Para 5.6.6:</b> This should reference AQMA which may be on a route affected by additional traffic as a result of the airport expansion. For instance, both the Slough M4, and the proposed new AQMA in Langley.</p> <p><b>Para 5.6.13</b> – CO objective/concentrations should be described in units of mg/m<sup>3</sup></p> <p><b>Table 5.4:</b> The scoping report has not included a complete analysis of the data such as trends. Inclusion of 2017 data would help illustrate recent trends as 2016 is generally considered a poor year for air quality. Some monitoring sites appear at first sight not to show any clear trend, many are stable and some may be increasing. This is in contrast to the justification provided for use of DMRB traffic change criteria (para 5.4.11), which focuses on the expected reductions in vehicle emissions in future.</p> <p><b>Paras 5.6.20 and 5.6.21:</b> Other information sources to provide baseline evidence regarding dust deposition and/or odour would be useful in order to establish a robust starting point. Does Heathrow maintain a complaints log regarding its activities? Is there any further evidence or monitoring from the Environmental Management System?</p> <p><b>Para 5.6.21:</b> Information regarding the scope of the baseline odour surveys is limited.</p>	<p>Include PM<sub>2.5</sub> annual mean objective</p> <p>Ensure definition of study area and description of baseline within it is an iterative process</p> <p>Include trend analysis at PEIR stage</p> <p>Include information from historic Heathrow surveys of dust and odour</p> <p>What will the surveys consider – sniff tests, specific, indicator</p>
			<p>AQMA's in a potentially wider study area to be considered, noting that the IAQM criteria for traffic changes are more stringent. Inclusion of additional AQMA's in the assessment will provide HSPG with information on where small changes may have a significant impact.</p> <p>Statistical analysis of at least 5 years' data should ideally be reviewed in the PEIR to build a robust baseline and thus ensure that future projections are appropriate and realistic</p> <p>A robust monitoring regime will help to ensure appropriate mitigation is put in place</p>

<sup>3</sup> Defra (2007) Air Quality Strategy [https://uk-air.defra.gov.uk/assets/documents/Air\\_Quality\\_Objectives\\_Update.pdf](https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update.pdf)

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
			Summary
	Volume 1, Chapter 5 (Air Quality), Section 5.7 (Likely significant effects)	<p><b>Likely Significant Effects</b></p> <p><b>Para 5.7.1:</b> Limiting the scope of the road traffic assessment to NO<sub>x</sub>/NO<sub>2</sub> and PM<sub>10/2.5</sub> is considered appropriate. It is noted VOCs will also be included for aircraft emissions. If industrial processes associated with the airport are specific emitters of other pollutants e.g. SO<sub>2</sub>, heavy metals, these should also be considered.</p> <p><b>Table 5.8:</b> No reference to ecological sites as receptors.</p> <p><b>Table 5.8:</b> The scope of the assessment for the construction phase includes emissions from construction vehicles and plant through fuel combustion that could increase concentrations of NO<sub>2</sub> and PM. Emissions from worker vehicles accessing the site appear not to have been considered. Further, it is unclear whether an assessment of road traffic emissions will be undertaken during construction as well as operation.</p> <p>Table 17.3 of Chapter 17 (Traffic and transport) appears comprehensive in its coverage of likely effects. Consideration of HGV impacts in the air quality chapter, given a) significant construction movements b) possible freight parking area (para 5.10.6) and c) increase in freight at the airport, appears weak in comparison.</p> <p>Under mitigation options for the construction phase (para 5.10.5), it is noted opportunities are being investigated to maximise the transport of bulk construction materials by rail, as a means of reducing construction traffic and emissions. If this option is taken forward, rail freight emissions should be subject to screening at PEIR stage. Note screening criteria within Defra's Local Air Quality Management Technical Guidance TG</p>	<p>compounds or odour by olfactometry?</p> <p>Include ecological sites as receptors in Table 5.8.</p> <p>Detailed air quality assessment of traffic emissions during the construction phase, including HGV movements, worker vehicles, and temporary traffic management, and any increase in freight movements once operational.</p> <p>Undertake detailed screening of construction rail emissions</p>
		<p><b>Table 5.8:</b> Receptors in final column should also include ecological sites.</p> <p>A conservative approach to the assessment of construction traffic emissions should be taken in the event of uncertainty regarding phasing of works. This should include both HGV and worker movements, as well as temporary traffic management, particularly with regard to the M25 works which may displace traffic.</p> <p>Given the timeframes for construction works, and the extensive changes proposed to the road network once operational, plans to manage the traffic disruption should be set out (e.g. diversions, contraflow, or overnight works), and a suitably detailed air quality assessment undertaken to identify mitigation.</p> <p>A detailed approach to the screening of construction rail emissions would be welcome in the PEIR, which should as a minimum include identification of sensitive receptors within 30 m of the proposed freight routes and investigation of current NO<sub>2</sub> concentrations at those receptors, and potential for impacts in combination with construction traffic emissions, prior to screening out significant impacts (Defra background maps of annual mean may not accurately reflect the concentrations experienced at receptor locations).</p>	



Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>(16) relate to passenger trains (DMU) which have much lower emissions than freight trains (ref. DfT webTAG guidance).</p> <p><b>Table 5.8:</b> The scope of the assessment for the operational phase considers aircraft movements on the new runway and taxiways. Appears not to consider reductions in emissions from the two existing runways, once the third runway is operational</p> <p><b>Table 5.8:</b> The scope of the assessment for the operation phase includes combustion emissions of NO<sub>2</sub> and PM from both aircraft movements on the new runway and taxiways, as well as land based activities in support of airport operation. However, there may also be non-combustion emissions of PM from tyre wear, particularly from aircraft landings. Whilst emission factors are likely to be highly uncertain, given the focus on reduction to exposure to PM<sub>2.5</sub> within the 2018 Clean Air Strategy, the PEIR should consider this source / provide justification for scoping out.</p>	<p>Assessment of potential reduction in emissions from other runways, e.g. through reduced holding time may identify air quality benefit</p> <p>Include consideration of non-combustion PM emissions from airport operations and aircraft (e.g. tyre wear from aircraft landings), with reference to objectives to reduce exposure to PM<sub>2.5</sub>.</p>	<p>Holistic assessment of operation of the three runways operating together.</p> <p>Consider non-combustion PM emissions from aircraft and airport operations</p>
	<p>Volume 1, Chapter 5 (Air Quality), Section 5.9 (Assessment Methodology), para 5.9.22</p> <p>Volume 3, Appendix 5.1 (Detailed Modelling)</p>	<p><b>Assessment Method: Detailed Modelling</b></p> <p><b>Appendix 5.1, Section 1.1 Sources:</b> This appears only to consider operational phase sources. Detailed modelling should also be undertaken for the construction phase, given length of time and expected numbers of construction traffic movements (both HGVs and workers)/construction plant and NRMM.</p> <p><b>Appendix 5.1, Para 1.1.2:</b> The recognition of uncertainty is welcome although it is unclear how or why the models will be validated. Use of a state of the art model that is approved for use by the Environment Agency / Defra, such as ADMS or AERMOD, would remove need to validate models. However, as set out in Appendix 5.1, Section 2.6, the model results should be verified</p>	<p>Detailed air quality modelling of construction phase to fully assess impacts on sensitive receptors in a well defined and precautionary study area.</p> <p>Proportionate approach to model validation and verification</p>	<p>Include detailed air quality modelling for the construction phase where appropriate</p> <p>Consider whether validation of the models themselves is necessary.</p>

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>through comparison with real world monitoring data, and adjusted where appropriate.</p> <p>Calculation of LTO emissions up to 1km height is considered appropriate for aircraft emissions with regard to impacts on local air quality. However there may be impacts on ecological sites through deposition of pollutants and justification of applying the same approach should be provided.</p>	<p>Consideration / justification required for deposition of nitrogen/acid to ecological receptors further afield once aircraft are beyond this area.</p>	<p>Consider need for assessment of aircraft emissions beyond 1km LTO cut off for ecological impacts</p>
		<p><b>App 5.2</b></p> <p><b>Para 2.3.2</b> – there is unlikely to be a single “worst case” meteorological year for all receptors under varying operational scenarios/ layout options/runway allocations. This may result in underreporting of findings.</p> <p><b>Para 2.5.2, 2.7.6</b> – the primary NO2 emission from aircraft is likely to differ to those for road vehicles therefore application of PCM/LAQM approaches may not be suitable. Justification for applying these factors, including demonstrating they are conservative, should be provided in full.</p> <p><b>Para 2.7.3</b> – Justification that the assumption that only direct deposition of NOx is relevant appears to be missing, can a reference be provided? Clarify if same exclusion of ammonia for road traffic is relevant to aircraft emissions. Even if released in smaller quantities, its relative contribution to N deposition is greater.</p> <p><b>Effect significance</b></p> <p>The approach for construction traffic is to use HE interim guidance<sup>4</sup> to assess the significance of</p>		<p>Concentrations should be presented for a variety of years</p> <p>Ensure appropriate NOx to NO2 conversion is applied</p> <p>A full explanation of the justification behind choices for approach to ecological assessment</p>
	Volume 1, Chapter 5 (Air Quality),		<p>Given (i) the proximity to current and planned AQMAs, (ii) the proximity to areas of known Limit Value exceedance as</p>	<p>Use IAQM guidance on land use planning and development</p>

<sup>4</sup> Highways England, Interim Advice Note 174/13 Evaluation of Significant Local Air Quality Effects, 2013

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
	Section 5.9 (Assessment Methodology), para 5.9.25-27 and Table 5.10	<p>effects from changes in NO<sub>2</sub> and PM concentrations. This defines changes of less than or equal to 1% of the air quality threshold as 'imperceptible' (0.4 µg/m<sup>3</sup> for NO<sub>2</sub> as an annual average). Conversely, IAQM guidance on land use planning and development control,<sup>5</sup> which is considered more appropriate for developments in urban areas, describes changes of less than 0.5% as negligible (0.2 µg/m<sup>3</sup> NO<sub>2</sub> as an annual average). Use of DMRB guidance, may result in changes that are significant for local authorities to be missed.</p> <p>Definition of significance may need to be redefined in light of Defra's draft Clean Air Strategy which aims to reduce exposure to PM<sub>2.5</sub> and introduction of tighter standard. DMRB does not explicitly consider this pollutant.</p>	<p>modelled by Defra's PCM (see comments on the limitations of this national scale model), and as demonstrated by local monitoring, (iii) the magnitude of the proposed development and duration of the construction period, (iv) uncertainty of future baseline projections, (v) the range of uncertainty of the forecast impacts of the Surface Transport and Freight Strategies, it is recommended the study takes a precautionary approach and applies IAQM guidance significance criteria, particularly in areas within or adjacent to AQMAs, or where concentrations are approaching the air quality objectives.</p> <p>Consideration of significance of PM<sub>2.5</sub> results with reference to exposure reduction will help identify appropriate mitigation.</p>
	Volume 3, Appendix 4.3 (Guidance and Best Practice Documents)	<p><b>Guidance and Best Practice Documents</b></p> <p>Relevant guidance for air quality also includes IAQM Guidance on land-use planning and development control, considered best practice methodology for land development in spatial planning. The DMRB is intended for application to major new road schemes. This IAQM guidance document on the other hand is applicable to assessing the effect of changes in exposure of members of the public resulting from residential and mixed-use developments, especially those within urban areas where air quality is poorer (and thus a smaller change in air quality may be more significant).</p> <p>Environment Agency (EA) online guidance for dispersion modelling of point sources should be referred to for sources such as power generating plant.</p>	<p>control criteria to determine significance of effect, as a minimum in areas of existing/proposed AQMAs and other sensitive areas</p> <p>Include consideration of PM<sub>2.5</sub> significance in context of exposure reduction</p> <p>Use IAQM Guidance on land use planning and development control, as best practice methodology for land development, applicable to assessing the effect of changes of exposure, particularly within urban areas.</p> <p>Use EA guidance for dispersion modelling of point sources</p>

<sup>5</sup> EPUK & IAQM Land Use Planning & Development Control: Planning for Air Quality. January 2017.

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>The reference in this table and in Appendix 5 1.2.1 to PSDH report on air quality is welcomed.</p> <p>Slough has developed a draft Low Emissions Strategy<sup>6</sup>, which references Defra's emission damage cost approach to assess mitigation requirements. The London Plan (Policy 7.14) also includes the requirement that developments are 'air quality neutral', and require calculations of building and transport emissions. Inclusion of such an approach to mitigation for the Heathrow Expansion would be relevant, particularly in light of the wide area that may be affected by emissions and thus population exposed, including to PM<sub>2.5</sub>. The AQC air quality neutral guidance<sup>7</sup> recognises that major transport infrastructure development uses the DfT's webTAG methodology which includes economic valuation.</p>	<p>Inclusion of an emission damage cost methodology or equivalent, would provide a means of quantification and monetisation of emissions impacts, which could be used to inform the assessment of mitigation options (including on-site, off-site and financial contributions).</p>	<p>Assessment to be done in line with PSDH</p> <p>Include an emissions damage cost assessment or equivalent for the construction and operation phases.</p>
Alternative options	General	<p>Ensure a Rochdale Envelope approach is applied to ensure the assessment of a reasonable worst case, i.e. a conservative and precautionary approach, where potential exists for the location/magnitude/temporal scope of emissions to change during the DCO process and once operational</p>	<p>Transparency in method and application of a Rochdale Envelope approach will allow for a comprehensive assessment and identification of mitigation measures, whilst retaining flexibility for amendments as the plans evolve.</p>	<p>Ensure an appropriate Rochdale Envelope approach is applied to ensure assessment of reasonable worst case</p>
Cumulative effects	Volume 3, Appendix 3.1 (Cumulative effects)	<p>The principle of the approach appears sound in relation to air quality effects:</p> <ol style="list-style-type: none"> <li>Scheme-wide effects = DCO with "other development" associated with airport expansion</li> </ol>	-	-

<sup>6</sup> Slough Low Emission Strategy (LES) 2018-25 Draft, November 2017. Available online at: [http://www.slough.gov.uk/downloads/LES\\_final\\_draft\\_23Nov.pdf](http://www.slough.gov.uk/downloads/LES_final_draft_23Nov.pdf)

<sup>7</sup> Air Quality Consultants/Environ (2014) Air Quality Neutral Planning Support Update <http://www.aqconsultants.co.uk/getattachment/Resources/Download-Reports/GLA-AQ-Neutral-Policy-Final-Report-April-2014.pdf.aspx>

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>b. Effects of Scheme plus other development - under construction, permitted, submitted - in line with PINS advice note 17</p> <p>c. In combination effects - e.g. noise, air quality and visual on health.</p> <p>The assessment scenarios (Appendix, Table 3.2) appear sound, covering both construction and operational impacts on existing and new receptors.</p> <p>A robust assessment year should be selected, ensuring a balance between likely improvements in air quality vs increase in emissions due to growth in land/air traffic</p> <p>The proposed use of strategic traffic model data should take into account growth as a result of development as set out in local plans. This should include plans for surrounding local authorities not just those within which the DCO boundary sits, as this may affect flows in wider area. Model adjustment may be necessary to also consider for other developments not included in local plans.</p> <p>Table 3.1.1 - the air quality study area for cumulative impacts cannot be commented upon at this stage. It should be noted the area presented in the scoping report is subject to change (but in our opinion, should be expanded), as is the case for noise.</p> <p>Appendix A3.4 identifies 2079 cumulative developments. A proportionate approach to assessment would be welcome to ensure the assessment can be interpreted readily and the key impacts identified by stakeholders. This could incorporate an initial screening step undertaken to identify those with potential AQ Impacts.</p>	<p>HSPG should ensure ongoing consultation in the identification on relevant developments and on any approach to screening. Consideration should be given as to whether the Western Rail Link should be included as a Scheme Wide impact</p>
			<p>For cumulative developments where there is a high degree of uncertainty, apply precautionary principle and professional judgement in a qualitative assessment, if numerical data are not available to allow for modelling.</p>

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Scheme design	-	-	As a general measure, construction and operation should be planned so as to increase distance between source and receptor where practicable  Potential to extend Ultra Low Emission Zone (ULEZ) to just inside the M25 boundary. Joint monitoring and review processes and action are required to monitor air quality targets and manage the improvement of air quality improvement and across the HSPG area impacted by expansion; HAL should be required to fund the air quality monitoring.	-
Mitigation	Volume 1, Chapter 5 (Air Quality), Section 5.10 (Approach to Mitigation)	<b>Mitigation: Construction</b> References to specific guidance and further detail on proposed mitigation measures should be included, e.g. dust, non-road mobile machinery (NRM), construction vehicles (HGVs and LGVs) and construction worker movements	Mitigation measures for construction dust should reference guidance by the GLA and IAQM. A commitment to vehicle standards for NRM, should follow GLA guidance and SPGs. Emissions performance of HGVs and LDVs used during construction should be Euro VI/6 or better. Emissions from concrete batching/crushing screening will be controlled by a local authority permit	Assessment should be iterative, so that due consideration is given to emissions from mitigation measures such as the use of rail/waterways
	Volume 1, Chapter 5 (Air Quality), Section 5.10 (Approach to Mitigation)	<b>Mitigation: Operation</b> It would be useful to include details of the methodology by which the impact on air quality emissions and concentrations of mitigation measures will be quantified. For example, whilst it is assumed that changes to traffic volumes resulting from Surface Traffic and Freight mitigation will be incorporated into traffic modelling (and therefore into the AQ model), there are no details regarding a methodology to quantify the impacts of emission reduction measures, i.e. incentivising / requiring use of low emission vehicles – both as part of airport operations, as well as public vehicles accessing the site (e.g. measures identified within the ANPS, para 5.10.11, emission-based vehicle charging para 5.10.16).	The air quality emissions and concentrations impacts of mitigation measures should be fully quantified, ideally including use of emission damage cost methodologies to inform whether additional mitigation (on-site, off-site or financial contributions) is required for either construction or operation phase emissions. Details of the methodology to be used set out in the PEIR.	Establish methods to be used to quantify mitigation impacts. Include an emissions damage cost assessment for the construction and operation phases.

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>The methodology proposed does not include reference to air quality neutral or emissions damage costs (ref. Policy 7.14 within the London Plan and Slough's draft Low Emissions Strategy). Inclusion of such an approach to mitigation for the Heathrow Expansion, for both construction and operation phases, is welcome, particularly in light of the wide area that may be affected and thus population exposed, in particular to PM<sub>2.5</sub>.</p> <p>Outline mitigation is provided at this stage and a more detailed mitigation strategy will be required for the EIA.</p> <p>The success of the air quality mitigation is dependent on the contents and delivery of separate documents (Surface Traffic Strategy, Freight Strategy and existing Heathrow Low Emissions Plan). The impacts of these strategies on air quality should be clearly established.</p>	<p>The following additional measures should be considered, many of which could be initiated at an early stage to improve local air quality, contribute to achieving legal compliance and help to offset both construction and operation emissions.</p> <ul style="list-style-type: none"> <li>- Investment in low emission bus fleet (i) servicing Heathrow; (ii) on other routes in surrounding areas as off-site / financial mitigation</li> <li>- Investment / funding to incentivise low emission taxis, for example provision of ULEV taxi ranks and supporting charging infrastructure at the airport, and surrounding rail hubs, supporting complete electric journeys from home to Heathrow. Note, there is a direct opportunity to work with Network Rail and develop Langley as an ultra-low emission hub, as Slough has already received £157k in OLEV funding for rapid charging facilities for plug-in taxis and the licensing committee is set to approve plans for all taxis to be ULEV by 2025.</li> <li>- Broader expansion of EV charging infrastructure, both within the airport and in the surrounding areas</li> <li>- Zero/low emission or electric vehicles as part of airport operations</li> <li>- Ringfencing of funds from emission-based access to support low emission measures within the local area</li> </ul>
			<p>Summary</p> <p>Consider broader measures to contribute to air quality improvement in surrounding areas. Maintain close communications with local authorities to maximise opportunities for a coordinated approach.</p> <p>HSPG should be kept informed of the development of mitigation options, and opportunities for a coordinated approach should be maximised.</p>

Chapter 6 – Biodiversity				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
EIA Methodology	Volume 1, Chapter 6	<p>The desk study search area extends to 20km for international/European sites in relation to nitrogen deposition due to traffic. The HRA should also take into consideration SACs designated for bat species which can be highly mobile and range long distances.</p> <p>Effects of local or negligible significance are proposed to be scoped out. LNRs and Sites of Local Importance for Nature Conservation (SLINCs) could be argued to be of local importance and any loss of these sites is of local significance. However, these sites have been valued at higher than local importance (Borough or County) in the Scoping report. This avoids these sites being scoped out of further assessment.</p> <p>The report states that Species of Principle Importance (SPI) are generally considered to be Nationally important (para 6.9.9), but in Table 6.12 regularly occurring populations of SPI are considered to be of Regional importance.</p> <p>The Biodiversity Offsetting Strategy would take into account negative effects on ecological features of local importance, even though effects on these features is deemed to be not significant. There is a risk that, if locally significant effects are not included within the EIA, these effects could be relegated at later stages of scheme development in relation to biodiversity offsetting targets.</p> <p>The identification of likely effects does not include the effect of increased run-off from the new runway and hard surfaces into watercourses causing increased water flow and flooding events.</p>	<p>Full consideration should be taken of local development policies.</p> <p>The implementation of the Biodiversity Offsetting Strategy in full should ensure locally significant losses of habitat are taken into consideration in providing biodiversity net gain. However, the mechanism for how this would be delivered, if not an integral part of the EIA process, should be fully explained.</p>	<p>Effects on bat species in relation to SACs should be assessed under the HRA.</p> <p>Clarification of the value of Local sites (LNRs and SLINCs).</p> <p>Clarification of the value of populations of SPI.</p> <p>Clarification that biodiversity offsetting will take into account locally important habitats.</p> <p>Clarification that surface water run-off will be assessed in terms of volumes and flooding and the effects on biodiversity.</p> <p>A firm commitment to ensuring all effects of local or negligible significance are captured in the Biodiversity Offsetting strategy and the mechanisms for achieving this is not assessed in the EIA.</p>
Cumulative effects	Volume 1, Chapter 6	<p>Effects of local or negligible significance are proposed to be scoped out, without consideration of the cumulative effect of a number of locally significant effects.</p>	<p>Consideration should be made to the cumulative effect of a number of locally significant effects that could collectively be more significant.</p>	<p>Confirmation that the cumulative effect of a number of locally-significant effects will be taken into consideration.</p>



<b>Chapter 6 – Biodiversity</b>			
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>
Scheme design	Volume 1, Chapter 6	The outline scheme design provides large areas of new habitat. However, the detail of this habitat is outline at this stage and detailed calculations for the provision of offsetting for biodiversity net-gain is not set out in the Scoping report.	-
Mitigation	Volume 1, Chapter 6	New habitats will require management in the long term (some e.g. meadow that are labour intensive). New habitats may be given over to local countryside organisations for future management which will require sufficient financial support. There is a risk that created habitats lose biodiversity value over time due to lack of management.	Consideration should be made of the ecosystem services provided by existing habitats loss and these services should be inherent in the new habitats provided.  Clarification required on how ecosystem services and long-term management of compensation sites are being taken into consideration.
			Summary

<b>Chapter 7 – Carbon and other Greenhouse Gases</b>			
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>
EIA Methodology	Volume 1, Sections 7.9.12 – 7.9.29	The positioning of the scope boundaries is important to the robustness of the study, as any exclusions or omissions will lead to an underestimated result. Further clarity on what specific items will be excluded and included in the study area is required.  It is stated that the scope of the assessment will be decided by the amount of 'reasonable data or assumptions' available. Further detail should be provided, for each emission source, on the amount of data expected to be from actual project	Further detail required on what specific items will be included in and excluded from the study boundary, which parts of the calculation will be based on actual project data and which will be based on proxy data.  Further detail required on the basis of assumptions (e.g. has a reasonable worst-case been selected).  Details on the approach to quantify and present carbon offsetting/sequestration to be provided.
			Summary
			Further detail required on what specific items will be included in and excluded from the study boundary, which parts of the calculation will be based on actual project data and which will be based on proxy data.  Further detail required on the basis of assumptions (e.g. has a reasonable worst-case been selected).

Chapter 7 – Carbon and other Greenhouse Gases				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>data, the amount that will be estimated p data, and what will be based on non-project-specific proxies. Any exclusions from the study should be clearly justified, and the effect of any assumptions on the accuracy of the result should be made.</p> <p>The assessment of operational emissions will use future projections, for example projected decarbonisation of the UK National Grid, and reduction in use of fossil-fuel powered vehicles. It is unclear how these future scenarios will be selected. Will a realistic worst-case be used? Over-estimation of UK electricity decarbonisation, for example, will lead to an under-estimation of operational emissions. Depending on the scenarios chosen, this may lead to significant inaccuracies in the study.</p> <p>The Scoping Report does not explain what the approach will be to quantifying and presenting carbon offsetting/sequestration as described in the Consultation Document.</p>		<p>Details on the approach to quantify and present carbon offsetting/sequestration to be provided.</p>
	<p>Volume 1, Sections 7.9.32 – 7.9.33</p>	<p><b>Significance Assessment</b> The Scoping Report states that professional judgement will be used to determine whether emissions are significant, however it is not clear how this will be done in the absence of suitable best practice guidance.</p> <p>The IEMA guidance referenced in the report states that because GHG emissions will all contribute to climate change (the largest cumulative environmental effect and one that has a scientifically defined threshold) any GHG emissions might be considered significant.</p>		<p>Further detail required on how 'professional judgement' will be used to determine significance of emissions.</p>

Chapter 7 – Carbon and other Greenhouse Gases				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Alternative options	Volume 1, Section Table 3.7	GHG emissions are scoped out for a number of items under the category 'airport supporting facilities'. It is not clear why this is the case, as there will be both construction and operation impacts for these components.	-	Clarification on reasons why airport supporting facilities have been scoped out of the GHG emission calculations.
Mitigation	Volume 1, Section 7.10	<p>Very little detail on mitigation measures is provided. It is suggested that mitigation measures will meet the requirements in ANPS (5.77, 5.78 &amp; 5.79) and will include design elements, construction approach and traffic management.</p> <p>Further detail on envisaged mitigation measures that directly address the different sources of emissions should be provided. A significant proportion of GHG mitigation measures are achieved at design stage, when decisions about the scale and nature of development and the materials that will be used are made. Further mitigation for the construction phase can come through the specification of construction approaches.</p> <p>Actual and potential mitigation measures presented at this stage would demonstrate that carbon reduction is being embedded into the design.</p>	GHG mitigation measures are integral to the design – see opportunities above. Some detail on how mitigation is being integrated into the design process should be included in the EIA.	Further detailed information around specific mitigation measures that are planned. This might include choice of materials and how material quantities are being reduced, how the design of the scheme minimises emissions from the operational phase, and what construction approaches might be specified to reduce emissions.

Chapter 8 – Climate Change				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary

EIA Methodology	Volume 1, Chapter 8	The methodology seems appropriate and proportionate, and based on relevant policy and legislation. It has also been agreed with the Environment Agency, who will be consulted on an ongoing basis as the study develops. However, it should be noted that the Environment Agency only has responsibility to the Government for ensuring climate change adaptation in relation to water related aspects.	-	-
Alternative options	Volume 1, Table 3.7	Climate Change is scoped out of the options consideration for a number of items under the category 'airport supporting facilities'. It is not clear why this is the case, as the climate resilience of these elements will need to be considered.	Clarification on reasons why airport supporting facilities have been scoped out of the climate change assessment.	Further clarification on scoping out of airport supporting facilities to be provided.
Mitigation	Volume 1, Section 8.10.1 – 8.10.9	The Scoping Report does not specify mitigation measures, rather states that these will be developed by environmental topic leads and embedded through the EIA process. Any additional mitigation will be incorporated into the Climate Change Adaptation Plan.  Effects of climate change on local communities and local resilience to climate change should be considered in the EIA.	Measures to reduce the impacts of climate change on the local area and improve local resilience should be considered as part of the package of mitigation measures.	Local measures to address climate change should be considered in the package of mitigation measures.  HSPG to be consulted on the Climate Change Adaptation Plan.

Chapter 9 - Community		
Aspect	Volume/Report references	Questions and concerns
EIA Methodology	Volume 1, Chapter 9	The method focuses heavily on recreational spaces and routes; there is very little information on how effects of other types of community facility will be assessed (e.g. schools, places of worship etc).
		<p><b>Proposed HSPG approach to address concerns</b></p> <p>Set out the approach to assessing the effects of the project on community facilities such as schools etc. This will need to consider / set out the approach to assessing displacement, severance and viability of the facilities</p> <p><b>Summary</b></p> <p>Set out approach to assessing effects on other community facilities, as it stands the method is focused on recreational spaces and routes.</p>

<p>Paragraph 9.3.6</p>	<p>Paragraph 9.3.6 states that user surveys will be drawn upon where published by LPAs and undertaken with regard to users of recreational facilities, spaces and routes. The onus should be on the applicant to undertake these and this should include a wider range of community facilities (e.g. indoor sports facilities etc).</p>	<p>Paragraph 9.3.6 – Include a user survey of other community facilities, not just recreational spaces and routes.</p>	<p>Ensure that the applicant fills the gaps in user survey data and doesn't rely on solely LPA user surveys, this should include other community facilities not just recreational spaces and routes.</p>
<p>Volume 1, Section 9.6 and Table 9.4</p>	<p>Section 9.6 and Table 9.4 – Identifies baseline population &amp; demographic information. However, it is not clear what the approach will be to assess the impact of the project on the population and demographic mix of the communities</p>	<p>Section 9.6 and Table 9.4 - Provide clarity on the approach to assessing the effect of the project on the baseline population and demographic conditions in each community and the impact this has on the viability of the community.</p>	<p>Clarify how the effects on community viability will be assessed with reference to the effect on population and demographics.</p>
<p>Volume 1, Table 9.3</p>	<p>Table 9.3 – Data Sources. Refers to studies from local authorities etc. The assumption is that local authority assessments will be used, however where these don't exist the Open Space Assessment (OSA) that is being carried out and is referred to in paragraph 9.9:10 should be used.</p> <p>Table 9.3 – open space and indoor recreation deficiency maps should be referred to as a specific data source in this table.</p> <p>Table 9.3 - The quality and value of the recreational space hasn't been referred to. This is important data that should be extracted and included in the assessment.</p>	<p>Table 9.3:</p> <ul style="list-style-type: none"> <li>- Ensure that local authority assessments are used as the starting point, to ensure data is based on local assessments of recreational need.</li> <li>- Include open space and indoor sport catchment / deficiency maps as a data source, and prepare these where they are not available. This will be important for understanding how the project impacts on existing deficiencies in open space and sports facility provision.</li> <li>- Inclusion of value and quality data, to ensure that there is a clear understanding of which are the best quality and highest valued recreational spaces.</li> </ul>	<p>Open space assessments are an important data source, and it is helpful the OSA is being prepared but local assessments of need should take precedence, with the OSA supplementing these.</p> <p>Existing open space and recreational facility deficiency maps are an important data source and where not available should be prepared.</p> <p>The applicant should be using data on the value and quality of recreational spaces to inform the assessment.</p> <p>Local workers should be included as a potential receptor.</p>
<p>Volume 1, Sections 9.6.9 - 10</p>	<p>Paragraph 9.6.9 - 10 and Table 9.5 – doesn't include workers at local businesses who could / are also likely to be users of recreational spaces and routes</p>	<p>Paragraphs 9.6.9 / 10 and Table 9.5 – to add local workers as a potential receptor.</p>	<p>Improve the user survey data by collecting usage data for a wider selection of community facilities (i.e. built facilities).</p>

<p>Volume 1, Section 9.9.10 – bullet 7</p>	<p>Paragraph 9.9.10 (7) - Surveys of users of recreation facilities. There are some weaknesses with the proposed approach including:</p> <ul style="list-style-type: none"> <li>- The survey is exclusively assessing recreational routes and spaces, it would also be valuable to collect data on the use of indoor sports facilities and other community uses.</li> <li>- The paragraph doesn't specify what information about usage will be collected.</li> </ul>	<p>Paragraph 9.9.10 (7) - User survey data collection could be improved by:</p> <ul style="list-style-type: none"> <li>- Collecting usage information for a sample of other community facilities.</li> <li>- Strengthen user data, by collecting data on frequency of use of recreational space / route; distance travelled by user, mode of travel of user, whether the space / route is the primary space / route that the user visits (if not where is their primary space/ route and what others do they visit).</li> </ul>	<p>Strengthen user data by collecting detailed information such as frequency of use etc.</p> <p>The assessment should use recreational provision standards that have been either adopted by LPAs or defined through an assessment of local needs. The standards need to be for all types open space and include indoor sports.</p>
<p>Volume 1, Section 9.9.10 – bullet 8</p>	<p>Paragraph 9.9.10 (8) – States that the OSA will set common standards for provision of open space throughout the agreed study area. The starting point should be to use adopted local provision standards as defined / adopted by the LPAs for affected recreational spaces. It is not clear from the scoping report that the standards will be for all types of open space (i.e. allotments, natural and semi-natural greenspace etc.) not just parks.</p>	<p>Paragraph 9.9.10 (8) – Where LPA's recreational provision standards are missing/ unavailable, adopting standards would be appropriate (if based on an assessment of local needs). The standards used in the assessment should be for all types of open space (i.e. allotments, natural and semi-natural greenspace etc.) not just parks. Indoor sports standards should also be used / defined.</p>	<p>Sensitivity of receptors should be amended so that it is clear where users of non-park recreational spaces and indoor facilities would be placed in terms of magnitude</p>
<p>Volume 1, Table 9.9</p>	<p>Table 9.9 – refers sensitivity of receptors to change of recreation and amenity. There are weaknesses in the approach proposed including:</p> <ul style="list-style-type: none"> <li>- The approach refers to users of 'Regional' or 'Metropolitan' parks etc as a way of considering the sensitivity. This approach works for parks which tend to be defined by a set 'hierarchy' but there are issues with other open space types (including semi-natural green space, water bodies etc.), as it is not immediately clear how each recreation space would be categorised.</li> <li>- It's not clear how indoor recreation facilities will be accounted for in terms of sensitivity, as they are not referred to in this table.</li> </ul>	<p>Table 9.9 – improve the approach to sensitivity of receptors as follows:</p> <ul style="list-style-type: none"> <li>- Define or identify how users of non-park open space types will be classified into a 'hierarchy' based on their size and importance.</li> <li>- Identify how users of indoor recreation facilities will be classified into a hierarchy, based on their catchment.</li> </ul>	<p>Define or identify how users of non-park open space types will be classified into a 'hierarchy' based on their size and importance.</p> <p>Identify how users of indoor recreation facilities will be classified into a hierarchy, based on their catchment.</p>
<p>Volume 3, Appendix 9.4-3 Proforma Attribute Table</p>	<p>Appendix 9.4-3 Proforma Attribute Table</p> <p>The information collected during the walk over survey of recreational spaces and routes has some weaknesses including:</p>	<p>Appendix 9.4-3 Proforma Attribute Table could be improved by:</p> <ul style="list-style-type: none"> <li>- Quality - Define / assess the quality of the recreational space, rather than whether they are 'fit for purpose'.</li> <li>- Value - Include the value of open space as an attribute to ensure highly valued spaces that</li> </ul>	<p>Amend the proforma to make improvements to the data collected in order to provide a clear understanding of the quality, value and role of the recreational spaces that could be affected by the project. This is important for ensuring any replacement land</p>

<p>proposed in secondary mitigation would be of equivalent or better provision than that displaced.</p>	<p>might be affected by the proposals can be clearly identified.</p> <ul style="list-style-type: none"> <li>- Access - Should note the number of entry points / ease of entry under public accessibility attribute.</li> <li>- Amenities - Ensure amenities that would impact on the usage of the recreational spaces are identified.</li> <li>- Perceptual feature - Noise in recreational spaces should be considered / assessed using noise data, and shouldn't be considered a perceptual feature.</li> <li>- Physical attributes - Ensure sports facilities get picked up in proforma</li> </ul> <p>All the above are important in helping to understand the quality, value and role of the recreational spaces that could be affected by the project, and will be important in ensuring any replacement land proposed in secondary mitigation would be of equivalent or better provision.</p>	<ul style="list-style-type: none"> <li>- Quality – this attribute appears to be based on whether the site is 'fit for purpose' rather than the quality of the site.</li> <li>- Value – The value of the recreational space is not considered.</li> <li>- Access does not consider how many points of entry the space has, sites with multiple access points will be widely accessible to their surrounding communities</li> <li>- Amenities – doesn't refer to car or cycle parking, which is important in understanding how the spaces are used.</li> <li>- Perceptual features – refers to noise, this shouldn't be considered a perceptual feature.</li> <li>- Physical attributes – it is not clear how sports facilities e.g. tennis courts etc within a park would be considered, these are recreational facilities in their own right but also part of the overall recreational offer of the park</li> <li>- Does the proforma pick up the full range of multi-functional roles that public spaces can play, for example are the spaces used by local schools as outdoor classrooms, or is the space used for events (e.g. fireworks, fairs etc).</li> </ul>	<p>Adequacy of consideration of cumulative effects</p>
<p>HSPG would like to see clearer evidence of how community effects will be integrated into the cumulative effects assessment.</p>	<p>-</p>	<p>Chapter 9 - No specific approach is identified for cumulative effects on community.</p> <p>Section 9.4 – although study areas are defined, it is not specifically stated that these would also be the Zone of Influence for assessing cumulative effects on community.</p>	<p>Volume 1, Chapter 9, Section 9.4</p>
<p>Confirm that the airport supporting facilities that have been scoped out as not relevant for the community topic could not potentially affect the community (either temporary or permanent).  Further detail on how the level of parking required in particular off airport has been calculated and whether this allows for scenarios for reduced levels of parking.</p>	<p>Section 3.3 and Table 3.7 - Ensure that airport supporting facilities are not relevant for the community topic. For example, the utilities network, is referred to as being to the west of the airport, diversions to these networks could potentially affect the community (either temporary or permanent) and therefore shouldn't be scoped out as relevant to the topic at this stage.</p> <p>Consider whether land take for car parking, (in particular, off airport) and the level of parking overall could be reduced in order to minimise the impact on communities and community facilities. Particularly</p>	<p>Section 3.3 and Table 3.7 – identify that only new cargo floorspace and car parking could be considered as relevant topics for community; the scoping report should clarify why other airport supporting facilities are not relevant to community.</p>	<p>Outline scheme design</p> <p>Volume 1, Chapter 3, Section 3.3 and Table 3.7</p>

Suitability and robustness of proposed mitigation measures (on site, off site and financial)	Volume 1, Section 9.10 – Approach to mitigation.	<p>Section 9.10 - For community the embedded measures included are:</p> <ul style="list-style-type: none"> <li>- Property compensation package in the CPZ and voluntary package in the WPOZ</li> <li>- A commitment to set up a Heathrow Community Engagement Board</li> <li>- Commitment to Community Mitigation Fund</li> </ul> <p>For the property compensation package, the measure identified refers to residents; it's not clear whether this measure extends to business and in particular community facing businesses?</p> <p>The compensation package for the community is not clearly explained.</p> <p>The community mitigation fund is not clearly explained.</p>	<p>given the potential for changes in technology that could result in a significant modal shift.</p> <p>Explain how WPOZ and CPZ are defined and how the compensation package is calculated.</p> <p>Explain the community mitigation fund: what it will be used for and how the funds will be distributed.</p> <p>Consider whether there is an opportunity to phase development in a way that ensures communities are only displaced to minimise disruption and ensuring adequate facility provision prior to displacement.</p> <p>For communities surrounding the airport there are likely to be a range of 'secondary' mitigation measures that, as yet, are not identified in the scoping report and will be identified at the next stage. It will be important to ensure these secondary mitigation measures such as replacement community facilities and recreational amenities (both temporary and permanent replacement facilities) are identified.</p>	<p>Provide a more detailed explanation of the embedded measures such as the compensation package and community mitigation fund.</p> <p>Secondary mitigation measures will be important for the community topic which are not defined at this stage of the EIA.</p>
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**Chapter 10 – Economics and Employment**

<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
Adequacy of EIA Methodology	Volume 1, Chapter 10	<p>The proposed methodology does not include analysis of the net additionality of socio-economic impacts. So for example, it would not capture what proportion of "new" jobs would really be new and would not be displaced from elsewhere. Or what proportion of these jobs would be taken up by local people and benefit local communities, rather than leak further away.</p> <p>The policy review makes no mention of the Government's Industrial Strategy.</p>	-	<p>The assessment needs to include analysis of the net additionality of socio-economic impacts. In addition to the economic multiplier effects already mentioned in the scoping chapter, This includes deadweight, leakage, substitution and displacement effects. This would provide a more robust assessment of the true socio-economic impacts of the scheme. The Industrial Strategy is the key national economic development document and the socio-economic assessment needs to show how the scheme aligns with it.</p>



Adequacy of alternative options	Volume 1, Chapter 10	The scoping report states that a variety of scenarios will be used to assess the range of likely significant effects that could occur. This is an appropriate approach given the number of uncertainties at this provided that a more clearly defined approach to the Rochdale Envelope (see comments above) is adopted.	-	See comments above re Rochdale Envelope approach and clearly setting out parameters and flexibility for each scheme element and environmental topic assessment.
Adequacy of consideration of cumulative effects	Volume 1, Chapter 10	The socio-economic chapter provides no details of likely socio-economic cumulative effects. It refers to the generic cross-topic text provided in Chapter 4.	-	The assessment should indicate the nature of likely cumulative socio-economic impacts as well as the projects that should be considered as part of the cumulative assessment.
Suitability and robustness of proposed mitigation measures (on site, off site and financial)	Volume 1, Chapter 10	-	The scheme has the potential to deliver significant positive socio-economic effects. Therefore, alongside the consideration of mitigation actions for addressing adverse effects, measures to maximise these positive effects (e.g. appropriate complementary actions) should be explored in consultation with HSPG.	HSPG to be consulted on complementary actions which could help maximise the positive socio-economic effects of the scheme for local communities and businesses.

Chapter 11 - Historic Environment				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
EIA Methodology	Volume 1, Section 4.2.12, Table 4.3 and Table 11.8 (page 11.25).  Volume 1, Section 11.4, Appendix 2, Fig. 11.1, Para 11.8	Historic environment section does not state that Table 4.3 will be used in conjunction with Table 11.8. The historic environment assessment needs to identify where significant positive or adverse effects are Major or Moderate, to identify the most beneficial and harmful effects.  The Core Study Area boundary seems mostly realistic in relation to airport related development. However, it excludes the extent of the ZTV, which would be in the Wider Study Area. If a heritage asset is within a project's ZTV it is usually considered likely to be affected by both construction and operation, and the effects may be significant, depending on the nature of the asset and the change. 11.4.3 and 11.4.4 imply that in excluding the ZTV, the Core Study Area is	-	Confirmation required that historic environment assessment will use both Table 4.3 and Table 11.8 in conjunction in the historic environment methodology.  ZTV should be used to establish heritage assets impacted by construction as well as operation.  Significant operational effects relating to visual changes to the settings of heritage assets beyond the Core Study Area, within

	<p>sufficiently 'holistic' to identify the heritage assets affected during construction, where tall cranes and temporary structures may be erected. This is a departure from usual practice.</p> <p>Para 11.8 also states that within the Wider Study Area (including, according to the definition of the wider Study Area, the area covered by the ZTV) operational effects will only be assessed in relation to noise and vibration and not in relation to visual impacts. As the ZTV is a by definition visual, it seems inappropriate to exclude visual effects within the ZTV in the methodology</p>	<p>This would also be the case with visual setting impacts within the ZTV beyond the Core Study Area (the methodology currently excludes these).</p>	<p>the ZTV should be included in the assessment.</p>
<p>Volume 1, Table 4.6 Summary Scope of the Assessment and Chapter 11</p>	<p>Methodology in relation to Setting: Terminology/phrasing used is potentially misleading. Setting changes are material changes in planning terms as well as physical changes. Therefore, in Table 4.6, under Historic Environment 'material' should be changed to 'physical'.</p> <p>Similarly setting changes are referred to as 'perceptual' changes. Setting guidance and previous decisions demonstrate that setting can also relate to former associations and former spatial relationships. Although appreciation is an important element of setting, using the term 'perceptual' may potentially exclude some elements of setting.</p>	<p>Addressing all setting related issues, including spatial relationships, may help capture design opportunities to respond to former relationships better</p>	<p>Terminology changes should be adopted in the EIA.</p>
<p>Volume 1, Section 11.9.31</p>	<p>Paragraph 11.9.31 states that setting assessment is subjective. Setting impacts are assessed on the basis of the impact on the contribution of setting to significance and on the ability to appreciate the significance. Identifying how setting contributes in these respects provides a robust baseline from which to assess impacts with supporting evidence.</p>	<p>Failure to provide a robust, proportionate and logically argued analysis of the contribution of setting to the significance and appreciation of the assets in terms of the criteria set out in the guidance would provide an inaccurate assessment, and potentially inappropriate mitigation/design responses.</p>	<p>HSPG question whether the setting assessment is, as suggested in the scoping report, subjective and request that criteria for assessing the contribution of setting to the significance and appreciation of the assets in terms of the criteria within the guidance are clearly set out and argued in the assessment.</p>
<p>Alternative options</p>	<p>Volume 1, Chapter 11, General and 11.10.2</p>	<p>There may be opportunities for design of structures and layout, to respond to and reference historic environment significance. Especially the case with structures of airport</p>	<p>HSPG would expect to see enhancement through design references to heritage assets and building design and layout responses. Design should better reveal the significance</p>

Scheme design	Volume 1 and Figures	<p>Form, massing, extent and/or exact location of car parking and airport related development is outline and could potentially significantly impact nearby heritage assets.</p> <p>This is also the case with potential impacts to Colnbrook heritage assets/historic character from more offline A4 diversions south of the A4 and from river diversions from Assembly Option 1.</p> <p>Parameters of options around Stanwell also have potential to impact its heritage assets.</p>	<p>related development and supporting facilities.</p> <p>Design and sensitive siting of these elements have the potential to preserve, enhance or harm significance, and it is vital that design of these elements responds to the specific nature of the heritage assets' character and significance, rather than being standardised.</p> <p>Interpretation of history and archaeology should be through building and public realm design and public art, as well as being through more conventional interpretative display and outreach programmes, etc.</p>	<p>of heritage assets and respond positively to historic character.</p> <p>HSPG would expect to see responsive nonstandard, detailed design around historic village cores and in areas where historic character survives, to enhance it and the sense of place and historic environment interpretation including public art, building and public realm design.</p>
Mitigation	General	<p>The settings of any surviving areas of Harmondsworth village core would be significantly affected by the proximity of the runway. The design of structures and landscape beyond the north edge of the proposed airport boundary is vital to maintaining the significance of the village core.</p>	<p>Design should aim to robustly protect significance where large scale new development is immediately adjacent to village cores.</p> <p>Colnbrook village conservation area enhancement package – building upon the heritage mitigation scheme to achieve wider objectives to achieve rounded package of traffic management, environmental and social economic compensatory and mitigation actions. Similar will be appropriate in other local communities. HSPG seek not only mitigation but enhancement of this area, it is already prone to cumulative development pressures.</p>	<p>The design should aim to robustly protect significance where large scale new development is immediately adjacent to village cores.</p>

Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
Summary scope of the assessment	Volume 1, Executive Summary, p. iv and Chapter 3 The DCO Report, p.3.15	No rationale provided as to why Rivers and Flood storage, operation phase has been scoped out, only construction phase is assessed.	Given climate change it is precautionary to make some assessment of implications of flooding during operational phase.
Policy context	Volume 1, 1. Introduction, p.1.14	Only Section 4 of the revised draft ANPS is mentioned. This section, like Chapter 12 Health, should also mention the paragraph in Section 1 and this specific point. The ANPS, June 2018, has this in Section 4 but also in Section 1, p. 11 states "The application should include and propose health mitigation, which seeks to maximise the health benefits of the scheme and mitigate any negative health impacts."	This sets out a clear strategic principle for the scheme that aligns with HSPG.  This point is mentioned in the Health chapter but needs to be upfront as well.
Airport supporting facilities	Volume 1, 1. Introduction, p.3.17	Unclear why aviation fuel storage facilities have been scoped out from the community health assessment	Aviation fuel storage facilities should be considered as part of the health assessment.
Approach to assessment of impacts from waste (Table 4.5)	Volume 1, 4. Approach to EIA scoping, p.4.14, row on Environmental Impacts of New Waste Management Facilities	In the column on 'Key considerations raised by the revised draft ANPS', nothing is stated.	This section should refer to para 1.37 of ANPS (June 2018) "The application should include and propose health mitigation, which seeks to maximise the health benefits of the scheme and mitigate any negative health impacts."  And para 4.73 of ANPS (June 2018) "The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. These impacts may affect people simultaneously, so the applicant, the Examining Authority and the Secretary of State (in determining an application for development consent) should consider the cumulative impact on health."
Summary scope of assessment (Table 4.6)	Volume 1, 4. Approach to EIA scoping, p.4.18, row on Air Quality	For both construction and operation, there is no mention of in-combination or cumulative air quality related health impacts i.e. baseline (existing aircraft and roads) plus scheme construction plus other development in the neighbouring areas.	Explicit mention for both construction and operation, of in-combination or cumulative air quality related health impacts

Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
			Summary
Summary scope of assessment (Table 4.6)	Volume 1, 4. Approach to EIA scoping, p.4.22, row on Climate Change	Only health and safety impacts of extreme weather/climatic events during the construction phase are considered.	There are likely to health and safety impacts on visitors and users of the airport in extreme weather/climatic events and possibly local communities as well during the operational phase
Summary scope of assessment (Table 4.6)	Volume 1, 4. Approach to EIA scoping, p.4.25, row on Health	<p>No mention that impacts will be separated out into local and wider community beneficial impacts to recognise the differential and unequal (inequitable) impacts on local people compared to those living further away (those living further will mostly/wholly experience the positive impacts).</p> <p><u>Living conditions</u>: Construction and Operation</p> <p>No mention of impact on local house prices during both construction and operational phases.</p> <p>No mention of potential difficulties in selling homes during construction and early operational phases.</p> <p>Living conditions should remain a theme for the operation phase. Its removal shows that this theme is only about relocation of some residents and hence not about local living conditions but simply about resettlement.</p> <p><u>Safety</u>: Construction and operation This should be part of both construction and operation not just operation.</p> <p>Assessment of key health outcomes There is no mention of assessing the effects on four of the five main health outcomes of any scheme – non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity) [communicable disease - in the UK context - is only relevant in terms of global epidemics e.g. SARS].</p> <p>Mental health and wellbeing should be the term used not just wellbeing, which is too broad and as defined in the scoping</p>	<p>An explicit statement should be added in the health assessment to clarify the fact that in general negative impacts are likely to be experienced by local residents and the positive benefits likely to be experienced by people living further away using or being employed in the airport.</p> <p>Review of determinants/themes used to make them more consistent and more aligned to community concerns and needs.</p> <p>The health assessment should consider the health and wellbeing impacts of: - Changes in local house prices during both construction and operational phases. - Difficulties in selling homes during construction and early operational phases.</p> <p>Safety issues should be considered as part of both construction and operation.</p> <p>There should be explicit mention that the health assessment will consider the key health outcomes: non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity).</p> <p>Mental health and wellbeing should be the term used not just wellbeing which is too broad and as defined in the scoping report is decoupled from the fact that adverse effects</p>

Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
			Summary
		<p>report is decoupled from the fact that adverse effects on wellbeing can lead to mental health/ill health effects.</p> <p><u>Receptors</u> Users of the airport Airport staff/ People who work in the airport group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces</p>	<p>on wellbeing can lead to mental health/ill health effects.</p> <p>The following receptors should be included: <b>Receptors</b> Users of the airport Airport staff/ People who work in the airport (this is the bigger group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces</p> <p>Explicit mention of in-combination and cumulative health impacts.</p>
Summary of scope of assessment (Table 4.6)	Volume 1, 4, Approach to EIA scoping, p.4.27, row on Land Quality	No mention of in-combination and cumulative impacts on health.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.
Summary of scope of assessment (Table 4.6)	Volume 1, 4, Approach to EIA scoping, p. 4.28, row on Major Accidents and Disasters	Accident and disaster plans for the airport need to be updated to include the construction and operational phases as part of mitigation proposals.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.
In-combination effects	Volume 1, Approach to EIA scoping, p.4.37-4.37, 4.7 In-combination effects	<p>Paragraph 4.7.1 defines in-combination effects narrowly as effects on a single receptor at one point in time, however this does not take into account in-combination effects over long periods of time.</p> <p>Paragraph 4.7.2 states that impacts are rarely additive. From a public health perspective in-combination health effects are either additive or synergistic (in most situations). Some health effects can be quantified using recognised UK or international methodologies e.g. air pollution and noise. Therefore, it is unclear what is meant by "a collection of impacts need to be drawn together in a meaningful way"</p>	<p>Recommend changing definition to be broader so a more holistic analysis of in-combination impacts can be undertaken.</p> <p>Ensure that the scope allows HSPG to request that the modelled changes in air quality and noise be quantified into estimated changes in key health outcomes if needed.</p>

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
			<p>unpredictable and continuous effects (short, medium and long term.</p> <p>Where necessary HSPG should ensure that if required the EIA undertakes quantification. This is likely only to be useful in specific cases e.g. effects on a school. This is because there is some evidence that indoor air in schools is worse than local outdoor air pollution.</p> <p>See, <a href="#">Indoor air quality in London's schools report</a>.</p>	
Air quality and odour	Volume 1, 5. Air quality and odour, p.5.27-5.28, Table 5.8 Likely significant air quality and odour effects	<p>No mention of potential health effects on people (especially children) using open, green and play spaces.</p> <p>No mention of sensitive receptors such as the elderly, those with existing respiratory conditions and young children (it is mentioned in the Health chapter).</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>Explicit mention of potential effects on people (especially children) using open, green and play spaces.</p> <p>Explicit mention of sensitive receptors such as the elderly, those with existing respiratory conditions and young children.</p>
Climate change	Volume 1, 8. Climate change, p.8.15 Table 8.3 Likely significant climate change effects	<p>Extreme weather events are only considered for the construction phase and not the operation phase. They should be considered for both.</p> <p>The potential health impacts of these events would be on local communities, airport staff, users of the airport, and visitors to the local area.</p> <p>Not sure why 'Changes in seasonal patterns of rainfall, temperature and wind resulting in changes in air quality exacerbating health and safety impacts' is only in the operation phase. It would also apply to the construction phase.</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>Recommend that extreme weather events are considered for both the construction phase and operation phase.</p> <p>Ensure that the full range of receptors is considered: local communities, airport staff, users of the airport, and visitors to the local area.</p> <p>Changes in seasonal patterns of rainfall, temperature and wind resulting in changes in air quality exacerbating health and safety impacts also applies to the construction phase</p>

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Climate change	Volume 1, 8. Climate change, p.8.20, Construction and operation assessment methodology	Paragraph 8.9.11 should also include the WHO report, <a href="#">Promoting health while mitigating climate change</a> .	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriate analysis the community health impacts.	Request that Paragraph 8.9.11 should also include the WHO report, <a href="#">Promoting health while mitigating climate change</a>
Health Likely significant health effects	Volume 1, 12. Health, p.12.16-12.17, Table 12.3 Likely significant health effects	<p>As mentioned earlier in the comment on the summary of the scope:</p> <p>No mention of the fact that impacts will be separated out into local and wider community beneficial impacts to recognise the differential and unequal (inequitable) impacts on local people compared to those living further away (those living further will mostly/wholly experience the positive impacts).</p> <p><u>Living conditions: Construction and Operation</u> No mention of health impact of changes in local house prices during both construction and operation phases.</p> <p>No mention of the health impact of potential difficulties in selling homes during construction and early operation phases.</p> <p>The environmental theme is better seen as living conditions. Currently, Living Conditions theme is really about Resettlement.</p> <p><u>Safety: Construction and operation</u> This should be part of both construction and operation not just operation.</p> <p><u>Assessment of key health outcomes</u> There is no mention of assessing the effects on four of the five main health outcomes of any scheme – non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity) [communicable disease - in the UK context - is only relevant in terms of global epidemics e.g. SARS].</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>As stated previously, an explicit statement should be added in the Health assessment to clarify the fact that in general negative impacts are likely to be experienced by local residents and the positive benefits likely to be experienced by people living further away using or being employed in the airport.</p> <p>Undertake a review of determinants/themes used to make them more consistent and more aligned to community concerns and needs.</p> <p>The health assessment should consider the health and wellbeing impacts of:</p> <ul style="list-style-type: none"> <li>- Changes in local house prices during both construction and operational phases.</li> <li>- Difficulties in selling homes during construction and early operational phases.</li> </ul> <p>Safety issues should be considered as part of both construction and operation.</p> <p>There should be explicit mention of the fact that the health assessment will consider the key health outcomes: non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity).</p> <p>Mental health and wellbeing should be the term used not just wellbeing which is too</p>



Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
			Summary
		<p>The human set of receptors is mentioned in 12.9.24, p. 12.23 but not elsewhere:</p> <p>“The general population scope of the health assessment considers: residents of and visitors to local communities (in the inner and wider study areas); the workforce and passengers of Heathrow (current and future); and construction workers for the DCO Project. However, the focus is on community effects.”</p> <p><u>Receptors</u> Users of the airport Airport staff/ People who work in the airport (this is the bigger group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces</p>	<p>broad and as defined in the scoping report is decoupled from the fact that adverse effects on wellbeing can lead to mental health/ill health effects.</p> <p>The following receptors should be included:</p> <p><u>Receptors</u> Users of the airport Airport staff/ People who work in the airport (this is the bigger group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces</p>
Health impacts and mitigation of health impacts of flooding	Volume 1, 12, Health, p.12.18, Paragraphs 12.8.3 and 12.9.20	<p>Taking a precautionary approach, flooding (assessment and mitigation) should be part of the assessments; as with climate change, potential flooding would create a public health emergency in the area and Heathrow would be an important stakeholder in supporting the management of any local flooding. Flood risk management plan and how Heathrow will link in with other emergency services, especially health services, should be part of the mitigation.</p> <p>A public health perspective is needed alongside the review by the Environment Agency. This should be provided by the HIA team and/or Public Health England as the appropriate statutory agency working at the same level as the Environment Agency.</p>	<p>Recommend that flooding (assessment and mitigation) should be part of the assessments; as with climate change, potential flooding would create a public health emergency in the area and Heathrow would be an important stakeholder in supporting the management of any local flooding. Flood risk management plan detailing how Heathrow will link in with other emergency services, especially health services, should be part of the mitigation.</p> <p>A public health perspective is needed alongside the review by the Environment Agency. This should be provided by the HIA team and/or Public Health England as the appropriate statutory agency working at the same level as the Environment Agency.</p>
Health Transparency in assessing complex impacts	Volume 1, 12, Health, p.12.19, Paragraph 12.9.5	The health assessment will need to assess individual components of the development and then develop a combined assessment of significance. For transparency of these individual components of the DCO will need to be assessed separately e.g. using a health impact table/matrix.	The health assessment will need to assess individual components and then develop a combined assessment of significance. For transparency of the assessment key individual components of the DCO will need to be assessed separately e.g. using a health impact table/matrix.

<b>Chapter 12 - Health</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
Health How other assessment findings link into the health assessment	Volume 1, 12. Health, p.12.20, Paragraph 12.9.9	Unclear what is meant by "applied in the health assessment", it should be informed by as the health assessment taking the findings of these assessments into account may judge that some aspects are significant even if these other assessments do not judge them significant.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Clarify what is meant in this paragraph. The other specialist assessment should inform the health assessment and should not be applied without reflection and critical review into the health assessment.
Health Uncertainty of health pathway relationships and impacts	Volume 1, 12. Health, p.12.22, Paragraph 12.9.16	Unclear where the uncertainty lies; is it an uncertain relationship between a project activity and health outcome, and hence uncertainty of the possibility or likelihood of the health impact? Adopting a precautionary approach to the assessment will help address uncertainty.	This is about protecting community health and ensuring the health assessment is holistic, and fully and appropriately analyses the community health impacts.	Clarify what is meant in this paragraph.
Health Precautionary approach	Volume 1, 12. Health, p.12.23, Paragraph 12.9.18	The assessment is either precautionary or it is not (i.e. pragmatic in this context implies non-precautionary). It cannot be both.  It is strongly recommended that the approach is precautionary.  The second part of this paragraph, is an obvious point and it is unclear why it is made here.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	The scoping report and EIA must take precautionary approach that is consistently applied across the whole scoping report and EIA.
Health Assessing significance	Volume 1, 12. Health, p.12.23, Paragraph 12.9.21	The full analysis of the health impacts should consider impacts that are moderate and then analyse whether these have the potential for significant in-combination or cumulative impacts/effects.  Similarly, potential cumulative impacts linked to other projects in the locality need to be considered?	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	The health assessment must consider, and not scope out, health impacts that are moderate. These moderate impacts must be discussed in the environmental statement and then analysed in terms of whether these have significant in-combination or cumulative impacts/effects.  The health assessment must consider the cumulative impacts linked to other projects that are likely to occur in the locality.
Health Population scope	Volume 1, 12. Health, p.12.23, Paragraph 12.9.24	The meaning of the statement specifying the focus will be on "community effects" is not clear. Does this mean the assessment is not holistically considering all human receptors and will narrowly focus on immediate local residents?	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Clarification on what is meant by a focus on community effects. The whole focus of the health assessment is on the community.
Health	Volume 1, 12. Health, p.12.24,	What about reporting of cumulative impacts?	This is about protecting community health and ensuring the health	Both in-combination and cumulative impacts should also be considered in the health

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
In-combination effects and cumulative effects	Paragraph 12.9.27	These should also be considered in the Health assessment and presented in brief in the health chapter.  This is mentioned in 12.9.7 but not mentioned in 12.9.27	assessment is holistic and fully and appropriately analyses the community health impacts.	assessment and presented in brief in the health chapter (and in detail in the separate cumulative assessment chapter).
Health Exposure-response relationships	Volume 1, 12. Health, p.12.25, Paragraph 12.9.30	This is not an accurate statement.  Exposure-function is a typo it seems. Exposure-response functions (relationships) for quantifying health impacts can be used when there is expert consensus (WHO) and sufficiently strong evidence from rigorous studies.  The issue of chance, bias and confounding applies only to the studies that inform the expert consensus.  There is DEFRA guidance on noise quantification.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Paragraph should be amended so it is scientifically accurate and include the fact that DEFRA has developed guidance on noise quantification.
Health Quantitative analysis	Volume 1, 12. Health, p.12.25, Paragraph 12.9.31 and Table 12.5	Does this mean that the health assessment will use the quantitative modelling findings to inform the health assessments qualitative judgment of impact and significance? Or does this mean that a quantitative analysis of the health outcomes will also be undertaken using exposure?  The air quality and noise chapters do not discuss quantifying health outcomes.  The Air Quality and Noise Expert Groups should inform the health assessment on this aspect.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Ensure that HSPG can request a quantification of the health outcomes of modelled changes in air quality and noise, if deemed appropriate, particularly for sensitive receptors like schools.
Health	Volume 1, 12. Health, p.12.26-28, Table 12.6	These rows should be linked to physical health outcomes as well as mental health and wellbeing:  Relocation as a minimum should be linked to mental health and wellbeing.  The effects of noise and air quality on cardiovascular and respiratory health (as with changes in local traffic in Lifestyle row, there is no threshold effect for air quality and for aircraft noise on learning and cognition) should be examined.  Employment is linked to cardiovascular health.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	The Living conditions, Environment and Economy rows should mention both physical health outcomes and mental health and wellbeing

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Health	Volume 1, 12. Health, p.12.29, Paragraph 12.9.1	<p>Given a precautionary approach and that there is reasonable evidence of a health pathway, physical as well as mental health and wellbeing effects should be considered in the health assessment.</p> <p>The assessment should use a matrix approach to analyse the nine criteria (ticks and crosses) to be transparent about the qualitative professional judgment used for each category to determine significance of impacts.</p> <p>Non-significant moderate impacts should be reported. Particularly as Paragraph 12.10.3 states that:</p> <p>"The application of mitigation measures will not be limited to health effects that have been identified as being 'significant'."</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>There should be an explicit analysis of the nine dimensions used to determinant level of impact.</p>
Health Criteria for scientific evidence set too high	Volume 1, 12. Health, p.12.30, Table 12.7	<p>Given a precautionary approach, the bar for scientific evidence is being set too high.</p> <p>How is sufficient defined and decided? Who decides this?</p> <p>The threshold should be based on the balance of probabilities i.e. is there a reasonable chance for the health effect to be experienced by a given population?</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p> <p>The methodology sets a high scientific bar for what can be considered a likely health impact, that goes against the stated precautionary approach taken by in the scoping report and health assessment.</p>	<p>This paragraph should be re-worded to say:</p> <p>"Is there a plausible health pathway, outcome or determinants with some good quality scientific evidence to support the link between.....?"</p>
Health Approach to determining significance	Volume 1, 12. Health, p.12.30, Paragraph 12.9.3	<p>This paragraph should add that a precautionary approach will be used to judge significance.</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>This paragraph should also say explicitly that a precautionary approach will be used to judge significance.</p>
Health Reporting of moderate impacts not just major impacts	Volume 1, 12. Health, p.12.32, Paragraph 12.9.4	<p>HIA good practice advocates transparency of judgment for stakeholders so that the number and range of moderate impacts are clear; all moderate impacts should be reported.</p> <p>Discretion and professional judgment will need to be used as some moderate impacts could be deemed significant.</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyse the community health impacts.</p>	<p>Moderate impacts should also be discussed alongside major impacts in the health assessment chapter and HIA report appendix.</p>

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Health Mitigation proposals	Volume 1, 12. Health, p.12.34, Paragraph 12.10.5	<p>As stated previously in-combination moderate impacts can lead to a significant impact. This is not considered in this assessment criteria checklist.</p> <p>The proposals are very general:</p> <p>There is no mention of:</p> <ul style="list-style-type: none"> <li>- protecting and enhancing open, green and play spaces,</li> <li>- protecting and enhancing social capital and cohesion</li> <li>- identifying those worse affected/vulnerable and providing additional support for them</li> <li>- working with local communities to deal with complaints and grievances over the construction and operation phases</li> <li>- supporting local schools with educational, training and employment opportunities</li> </ul>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>Include the following broad proposals:</p> <ul style="list-style-type: none"> <li>- protecting and enhancing open, green and play spaces,</li> <li>- protecting and enhancing social capital and cohesion</li> <li>- identifying those worse affected/vulnerable and providing additional support for them</li> <li>- working with local communities to deal with complaints and grievances over the construction and operation phases</li> <li>- supporting local schools with educational, training and employment opportunities</li> </ul>
Health Population and human health	Volume 1, 15. Major accidents and disasters, p.15.11, table 15.4	<p>The row Population and Human Health should include Chapter 12: Health</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>The row Population and Human Health should include Chapter 12: Health</p>
Community Appendix 9.2	Volume 3, pdf pages 969-979 Index of multiple deprivation	<p>These are useful high level maps.</p> <p>However, there is a need for more zoomed in maps and identification of the wards where 10% and 20% most deprived areas are located, to better inform the health assessment and its analysis of inequalities and inequity.</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p>	<p>Zoomed in deprivation maps and identification of the wards where the 10% and 20% most deprived areas are located would be useful to better inform the health assessment and its analysis of inequalities and inequity.</p>

Chapter 13 - Landscape and visual amenity				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Adequacy of EIA Methodology	Volume 1, Chapter 13 Appendices and Figures for Chapter 13.	<p><b>Scoping Report:</b> Reference is made to current guidance, relating to and Landscape and Visual Effects Assessment guidance (IAN 135/10). Note recent changes to this guidance.</p> <p><b>Appendices:</b> There is no background or baseline information relating to landscape in the Appendices. Given that baseline work and field study has been initiated in 2017, it would be useful to see this early work recorded, noting of course there will be a need to return and review the study as the schemes become more progressed.</p> <p>A Landscape Constraints Plan provides a preliminary ZTV, representative viewpoints and designations but does not yet illustrate local Landscape Character, or Protected view corridors.</p>	<p>There are many strands that are cross cutting and this project gives a unique opportunity to review the landscape issues across a series of authorities. Identifying criteria for design exploration could include the following:</p> <ul style="list-style-type: none"> <li>• London Green Grid</li> <li>• General plan of localised published landscape character variation.</li> <li>• Vegetation and open space lost and quantified in terms of areas within the DCP scheme area.</li> <li>• Areas in need of management of distinctly similar themes, e.g., land requiring remediation or in a degraded/despoiled condition or character; essentially these are future opportunity areas.</li> </ul>	<p>Integrate additional considerations into the design including London Green Grid, landscape character variations, vegetated and open space areas ad land requiring remediation.</p> <p>Provision of a GIS baseline that provides a mapped series of assets across all the HSPG boroughs.</p>
Landscape Characterisation	Volume 1, Chapter 13	The report identifies and quotes extracts from the National Character Area, NCA 115, Thames Valley, but does not to set out the local borough character mapping, which would be expected at the assessment stage.	Develop a full plan of the local published character areas, highlighting where the opportunities exist for management especially in areas of lesser quality or urban/degraded landscape, as a tool to identify off-site improvements.	HSPG to be consulted on these issues during PEIR review period.
Viewpoints	Volume 1, Chapter 13	The viewpoints are still to be finalised and agreed with Borough Landscape Officers. The land to the west of London is generally flat and the responses from Colne Valley Regional Park highlight this and the concerns for visibility. Once agreed, 'existing' and 'after' views along a suitable timeline (e.g. Years 0, 1 and 15), with consideration of the changes between winter and summer, need to be set out in the method, perhaps highlighting where these are going to be of greatest interest.	Review the Harmondsworth View to consider views the open space, Harmondsworth Moor and settlement areas, to ensure the loss of viewpoints is noted, as well as change in views. Viewpoints within the CVRP are set out in 'All London Green Grid: 10, River Colne and Crane Area Framework'; note that	Confirmation of viewpoint agreement with the Boroughs Landscape Officers, a composite plan and requirements for visualisation to be explored to achieve a pragmatic set of representative viewpoints. Develop and share a 3D model for visualisation of the scheme, to be developed to assist in conveying the proposals, and as

Chapter 13 - Landscape and visual amenity				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
			<p>one of these views would be lost to the proposals.</p> <p>The proposal needs to provide new potential viewpoints (which are recreational and related to design of new spaces as part of a visual framework for the masterplan.)</p>	<p>a cost-effective means of reviewing views from different receptor viewpoints.</p>
Protected Views	Volume 1, Chapter 13	No reference to any protected view corridors, which should be highlighted or excluded. The 87m tower will be visible from parts of outer London and elevated viewpoints within the nearby boroughs. This will similarly be an issue from Windsor and Slough's elevated viewpoints, e.g. viewpoints No. 17, 20 and 23.	<p>Review the Richmond Planning sources and the King Henry's Mound Viewing Platform. This is a protected viewing point towards St. Paul's in London, but views west are noted towards both Windsor Castle / Albert Bridge and Heathrow, part of which would include the new 87m tower.</p>	<p>Review views westwards from selected high points in outer London (Richmond Policy DMHD7) and protected views or views within and surrounding Windsor.</p>
Alternative options	Volume 1, Chapter 13, Section 3.10.2	Reference is made to the different options and the requirements in relation to construction and operation landscape and visual measures, but they are not specific yet.	<p>There is potential to consider a tabular alternative layout to give an indication of the potential landscape and visual effects, perhaps to assist in determining the greater spread of visibility of one option.</p> <p>Consider the potential for off-site enhancement to add value as renewed landscape infrastructure in areas of degraded landscape, as well as providing visual amelioration.</p>	<p>Review the options in terms of loss of landscape elements and quality/value.</p>
Scheme design	Figure 1.2, Annex B of the revised draft ANPS.	<p>Loss of assets to the north and south - including open space, landscape components, severance of PRoW - their function and uses and value to the wider neighbourhoods of Harmondsworth, Sipson to the north and Stanwell to the south-west. For these it is not clear where re-provision of open space will be located and if it provides the same accessibility and amenity to the neighbourhoods it formerly served.</p> <p>The same principle would apply to lakes or water features as landscape components, although this is possibly covered elsewhere. Upstream flood compensation areas need to be</p>	<p>There is no obvious re-provision of open space or landscape components to the south-west at Stanwell, this needs to be addressed.</p> <p>Understanding the rationale for the re-provision of all types of open space and parkland to meet need in terms of accessibility.</p>	<p>Provide a strategy which sets out the equivalency of open space and a rationale for its location to demonstrate that the land for open space is on an 'equally advantageous' basis (as embedded in the DCO land acquisition process) with clear criteria for why it is acceptable.</p>

Chapter 13 - Landscape and visual amenity			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>included in the masterplan and their capacity for providing other habitat or open space roles explored.</p> <p>Areas in need of management of distinctly similar themes, e.g., land requiring remediation or in a degraded/despoiled condition.</p> <p>The masterplan needs to embed the ecological measures, which will emerge as the assessments are completed.</p>	

Chapter 14 – Land quality			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
EIA Methodology	Volume 1 Chapter 14, Volume 3 Appendix 14.1	<p>Proposed methodology for assessing land quality issues is fully compliant with current guidance and industry best practice.</p> <p>Land quality has been included in the EIA scope for all construction aspects and most operational aspects. It has been excluded from the operational stages of road construction and public transport which is considered to be appropriate.</p> <p>Scoping report has been based on a conventional desk study which has been undertaken in accordance with relevant published guidance and industry best practice.</p>	<p>There is opportunity for a number of local contaminated sites to be remediated, including multiple dilute and disperse landfills, as part of the airport expansion. HSPG would like to see remediation of these sites incorporated into the mitigation package.</p>
Alternative options	Volume 1, Chapter 14	<p>The proposed scope of the assessment considers all land within the DCO boundary plus a 500m buffer which is considered to be appropriate.</p>	<p>Integration of landfill remediation into the mitigation package for the scheme including commitments to specific sites.</p>
			<p>The spatial coverage of the land quality section is considered sufficient to encompass all appropriate alternative options.</p>



Mitigation	Volume 1, Chapter 14	Proposed approach to development of mitigation measures is considered to be appropriate and consistent with relevant published guidance e.g. CLR 11.	-
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Chapter 15 – Major accidents and disasters			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
EIA Methodology	Volume 1, Chapter 15, Appendix 15.5	HSPG are generally satisfied with the approach to assessment of Major Accidents and Disasters, including the types of incident to be included and excluded within the assessment which seems reasonable and logical.	At PEIR stage it would be expected to see an indication of the receptors which could potentially be affected by each potential type of incident.
			At PEIR stage it would be expected to see an indication of the receptors which could potentially be affected by each potential type of incident

Chapter 16 – Noise and vibration			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
EIA Methodology	Volume 1, Chapter 16	<p>The methodology describes 8 different assessment years, but it is not clear which comparisons will be made to consider all of the effects. Certain comparisons could give rise to more/less adverse impacts.</p> <p>Two different aircraft noise calculation methodologies are noted, but it is not clear why two are needed.</p> <p>For non-residential receptors it is stated that annoyance would be assessed for operational noise. For construction noise disruption of function/cognitive impairment is also assessed – this also needs to be assessed for operational noise.</p>	<p>The EIA methodology indicates that study areas would be expanded where it is clear that LOAEL is exceeded at the currently expected study areas. This could be an opportunity to ensure that impacts are picked up in wider areas.</p> <p>It is proposed that the <math>L_{Amax}</math> parameter is also considered for night-time construction works to protect against sleep disturbance.</p> <p>It was not clear that the engine testing facility will be included in</p>
			<p>In general, the assessment methodology and criteria are considered appropriate, but clarification required on the issues raised here to ensure a robust methodology is adopted.</p>

Alternative options	Volume 1, Chapter 16	<p>The assumptions on future flight paths may be key in determining if operational impacts are significant or not.</p> <p>The LOAEL and SOAEL Table 16.7 currently includes a non-specific maximum criterion for aircraft noise "L<sub>Amax</sub>/number of events and a risk assessment of objective sleep disturbance". An appropriate L<sub>Amax</sub> value should be inserted to ensure the is not ambiguous.</p> <p>The Airspace Change Process (ACP) is proposed to be developed separately, and will continue after the DCO process has concluded the PEIR will need to be based on a number of indicative flight path options that will be further refined. The scheme parameters to be assessed should be based on the 'worst case' combination of scheme elements including worst case flight paths.</p> <p>It is not clear how impacts would be assigned as a result of DCO or ACP processes.</p>	<p>"maintenance". It is also not clear if engine testing noise will be assessed under ground noise or fixed noise sources. It is proposed that engine testing noise should be assessed as a fixed noise source in accordance with BS4142.</p> <p>Worst case scheme parameters to be adopted in the assessment in relation to flight paths.</p>	<p>Worst case scheme parameters to be adopted in the assessment in relation to flight paths.</p>
Cumulative effects	Volume 1, Chapter 16	<p>Some of the displaced activities (paragraph 3.3.37) would appear to be essential activities to the operation of the airfield, and these are combined into cumulative effects.</p>	<p>In general, it is accepted that cumulative impacts will be assessed qualitatively. However, in some instances it may be feasible to combine inter-project contributions quantitatively rather than qualitatively i.e. contribution from road, rail and aircraft.</p>	<p>Quantitative approaches to cumulative assessment in relation to noise should be explored and justification for a qualitative/quantitative method justified.</p>
Mitigation	Volume 1, Chapter 16	<p>The Scoping report states that mitigation in the form of noise insulation will be considered. It is not clear how this will be considered where existing properties already have noise insulation.</p>	<p>If the project is taking existing noise insulation into account, HSPG would expect to see verification that noise insulation is still working as intended in those properties.</p>	<p>If the project is taking existing noise insulation into account, HSPG would expect to see verification that noise insulation is still working as intended in those properties.</p>

Chapter 17 – Traffic and transport		
Aspect	Volume/Report references	Questions and concerns
		Proposed HSPG approach to address concerns
		Summary

EIA Methodology	Volume 1, Chapter 17, Section 17.9.17	<p>The methodology references the Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment, 1993). Following recent correspondence with the Institute of Environmental Management and Assessment (IEMA) we have been advised these guidelines should be treated with a 'health warning'. Whilst the Guidance remains the most current version, many sections are out of date. It also does not cover topics which have become more prominent since 1993 such as Health. A greater use of professional judgement is also now advocated in place of the previous 'threshold based assessment.'</p>	<p>Recognising that there can be limitations to the accuracy of a traffic model the lower down the roads hierarchy, it may be appropriate for HSPG to provide HAL with guidance with respect to sensitive or heavily congested locations in each respective Borough/ Council area.</p>	<p>A list of sensitive areas on the local road network (this can reflect congestion levels, road safety, potential rat-runs or economic importance) should be developed in conjunction with HSPG so that these can be incorporated into the baseline conditions to be considered by Heathrow.</p> <p>The ES Scope states at Chapter 17, para 17.8.1 that "no effects have been scoped out of the assessment", however the prescriptive use of the thresholds outlined in the IEA Guidelines may potentially scope out sensitive locations due to the simplistic nature of this approach. As advised by IEMA, care should be taken and greater emphasis ought to be placed on professional judgement when considering the significance of an effect in terms of changes in traffic volumes. [For example, a 1% increase in traffic on a congested network may have a high impact whereas a 10% increase in traffic on a lightly trafficked road may not]</p>
Mitigation	Volume 1, Chapter 17, Section 17.10.14 "...Heathrow would be committed to securing the necessary mitigation to address the impacts of the DCO Project."	-	-	<p>The Scoping Report states that there is a commitment to providing the necessary mitigation to offset the impacts provided that it is demonstrated through the EIA and TA process. HSPG to be consulted to ensure traffic and transport impacts are fully identified and appropriately mitigated. Bespoke plans may be required to specify some of the mitigation proposals for example a Construction Traffic Management Plan and a Construction Workforce Travel Plan.</p>

Chapter 18 – Water environment – surface water aspects				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	
EIA Methodology	Volume 1, Chapter 18, Baseline sections	<p>No indication in the main text of the current status and objectives of the water bodies in the study area. No reference to derogations for disproportionate costs for phosphate (currently Poor for example in some water bodies).</p> <p>Section 8.6.41 Protected Sites - those with water dependence should be listed as they (should) have Very High sensitivity (for water).</p> <p>No reference has been made to main rivers and ordinary watercourses - so HSPG partners have no clear picture of which attributes they may have responsibility for.</p> <p>Table 18.8 (impacts) does not identify nutrients as a likely impact (nutrients are the focus of modelling described in the surface water assessment in Appendix 18.3) - all those identified are a result of construction or changes to source water (i.e. another catchment from diversion or change in baseflow dilution) or air deposition (from increased aviation. None of these warrant the modelling for nutrients (laid out in Appendix 18.3).</p> <p>No focus on the likely substances to be found in runoff:</p> <ul style="list-style-type: none"> <li>• Construction - sediments, oils and chemicals from spillage - all controllable by best practice.</li> <li>• Operation - de-icer, herbicides, pesticides, some metals. All related to intermittent - should follow a risk based approach - look at what is draining where and what is likely to be in that catchment - what SUDs and other mitigation should be applied.</li> </ul>	<p>Provision of a table to show the current status and objective of the water bodies and their sensitivity/importance so that the significance of any impacts can start to be gauged (need this to be able to scope attributes in or out).</p> <p>Modelling for nutrients is not considered an appropriate method of identifying potential impacts as nutrients do not represent a likely impact of the scheme. Substances likely to be found in runoff need to be addressed in the assessment methodology.</p> <p>Significance criteria should follow standard guidance, for example DMIRB in particular for road components, and criteria needs to be more detailed than the coarse High/Med/Low approach suggested at present.</p> <p>Main rivers and ordinary watercourses should be identified in the assessment.</p>	<p>Summary</p> <p>It is considered that there are significant flaws in the methodology proposed which does not adhere to best practice guidance and appears to adopt methods which are not relevant to the types of issues likely to be associated with the proposal. HSPG recommend a full review and update of the proposed assessment approach for surface water issues as it is currently not considered fit for purpose.</p>

	Volume 1, Chapter 18, Approach	<p>Sensitivity of receptor is coarser than the norm - just High/Med/Low; approach is not based on WebTAG or DMRB (DMRB uses Very High as an additional level for designated/sensitive sites)</p> <p>Descriptions of sensitivity and impact are not based on well used methods like WebTAG or DMRB. E.g. EQS used for low impact but not cited in other categories.</p> <p>DMRB needs to be followed for all the road aspects of the design (not even mentioned) - it would be best to focus on this approach for the runway areas too (i.e. rainfall linked drainage to outfalls).</p> <p>Whole approach is taken as if for new continuous discharges - i.e. WWTW where the make-up of the discharge is better understood. Using P as a surrogate seems to be a hangover from default description of modelling for WWTWs.</p>		
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	<p>Volume 1, Chapter 18 Mitigation</p>	<p>Mitigation is not well covered - it refers to Section 3 for drainage, but there is very little information provided.</p> <p>Overall, there is no attempt to value the baseline or gauge the magnitude of likely effects. The assessment methods do not appear to be lined up with the impacts that are expected and could be misleading - for example large scale modelling of nutrient budgets is not going to show intermittent quality issues for sediment, de-icer and potential metal/plastics contamination.</p> <p>Sanitary/ continuous discharges are likely to be treated by Thames Water as current, so should have no direct permit for discharge to receiving waters</p>	<p>Reference should be made to current drainage balancing and treatment in the baseline and how this will be employed for the extension. Information on the type of drainage features they may have to adopt and maintain. All the receiving water re-alignments and diversions will have to take account of WFD and will require enhancements and offsetting. The report should be more explicit on this.</p> <p>Instead of nutrient modelling, focus should be on SUDs drainage and pollution prevention that will alleviate the majority of impacts.</p> <p>It is unclear as to why reservoir and lake modelling is focusing on nutrients? This approach seems to be driven by compliance for the SPA but is likely that there will be limited nutrients from Heathrow? It is recommended that the conceptual model should just link standing water to the source water – as most of the embanked reservoirs will be pumped from nearby rivers. If there is a pathway from the project/source risk from the project then consider modelling.</p> <p>Using SIMCAT for construction impacts may not be the best approach - best practice pollution prevention should be applied as it is a risk assessment for spillages and potential incidents.</p>	
<p>Volume 1, Appendix 18.3 - Surface water assessment</p>	<p>New continuous discharges should be small scale and covered by EPA permit so modelling is probably not required beyond RQP.</p> <p>New intermittent discharges should be controlled by attenuation and addition of best practice SuDS features to pick up WQ issues, allow drainage to be isolated in emergency etc - again it may not be necessary to model this?</p>	<p>-</p>		

Scheme design	-		Rivers/water courses are addressed and intertwined with runway, roads, etc. The enhancement of Green and Blue infrastructure (including habitats, biodiversity and access routes for recreation) should be approached as design objectives / principles and not left to deal with the consequences of other decisions. Rivers will need to be culverted but the Colnbrook should be retained as an open channel with as much of other water courses remaining as open channels. Rivers, water bodies and storage are interconnected systems and need to be considered on a macro scale - diversions at one point will have impacts at another. Need information and clarity on what happens with surface water run-off and any exceptional release of polluted waters.	
<b>Chapter 18 – Water environment – groundwater aspects</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
EIA methodology	Volume 1, Chapter 18, Water environment Appendix 18.1 WFD compliance assessment methodology Appendix 18.2 Numerical Groundwater Modelling Method Statement Appendix 18.4 Flood Risk Assessment Method Statement (groundwater sections)	<u>Monitoring</u> Monitoring groundwater levels in the gravels across the areas of interest and adjacent to water courses is essential. This is referred to briefly in Table 18.10 and in Appendix 18.2. Baseline monitoring should be for at least 1 year in order to provide sufficient data for conceptualisation and model calibration. <u>WFD groundwater bodies</u> The list of water bodies to be considered for WFD compliance in Appendix 18.1 includes only one groundwater body – Lower Thames gravels. However, Appendix 18.2 suggests there is also a risk to the Chalk e.g. in listing the potential environmental receptors in Table 18.2.1, or e.g. text in Section 5.4 (of 18.2) which refers to "interaction with the deep subsurface" and that "some elements of the Project may sit beyond the spatial extent of the Lower Thames Gravels Groundwater Body (e.g. to the north, where the Cretaceous Chalk is unconfined)." Chapter 18 of the main	Further detail would be expected on groundwater monitoring in future scoping report and PEIR. Potential effects in relation to the Chalk should be included in the assessment, or justification provided for scoping out. In relation to WFD compliance assessment, the assessment should be presented as results for individual tests. The extent of the groundwater modelling and gravel aquifer should be shown on a plan. The scale at which it is appropriate to use the model Groundwater flood risk model will need further consideration.	Overall approach to groundwater aspects appears reasonable. HSPG would expect to see the clarifications listed here addressed in the future scoping report and PEIR.

		<p>report also refers to potential impacts on the Chalk as well as gravels.</p> <p><u>WFD groundwater tests</u></p> <p>With regard to the approach to WFD compliance, screening and detailed assessment (Section 6 and 7 of Appendix 18.1), it would be more transparent if the groundwater assessment is presented as results for each individual test, rather than just overall quantitative and overall chemical effects (e.g. for quantity: Saline or other intrusions, surface water, GWDTE, water balance).</p> <p><u>Extent of groundwater model</u></p> <p>Figure 18.2.3 in Appendix 18.2 does not show the proposed extent of groundwater modelling, nor the extent of the gravel aquifer.</p> <p><u>Groundwater flood risk modelling</u></p> <p>Appendix 18.4 gives a brief account of how groundwater flooding risk will be assessed, referring to use of the groundwater model. The scale at which it is appropriate to use the model will need consideration, as it may not work well for local scale flood issues (this is mentioned in Appendix 18.2). Careful interpretation of model outputs will be required.</p> <p><u>Document formatting</u></p> <p>Appendices 18.1 and 18.4 include quite a few typographical errors, particularly around bullet point format, which hinder interpretation.</p>		
<b>Chapter 18 – Water environment – Flood risk aspects</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
EIA methodology	Volume 1, Chapter 18, Baseline	Local watercourses are described in "Surface water features": Surface water flood risk should be considered additionally to both fluvial and reservoirs. This distinction is not clear in Section 18.6.	There should be a clear distinction between fluvial flood risk (including main river or ordinary watercourse), surface water flood risk, reservoirs or canal (artificial) sources of flood risk.	Overall approach to flood risk aspects appears reasonable. HSPG would expect to see the clarifications listed here addressed



		<p>Figure 18.1 demonstrates the water environment study area within the context of the assessment. Figures 18.2 and 18.3 demonstrate the distinction between main rivers and ordinary watercourses. A more detailed map would provide greater clarity.</p> <p>No mapping of surface water flood risk has been provided. Although this is listed in the Water environment data sources table (Table 18.4) and briefly discussed in Section 18.6.36. A more detailed assessment of surface water flood risk would be expected at a later stage.</p>		<p>in the future scoping report and PEIR.</p>
<p>Volume 1, Chapter 18, Approach</p>	<p>The Flood Risk Assessment and EIA should adopt DMRB criteria (DMRB uses Very High as an additional level for designated/sensitive sites) and be NPPF compliant. The Flood Risk Assessment should demonstrate that there is no increase to flood risk as a result of the proposed development, to the Heathrow site or any of the satellite developments. Sewer flooding was not listed as a source of flooding in the scoping report; HSPG expect this flood source to be considered in the Flood Risk Assessment, as detailed in Table 18.11.</p> <p>Detailed modelling of the proposed culverting and diversion must be completed to demonstrate that any works to the watercourses will not have any adverse impacts on the watercourses or increase flood risk to the surrounding area.</p> <p>A more detailed map of the sections of the watercourse that will be modified should be provided in the Flood Risk Assessment.</p>	<p>The Flood Risk Assessment and EIA should adopt DMRB criteria (DMRB uses Very High as an additional level for designated/sensitive sites) and be NPPF compliant. The Flood Risk Assessment should demonstrate that there is no increase to flood risk as a result of the proposed development, to the Heathrow site or any of the satellite developments. Sewer flooding was not listed as a source of flooding in the scoping report; HSPG expect this flood source to be considered in the Flood Risk Assessment, as detailed in Table 18.11.</p> <p>Detailed modelling of the proposed culverting and diversion must be completed to demonstrate that any works to the watercourses will not have any adverse impacts on the watercourses or increase flood risk to the surrounding area.</p> <p>A more detailed map of the sections of the watercourse that will be modified should be provided in the Flood Risk Assessment.</p>	<p>The FRA and EIA should adopt DMRB significance criteria and be NPPF compliant. The risk of sewer flooding should be included in the assessment.</p>	
<p>Volume 1, Chapter 18 Mitigation</p>	<p>A level for floodplain compensation should be provided for any lost flood storage and any loss of floodplain as a result of the development. The Scoping report provides no indication of the current preferred locations for floodplain compensation.</p> <p>Culverted river corridors are proposed to ensure connectivity remains across the proposed development. HSPG would expect to see hydraulic modelling to demonstrate that there are no adverse impacts to flood risk as a result of culverting the river corridor and combining the Colne and the Wraysbury watercourses.</p>	<p>All floodplain compensation areas should be provided for any lost flood storage and any loss of floodplain as a result of the development. The Scoping report provides no indication of the current preferred locations for floodplain compensation.</p> <p>Culverted river corridors are proposed to ensure connectivity remains across the proposed development. HSPG would expect to see hydraulic modelling to demonstrate that there are no adverse impacts to flood risk as a result of culverting the river corridor and combining the Colne and the Wraysbury watercourses.</p>	<p>All floodplain compensation areas should be located away from any areas of development allocated in the local plan. HSPG would expect to receive more detail of the ownership and maintenance responsibilities of the floodplain compensation areas in the Flood Risk Assessment.</p> <p>Hydraulic modelling to demonstrate that there are no adverse impacts to flood risk as a result of culverting the river corridor or any new open channels should be undertaken</p>	

		Demonstration that there would be no increase to food risk as a result of any new open channels would be expected as well as details of ownership and maintenance responsibilities.		
	Volume 1, Chapter 18, Appendix 18.4 – Flood Risk Assessment	HSPG would expect to see mitigation and floodplain compensation included within the Flood Risk Assessment. A flood plan and access and operating arrangements in extreme flood events should be outlined in the Flood Risk Assessment.  Justification for the sequential test and the exception test within the Flood Risk Assessment should be provided.  The level at which mitigation is required (as a result of modelling flood risk) should be discussed and agreed with the Environment Agency and HSPG.	Inclusion of a flood plan and access and operating arrangements should be included in the FRA.  Justification for the sequential test and the exception test within the Flood Risk Assessment should be provided.	
<b>Chapter 18 – Water environment – Water Framework Directive</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
EIA Methodology	Volume 1, Chapter 18 and Appendix 18.1, Table 18.1.1  Volume 1, Chapter 18, Table 18.14	Current status is not identified in the main report chapter, although the overall status is shown in the appendix. However, there is no acknowledgement for the Reasons for Not Attaining Good (RNAG) and therefore no understanding of the overall current pressures which give context to the proposed options when commenting.  Sensitivity Criteria: Does not conform with recognised methods, e.g. DMRB. See: <a href="http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section2/ha20508.pdf">http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section2/ha20508.pdf</a> – Table 2.1 and <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/638648/TAG_unit_a3_envir_imp_app_dec_15.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/638648/TAG_unit_a3_envir_imp_app_dec_15.pdf</a> - Table 14; Both of which included a “very High” classification for sensitivity and importance respectively. Sensitivity criteria is quite simplified and does not touch on specific sediment or morphological conditions, nor any supporting fluvial processes for habitats	Improve insight into the water environment.  -	Recommend inclusion of the RNAG and mitigation measures.  Expand on the sensitivity criteria to include a category for “Very High” and add more clarity on observable conditions (specifically for hydromorphology) for the sediment regime, channel morphology and natural fluvial processes.
	Volume 1, Chapter 18, Table 18.15	Magnitude of Impact: as above, regarding guidance, typically terminology is <i>Neutral, Slight, Moderate, Large</i> and <i>Very Large (Weibtag)</i> or <i>Major</i> to <i>Minor</i> (DMRB); does not differentiate between <i>Adverse</i> and <i>Beneficial</i> ; does not	-	Consider a change in terminology to be in line with recognised relevant standards, and include potential for beneficial effects.

		account for potential for beneficial effects resulting from the proposed works; does not account for <i>No change</i> either. Does not differentiate between <i>main river</i> and <i>ordinary watercourses</i> ; The responsibility for ordinary watercourses lay with the LFA or IDB.	Opportunity to ensure the protection of the wider water environment, not only those designated under the WFD. Will also enable the smaller ordinary watercourses to be identified. Ensure thorough mitigation for all water bodies.	Identification of the entire potential impact on watercourses, both main and ordinary. Better scale to encourage more accurate mapping and impacts assessment.
Alternative options	Volume 1, Chapter 18, and Appendix 18.1 Volume 3, Appendix 18.1 Volume 1, Chapter 18, Table 18.1.5	Lengths are based on 1:50k maps – this seems a little coarse given there are more accurate datasets available, e.g. OS Open Rivers 1:15-30k or Mastermap or the Digital River Networks (DRN) Statement reads “An appropriate percentage and/or channel length” – what is the appropriate % or length?	Transparent screening criteria to be discussed upfront with EA and stakeholders to agree what constitutes low – high?	More specificity on the quantitative assessments.
	HSPG slide deck 6th June issue, River Diversion Options and General Assembly Options 1 - 4 Volume 3, Appendix 18.1	The descriptions on the potential GA options are not clear nor intuitive. The realignment locations and extent are not totally clear. Limited acknowledgement of cumulative impacts in the Appendix document	Opportunity to improve the general understanding of the potential options for the local community, helping engage and get better feedback in the long run.	More detailed layouts and labelled impacts required to thoroughly understand the potential impacts further.
Cumulative effects			-	Clearer scope on how the cumulative impacts will be assessed for the water environment. EIA methodology asks for two types of cumulative impacts: ... from a single project; and ... from different projects (in combination with the project being assessed) Not clear which is being recommended.
Scheme design	HSPG slide deck 6th June issue, River Diversion Options and General Assembly Options 1 - 4 Volume 1, Chapter 18, and Volume 3, Appendix 18.1	Too few details on the watercourse realignments and the proposed tunnel. Descriptions of the options are not intuitive and slightly confusing. There is little clarity on the design and mitigation for the tunnel environment.	-	As above, more detailed focus on the scheme layouts for the realignments. Labelled and clearly shown on the plans.
Mitigation		Little detail on the potential mitigation proposed. Only the types of mitigation that will be considered.	Greater details on the tunnel and realignment mitigation.	Standard mitigation or best practice guidance should be outlined at the outset.

General – Cumulative effects		
Aspect	Volume/Report references	Questions and concerns
EIA methodology	Volume 1, Table 4.6	<b>Scope of Assessment table:</b> The table is inconsistent with methodology provided within Volume 1 and 3. All chapters should refer to assessment of cumulative effects and In-combination effects within the Scope of Assessment as well as for both construction and operational phases.
	Volume 1, Section 4.6.6	PINS guidance suggests that exclusion/ inclusion criteria should be applied to stage 2 and not stage 1 as is set out here.
	Volume 1, Section 4.6.6	The methodology states that for Tier 1 developments a five-year exclusion criterion is in place. Some very large developments may have complex planning permissions with ongoing issues and may have temporal overlap despite their original planning permissions being approved outside of this 5-year timeframe. Justification for exclusion or confirmation of inclusion should be provided.
	Volume 1, Section 4.6.6	The Scoping Report suggest that Tier 3 developments have insufficient information to undertake Cumulative Effects Assessment. PINS advice note 17 recognises this may be a limitation and has the following recommendation 3.4.2 <i>The assessment should be undertaken to an appropriate level of detail, commensurate with the information available at the time of assessment. Information on some proposals may be limited and such gaps should be acknowledged within the assessment, moving from a more quantitative to a more qualitative assessment as the availability and/or certainty of information decreases. The uncertainty in such assessments should be clearly documented.</i> Despite limited information, it is likely that high-level qualitative assessment could still be undertaken for the majority of sites with spatial and temporal information. In particular identification any conflicting proposed land uses or potential effects on sensitive receptors within the vicinity of both developments.
	Volume 1, Section 4.6.7	It is proposed that the development schedule be frozen six months ahead of each phase of the assessment. If major DCO or EIA projects are anticipated to or do come forward in this intervening time they should be considered at each stage. The development schedule should be as up-to-date as possible at each phase; though some time lapse will be necessary, it should be minimised. This would also reduce the likelihood of being asked for further detail and assessment during the examination stage [as noted in PINS advice note 17 para.3.4.9]. This also applies to Volume 3 para. 3.4.1.
	Volume 1, Section 4.7.3	Clarification is required on identification of receptors. Will this involve all receptors within the ZOI being considered or is there an alternative spatial scale. Assets that fall outside of community areas should also be considered e.g. sensitive areas including SSSI or regional parks in the vicinity of the scheme that may be used by wider communities or be of national & regional significance. How are receptors identified? And to what spatial extent?
	Volume 3, Appendices Table 2.1	<b>Stage 1</b> - The ZOI appears to be limited, and it is considered that very large developments or specific types of development e.g. transport-related are likely to both impact on and be impacted by Heathrow expansion. These should be considered for inclusion despite lying outside the ZOI e.g. any DCO within the Transport Modelling area may be more appropriate. All NSIP's in region which could be affected by Heathrow expansion should be considered and full justification provided if scoped out.

Volume 3, Appendices Section 3.2.7	5-year limit for inclusion in the development schedule may result in very large or complex developments being missed out of the assessment. It is recommended that the assessment include all extant permissions.
Volume 3, Appendices Section 3.2.8	Para. 3.2.8 states that NSIPs within 10km of the scheme will be considered. This appears to contradict para. 3.2.9 which says that Tier 2 (NSIPs with Scoping Opinions) will be considered within ZOI.
Volume 3, Appendices Section 3.2.13	Where information on type of development, and spatial and temporal data is available it is thought that a high level cumulative effects assessment is possible. Although it is agreed that individual receptors and/or environmental topics may not be assessable, a high-level assumption-based summary on main issues is likely to be achievable for many sites allocated in local plans or similar.
Volume 3, Appendices Section 3.2.15	Whilst all developments of a certain size and threshold are required to undertake EIA this does not mean that all effects will be mitigated by either Heathrow Expansion Project or the 'other development'. Some losses are irreversible (e.g. ancient woodland) and should not be considered by a piecemeal approach but rather through a ' <i>holistic mitigation strategy</i> ' [PINS advice note 17; para. 3.4.12]. It is not suitable to leave it to 'other developments' to provide mitigation if there is likely to be a significant cumulative effect in the future. Due to the long timescales with this project, temporal overlap of site allocations in local plans is possible, even where these have not yet submitted planning applications.
Volume 3, Appendices Section 3.4.1	See comment above on development schedule freeze period.
Volume 3, Appendices, Table 3.1.1	The ZOI table should clearly set out distances or method of what constitutes 'area over which effects'. The latter suggests professional judgment has been exercised, but does not provide any further detail or justification for these spatial areas. For transparency the justification for the ZOI should be summarised here.

Our ref: SHARE/62573852  
Your ref: TR020003

Jeremy Bloom  
Network Planning Director

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3/18 Eagle Wing  
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The Cube  
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12 June 2018

via Email: [HeathrowAirport@pins.gsi.gov.uk](mailto:HeathrowAirport@pins.gsi.gov.uk)

Dear Sir/Madam,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development)**

**Scoping Consultation**

Under the Planning Act 2008 (as amended) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, Highways England is a statutory consultee on applications for Development Consent Orders likely to affect roads for which the Secretary of State for Transport is the highway authority (the Strategic Road Network (the SRN)).

Heathrow Airport is connected directly to the SRN, via access junctions onto the M25 and the M4 Spur, and is in close proximity to the M4, M3 and M40 motorways. In addition, the Proposed Development will instigate significant changes to the SRN, including the provision of a new runway which crosses the M25 between junctions 14a and 15.

Highways England welcomes and encourages pre-application discussion on schemes which will impact the SRN. We therefore welcome the opportunity to provide advice on the scope of any Environmental Statement, in respect pursuant to the procedures set out in the Infrastructure planning (Environmental Impact Assessment) Regulations 2017, in respect of the Proposed Development.

We have set out below both general and specific areas of concern that Highways England would wish to see considered as part of an Environmental Statement. The comments relate specifically to matters arising from Highways England's responsibilities to manage and maintain the SRN, as set out in our [Licence](#).

Comments relating to non-trunk roads should be sought from the relevant local highway authorities.

### **General aspects to be addressed**

Highways England's principal concern with any development proposal is the impact on the Strategic Road Network. The Applicant has commenced traffic modelling which will be used to support their proposals, and is sharing information on the development of these models with Highways England. Prior to DCO submission, Highways England will need to be satisfied that the impact of the Heathrow development on the SRN has been modelled robustly and, if necessary, all schemes to provide capacity on the network to accommodate the development will achieve their objectives. Particularly, given the complex road layout in the area, microsimulation modelling should be used to demonstrate the impact of the Proposed Development on the SRN, and Highways England would welcome the opportunity to review this as part of the Modelling Technical Working Group that we have jointly established.

We welcome the reference in Table 17.1<sup>1</sup> to specific government policy on the appraisal of development proposals with regard to the SRN, which is contained within [DfT Circular 02/2013: The strategic road network and the delivery of sustainable development](#) (the Circular). The Applicant will need to demonstrate that these tests have been addressed through the development of its planning application.

An assessment of transport related impacts of the proposal should be carried out and reported as described in the Department for Transport '*Guidance on Transport Assessment (GTA)*'. It is noted that this guidance has been archived, however it still provides a good practice guide in preparing a Transport Assessment. In addition, the Ministry of Housing, Communities and Local Government (MHCLG) also provide guidance on preparing Transport Assessments.

Traffic and environmental impact arising from changes to the SRN, the increase/re-routing of traffic post-opening (including phased opening) of the Proposed Development, disruption during construction, traffic volume (including cumulative effects), composition or routing change and transport infrastructure modification should be fully assessed and reported.

Adverse change to noise and air quality should be particularly considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management Areas (AQMAs).

As stated in our response to the Applicant's non-statutory consultation in March 2018, to assist Highways England's review of the Environmental Statement, we would like to receive an "essay plan" setting out the proposed approach, format and contents of the document, as well as information about how the document will be consulted on, including whether or not this will be in the form of targeted questions focused on getting feedback

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<sup>1</sup> [EIA Scoping Report – Chapter 17: Traffic and transport](#), Table 17.1  
Page 2 of 4

on specific elements. This will assist with resourcing availability of our various technical experts.

This should include details of supporting figures, annexes, management plans, documentation dealing with mitigation, and other associated documents relating to EIA.

## Location specific considerations

Highways England is already engaged in detailed discussions with the Applicant on matters relating to the design and development of changes to the SRN, as referenced in Table 17.2<sup>2</sup>. Whilst not covered through the Environmental Impact Assessment specifically, the Applicant will need to demonstrate that all proposals for changes to the SRN, whether required to construct the new runway or to mitigate the impact of the development on the network are in line with the various tests described in the Circular, including;

*11. Local authorities and developers will be required to ensure that their proposals comply in all respects with design standards. Where there would be physical changes to the network, schemes must be submitted to road safety, environmental, and non-motorised user audit procedures, as well as any other assessment appropriate to the proposed development. The Design Manual for Roads and Bridges sets out details of the Secretary of State's requirements for access, design, and audit, with which proposals must conform.<sup>3</sup>*

Highways England is also engaged in detailed discussions, via Technical Working Groups, on the development of robust Traffic Modelling and the related Transport Appraisal (which focuses on the development of the Transport Assessment and the Traffic and Transport section of the Environmental Impact Assessment). Through these meetings, Highways England is providing comments on the assumptions, methodology and the appropriateness of Heathrow's ongoing modelling and transport appraisal, as broadly set out in section 17.9<sup>4</sup>, and will assure itself that the work is sufficiently robust to accurately appraise the impact of the proposals on the SRN. I therefore welcome reference to this engagement in section 17.3<sup>5</sup>.

The applicant shall identify the distribution of traffic on the SRN as a result of the expansion proposals, and will complete capacity assessments of relevant SRN links and junctions to ensure that the SRN is able to continue to fulfil its strategic function. The Applicant has suggested a number of assessment years within the Scoping Report which will be subject to formal agreement through the engagement highlighted above. For clarity, this assessment should also include the impacts of construction traffic.

Notwithstanding the above, we would expect the applicant to provide a robust analysis of traffic flow on the M25 and M4 corridors, particularly in those areas where there is a material change between the two-runway (i.e. no expansion) and three runway modelled

<sup>2</sup> [EIA Scoping Report – Chapter 17: Traffic and transport](#), Table 17.2

<sup>3</sup> [DfT Circular 02/13: The strategic road network and the delivery of sustainable development](#), paragraph 11.

<sup>4</sup> [EIA Scoping Report – Chapter 17: Traffic and transport](#), section 17.9

<sup>5</sup> [EIA Scoping Report – Chapter 17: Traffic and transport](#), section 17.3



scenarios. This analysis should also include appropriate junction assessments to confirm that these locations are able to operate effectively on opening of the Proposed Development and beyond.

The applicant shall confirm locations to be assessed in the Transport Assessment through engagement with Highways England via the Transport Appraisal and Modelling Technical Working Groups. This shall include all locations where there is a material change to traffic flows as a result of the application, including those distant from the boundary of the Proposed Development.

Highways England is committed to working with the Applicant to ensure alignment with policy contained within the Circular, and in line with guidance provided by [Planning for the future: A guide to working with Highways England on planning matters](#). Particularly, the Applicant shall share further detail on the scope of their Transport Assessment, for comment on by Highways England, as information becomes available prior to both their statutory consultation and the eventual submission of the Development Consent Order. By providing comments in this way, Highways England would expect that the Transport Assessment robustly addresses all the tests outlined in the Circular.

The above comments imply no pre-determined view on the part of Highways England as to the acceptability of the proposed development in traffic, environmental or highway terms. Highways England is already working closely with the Applicant to understand the impact of the Proposed Development, and we are keen that this proactive engagement continues to ensure that Highways England's requirements are met through the development planning process.

Yours sincerely,



Jeremy Bloom  
Network Planning Director

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The Planning Inspectorate  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol BS1 6PN

Tuesday 19<sup>th</sup> June 2018

Your Ref TR020003

Dear Madam/Sir,

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11  
Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development)**

Thank you for your letter of 22nd May inviting comments on the information that should be provided in the Environmental Statement (ES).

The EIA Scoping Report is extensive and appears to cover the topics that we would wish to see included. Importantly we note that a Health Impact Assessment will be undertaken (paragraph 12.1.5) to address the requirements of the draft Airports National Policy Statement and that this will include the impact on different populations. We would want to ensure that all the relevant CCGs and health partners are engaged in this process and would ask for clarification as to the timescale, scope and consultation processes involved. We would encourage the use of the tools prepared by the NHS London Healthy Urban Development Unit <https://www.healthyurbandevelopment.nhs.uk/our-services/delivering-healthy-urban-development/health-impact-assessment/> or similar.

Chapter 12 Health is of particular interest to the CCGs, although other aspects of the EIA will impact on the health and well-being of the local populations and the requirement for, and provision of healthcare infrastructure and services. This is recognised in the health chapter and reflected through the scoping document, and in the use of the WHO definition of health and well-being.

While there has been some engagement with partners to date, we wish to emphasise the importance of engaging the CCGs and other partners at all stages of the project. Section 4.9 sets out the engagement process so far and the composition of the Heathrow Strategic Planning Group (HSPG). Understandably, this is focused on the local authorities, however given the other three existing groups: expert groups on air quality and noise, and the Heathrow Community Engagement Board - all with a

**Chair:** Dr Ian Goodman  
**Accountable Officer:** Mark Easton  
**COO:** Caroline Morison



strong relationship with health and well-being we would suggest/ask that a representative from the NHS/health to be on the HSPG. Paragraph 12.3.2 refers to a Health sub-group of the HSPG. It would be helpful to know if this group will continue and its terms of reference, and to ensure that there is appropriate representation from Clinical Commissioning Groups and health providers as well as Directors of Public Health within the local authorities.

The main sources of data used for scoping the health topic are set out in para 12.5.3 and use the latest JSNAs. As the assessments are undertaken, they need to ensure new studies and published data are taken into account.

We support the use of the wider study area for assessing health impacts. However, while the appendices map current health and community facilities it is essential that the assessment takes into account future changes in the health and community infrastructure (both already in the pipeline and in longer term strategies). Figure 4.1 Cumulative effects assessment zone of influence shows health zone aligned with the air quality zone. While there is logic to this, it may be that the area should be extended if the catchments for health facilities are broader.

Table 12.3 Likely significant health impacts. This refers to access to services during construction and operation– ‘Change in the ability of local people to access public services which includes health and social care,...’ As outlined above this should include both existing and future health facilities, and may need to extend the study area to reflect the catchment areas of facilities, in particular specialist facilities often serving a wider area. Of particular concern is the impact on travel times for emergency ambulances, however, all impacts on travel times to services need to be assessed. These are a factor in people not attending appointments, or attending late and a direct impact on provision/cost to the health service, and potentially adversely affecting the patient and thereby requiring costlier interventions later.

We look forward to further involvement in this development.

Yours sincerely,



Caroline Morison  
Chief Operating Officer, Hillingdon CCG

Cc : Dr Ian Goodman – Chair, Hillingdon CCG  
Dr Steve Hajioff – Director of Public Health, London Borough of Hillingdon  
Tessa Sandall – Managing Director, Ealing CCG  
Mary Clegg – Managing Director, Hounslow CCG

**Chair:** Dr Ian Goodman  
**Accountable Officer:** Mark Easton  
**COO:** Caroline Morison





Historic England

Our ref: ADMO5939

The Planning Inspectorate  
3D Eagle Wing  
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2 The Square  
Bristol BS1 6PN

By email: [HeathrowAirport@pins.gsi.gov.uk](mailto:HeathrowAirport@pins.gsi.gov.uk)

19 June 2018

Dear Sir/Madam

## Scoping Consultation – Environmental Impact Assessment for the expansion of Heathrow Airport

Thank you for consulting Historic England on the scoping report for the Environmental Statement that will accompany the planning application for the expansion of Heathrow airport. .

As the Government's statutory adviser, Historic England is keen to ensure that conservation and enhancement of the historic environment is fully taken into account at all stages and levels of the planning process. Given the unprecedented level of impacts on the historic environment should the airport expansion go ahead in its proposed form, it is clearly critical that these effects are properly understood, assessed and mitigated through the planning process.

Broadly speaking, Historic England welcomes the approach to the assessment of impacts on the historic environment set out in the scoping report by Heathrow Airport Ltd (HAL). We note the significance-based approach to assessment, and welcome the focus on significance arising from the setting of individual assets as well as references to current Historic England guidance documents. We also agree with the study areas identified by HAL to assess likely effects of airport expansion. We offer some detailed comments on particular issues below.

However, we have some concerns in relation to the assessment of cumulative and in-combination effects as they potentially relate to the historic environment. Unlike a number of other chapters, there is no reference to this type of assessment in relation to likely impacts on designated heritage assets in Chapter 11 (Historic Environment). In discussions with HAL as to the emerging design of the proposed scheme, we are aware that in certain areas close to



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the expanded airport a combination of a new runway, boundary treatments and noise reduction measures, relocation of displaced land-uses and realigned roads may create more significant effects on the historic environment than if each were simply taken in isolation. Taken together, the physical, visual and noise effects of airport expansion works can potentially have a greater impact on the significance of heritage assets – to the extent that certain of these may no longer have a long-term sustainable use. It is important that the assessment process is able to capture any cumulative effects – while the assessment may in practical terms be carried out differently to the cumulative effects on other EIA chapter topics, the principle is the same.

### Detailed comments

**Table 11.1:** we note that the respective table in Chapter 13 includes the European Landscape Convention. In the interests of consistency, we recommend that the Convention for the Protection of the Architectural Heritage of Europe and the European Convention on the Protection of Archaeological Heritage are similarly referenced in table 11.1.

**Table 11.2 and para 11.9.13:** consultation with the HSPG is welcome, but we would stress that consultation on the detailed strategy for archaeological assessment, field evaluation and mitigation should include all relevant local government archaeologists. This has not been the case as far as we are aware.

**Table 11.3 and para 11.9.6:** relevant local historic environment records should be included as data sources, as per the requirements of the revised Airports National Policy Statement (ANPS) at paragraph 5.193.

**Table 11.5:** this does not reflect the potential effects on the historic environment from the creation of new and/or realigned roads and the consequent traffic that this would entail. In certain circumstances, the visual and noise impacts of these roads may affect the significance of heritage assets through the effects on setting. Please refer to our comments above on the assessment of in-combination effects on the historic environment.

**Para 11.9.8:** The revised ANPS (paragraph 5.193) requires appropriate desk-based assessment and, where necessary, field evaluation where there is potential for assets of archaeological interest. It is unclear what bullet point 4 is referring to in ‘archaeological archive review’ and recommend that this is reworded to reflect the ANPS requirements. This desk-based assessment should also include a geo-archaeological review of potential for Palaeolithic remains.



**Para 11.9.15:** we assume that as with the core study area, the methodology contained in the Historic England report on noise effects will be applied (please see <https://research.historicengland.org.uk/Report.aspx?i=15740>). This would be consistent with the requirements of the ANPS, and should be made explicit in the text.

**Para 11.9.28:** the proposed mechanism for informed assessment of archaeological significance will require further refinement to enable the recognition of assets of equivalent significance to scheduled monuments, together with a research framework to articulate significance.

**Para 11.9.29:** in order to reflect the requirements of the ANPS and ensure consistency of approach with the rest of Chapter 11, we would suggest amending bullet point 4 to ‘The nature *and significance* of the heritage asset that would be affected’.

**Para 11.10.2:** as indicated above, the scale of the likely impacts on the historic environment as a result of the airport expansion are unprecedented. Should the scheme go ahead in its proposed form, Historic England will be looking to achieve a commensurate level of mitigation. The list of potential measures should also include a programme of public engagement to involve schools, local communities and other interest groups in understanding and appreciating their local archaeology, built environment, history and places. Given the potential for the expansion of the project to result in heritage assets currently in sustainable uses to be at risk in the future, the list should also include provision for specific measures to protect their viability and therefore significance.

**Para 11.10.2 – 1:** archaeological investigation should explicitly include building recording, and its purpose should be to advance understand and avoid being a simple exercise in recording ‘at risk’ assets. As with our comments in relation to para 11.9.28, there should be a commitment to developing and implementing a research framework from the early stages of the project through to completion. There should be a commitment to analysis, publication and museum archiving.

**Para 11.10.2 – 2:** opportunities should be taken for historic landscape and townscape character and individual heritage assets to influence the design of appropriate elements of the proposed scheme, for example green infrastructure.

In terms of Chapter 13 (Landscape and visual amenity), we would simply stress that historic landscape character should form part of considerations, and that any opportunities for synergies with historic environment conservation identified.





Historic England

Finally, it should be noted that this advice is based on the information that has been provided to us and does not affect our obligation to advise on, and potentially object to any specific development proposal which may subsequently arise from these documents, and which may have adverse effects on the environment.

I trust these comments are helpful. Please do not hesitate to contact me should you require any further information or clarification.

Yours faithfully



**Tim Brennan MRTPI**

Historic Environment Planning Adviser

E-mail: [tim.brennan@HistoricEngland.org.uk](mailto:tim.brennan@HistoricEngland.org.uk)

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Heathrow Consultation

Via email: Expansion of Heathrow Airport (Third Runway) [HeathrowAirport@pins.gsi.gov.uk](mailto:HeathrowAirport@pins.gsi.gov.uk)

19<sup>th</sup> June 2018

Dear Sirs,

**RE: TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation**

We wrote to you by email on 25<sup>th</sup> May, to object most strongly to short timescales for the scoping notification and consultation for expansion of Heathrow Airport to a third runway. In your response you state that there can be no extension of time for any comments. As stated, we are a small Parish Council with limited resources and so cannot make comments on a line-by-line basis to your scoping consultation.

However, we do wish to re-state our objections to the third runway proposals for Heathrow and in particular to the proposals set out in this new scoping documentation.

The following points have not been adequately, or in some cases at all, addressed in this consultation document and must not be ignored:

**A. Air quality/pollution**

1. As already explained, the village of Horton is located between the M25, M4 and M3 motorways. We suffer on a daily basis from the effects of traffic congestion and pollution whereby commercial vehicles use the roads through the village as a 'rat run'. There is no enforcement of so-called commercial vehicle restrictions.
2. Additional construction traffic movements will make this even more unbearable for residents. London and the surrounding areas are already subjected to high levels of air pollution. This has a detrimental effect on the population, remaining agricultural land and heritage buildings in Horton. Daily traffic accessing the airport perimeters will inevitably also worsen this situation.
3. Re-siting of the M25 will only worsen this situation. No realistic measures to address this have been included in your proposals.
4. Erosion of land and green space will worsen air pollution in the area.
5. Existing air quality measures have not worked. Pollution is already at a dangerous level causing damage to health and property.

**B. Increased Traffic Movements**

1. Road traffic will increase through the Village whilst construction takes place
2. Airport traffic will increase once airport enlargement has occurred

/.....



### C. Permanent Disruption to and Destruction of Ancient Land and Waterways

1. Land bordering and in our Village will be lost to compulsory purchase proposals for airport expansion.
2. Proposals to move waterways to facilitate road and building work will mean permanent destruction of wildlife, habitat and visual aspects. We also believe this will have further negative impacts on the connecting waterways which run through Horton and to the proposed Thames Plan.
3. Existing excess water drainage from the airport already causes issues with established water courses in the area. This will inevitably worsen with additional land use for runways and airport related buildings and roadways.
4. Further agricultural and amenity land will be lost to mineral extraction and the subsequent pollution and road traffic which this involves.

### D. Colne Valley Trust

The southern perimeters of Colne Valley Park encompass Horton Village and we therefore support and endorse their objections to the proposed Heathrow expansion.

### E. In Conclusion

We still have had no consultation with our Parish Council (Horton) regarding the inevitable impact of the proposed expansion to Heathrow Airport.

Please acknowledge our further objections and let us know when we may expect a meeting to discuss these plans.

Yours sincerely,

*Janet Crame*

Mrs. Janet Crame B.E.M.  
Planning Chair – Horton Parish Council

e.c. Clerk to the Horton Parish Council;  
Mrs. F. Bovingdon, Chair- Horton Parish Council;  
Stewart Pomeroy, Colne Valley Managing Agent, Groundwork South

From: [Janet Crame](#)  
To: [Expansion of Heathrow Airport \(Third Runway\)](#)  
Cc: [boris.johnson.mp@parliament.uk](#); [adam.afriyie.mp@parliament.uk](#); [sajid.david.mp@parliament.uk](#); [Benta Hickley](#); [zac@zacgoldsmith.com](#)  
Subject: Re: TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation  
Date: 25 May 2018 17:37:19

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Dear Sirs,

On behalf of Horton parish council, I write to object most strongly to the letter we received on 22nd May (by email to our Clerk) regarding the scoping notification and consultation for expansion of Heathrow Airport to a third runway. In the email you state that if we are to respond, the deadline for consultation responses is 19 June 2018, and is a statutory requirement that cannot be extended.

The on line documentation is separated into 3 volumes and many thousands of pages. It is completely unreasonable and ridiculous to expect a small council comprised mainly of volunteers to review, discuss and objectively respond to such a volume of work within 4 weeks. I can only believe that the intention is to overwhelm us and all similar bodies in the hope that no response will be submitted and this will, by your own admission, provide the assumption that there is no objection from us.

We have already spent many hundreds of man-hours studying the various proposals and submissions and somehow managed to respond in accordance with the targets set; clearly to no effect.

Our Village will be directly and negatively affected by any expansion to the airport. We need far more time to review and understand the latest proposals and scoping. Please accord us and our neighbouring councils this courtesy.

Yours sincerely,

Mrs. Janet Crame  
Planning Lead - Horton Parish Council



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From: [Baker Paul: H&F](#)  
To: [Expansion of Heathrow Airport \(Third Runway\)](#)  
Subject: RE: Heathrow 3rd Runway - Scoping Opinion Report Comments  
Date: 19 June 2018 17:36:21

---

Hello,

Please find attached comments from Hammersmith & Fulham Council on the EIA Scoping Report.

Given the very short timescale for the consultation and the available resources, our response is not as extensive as we would have liked. We have had to limit our comments to some of the key Chapters in Volume 1 of the Scoping Report. We have not had time to consider and comment on the information in Volumes 2 or 3. We have also looked at the meeting notes for 2 of meetings between the Planning Inspectorate and Heathrow and commented on the issues raised.

We are disappointed that Heathrow chose to publish the Scoping Report before the Government published and formally designated its final version of the Airports NPS. In our view, issuing the Scoping Report in May when it was widely known that the Government would be publishing the Airports NPS in the first half of this year was a mistake and the Planning Inspectorate should have advised Heathrow to delay the Scoping Report until this Summer.

The Scoping Report consists of 3 volumes and over 2,000 pages. As indicated above, it has not been possible to look at the majority of the documents, just some of the chapters in the Main Report. Given the sheer volume of information contained in the Reports, the 28 day consultation period has proved to be completely inadequate. The Planning Inspectorate should have sought ways of allowing consultees more time to draft and submit comments.

Even though the amount of information presented in the Scoping Report documents is extensive, there are many areas where information is lacking, or the details provided are vague and non-specific, making it difficult to provide informed comments on some aspects of the proposals. The document also creates confusion in parts because it is contradictory to the Airports NPS document, e.g. most noticeably in relation to Heathrow's continued insistence that the 3rd Runway does not need to be a minimum of 3,500m long even though this is specified in the NPS. The DCO would presumably be refused if Heathrow stick to this position. All assessments in the EIA should relate to a scheme that complies with the NPS requirements, not one that Heathrow would prefer to build.

There is a lack of critical information in relation to flight path details that make any meaningful assessment of noise impacts very difficult to complete. The approach of completing the DCO process before finalising where the flight paths will be is, in our view, completely wrong. We have raised our concerns on this matter with the Government and Heathrow but they still intend to proceed with the DCO without flight path information. How can the noise impacts of the DCO Project be properly assessed when critical information such as this will not be available?

A further point we must raise in relation to the DCO process is Heathrow's intention to use it to not only develop the 3<sup>rd</sup> Runway but to also increase the current 480,000 movement limit by an additional 25,000 to provide additional capacity prior to the

opening of the 3<sup>rd</sup> Runway. Capacity for these additional flights would be created by implementing new procedures and efficiency improvements – i.e. no new infrastructure would be required. The use of the DCO for this purpose is not appropriate in our view. We are surprised that this aspect of Heathrow's proposals did not feature in the discussions with the Planning Inspectorate in February and March prior to the Scoping Report submission.

Although H&F Council did participate in the first round of consultation conducted by Heathrow earlier in 2018, we have concerns about the degree of stakeholder engagement that has been carried out and the limited nature of the consultees involved in developing the Scoping Report. We suggest that the document would have benefitted from a much wider variety of consultees and should have included community group stakeholders.

Detailed comments have been provided on the following chapters of the Main Report (Volume 1) and are attached:

- Chapter 3: The DCO Project  
In summary: We have concerns about Project Design and the Overview presented of the DCO Project which we consider to be inaccurate; the description of the Principle Components of the Scheme conflict with the requirements of the Airports NPS and we have issues with some of the information presented in the Development Programme and Construction section.
- Chapter 4: Approach to EIA Scoping  
In summary: More weight should be put on following the guidance in the Planning Inspectorate Guidance Notes; we have issues with the approach to identifying significant effects; we think the issue of “in-combination” effects is an important one for the 3<sup>rd</sup> Runway and should be assessed in more detail; finally, the lack of any information on Mitigation in this chapter is a serious over-sight in our view.
- Chapter 5: Air Quality  
In summary: A number of concerns are raised about the need to consider additional policy documents, about the limited scope of consultation with local authority stakeholders, about the study area for the assessment and the use of inappropriate guidance to carry out the assessment and judge the significance of the impacts of the 3<sup>rd</sup> Runway on air quality; data sources and monitoring proposals need improving for the assessment and the difference between modelled emissions from vehicles and real world emissions needs to be factored in. Assessment of mitigation measures needs much more detail to be robust.
- Chapter 8: Climate Change  
In summary: More consideration should be given to the overlapping nature of this chapter with others; we have concerns about stakeholder engagement activity and the definition of the study area; some of the data sources are dated and we are concerned about how this could impact assessments; there are issues with the proposed approach to the assessment in relation to assessment years, approach to quantification of impacts and mitigation; on

this latter point there is a lack of information on mitigation assessment.

- Chapter 9: Community

In summary: We have concerns about how the EIA process will be phased to ensure community impacts will be properly assessed; additional information should be provided on mitigation of community impacts; additional policy documents are recommended to help guide the assessment; concerns are expressed about the stakeholder engagement process, as we are surprised to see that community groups have not been widely involved to date in the scoping process; the study area is unclear and no baseline information is presented for the Wider Study Area (which is the area we would expect to fall into); we also have a number of points to make on the approach to the assessment and mitigation matters.

- Chapter 12: Health

In summary: Recommend wider policy references included such as Public Health England Strategic Plan; we flag up similar concerns to those identified in earlier chapters about inadequate stakeholder engagement and a lack of information on the study area; we consider that community severance issues should be included as a likely significant effect; issues are also raised with the proposed approach to the assessment and mitigation, which as with all chapters is lacking in detail.

- Chapter 15: Major Accidents and Disasters

In summary: Highlight that we consider H&F to be a stakeholder in this topic given the number of aircraft that fly over the borough which will likely increase when a 3<sup>rd</sup> Runway is built; flag up concerns on how accident risks can be assessed when we do not have flight path data at this point; additional information to be provided on mitigation.

- Chapter 16: Noise

In summary: More information should be provided on receptor groups; more consideration required on how to assess impacts on communities already impacted by Heathrow; concerns about stakeholder engagement raised along with a request for better information on the study area; in terms of baseline conditions and data sources, there is concerns about what data on flight paths is going to be used and the proposed use of noise metrics to assess the baseline; a number of points are made about inadequacies in the proposed approach to assessment and mitigation issues.

- Chapter 17: Traffic and Transport

In summary: we want to see how the concerns raised by the Transport Select Committee will be dealt with; more weight need to be placed on the Mayor's Transport Strategy requirements and its aim to put health and human experience at the heart of the transport system; stakeholder engagement arrangements are too narrow and need to include community groups; we have concerns about the study area and how its extent is to be determined and how baseline data is to be established for traffic and public transport use; a number of points of concern are highlighted about the proposed approach to the assessment and mitigation where a lack of information and detail makes it difficult to consider the assessment will be sufficiently robust.

Also attached are comments on the issues raised at 2 meetings in February and March 2018 between Heathrow and the Planning Inspectorate on the DCO and EIA Process.

Regards,

Paul.

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## Comments on Chapter 3 DCO Project

### Project Design

- As with all chapters in the Report, all references to the draft revised Airports NPS will need rerevising to make reference to the final version of the adopted Airports NPS.
- Para 3.1.5. – Reference is made to a long list of component option alternatives being considered and consulted on. It is noted that options for each of the components still exist. It is not stated explicitly here, but this would appear to include the option put forward by Heathrow earlier in 2018 for the 3<sup>rd</sup> Runway to be 3,200m long. Given that the Airports NPS states that the 3<sup>rd</sup> Runway must be at least 3,500m in length, how can a shorter runway option still be under consideration? This paragraph also refers to “Consultation 1” undertaken at the beginning of 2018 and notes that feedback from this will inform the design process. Has information on the consultation response been provided and discussed in a separate publication? We are not aware of this information being released. If it is to be used to inform the design of the 3<sup>rd</sup> Runway then this information should be made public.

### Overview of the DCO Project

- Para 3.2.1 – Reference to Figure 3.1 is made here, but where is this Figure?
- Para 3.2.7 – The description of the DCO application does not appear to be complete. Won't the DCO also include an application to increase the maximum number of movements allowed on the existing 2 runways so that extra flights can be handled by Heathrow prior to opening of the 3<sup>rd</sup> Runway? This should be clarified as this cannot be regarded as “Associated Development” (i.e. development that is required for the 3<sup>rd</sup> Runway to go ahead). We do not see how the addition of 25,000 additional movements at Heathrow can be regarded as development that is Nationally Significant and suitable for approval through the DCO route. The movement limit at Heathrow of 480,000 was set at the time of the 5<sup>th</sup> Terminal approval and movements were limited by a condition on the planning approval. It is therefore appropriate that any change to the movement limit should be dealt with via an application to the Planning Authority for a variation of the relevant condition. (For the avoidance of doubt, H&F oppose any changes to the 480,000 limit). The revised draft Airports NPS states that (Para 1.37): “On 21 July 2017, the Government issued a call for evidence on a new Aviation Strategy. The Government stated that in light of the Airports Commission’s findings on more intensive use of existing airports, it was minded to be supportive of all airports who wish to make best use of their existing runways, including those in the South East (with the exception of Heathrow, whose proposed expansion is addressed in the Airports NPS)”. The new NPS documents has different wording to this but still reiterates that the Government is supportive of airports beyond Heathrow making best use of their existing runways which appears to

exclude Heathrow. The DCO should therefore not include anything in relation to increasing movement limits.

### Principle Components of the DCO Project

- Para 3.3.2 – Figure referenced that is not present in the document (also true for Para 3.3.4). It is stated that “The new runway will be between 3,200m and 3,500m in length”...This cannot be the case as all versions of the Airports NPS have always stated that the runway will be 3,500m as a minimum. Heathrow’s consultation on a shorter runway and the continued insistence that this component of the 3<sup>rd</sup> Runway is not set continues to create confusion about the scheme. This section and any other references in the documentation to runway length being anything other than 3,500m need correcting.

### Development Programme and Construction

- Para 3.4.2 – It is noted that there is a reference to 3 aims in relation to the construction phase. One of these is to “Spread the benefit of the DCO Project as widely as possible”. This should be an aim that is adopted much wider for the whole project, not just the construction phase, with details provided of what the benefits are and how they will be disseminated to those communities that are impacted by Heathrow and its expansion plans (including H&F).
- Para 3.4.17 – Reference is made to an expanded Heathrow providing at least 760,000 ATMs a year and serving 130 million passengers a year. There is at least one reference in other chapters to the 3<sup>rd</sup> Runway providing capacity for 140 million passengers. Which is it? These sort of facts and figures should be consistent across all chapters and assessments.
- Para 3.4.18 – This paragraph contains further discussion of the extra flights to be allowed at Heathrow through the DCO process. As already outlined above, we are opposed to additional movements being allowed at Heathrow and believe it is inappropriate for the DCO process to be used in this way. No development is proposed to add 25,000 flights, it is to be done via “implementing new procedures and efficiency improvements”. How is such a proposal relevant for a DCO for a nationally important infrastructure construction project?
- Para 3.4.19 – states that a number of key operating principles have already been developed and 4 broad examples are provided. None of these have been developed in any detail at this stage and depending on how they are designed and implemented, their benefits are not certain and could be regarded as inadequate to deal with the impacts that the 3<sup>rd</sup> Runway creates. Issues that we have with the mitigation examples provided include: There is no information on flight paths at the moment so how can impacts associated with where planes will fly be assessed; The night flight ban has not been decided and there are concerns that this will not provide adequate benefits and could actually increase night flights and associated disturbance; the possibility of providing respite from aircraft noise is presented as a positive benefit



but respite will almost certainly be reducing for residents once a 3<sup>rd</sup> Runway is operational, so of reduced benefit. The creation of a noise envelope is also promoted here as providing a framework for the sustainable management and control of the effects of noise that apparently balances growth and noise reduction and provides certainty about how noise will be addressed in the future. We have concerns that unless designed properly the noise envelope will do little to drive noise impacts down and doubt that such an approach can reduce noise to acceptable levels. In relation to that latter point, we hope that the Independent Commission on Civil Aviation Noise is established as soon as possible by the Government so that it can take full part in the EIA process.

## Comments on Chapter 4 Approach to EIA Scoping

### Introduction

- Para 4.1.2 – Only reference to the Planning Inspectorate's Advice Note 7 is referenced here. There are other Notes that are relevant (e.g. Advice Note 3). All relevant Notes should be referenced and included in Table 4.2 on their requirements.

### Approach to Identifying Likely Significant Effects

- Para 4.2.3 – Reference is made to using professional judgement in assessing whether or not an effect of the 3<sup>rd</sup> Runway has the potential to be of likely significant impact. Care needs to be taken and decisions should err on the side of caution with our preference being for issues to not be scoped out too early without good reason.
- Para 4.2.5 – With regards to the approach to setting the Study Areas for the assessments, we have commented on a number of chapters where we consider that H&F should be included in the area, although from the information provided we cannot tell what the geographical areas are for any Study Areas so do not know if we included or excluded at this stage.
- Para 4.2.12 – There is a discussion of how major effects will always be considered to be significant and some moderate effects could also be significant in specific circumstances. Minor effects are deemed to be non-significant. However, is there a case to also assess cumulative impacts of effects such as that many minor impacts could equate to a significant impact?
- Para 4.2.19 – Disagree with the proposed approach if not presenting an unmitigated and mitigated scheme as part of the ES. By presenting effects arising from the DCO with mitigation in place suggests we are certain about those mitigation measures being implemented and certain about their mitigation benefits. Is adequate information available to know this with the required certainty? The unmitigated scenario would serve as a useful baseline and should be included.

### Spatial and Temporal Scope

- No comment – see specific comments on Study Areas that has been made for each chapter commented on.

### Summary Scope of the Assessment

- No comment – see specific comments on each chapter commented on.

### Cumulative Effects Assessment

- No comments on the assessment process outlined here. Comments on cumulative effects have been made elsewhere in our submission.

### In-combination Effects

- Para 4.7.1. – the sort of impacts that the 3<sup>rd</sup> Runway will have combined environmental effects. The example given in this section of interaction of environmental factors such as air quality, noise and health is very relevant to the impacts that could arise on single receptors at a single point in time (and in fact impact on many communities in significant numbers – hundreds of thousands most likely).
- Para 4.7.2 – synergistic impacts should be assessed as it may well be the case that receptors who are subject to a range of environmental impacts could experience impacts that are increased due to the combination of effects.
- Para 4.7.5 – We note the proposal to do qualitative assessment based on professional judgement. This is of concern as the main receptors are likely to be large numbers of residents and probably whole communities. Quantification of impacts and costs of those impacts should be provided.
- Para 4.7.6 – Although reference is made here to the proposed areas for community level reporting for in-combination effects, the referenced Figure is not shown here and should be.

### Transboundary Effects

- No comment – Comments on Transboundary Effects have been made elsewhere in our submission.

### Engagement

- No comment – see specific comments on Engagement that has been made for each chapter commented on.

There is no section on the EIA Approach to Mitigation. This is a major oversight in our view as mitigation is the key component of the EIA.

## **Comments on Chapter 5: Air Quality and Odour**

### **Introduction**

There are some discrepancies within the document that H&F would like reviewed and improved before agreeing the approach to the environmental impact assessment. The following comments raise the issues and suggest an alternative improved approach for judging adverse impacts.

H&F experiences some of the worst air pollution concentrations within the London Agglomeration. Many road side locations exceed the national objective for NO<sub>2</sub> and the major source of air quality pollutants is road traffic. The whole of the borough has been declared an Air Quality Management Area for 2 pollutants: nitrogen dioxide (NO<sub>2</sub>) and small particles (PM<sub>10</sub>). We therefore need to ensure that any large strategic developments within London such as the proposed Heathrow expansion will not result in any adverse impacts to local air quality and impede the Council in achieving compliance with the national air quality objectives.

It should also be noted that in H&F that 24% of road transport PM<sub>10</sub> emissions originate from the exhaust whereas 76% are generated from tyre and brake wear. Similarly, 40% of road transport PM<sub>2.5</sub> emissions originate from the exhaust whereas 60% are generated from tyre and brake wear. The assessment of these sources is therefore as important if not more so that assessing tailpipe emissions.

We have concerns about the impacts of any associated air pollution emissions from the proposed airport expansion. Emissions from the onsite airport activities and aeroplane movements have been provisionally assessed and are reported to not be significant outside a 11km by 12km core assessment area. Assessment methodology, combined with the source apportionment should be provided for boroughs who are potential impacted as they are located below flight paths.

Vehicle traffic travelling through the borough resulting from increased aircraft operations at Heathrow are the main concern that will require to be fully assessed as we are located outside the core assessment area. These impacts have been discussed, although have not been fully addressed or fully scoped into the EIA process. It has been reported that impacts outside the core assessment area will be judged following further traffic modelling although this modelling study has yet to be completed, therefore it is not possible to determine what the resulting air quality impacts will be to the borough.

The following comments should be reviewed, clarified, and included within any Environmental Impact Assessment:

### **Policy and Legislation**

Table 5.1 – Provides a list of policy and legislation summary relevant to the application. Some of the documents are currently under review and consultation namely the National Planning Policy Framework (NPPF) and the 2007 Air Quality Strategy for England, Scotland, Wales, and Northern Ireland. Likewise, the UK plan is still under legal challenge therefore any amendments these any these documents has the potential to influence some of the parameters of the any EIA.

Local policy guidance has been omitted from the list and should be referenced and the following documents should be included:

- GLA London Plan (under consultation)
- Mayors Environment Strategy 2018
- Local authority Air Quality Action Plans (AQAP's) have been omitted but should be considered. It is accepted that H&F sits outside the core assessment area although as a minimum Local authority with AQAP within the main assessment area should be included within this list.

### Stakeholder Engagement

Table 5.2 provides information on Stakeholder Engagement. In terms of local authorities, the Heathrow Strategic Planning Group is the main source of input into the process so far. The Group represents some authorities that are impacted by Heathrow's current and future operations, but not all and we are concerned that the views of authorities further away from the airport, but still impacted will not be heard if this is the only local authority related stakeholder.

### Study Area

Para 5.4.1 – H&F is not included within core assessment area, and it has been reported in Paragraph 5.4.6 impacts from airfield, aircraft movements and increased road traffic because of the Heathrow expansion project has, "*limited impact*". The air quality impacts associated with airfield operations and aircraft movements to H&F may be limited but the impacts of increased road traffic on the road network not only in H&F but across the London agglomeration should be considered further and fully scoped into the EIA.

Para 5.4.2 – states that the study area is fluid and the exact geographical scope of the area may be subject to change. It is stated that background data collection will change depending on geographical changes. Local Air Quality Management technical guidance 2016 (LAQM TG16) provide the guidance in using monitoring data for assessments. Monitoring data, depending on the methodology will require a minimum of 6 months data before it can be used in these comparison assessments to an air quality objective. If the location/size of the core study area were to change consideration of background data will be required to ensure that it is of sufficient quality.

Para 5.4.3 – only states that pollutant concentrations will be compared against air quality objectives "determined on their emission sources", rather than providing a comprehensive list. It is assumed that both Nitrogen Dioxide and

Particulate Matter will be included but this has not been stated. A list is provided in Table 5.8 and Table 5.9 providing some clarification although it should be clearly stated within this section.

Para 5.4.6 – it is stated that aircraft approaching and departing Heathrow have limited impact on ground level pollution concentrations. The LAEI (London Atmospheric Emissions Inventory) states that within H&F approximately 8% of total NO<sub>2</sub> emission results from Aviation, therefore this is a source of ground Level NO<sub>2</sub> that should be assessed.

Para 5.4.8 – suggests that impacts outside the main 12km x 11km assessment area will be judged on an increase in airport vehicle movements along a road link.

Para 5.4.9 - sets the criteria based on Highways Agency, Design Manual for Roads, and Bridges. Volume 11. Section 3 Environmental Assessment Technique. Notably, Road links will be potentially affected by the DCO if the following criteria apply.

- Road alignment will change by 5m or more
- Daily Traffic flows will change by 200 AADT or more
- Daily ADV flows will change by 200 AADT or more.
- Daily average speeds will change by 10km/hr or more

This approach should be revised as we believe it is not stringent enough and will not capture actual air quality impacts.

IAQM joint EPUK guidance Land-Use Planning & Development Control: Planning for Air Quality January 2017 guidance provides Indicative criteria for requiring an air quality assessment. Table 6.2 from this guidance states the following criteria:

The development will:	Indicative Criteria to Proceed to an Air Quality Assessment <sup>2</sup>
1. Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans <3.5t gross vehicle weight).	A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.
2. Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors. (HDV = goods vehicles + buses >3.5t gross vehicle weight).	A change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.
3. Realign roads, i.e. changing the proximity of receptors to traffic lanes.	Where the change is 5m or more and the road is within an AQMA.
4. Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, e.g. traffic lights, or roundabouts.

IAQM guidance should be used in preference over DMRB to judge if air quality assessments are required. DMRB guidance is from 2007 therefore predating IAQM guidance issued in January 2017.

As previously stated, traffic modelling for the areas outside the core assessment area has not been included, therefore it is difficult for us to judge if the scope of the EIA is sufficient.

Para 5.4.11 – it is stated that average emissions per vehicle in the opening year of the DCO project would be considerably lower than a scheme opening today because emissions from vehicles are constantly tightening. This statement does not take into account recent information from the International Council for Cleaner Transport that states, on average, real-world NO<sub>x</sub> emissions from the tested vehicles were about seven times higher than the limits set by the Euro 6 standard. If applied to the entire new vehicle fleet, this would correspond to an on-road level of about 560 mg/km of NO<sub>x</sub> (compared to the regulatory limit under Euro 6 of 80 mg/km). Emissions Analytics estimates that 86% of Euro 6 diesel cars are emitting above the NO<sub>x</sub> standard in real world driving conditions. The emissions from current Euro 6 (a,b,c) diesel vehicles are unlikely to improve even with Real World Driving Emission (RDE) as this only applies to new cars being Type Approved for sale for the first time from the 1st September 2017 and even these vehicles due to the type approval process will be able to emit up to twice the levels of NO<sub>2</sub> emissions due to a conformity factor range of 1.5 - 2.0%. With the uncertainty around vehicle emissions, consideration should be made when judging any impacts. Paragraph 5.4.11 should be reviewed following these recent studies. It should also be noted that tailpipe emissions are only

Para 5.4.15 – discusses construction dust and assessment methodology only and does not include nitrogen dioxide/PM tailpipe emissions associated to construction vehicle transport. It is noted that in Table 5.8 that nitrogen dioxide and particulate matter from construction traffic have been discussed but should construction traffic vehicle trips exceed IAQM criteria along road links outside the core assessment area this should be scoped within the EIA. Table 5.8 also discusses the use of rail transport for moving of materials. The air quality impacts of increased diesel rail vehicles should be considered should they be used to transport construction materials and scoped within the EIA.

#### Sources of Data used in Scoping

Para 5.5.3 – states that the principal source of air quality monitoring data is Heathrow and partners Air watch website. It is understood that that this project is overseen by a joint working partnership consisting of London boroughs but further details relating to the QA/QC of the data should be included to ensure that it follows the LAQM TG16 technical guidance and is directly comparable to the national air quality objectives.

Para 5.5.5 – states that diffusion tube data has been taken from Local Authorities only. Given the magnitude of this development using only diffusion tubes set out by Local Authorities is considered insufficient as it would be expected that areas with poor diffusion tube coverage would be supplemented with a site specific local diffusion tube study.

Para 5.6.1 – this underestimates the impacts of Heathrow and should clearly state that air quality has been a concern across London, not just singling out the Heathrow region. Discussion relating to emissions should provide quantitative information to supplement the qualitative discussions about ambient air quality conditions across London.

Para 5.6.6 – only focuses on the air quality impacts for boroughs that are located within the core assessment area suggesting that these are the only boroughs impacted. This statement is misleading and contradicts other sections within the scoping report. Paragraph 5.4.8 suggests a methodology to consider any air quality impacts outside the main impact area.

It is recommended that the modelling predictions within Table 5.7 are checked for the future year scenarios for some of the receptors. Receptor ID 16112 for year 2030 does not show significant reductions compared to many of the other locations. It may be a result of local factors, or an error in the modelling. It is still not clear if receptors exist outside the core assessment area in the absence of traffic modelling.

Table 5.8 does not consider construction vehicle emission and rail freight despite being highlighted in paragraph 5.10.5. Using the railway network for transportation of goods would be a preferred option and supported but any air quality impacts associated with using diesel trains should be included in the table and scoped into the EIA.

#### Likely Significant Effects requiring Assessment

No comments in addition to those made elsewhere in this response.

#### Effects not requiring Assessment

No comments

#### Proposed Approach to the Assessment

Para 5.9.1 – it is welcome that the study area will constantly be under review, although keeping study areas under review can cause problems with progressing assessments. For example, insufficient amounts of background data may be an issue. A revised approach would be to undertake traffic modelling to pinpoint any impacts on a larger scale (if any) and then discuss the assessment methodology.

Para 5.9.5 – states that new monitoring stations are proposed. Sufficient data capture (minimum 6 months) will be required before any comparison can be made between modelled concentrations.

There is insufficient information about how the air quality dispersion modelling will be undertaken outside of the core assessment area, should it be required. Model predictions within the core assessment area may be accurate as there are sufficient data points for model verification. However,



extrapolating models across a wider area outside the core assessment area could result in errors and decreasing accuracy of model predictions. Model verification with local monitoring sites outside the core assessment area will be required to ensure that predictions remain accurate and valid although this has not been mentioned.

Para 5.9.25 – it is proposed to use the Highways England Interim Advice Note to assess significance of effects with the magnitude of change detailed within Table 5.10. It is recommended that this method is revised and replaced by IAQM joint EPUK guidance Land-Use Planning & Development Control: Planning for Air Quality January 2017 as this guidance provides impact descriptors for individual receptors. Table 6.6 from this guidance sets the following criteria:

Long term average Concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1	2-5	6-10	>10
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94% of AQAL	Negligible	Slight	Moderate	Moderate
95-102% of AQAL	Slight	Moderate	Moderate	Substantial
103-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

#### Explanation

1. AQAL = Air Quality Assessment Level, which may be an air quality objective, EU limit or target value, or an Environment Agency 'Environmental Assessment Level (EAL)'.
2. The Table is intended to be used by rounding the change in percentage pollutant concentration to whole numbers, which then makes it clearer which cell the impact falls within. The user is encouraged to treat the numbers with recognition of their likely accuracy and not assume a false level of precision. Changes of 0%, i.e. less than 0.5%, will be described as Negligible.
3. The Table is only designed to be used with annual mean concentrations.
4. Descriptors for individual receptors only; the overall significance is determined using professional judgement (see Chapter 7). For example, a 'moderate' adverse impact at one receptor may not mean that the overall impact has a significant effect. Other factors need to be considered.
5. When defining the concentration as a percentage of the AQAL, use the 'without scheme' concentration where there is a decrease in pollutant concentration and the 'with scheme;' concentration for an increase.
6. The total concentration categories reflect the degree of potential harm by reference to the AQAL value. At exposure less than 75% of this value, i.e. well below, the degree of harm is likely to be small. As the exposure approaches and exceeds the AQAL, the degree of harm increases. This change naturally becomes more important when the result is an exposure that is approximately equal to, or greater than the AQAL.
7. It is unwise to ascribe too much accuracy to incremental changes or background concentrations, and this is especially important when total concentrations are close to the AQAL. For a given year in the future, it is impossible to define the new total concentration without recognising the inherent uncertainty, which is why there is a category that has a range around the AQAL, rather than being exactly equal to it.

IAQM guidance should be used in preference over DMRB to judge if air quality assessments are required. DMRB guidance predates IAQM guidance and was issued in January 2017. IAQM guidance judges significance based on background concentrations and is weighted to areas where background concentrations are high.

Para 5.9.26 – the criteria outlined here do not appear to cover the costs of mitigating emissions – shouldn't this be covered? Also, what are the impacts (e.g. on health)? This might be covered in detail in the separate Health Chapter, but it should still be referenced here.

Para 5.9.28 – only details receptors that are within the main study area. It has already been discussed that the study area may vary depending on results of traffic modelling therefore it would be expected that receptors will also be extrapolated where impacts have been identified on submission of the EIA.

Para 5.9.29 – refers to the issue of a scheme that causes air quality impacts that affect the ability of a non-compliant area achieving compliance with the Air Quality Directive or that causes a compliant area to become non-compliant. Under such circumstances the scheme should be refused. An assessment of compliance with this criteria should form part of the EIA.

Para 5.9.33 – no details are provided on who sits within the Air Quality Expert Review Group. Further information should be provided about the membership of this group as it appears that will be playing an important role in the air quality assessment process.

#### Approach to Mitigation

The potential operational strategies mentioned in this section just refer to suggestions from the Airports NPS. Overall, this approach to the EIA assessment seems very vague. There is little information on how the aims (e.g. for surface transport mode share improvements) will actually be achieved. Further details should be provided.

Para 5.10.4 – advises that construction logistic hubs will be utilised which is welcomed. Any hubs will be a destination for deliveries and collection therefore could be areas with many HGV/LDV movements. If these hubs increase AADT above thresholds previously discussed air quality impacts could be realised. There are no details on position/ location of these hubs and will need to be included within the EIA.

Para 5.10.5 – states that the railway may be used to transport materials which is welcomed although as previously discussed it is recommended that the impact of diesel trains on the network should be scoped into any EIA.

Para 5.10.10 – states that car parking will be provided near the site with shuttle buses to places of work. No details of locations of car parks have been provided, although Table 6.1 within the IAQM guidance suggests that developments over certain size thresholds with 10 or more carparking spaces could have an air quality impact. It is recommended that large sites for carparking should be scoped into the EIA.

## Comments on Chapter 8 – Climate Change

### Introduction

- Para 8.1.4 – Reference is made to the topic of climate change overlapping with other topics included in the EIA such as Chapter 18 water environment and Chapter 15 major accidents/disasters. The assessment of community impacts and health also need to be considered with respect to how climate change could impact on these areas as well.

### Policy and Legislation

- Table 8.1 – the Airports NPS references all need updating. WE also recommend the inclusion of references to the London Plan and the London Environment Strategy.

### Stakeholder Engagement

- Table 8.2 - So far only engagement with the Environment Agency has been carried out although it is noted in paragraph 8.3.1 that “further engagement with the Heathrow Strategic Planning Group” is planned. The range of expertise provided by the proposed stakeholders is therefore considered to be too narrow and consideration needs to be given to including stakeholders with wider representation and knowledge on climate change issues. Would the Committee on Climate Change not be considered an appropriate stakeholder for inclusion?

### Study Areas

- Para 8.4.2 – Reference is made to the study area for the “In combination climate change impact assessment” to be related to the study area boundaries being defined for each environmental topic. At this stage, as final information on these boundaries does not appear to have been provided we cannot comment on the suitability of the proposed study area.
- Para 8.4.3 – Reference is made to using the UKCP09 data as the most relevant source of data. This dates from 2009, so we have concerns about how up-to date or relevant this data still is for 2018. This should be checked and where possible supplemented with other data.

### Sources of Data

- Para 8.5.2 – Use of the UKCP09 data is reiterated in this section. As commented above, this is quite dated although we note elsewhere that there are references to use of Met Office and IPCC data.

### Baseline Conditions

- No comments

### Likely Significant Effects requiring Assessment

- Table 8.3 – Although it is noted in the supporting text that the topics listed in this table on likely significant effects are not exhaustive, we would expect the operational impacts to have wider effects than those highlighted – which focus on landscape elements, water environment and surface transport. Community receptors would be relevant across all activities whereas it is mainly flora and fauna that are highlighted at the moment. This is where input from climate change specialists would help in the development of the assessment.

### Effects not requiring Assessment

- No comment

### Proposed Approach to the Assessment

- Paras 8.9.5 to 8.9.7 – In this discussion of assessment years there is reference to construction being carried out 2021-2035 which will be covered by the UKCP09 time period of the 2020s (which actually covers 2010 to 2039). For the operational scenario it seems that the future period to be used will be the 2080s. This does not look like adequate consideration of the interim period when the airport will be operational so additional assessment years/periods should be included.
- Para 8.9.27 – It is noted that the proposed approach is largely qualitative. If this is the case, then how will the associated costs of the impacts be assessed or quantified? Also, without quantification of impacts how can an appropriate mitigation package be developed as part of the EIA process as outlined in Para 8.9.26?
- Tables 8.6, 8.7 and 8.8 – These tables provide information on the proposed criteria for assessing the likelihood of impacts in the Climate Change (Resilience) assessment. This approach is different to that proposed for the other climate change assessment (on Combined Climate Change Impacts), but it is not clear why. Further information should be provided and consideration given to using a consistent approach for both.
- As a general point, there is little information on the impact of air travel on climate change. Clearly the 3<sup>rd</sup> Runway will increase the number of flights annually to/from the airport – how are CO<sub>2</sub> emissions from these “in-flight” to be assessed?

### Approach to Mitigation

- Paras 8.10.2 to 8.10.5 – The discussion of mitigation measures in this section does not provide any information on what the measures would be or what guidance will be followed in developing them. Also, it is not clear how they will be assessed or their benefits checked to ensure

they are adequate to provide the required level of mitigation. Further information on these issues is required.

## Comments on Chapter 9 Community

### Introduction

- Para 9.1.4 – It is stated that the Community Assessment will draw on the outputs of other environmental topics and the EqIA. Reference is not made to the traffic and transport impacts in this respect and should be. Also, it is not clear is how the EIA will be phased to ensure that all the required outputs from other chapters will be finalised first before the Community impacts are assessed. It would be useful to clarify this process.
- Para 9.1.5 – This paragraph discusses how mitigation measures will be used to reduce impacts but notes that where mitigation cannot prevent significant impacts, that these remaining impacts will be assessed. More information should be provided on what is to happen where significant impacts cannot be mitigated – what actions will be taken?

### Policy and Legislation

- Table 9.1 – Recommend checking for other relevant policy documents such as the Government’s “Integrated Communities Strategy Green Paper” and the London Environment Strategy and including them.

### Stakeholder Engagement

- Para 9.3.1 – It is noted that there has been little engagement will community stakeholders at this point. The Heathrow Strategic Planning Group is referenced as being included in early engagement on the scope of the assessment, but this Group is not regarded as one that represents a wide range of community group interests. We are concerned about the lack of representation of other non-HSPG groups and of members of the wider community (e.g. residents groups). Reference is made to engaging with local authorities – these should be listed so it is clear who will be included in the engagement process.
- Para 9.3.2 – Discussion of the role of the Heathrow Community Engagement Board is referred to here including comment that the Board “provides an opportunity for the needs of the local community to influence the design and operation of Heathrow”. The focus of the Board’s membership is very much those authorities in close vicinity of the airport (and in some respects its membership is similar to that of the Strategic Planning Group). We would like to see specific information on how communities that are not immediate neighbours of Heathrow but who are impacted by its current operations and the proposed 3<sup>rd</sup> Runway (such as H&F) will be engaged and a commitment that their views will also help shape the design and operation of the airport.
- Para 9.3.3 – It is stated that feedback from Consultation 1 will continue to inform the development design in relation to community assessment work, but we are not aware of any outputs from the consultation being published or referenced in the EIA documentation. These consultation

comments and responses should be published. It needs to be clear how comments have been considered and shown to influence the design and assessment process.

- Table 9.2 – As already highlighted, community engagement to date is limited and there are concerns about the prominent role that the Strategic Planning Group has been given in the process to date. There needs to be a much wider and more transparent approach to community assessment.
- Although additional stakeholders are listed in Para 9.3.5, it is the Strategic Planning Group that have been involved in early workshops on developing the scope of the community assessment, none of the other groups listed in this paragraph. Is the scope now set or could feedback from any of these groups influence it? There is a danger that the scope is set too narrowly and relevant issues missed. Further clarification on these issues should be provided.
- Para 9.3.6 – Notes that user surveys will be drawn upon where published and undertaken with regard to users of recreational facilities, spaces and routes. This only deals with one aspect of potential community impacts (on recreation). It is not clear what work will be undertaken to establish baseline information for all of the other uses that are listed in paragraph 9.3.5. If no surveys have been done already, or those that exist are out of date, then new surveys across a range of community uses would need to be carried out and a commitment to do so should be provided.
- Paras 9.3.7/9.3.8 refer to engagement with community facilities that are likely to be directly affected by expansion. This engagement seems to be limited to local schools, but as highlighted by the list in paragraph 9.3.5 there is potential for a very broad level of community facilities and users to be impacted by the 3<sup>rd</sup> Runway, not just schools. Obviously schools are important, but further information on the proposed engagement programme should be provided.
- Para 9.3.9 – Listening Events have apparently been used to engage with local communities. Feedback from these events should be provided in the community assessment, with particular reference to what local residents have said about what they would like to change about their local community.

### Study Areas

- Para 9.4.1 – Reference is made to the potential for the Study Area to change over time and if this is the case then “data collection may also be reviewed and updated”. Similar statements are made in the other Chapters along these lines. If the Study Area does change then an undertaking should be given to do a review of data collection rather than leave the doubt that saying this may be done.
- Para 9.4.2 - Although a discussion is provided on the rationale of how the extent of the Study Area is to be defined, there is no figure provided in the Chapter to show the geographical extent of the area. This needs to be provided.

- H&F is not a borough that would be directly impacted by the physical expansion of Heathrow in terms of land-take etc for the new infrastructure requirements (Para 9.4.3) but our residents would be impacted by the operation of a 3<sup>rd</sup> Runway once the project is complete and in use (Para 9.4.4). We therefore expect to be included in the community assessment.
- Para 9.4.13 – The wider Study Area is seemingly being defined according to membership of the Heathrow Strategic Planning Group (or authorities who are geographically located within the areas covered by Local Planning Authorities who are members of the Group). As we have already said, the Strategic Planning Group does not represent all boroughs who are impacted by Heathrow or its future operations if a 3<sup>rd</sup> Runway is developed. Focussing on this Group and its members risks skewing assessments to focus on the immediate neighbours of Heathrow to the detriment of boroughs further away such as H&F. This approach needs to be reconsidered with the aim of balancing representation of authorities and their views.

#### Sources of Data

- In line with the comments already made, data will be required for the full range of community uses highlighted as potentially being at risk of impacts from a 3<sup>rd</sup> Runway and the data should cover all geographic areas that could be affected.

#### Baseline Conditions

- This section only provides information on the “Inner Study Area”. No information on the “Wider Study Area” is provided and this is required.

#### Likely Significant Effects

- No comment

#### Effects not Requiring Assessment

- Para 9.8.1 - Although it is stated that no effects have been scoped out of the assessment, if the geographical Study Area is not wide enough then by default all impacts have been scoped out for those areas not within the defined area. Inadequate information has been provided on the Study Area so it is unclear which areas are inside this and which have been excluded.

#### Proposed Approach to the Assessment

- Para 9.9.4 – Notes that the final details of the assessment methodologies will be agreed with stakeholders during future engagement and response to scoping. As highlighted throughout our comments, this process can only be robust if the stakeholders who are asked to take part in this process are properly representative of the



communities impacted by Heathrow and the increased impacts that a 3<sup>rd</sup> Runway will bring.

- Para 9.9.12 – Reference is made to using the 2011 Census dataset. It is acknowledged that this is dated and more up-to-date datasets will be used where possible but it seems that some data will be from the Census. The Transport Select Committee has flagged up problems with data such as this particularly in relation to generating information on affected populations as population changes have obviously occurred since 2011. Where Census data has been used, this should be clearly noted. Wherever possible, more up-to-date information should be sourced and used. It may be appropriate in some cases to carry out new surveys as part of the assessment.
- Tables 9.6 and 9.7 – These tables show “Sensitivity to Change” and “Magnitude of Change”. Tables such as this seem common to all chapters that relate to impact assessments in the Scoping Report, but the way sensitivities and magnitudes to change are defined are not consistent across the various chapters. This could cause confusion and consideration should be given to using common descriptors – e.g. low, medium, high or negligible, low, medium, high. Some include very high options and no impact options and so on. Consistency would help with interpretation of impacts.

#### Approach to Mitigation

- As with a number of sections in the Report, mitigation is dealt with briefly compared with the preceding sections. Assessment of mitigation is the most important aspect of the EIA but the Scoping Report is lacking in a lot of detail on this aspect of the work.
- Para 9.20.1 – The description of the EIA approach to mitigation is incomplete. It should be acknowledged that despite use of mitigation measures there could still be significant impacts. What will happen in these circumstances?
- Para 9.10.5 - The compensation/mitigation package measures are discussed briefly here. These are not considered to be adequate as they do not deal with all impacts, just those in the immediate vicinity of Heathrow. This means that boroughs like H&F that are further away but still experiencing negative impacts receive no compensation. How will this aspect of the community impacts of a 3<sup>rd</sup> Runway be approached in the assessment?

## **Chapter 12 Health**

### **Introduction**

- No comments other than to say that all references to the draft revised Airports NPS need to be updated.

### **Policy and Legislation**

- Table 12.1 - Consider also including reference to the Public Health England Strategic Plan. The work of the Health Foundation may also be worth consideration in developing the health assessment for the EIA and the Health Impact Assessment.

### **Stakeholder Engagement**

- Para 12.3.2. – We note that the Heathrow Strategic Planning Group has set up a Health Group which will be focus for engagement with Local Planning Authorities on health issues. As we have commented on for other chapters, the prominent role of this Group across all areas of the DCO work is of concern given their limited representation. We see that other stakeholders will be approached who will presumably be specialists in assessing health needs and impacts of major developments on the scale of the DCO Project.

### **Study Areas**

- Para 12.4.5 – Relevant chapters for health are discussed in this section and includes the Chapters on Community, Air Quality, Noise, Economics etc, but it does not include reference to the Chapters on Climate Change or Traffic and Transport which we think it should as these are relevant to health issues.
- There is no Figure showing the Study Area or description of the Area. It is therefore not clear which areas are going to be covered by the assessment. This information should be provided.

### **Sources of Data**

- Para 12.5.1 – Reference is made to using the Wider Study Area outlined in the Community Chapter as the basis of where baseline data will be collected. The actual extent of this Wider Study area is not clear though, although a list of authority areas is included in this paragraph. These are not identified as such but appear to be mainly Authorities who are members of the Strategic Planning Group. As commented elsewhere in relation commitments to only collect data for boroughs in the immediate vicinity of Heathrow, this is an approach that is too limited and should be extended.

### Baseline Conditions

- No comments

### Likely Significant Effects requiring Assessment

- Table 12.3 – Community severance issues should be included in the table as a potential effect of the changes in road traffic. Also, it is not just road users who would be the receptor of impacts, it could be residents or others in the community.

### Effects not requiring Assessment

- Para 12.8.2 – Reference is made to other assessments within the EIA process that will consider health impacts. These are highlighted in Table 12.4, but in addition to those listed reference should also be made to the Chapters on Air Quality, Noise and Traffic and Transport.

### Proposed Approach to the Assessment

- Para 12.9.3 – Refers to the assessment of health covering all aspects of the DCO Project. Presumably there will be a separate assessment of construction impacts on health and operational impacts. It should be noted that there could be a phase where construction will be continuing on site while phased introduction of additional operations is introduced in which case this construction and operational phase would also need to be assessed.
- Para 12.9.7 – It is not clear why 2016 is set as the baseline for the health assessment when for other assessments 2017 is the baseline. Why is this? The approach to Operational impact assessment appears to be different to other assessments in terms of how operations are proposed to be assessed (in terms of assessment years). The approach outlined here may be a useful one that is used for other assessments in terms of the scenarios to be included.
- Para 12.9.28 – The list of EIA topics here should also include Climate Change.
- Tables 12.5 and 12.6 list out the various health effect subjects and notes which ones will be assessed in a quantitative way and those that will only be assessed qualitatively. Wherever possible, quantitative assessments should be carried out.

### Approach to Mitigation

- Para 12.10.1 – We note that negative impacts on health and wellbeing will be compensated for (where they cannot be mitigated). This approach should be followed across the whole EIA – i.e. where negative impacts remain, even after the implementation of proposed mitigation measures, impacted communities should be compensated for the remaining detrimental impact on their environment (not just their

health and wellbeing), although the focus should always be on avoiding impacts in the first place.

- Para 12.10.5 – The mitigation proposals that are listed in this section include runway alternation to provide respite from noise and the night flight ban as well as references to noise related compensation packages. These are presented as positive measures, but we have not seen the detail of any of these mitigation measures and have serious concerns about their ability to properly mitigate impacts. These issues have been discussed elsewhere in our response but just briefly, the respite scheme is expected only provide respite from aircraft noise for 1/3 of the day whereas the current scheme generally provides respite for ½ a day. The night flights ban will not operate for the full night period and we suspect that it will create an increase in night flights rather than a decrease. The noise compensation packages are all too limited to benefit all those impacted communities. They may help those affected the worst, but there are likely to be many thousands of people whose noise environment is degraded as a result of the 3<sup>rd</sup> Runway, but at a level below the threshold that triggers compensation.

## **Comments on Chapter 15 Major Accidents and Disasters**

Limited comments on this Chapter as follows:

### **Stakeholder Engagement**

- Table 15.2 - We consider that any local authority area that could be impacted by an accident or disaster should be considered to be a stakeholder on this issue and involved in consultations on this matter. The only Local Authority related group indicated in the table of stakeholders is the Heathrow Strategic Planning Group. This Group represents a limited number of Authorities and cannot be considered properly representative of Local Authorities. H&F is not a member of this Group but we are a borough that is currently under the 2 main flight paths for arrivals at Heathrow and it is likely that the 3<sup>rd</sup> Runway will introduce new flight paths over new parts of the borough. If an aircraft was to crash on its final approach then it is possible that this could impact on H&F. Airspace Safety is an issue of concern for residents as highlighted when the H&F Residents Commission investigated Heathrow expansion issues in 2014/15. Stakeholder engagement therefore needs to be much wider than currently set out.

### **Study Area**

- Figure 15.1 which is supposed to show the Study Area is not provided so we cannot see any information on the geographical extent of the area. The description provided in Para 15.4. makes the area sound limited in scale. As outlined above, we would expect H&F to be included given the amount of air transport movements that will occur through our airspace.

### **Data Sources**

- No comments

### **Baseline Conditions**

- No comments

### **Likely Significant Effects**

- Para 15.7.9 – more information is provided in this paragraph on which aircraft movements will be included in the assessment. Reference is made to departing aircraft that have completed their initial climb and aircraft that are en-route but not yet on approach not being included in the assessment. This approach obviously impacts on the Study Area but was not discussed in that section. These terms also need better definition, including reference to altitudes and distances from the airport and an indication of the local authority areas that would be impacted or included in the assessment area. This also raises the

issue of how impacts that are potentially dependent on where aircraft will be flying can be assessed when we do not know where the flight paths will be. This needs to be explained.

- Graphic 15.1 – This is useful in terms of helping understand the severity and likelihood of accidents/disasters and the risks associated with them, but we note that there is no quantification of the risks, these are just explained as being “broadly acceptable, tolerable and intolerable”. What are the associated probabilities -e.g. 1 in 1 million, etc. This would help understand the approach being outlined and should be provided.

#### Effects not Requiring Assessment

- No comments

#### Proposed Approach to the Assessment

- No comments

#### Approach to Mitigation

- This section provides some examples of mitigation measures but what mitigation measures are proposed to minimise the potential for aircraft related accidents that could impact on the populations under flight paths around 10km from the airport – which is where H&F is located in relation to Heathrow?

## Comments on Chapter 16 Noise

### Introduction

- Para 16.1.3 – This section explains the 3 key receptor groups for the noise impact assessment. These should be identified on a map and for the quiet areas and community facilities, these should also be listed in a table so it is clear where they are located. Key population centres should also be mapped and listed.
- Para 16.1.6 – In terms of the negative noise impacts that the 3<sup>rd</sup> Runway will have on communities under flight paths, some people who are impacted will already be experiencing impacts from existing operations. If the 3<sup>rd</sup> Runway was not built, these people would expect to see improvements in their noise environment under a 2 Runway airport. A 3<sup>rd</sup> Runway will mean that these improvements do not occur. The noise exposure levels may not have increased, but this scenario should be regarded as a negative impact even if there has been no increase in noise levels compared to current levels as this still represents a loss of improvement.
- Table 16.1 – As with all Chapters, all references to the draft revised Airports NPS will need correcting once the final version of the NPS is adopted. The Night Flight Restrictions for Heathrow also need to be included in this Table. The World Health Organisation guidance on noise should also be a reference document for this assessment.
- The introduction to this Chapter should provide a more detailed explanation about how noise impacts of a 3<sup>rd</sup> Runway can be properly assessed when the flight paths are not known. As a general point, this also makes it difficult to respond in a meaningful way on the assessment and mitigation proposals as we could be impacted to a greater extent than might be included in the assessment. This is a very significant limiting factor to the quality of the EIA in relation to noise.

### Stakeholder Engagement

- Para 16.3.1 – It is noted that the Noise Chapter of the report has been informed by engagement/discussion with various stakeholders, although to date this appears to mainly relate to contact with the Heathrow Strategic Planning Group. Wider engagement with a more diverse group of stakeholders in scoping the report would have been helpful in our view.
- Para 16.3.2 – We note the reference to ICCAN - the Independent Commission on Civil Aviation Noise - and hope that this is established as soon as possible otherwise there is a danger that their input will not be possible.
- Table 16.2 – The Heathrow Strategic Planning Group represent some of the local authorities who would be impacted by noise from the 3<sup>rd</sup> Runway, not all. We note that 3 meetings have been held with the Strategic Planning Group already in 2017/2018. H&F is not a member of the Group and not located in the immediate vicinity of the airport like many of the Group's members. We presume that we are included in

the consultee identified as “Non HSPG local authorities” although this is not clear as there is no list of authorities provided. Specific information on the authorities to be included in stakeholder engagement should be provided, as should further information on the expected timetable of future engagement. Under “Community engagement”, reference is made to the sound demonstrations that Heathrow provide. These may be of some value to some people but we hope that there must be more substantive proposals for future engagement with impacted communities, including H&F. Further details should be provided. We note schools have been listed as a specific consultee. Para 16.1.3. identified a number of community uses in addition to schools that could experience significant impacts, so will these other receptor uses also be included in the stakeholder engagement process?

### Study Areas

- Para 16.4.5 – Although a description of the criteria to be used in defining the Study Area for the impact assessment of noise during the operation phase of a 3<sup>rd</sup> Runway is provided, the area is not shown in a map. The geographical coverage of the Study Area should be illustrated in this section.

### Sources of Data

- Para 16.5.2 – Reference is made to the assessment methodologies being developed so they are relevant for all design options, including those relating to air space design. Given that no information has been made available in the Airports NPS on flight paths at Heathrow when a 3<sup>rd</sup> Runway is operational, what flight path data will be used in the assessment? This information needs to be provided.

### Baseline Conditions

- Para 16.6.2 – It is not clear which areas are covered by the baseline conditions survey/data collection work. This should be clarified.
- Para 16.6.10 – Reference is made to noise exposure data for 2016 which includes information on the population, area coverage and household numbers for the 54dB LAeq 16hr contour. At Para 16.4.5 it has already been noted that it is the 51dB LAeq 16hr contour that indicates the lowest-observed-adverse-effect level (LOAEL). Therefore, information on the population, area and household numbers impacted within the 51dB LAeq 16hr contour should also be included in this section. Similarly Para 16.6.10 refers to night time impacts of noise with reference to the 48dB LAeq 8hr contour when Para 16.4.5. has already noted that the relevant noise contour for the onset of adverse impacts at night is the 45dBA contour. This is acknowledged in the text, but relevant exposure information is not provided for the 51 and 45 dB contour areas and should be provided.



- Para 16.6.12 – Reference is made here to a range of metrics used in reporting noise impacts in the Heathrow Noise Action Plan. However, no impact statistics are provided. These should provide an illustration of the baseline conditions in terms of noise impacts.
- Para 16.6.14 – Discussion is provided in this paragraph on the xPlane and Webtrak web tools but it is not clear what role these have in providing data on baseline conditions at the airport. Further information should be provided on if and how they will be used. If they are not going to provide baseline information, then this paragraph should probably be deleted.
- Para 16.6.18 – This paragraph refers to “Noise Important Areas”. How do these relate or differ to “Quiet Areas”? Further information should be provided to clarify.
- Para 16.6.27 – Reference is made to monitoring in areas which could be “newly overflowed”. When will this information be known as currently there is no information on flight paths?
- Para 16.6.28 – Reference is made to the Noise Expert Review Group. Who is on this Group? They will be used to review the format and methodology of proposed noise surveys. Is this the only aspect of the noise assessment that they will be involved in? Should they be regarded as a key stakeholder and referred to as such in the earlier section on this?

#### Assumptions and Limitations

- Para 16.7.3 – Reference is made to using indicative airspace designs in the assessment. How will these be developed and when will they be made available? How many scenarios will be assessed – just 1 or more than this? Which organisations will be involved in setting indicative flight paths for the assessment? We have already flagged up our concerns to Heathrow and the Government about the way that the Airspace Change Process is being run with regard to the Airports NPS and DCO process.
- Para 16.7.6 – Feedback from the “Consultation 1” process will be used to help in the indicative airspace design process. To our knowledge, the comments received as a result of the consultation have not yet been made public. If they are to be used to guide the noise assessment process, then they should be made public. How will it be ensured that the noise assessment does not assess impacts for an airspace design that is unlikely to be implemented at Heathrow?
- Para 16.7.8 – Assumptions will need to be made about aircraft fleet mix to model noise impacts in future years (with and without the 3<sup>rd</sup> Runway in place). Will there be 1 future aircraft mix dataset that is used for all environmental impact assessments or will different assumptions about future fleet mix be made for each assessment? How will that dataset be developed and in consultation with who?

#### Likely Significant Effects requiring Assessment

- No comments

## Effects not requiring Assessment

- No comments

## Proposed Approach to the Assessment

- Para 16.10.7 – Another reference here to the Noise Expert Review Group and their role, this time in relation to providing independent assurance regarding the scientific and policy robustness of the assessment and mitigation proposals. Given their role, it is suggested that more information is provided in the Report on who is on the Group and the exact nature of their role in the noise assessment process.
- Para 16.10.8 – Reference is made to the Government currently establishing ICCAN. It is very disappointing that ICCAN is not in place already as they are a key stakeholder for the noise assessment process. It is concerning that key aspects of the noise assessment are being established without its input.
- Para 16.10.34 – Input information is provided here. Worst case scenarios should be included in the assessment.
- Para 16.10.42 – Reference is made to the use of models to predict the 92 day average summer daytime LAeq 16hr and night time LAeq 8hr noise metrics, noting that “these are the primary metrics for assessing likely significant effects from aircraft noise”. In our view, they are one of a number of metrics that are proposed for use. Given that they average out noise impacts over such a long period, they are not considered to be the best metric in terms of representing noise impacts in a way that correlates well with what communities experience on the ground. We are concerned about such emphasis being placed on this single metric when use of a range of noise metrics has been discussed earlier on in the report (and also referenced later in this section in Para 16.10.46).
- Table 16. 8 – Are the noise changes and associated descriptor used in this table set out in other guidelines or have they been developed specifically for this assessment? It does seem a bit unbalanced in terms of there being so many low level impacts such as “negligible”, “slight” and “minor” (as well as “no change”) within the categorisation of magnitudes in changes of noise exposure. The only other categories are “moderate” and “major”. The banding seems too broad with impacts that we would expect to be noticeable and possibly having adverse impacts being rated as minor when a moderate rating may be more appropriate. This should be investigated and clarified further.
- Table 16.9 – What is the significance of classifying the metrics into a set of “primary metrics” and “additional metrics”? Are the primary ones to be given more weight in the assessment? This is not clear and needs further explanation. We see no reason why the metrics should be divided or prioritised like this, particularly as the primary metrics are not considered to be represent community level impacts very well.
- Para 16.10.155 - The effects on “Quiet Areas” is discussed here with reference to other resources that are valued for their acoustic related characteristics. These will be assessed on a receptor by receptor

basis. Although information is provided on the factors that will be used to determine significant impacts, it is not clear how these locations will be initially identified. Further details should be provided on this.

### Approach to Mitigation

- As with other chapters, the mitigation section is surprisingly short compared to some of the other sections of the report. Mitigation is a critical aspect of the DCO Project and should be covered in a lot more detail here for noise as well as in the other chapters.
- Para 16.11.6 – the need to strike a fair balance between the negative impacts of noise and the positive impacts of flight is stressed here. The EIA and noise assessment in particular should demonstrate how this is to be achieved. H&F is in a position where it is overflowed by thousands of aircraft every week (on westerly operations) which cause noise impacts for residents, including during the early hours of the morning. The borough also experiences other negative impacts due to congestion on the roads and associated air quality impacts as well as over-crowding on its public transport services. Currently there is an imbalance between negative and positive benefits and we are concerned that the 3<sup>rd</sup> Runway proposal will create additional negative impacts. A better explanation of the “fair balance” approach should be provided.
- Para 16.11.7 – Reference is made to the key ICAO guidance document that will be used to help develop mitigation measures. Both Heathrow and the Government have made comments to the effect that impacted communities will receive a world class package of mitigation measures as part of the 3<sup>rd</sup> Runway. This commitment should be referenced as well as we expect this commitment to be implemented.
- Para 16.11.9 – Although a brief summary of some mitigation measures is provided it is not clear how they will be measured for effectiveness in reducing noise impacts – how will this be done? We are concerned that the mitigation measures will not be adequate and that adverse impacts will remain even with the mitigation package in place. What is the proposed action in this scenario – further information should be provided on this. The mitigation proposals that are listed in this section include runway alternation to provide respite from noise and the night flight ban as well as references to noise related compensation packages. These are presented as positive measures, but we have not seen the detail of any of these mitigation measures and have serious concerns about their ability to properly mitigate impacts. These issues have been discussed elsewhere in our response but just briefly, the respite scheme is expected only provide respite from aircraft noise for 1/3 of the day whereas the current scheme generally provides respite for ½ a day – i.e. the proposal makes things worse. The night flights ban will not operate for the full night period and we suspect that it will create an increase in night flights rather than a decrease. The noise compensation packages are too limited to benefit all those communities who are impacted. They may help those affected by the highest levels of noise close to the airport, but there are likely to be

many thousands of people whose noise environment is degraded as a result of the 3<sup>rd</sup> Runway, but at a level below the threshold that triggers compensation. The threshold criteria needs lowering for compensation schemes.

## Comments on Chapter 17 Traffic and Transport

### Introduction

- Para 17.1.3 – the reference to walking and cycling adjacent to the public highway should say “on or adjacent to the public highway”.
- Para 17.1.8 – as with all chapters in the Scoping Opinion Report, there are multiple references to the revised draft Airports National Policy Statement. All of these will need to be updated now that the Government has published its final version of the Airports NPS. It should be noted that surface transport matters were commented on by the Transport Select Committee in their report on the Airports NPS, They noted that "*While we recognise the intention behind the current condition on surface access in the NPS, we conclude its drafting leaves too much scope for unintended surface access impacts from this scheme. We therefore recommend a condition be included in the NPS that ensures approval only be granted if the target for no more airport related traffic can be met, or that as a condition of approval, capacity be released at the airport, after construction, only when the target is met*". This scenario should form part of the EIA Assessment process. *The Transport Select Committee also stated that “We recommend that the surface access costs in the appraisal, and which support the NPS, be updated and included in the final NPS to reflect the indicative costs of those additional schemes required to deliver on the target of no more road traffic. We are concerned about the absence of detail on proposed changes to the M25. We recommend that the Government work with Heathrow Airport Limited to clarify the proposals and bring greater certainty to the development plans. A key part of this must be the arrangements for diversion of traffic during any works*”. This is also another element of the Surface Access Strategy that needs to be included in the EIA.
- Para 17.1.8 – reference is made to the Airports NPS including a series of targets and requirements for surface access outcomes. These should all be set out and summarised in the EIA and it should be clarified what the difference is between a “target” and a “requirement” and note where necessary that Government has given undertakings in their response to the Select Committee’s recommendations – that it is their expectation that targets such as the mode share targets referenced in the NPS will become requirements of a DCO.
- Paras 17.1.10 to 17.1.12 – refer to a suite of transport modelling tools being used to inform development of the Surface Access Strategy, the Transport Assessment and other assessments such as the Air Quality and Noise Assessments. The modelling work is therefore a critical piece of work that needs to be as robust as possible in its development and implementation. It is vital that key stakeholders from a range of interested parties, including those that are most likely to experience

negative impacts as a result of the 3<sup>rd</sup> Runway going ahead, are included in its development.

- Para 17.1.13 – It is stated that the activities specifically being undertaken to develop the Surface Access Strategy “are not covered within this chapter. The development of the Surface Access Strategy will be discussed separately with key stakeholders as it emerges”. This approach is not considered to be appropriate. This is a critical part of the Strategy and should be set out in detail.
- Para 17.1.14 – It is stated that a Transport Assessment is to be produced to assess impacts on the surface access network of the 3<sup>rd</sup> Runway “considering both construction and operational aspects”. It should be noted that there is the possibility that additional capacity will be created at Heathrow before the 3<sup>rd</sup> Runway is fully operational and therefore there will most likely be a phase that could be characterised not just as a “construction” or “operational” phase, but one where both “construction and operation” will be occurring, so this is a scenario that will need to be covered in all work carried out to assess traffic and transport impacts.
- Para 17.1.15 – It is stated that the Transport Assessment will be produced in parallel with the EIA on traffic and transport impacts. This raises the concerns that issues identified in the EIA process will be missed in the Transport Assessment. In our view, the EIA process should be carried out first, completed, be reviewed and consulted on by all stakeholders and revised where necessary before the project moves onto the next step of developing the Transport Assessment (and presumably the Surface Access Strategy as well).
- Para 17.1.16 - should “volume of traffic” be added as a new and separate evaluation criterion as research seems to bear out the deleterious effect on human health resulting from the volume of motorised traffic on human health? One issue we are experiencing is that since the growth of on line mapping systems, apps and all forms of GPS the through movement of vehicles is rarely confined to A or B roads and is often routed through unclassified roads within the heart of our residential communities. Any attempt to model this needs to go beyond the historic methods of modelling capacity on arterial roads.

### Policy and Legislation

- Table 17.1 needs to be updated with the details of the adopted Airports NPS. Only the Airports NPS and the National Networks NPS are listed here, so for a summary of all policies/legislation relevant to the traffic and transport assessment chapter in the EIA, it seems a bit lightweight. The Government’s 25 year Environment Plan is mentioned as a footnote to the Table. This is very disappointing to see and it should be considered and summarised in more detail. Also, passing reference is made to local policies. It would be helpful if these were also reference

fully and summarised so it is clear to all parties that the correct policies are being considered.

The local transport policy document of the Borough is our Local Implementation Plan (LIP) which needs to demonstrate compliance with the Mayor of London's Transport Strategy (MTS). (Sections 42 and 142 of the GLA Act refer). The (latest) MTS was published on 13 March 2018 and Boroughs now need to produce new LIPs (our third LIP). Our current LIP "(LIP 2)" dates back to 2011 and therefore is quite dated. (Our current LIP states that "We welcome the government's decision to cancel the proposed third runway at Heathrow but there is still scope for an increase in passenger numbers at the airport.") There is guidance to Boroughs on production of their new LIPs of which the following sets out part of the context:

### **"The Mayor's Transport Strategy**

- 1.1 The third Mayor's Transport Strategy sets a new strategic direction for transport in London. It puts health and human experience at the heart of the transport system, looking not only at how transport infrastructure helps London's residents to get around, but at how the way people get around impacts on what London is like as a city.
- 1.2 Key to achieving the vision set out in the Mayor's Transport Strategy is the Healthy Streets Approach. The new strategy presents a unique opportunity for the boroughs, the Mayor and TfL to work together to improve the lives of people living in, working in and visiting London. By reducing traffic and creating streets and neighbourhoods that are attractive and pleasant places to walk, cycle, use public transport and spend time, London's authorities can make real improvements to the quality of life of everyone who lives in, works in and visits the city."

This approach needs to guide the Traffic and Transport Assessment.

### **Stakeholder Engagement**

- Para 17.3.1 – Reference is made to undertaking stakeholder engagement on development of the EIA traffic and transport chapter. To our knowledge, this has not involved H&F to date. Whilst we acknowledge the need to engage early with key organisations such as TfL and Highways England, we see that there's no passenger or transport user groups that have been involved so far. We have concerns about EIA being developed in detail whilst only listening to input from just strategic level stakeholders. This view is reinforced by the comment in Para 17.3.2 that the aim of this engagement has been to identify the various elements required for an effective Surface Access Strategy that caters for both passengers and colleagues etc. Yet, there doesn't appear to have been any engagement with these groups. Also, we are not clear what "colleagues" is a reference to in this context. If this refers to Heathrow employees then that would be a better way to refer to this group of transport users.

- Para 17.3.3 - Considering that discussions have apparently also begun on the assessment of environmental effects related to transport which includes discussions with Highways England, The Heathrow Strategic Planning Group (Transport Sub Group), the Heathrow Area Transport Forum and TfL, we are concerned at the limited nature of the stakeholders involved so far (i.e. no environmental or community group representation) and we would expect that stakeholders from these wider groups will be involved ASAP in the EIA process.

### Study Areas

- Para 17.4.2 – The Highway study area is of particular interest to H&F as we want to make sure that impacts in our borough are assessed and not ignored. Although reference is made to Fig 17.1 showing the geographical area of the Study Area, this figure is not present in the Chapter. H&F has 2 key through routes (the A4 and A40) used by traffic travelling to or from Heathrow. We would therefore like to see a map of the geographical area covered by the Study Area. We are concerned that if it is the “Heathrow Highway Assignment Surface Access Model” that is being used to develop the Study Area, that this will focus on the immediate vicinity of the airport and not further afield.
- Para 17.4.3 - Passing reference is made to how the model will evaluate how the highway network will accommodate the forecast demand. We have not yet found any information on how these demands will be forecast. This is a critical aspect of the assessment and details of how this is to be determined should be provided.
- Paras 17.4.3/17.4.4. – note that effects outside of the 2 areas that will be modelled “can be assessed if necessary”. Further details should be provided on the circumstances under which it would be considered to be appropriate to do this.
- Para 17.4.5 – Reference is made here to a 3<sup>rd</sup> Runway scenario of 140mmpa and 115,000 colleagues. This is not clear and needs further explanation. It should also be clarified if this scenario represents the maximum capacity and impact that a 3<sup>rd</sup> Runway would have. The use of the 5% threshold as the proportion of increase in trips that creates significant impacts is not considered to be appropriate for all road networks at Heathrow and in and around the surrounding area (including H&F) and a lower threshold should be used for the strategic road network where traffic flows are at their highest. This would reflect the “precautionary approach” that is supposed to be followed (according to the text in this paragraph). Also, presumably there are roads where there could be a disproportionate impact from HGV traffic (this may be relevant for H&F roads) which may be a factor at a level below the 5% overall threshold. The 5% / 10% thresholds suggested for use were used in guidance on Traffic Impact Assessments (TIAs) in the 1990s at least – and were widely used for considering the need to carry out detailed TIAs. These criteria were used by local authorities to



determine whether modelling was required of specific junctions, for example, as a result of increased traffic from proposed developments. TIAs were replaced by the idea of more holistic transport assessments and it's debatable how much, if any, reliance can be placed on these figures for the proposed 3<sup>rd</sup> Runway. It seems perfectly reasonable to make a "First Principles" argument that arbitrary (and dated) thresholds should not be used to determine the extent of modelling where there are concerns outside of the area defined in the scoping report, particularly in the context of already heavily congested networks.

- Para 17.4.6 – The EIA should not just focus on locations where the greatest changes in traffic flow occur. There may be locations where there are lower levels of changes but which could also have significant impacts. We consider that it is too early at this stage to start excluding locations from inclusion in the EIA assessment, particularly when considering the issue of the potential growth in HGV traffic that could occur on strategic routes and therefore impact disproportionately on these locations (which would include H&F).
- Para 17.4.7 - Uncertainty issues are mentioned briefly in relation to the modelling. These should be summarised (as should how they will be addressed) in the text at this point rather than referring to the separate Appendix document for further details.
- Para 17.4.8 – It is not clear how the reference in this paragraph to a threshold of a 30% increase in flows triggering the need for assessment is consistent with the 5% increase in trips threshold that has been referred to in Paragraph 17.4.5. This needs to be checked and clarified. The HGV flow exceedance threshold at 10% is also considered to be potentially too high and needs further consideration.
- Para 17.4.9 – refers to the use of Railplan to model public transport network impacts. This will be used to determine the study area for the assessment of various impacts. This implies that the Study Area for the assessment has not yet been determined although this is unclear as there is reference to Figure 17.2 showing the extents of Railplan. More clarity on the study area is required. It is not understood why the study area for public transport impacts has not been set (if this is indeed the case) , but the study area for highways impacts has already been decided.
- Para 17.4.10 - states that services which are identified through modelling to experience delay or other issues would be assessed further. How will the modelling be verified?
- Para 17.4.11 - the levels of impacts on public transport that will be considered to be acceptable or not have yet to be determined and suitable thresholds for assessment have not been determined. This approach is not consistent with that taken with the Highways Study and

this is not understood. Further explanations should be provided so it is clear to stakeholders why this is the case.

- Para 17.4.12 – Reference is made to changes in flows, capacity or delays and the magnitude of these changes determining where assessment will be carried out but there is no information on what sort of change thresholds will be considered to be appropriate. Further information on these matters should be provided.

#### Sources of Data Used

- No comments on this section.

#### Baseline Conditions

- Paras 17.6.2/17.6.3 – it is surprising that the baseline conditions in terms of the congestion that is identified on many of the roads around Heathrow (which include the 2 strategic roads that run through H&F (the A4 and A40), are only discussed in broad terms and with no quantification. Presumably there is data available that shows exactly how bad the congestion levels are on these roads. This information should be provided. We shouldn't simply be looking at congestion issues when considering impacts to human health.
- Para 17.6.4 – Information on the various rail services at Heathrow is provided. No information is provided in terms of passenger numbers or capacities or levels of overcrowding. The only underground line mentioned is the Piccadilly line. Clearly passengers using Heathrow use other lines as well, so shouldn't the assessment cover the wider London Underground network, not just the Piccadilly Line? It should also mention the planned service patterns when Crossrail (Elizabeth line) opens in 2019.
- Para 17.6.9/17.6.10 - Although reference is made to the parking capacities, there is no information on trip generation which is the key data here. This should be added into this section.

#### Likely Significant Effects & Effects Not Requiring Assessment and Proposed Approach to the Assessment

- No comments

#### Proposed Approach to the Assessment

- Reference is made in this section to using desktop research and site observations to collect baseline data on a range of transport services. Local authorities would also be a good source of information and should be included.

- Para 17.9.7 – Although 2016 is set as the baseline year it is stated that more up-to-date information may be used where available. Care needs to be taken with this approach otherwise there could be confusion about the data being presented.
- Para 17.9.8 – Disappointingly there is no information on the construction methodology and its potential impacts so assessment years for these impacts cannot be set out. This information should be provided ASAP.
- Para 17.9.9 – Operational baseline years are proposed to be 2030 and 2040. As commented earlier, there needs to be at least one year where there is a construction and operation scenario. It is not clear when the operations at Heathrow would meet peak levels, so additional assessment years may be required. Also, why does the assessment stop at 2040?
- Para 17.9.15 – It is noted that Community Severance is referenced in this section on assessment criteria. This is welcomed, although it appears that this issue was not referenced in the earlier sections of the Chapter where assessment criteria were being listed, so updates should be carried out to ensure that community issues such as this are flagged up throughout the chapter.
- Paras 17.9.16-17.9.21 – this section covers some of the same information that has already been covered in earlier sections. As already highlighted, we have concerns about the outlined approach and are concerned that locations are at risk of being scoped out of the assessment too easily.
- Para 17.9.29 – It is noted that where a change in character of a road is expected that the likely impact will be considered using professional judgement in conjunction with existing data. Where professional judgement is used, this needs to be clearly explained.
- Para 17.9.30 – there is another reference to the use of “professional judgement” in this paragraph. As stated above, where this approach is taken it needs to be clear that this has happened and the approach clearly explained and justified.
- Para 17.9.32 – We see that the list of receptors does not include communities that could be impacted by severance issues. Given what was stated in the section on Assessment Methodology, this receptor should be added to the list.
- Tables 17.4 and 17.5 – These present similar but different information in relation to assessing the significance of effects. It is not clear if just one of these approaches is to be used or a combination of both.

- Para 17.9.37 also says professional judgement will be used in assigning significance. As before, wherever this approach is taken, it needs to be clear how decisions have been made.

### Approach to Mitigation

- Para 17.10.1 – The mitigation assessment needs to take account of how measures intended to provide a benefit in one area could create negative impacts in another. For example, it is stated that workers will be discouraged to travel by road and encouraged to use public transport. This may be of benefit in terms of road network impacts but could cause negative impacts such as overcrowding at peak times on public transport. These impacts need to be covered in the assessment. It is presumed that the mitigation approach during all phases will be fully quantified so that it is clear what impact the proposed mitigation measures will have. An assessment of what impacts will remain even with mitigation in place should also be provided.
- Para 17.10.6 – It is stated that the Surface Access Strategy will set out proposed initiatives for managing surface access movements and addressing significant negative impacts. It is not stated, but presumably this will include a fully quantified assessment of the mitigation measures. The Strategy must show how all of the targets and requirements that the Government sets will be met.
- Para 17.10.7 – in terms of the public transport mode share targets, we want to see clear and robust information on how these targets will be met. The same goes for the commitment for “no increase in Heathrow related traffic” made by Heathrow.
- Para 17.10.9 – some more detail – summary information for example – would be useful to see for the 8 key initiatives, including information on proposed actions, target, monitoring indicators etc.
- Para 17.10.11 – Mitigation measures are listed here briefly. There is very little indication of the actions to be taken to achieve these. Additional information should be provided, otherwise this section on mitigation looks too vague.
- Para 17.10.12 – it is stated that the Surface Access Strategy should reduce significant effects through the use of mitigation. However, it seems that there could still be significant impacts in places. The report should identify this potential scenario and outline intended actions in these circumstances.

## **Comments on Issues Raised at the 27<sup>th</sup> February 2018 Meeting between Heathrow and the Planning Inspectorate**

- Heathrow have stated to the Planning Inspectorate that the Scoping Report is based on the options that they consulted on earlier on in the year (Consultation 1). The Scoping Report should focus more on the requirements of the Airports NPS document. However, given that Heathrow have carried out the Scoping Report work proper to the final version of the NPS being approved by Government, this is not possible. This shows the questionable timing of submitting the report at this time. The Planning Inspectorate should have advised Heathrow to wait until the final version of the NPs had been designated before finalising the Scoping Report and submitting it.
- We note that the Planning Inspectorate flagged up to Heathrow the need for the Scoping Report to have due regard to the Inspectorate's Advice note 3 on EIA consultation and notification. Having looked at some of the Scoping Report chapters, we have concerns about the stakeholder and consultation process.
- As identified by Heathrow to the Planning Inspectorate there are a number of areas of the 3<sup>rd</sup> Runway project where Heathrow have not established final details and wish to proceed on the basis of keeping a number of options open to them in respect of the development. This causes uncertainty regarding how the EIA is to be carried out and there is certainly a lack of detail in a number of the Scoping Report chapters which makes it difficult to understand the potential for impacts or how they will be measures or mitigated. As recommended above, it would have been better for Heathrow to wait until details of the Airports NPS were finalised and published before carrying out the Scoping Report and the Planning Inspectorate should have advised them of this.
- It seems that Heathrow are carrying out their Scoping Report now in order to fit in with their own proposed timetable of works and the 2<sup>nd</sup> round of consultations that they want to carry out (Consultation 2). There is a danger that the drive to meet these requirements has impacted on the quality and detail of the information provided in the Scoping Report.
- With so many issues still under development in relation to the 3<sup>rd</sup> Runway, it is possible that further scoping works will be required. If the Scoping Report had been done at the appropriate time with the required level of information, this would not be necessary. Carrying out another scoping exercise places unnecessary strain on stakeholder engagement and resources, especially when the timescale for submission of comments is so short.
- It is not clear who has been consulted on the Scoping Report. It is useful to stakeholders to know who else has been consulted so we see whether or not the consultation includes all necessary groups etc. This information should be provided. We are interested in knowing whether or not community groups have been consulted as clearly they will be impacted by many of the impacts created by a 3<sup>rd</sup> Runway that the EIA will be assessing. Therefore they are an important stakeholder that should be involved in the Scoping process.

- Has a description of the role of the CAA in respect of the Airspace Design Process been included in the Scoping Report as advised by the Planning Inspectorate?
- Has a chapter on cumulative impacts been included in the Scoping Report?
- Has a chapter on identifying assessments that overlap with the EIA been included in the Scoping Report?

### **Comments on Issues Raised at the 28<sup>th</sup> March 2018 Meeting between Heathrow and the Planning Inspectorate**

- We note that the Planning Inspectorate has emphasised the need to use a single consistent definition to describe the DCO site boundaries from which study areas are proposed within the Scoping Report. This is to avoid inconsistent understanding of the full extent of the proposed study area for assessment. We have concerns about the way Study Areas for the various assessments have been determined and described and illustrated in the Scoping Report.
- We note that the Planning Inspectorate acknowledged that as consultation bodies would have only 28 days to review the Scoping Report that it would need to be as concise as possible. We do not consider that the Scoping Report has been presented in a way that is conducive to being able to analyse and assess its contents in the level of detail required. The Scoping Report has been published in 3 volumes and over 2,000 pages. In some cases, information is scattered across these documents rather than all being placed in a single place, making it more difficult to comment on. Vol 1 of the Scoping Report is the main report - 669 pages, but no contents page for the document which makes it very difficult to navigate properly.
- We note that the Planning Inspectorate query the controls to be applied in relation to the age of data. This is an issue we have raised in our comments as in some cases very old data sources (close to 10 years old) are proposed for use.
- The Scoping Report is supposed to explain whether proposed methodologies had been agreed with relevant Statutory Consultees or whether an agreement had not been reached. Although an example of Natural England signing off on data for the biodiversity chapter, it is not clear if this is the case for any other assessment.
- Has a description of the different regulatory and functions fulfilled by the Inspectorate and the CAA been provided in the Scoping Report?
- Has consideration been given in the Scoping Report to the potential for significant transboundary effects to arise from the DCO Project?



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Via e-mail: [HeathrowAirport@pins.gsi.gov.uk](mailto:HeathrowAirport@pins.gsi.gov.uk)

19 June 2018

Dear Sir or Madam

**PLANNING ACT 2008 (AS AMENDED) AND THE INFRASTRUCTURE PLANNING  
(ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (THE EIA REGULATIONS) –  
REGULATIONS 10 AND 11**

**HEATHROW EXPANSION**

Please find enclosed the Council's response to the consultation on the Environmental Impact Assessment (EIA) Scoping Report for the Expansion of Heathrow.

The following is without prejudice to the Council's view that, in all the circumstances, the Secretary of State cannot lawfully make a scoping opinion at this point in the process in any event.

In summary, the Council believes that the Scoping Report is fundamentally flawed, lacking in basic information, premature and frustrates the purpose of the Environmental Impact Assessment Directive. In the circumstances, the Secretary of State could not lawfully consider that he has been provided with sufficient information to adopt a screening opinion.

The Council considers that the proposals for which the Scoping Report relate are entirely premature, speculative and not supported by Government Policy. As a consequence of this the project itself is still undeveloped; the Scoping Report is based on a project that has no clarity and in no way follows the best practice advice of the Planning Inspector Advice Note which states:

*Applicants should consider carefully the best time to request a scoping opinion. In order to gain the most benefit, Applicants should consider requesting the opinion once there is sufficient certainty about the design of the Proposed Development and the main design elements likely to have a significant environmental effect.*

The Applicant has presented a Scoping Report that is of no benefit to the EIA process as it relates to a project that has absolutely no level of certainty. For example, the Scoping Report presents a significant range of options for the diversion or realignment of the M25 and the A4. These are not minor tweaks to a project, these are fundamental design matters that the Applicant has failed to develop to a point of a meaningful engagement on scoping likely significant effects.

Similarly, the Applicant and the Government have provided no clarity on flight paths; this information is essential to determining where impacts would be and ultimately the likely significant effects i.e. the fundamental purpose of this stage of the EIA process.

There is also a clear disconnect between the Applicant's Development Consent Order timetable and the Airspace Change process (a difference of 18-24 months); given the likely significant noise effects, it cannot be possible to have an accurate and robust EIA process that is not supported by clear a understanding of specific noise impacts. The DCO process should be halted to allow for the two processes to be aligned.

Not to do so compounds the failure, which has been present throughout the Government's process, in so far as communities still do not know who will be impacted, how noisy that impact will be and for how long each day they will be expected to suffer the resulting noise.

### *Air Quality*

The Government's own evidence to date is that a 3<sup>rd</sup> runway at Heathrow cannot operate without risking breach of AQ limits.

The AQ plan for London does not make provision for an expanded Heathrow.

The Scoping report offers no resolution of these fundamental problems, is based on a misunderstanding of the law and provides no satisfactory method or information to meet these so far insuperable problems.

Poor air quality contributes to thousands of deaths annually in London. It is time for Heathrow airport to take the issue seriously in relation to its current operations and deal with its contribution to illegal and unhealth air pollution in London.



### *Capacity of west London*

Finally, neither the Applicant nor the Government has properly assessed whether the lauded growth of Heathrow Airport can even be accommodated in an already heavily developed and constrained area of west London and beyond.

It is acknowledged that the Applicant is relying on other non statutory processes at undefined points in the future to assess and determine the suitability of all the growth that has been systematically connected to the DCO project. The lack of engagement in the Scoping Report on these wider matters is of serious concern.

### *Summary*

In summary, the Council believes that the Scoping Report is fundamentally flawed, lacking in basic information, premature and frustrates the purpose of the Environmental Impact Assessment Directive. In the circumstances, the Secretary of State could not lawfully consider that he has been provided with sufficient information to adopt a screening opinion.

For avoidance of doubt, the Scoping stage can lawfully only be undertaken when the specific characteristics of the project have been fixed to allow the likely significant effects of the project to be assessed; this must include the determination of flight paths.

Should you wish to discuss further any of the matters in this letter or the following consultation response please do not hesitate to contact me at [ithynne@hillingdon.gov.uk](mailto:ithynne@hillingdon.gov.uk)

Yours faithfully



**Ian Thynne**  
**Team Leader Planning Specialists**



HILLINGDON  
LONDON

Environmental Impact Assessment Scoping Report  
Heathrow Expansion

Consultation

London Borough of Hillingdon  
June 2018

# General Approach to EIA

## 1.1. Description of Development

- 1.1.1. There are a number of failings with the approach of the Scoping Report that renders this stage of the EIA process to be ineffective; these are set out further below. However, it needs to be stated at the outset that the Council is concerned that the Scoping Report fails to meet the minimum requirements of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017/572 (“the Infrastructure EIA Regulations”). Regulation 10(3) states that a person who proposes to make an application for an order granting development consent may ask the Secretary of State to state in writing their opinion as to the scope, and level of detail, of the information to be provided in the environmental statement; and a request for a screening opinion must include:

*(a) a plan sufficient to identify the land;*

*(b) a description of the proposed development, including its location and technical capacity;*

- 1.1.2. Figure 3.1 of the Scoping Report identifies the only semblance of description for the project. It annotates a map with a large shade of blue which is simply described as:

*Land being considered for infrastructure works (roads, rivers, water drainage and treatment); airport supporting facilities; airport related development; and construction sites*

- 1.1.3. The Council, in which the majority of the development land is situated, cannot realistically understand what is planned or where. The description of development is so vague as to remove the purpose of identifying the significant effects to be considered further in the subsequent Environmental Statement (ES). It also renders it impossible to assist in the confirmation of the necessary receptors to be considered in a subsequent assessment.

- 1.1.4. We note that the Planning Inspectorate is not content with the Applicant’s approach as demonstrated by the minutes from a meeting between the Applicant and the Planning Inspectorate recorded on 27 February 2018:

*The Inspectorate advised that having options for land use on certain land parcels with the [Scoping Report], rather than a defined end use could lead to uncertainty regarding the appropriate EIA scope of assessment, since the end use might dictate the assessment requirements.*

1.1.5. The minutes continue:

*The inspectorate suggested that it might be more beneficial to undertake scoping once the options had been narrowed down.*

1.1.6. Evidently this suggestion was not accepted. In response, it is noted that the applicant was recorded as saying:

*The Applicant stated that the methodologies for assessment of environmental effects are likely to be the same for most options and therefore maintained that was appropriate to seek to agree the methodologies for assessment at this stage.*

1.1.7. The implication of the Applicant's approach is that the Scoping stage is purely to determine methodologies and in that regard, details of the project are not entirely relevant. This approach is entirely contrary to the Planning Inspectorate's Advice Note 7 which states:

*(4.9) Applicants should consider carefully the best time to request a scoping opinion. In order to gain the most benefit, Applicants should consider requesting the opinion once there is sufficient certainty about the design of the Proposed Development and the main design elements likely to have a significant environmental effect. Applicants should avoid submitting requests with multiple and varied design and layout options. However, if this cannot be avoided and options remain under consideration (for example a number of route corridors associated with a proposed linear development), Applicants should be aware that this may affect the ability of the Planning Inspectorate and consultation bodies to provide detailed comments. In addition, should a high level of uncertainty remain around key design elements of the Proposed Development this is likely to limit the Planning Inspectorate's ability to agree to scope out aspects/matters to enable the refinement of the ES*

1.1.8. The Applicant has set out the extent of options for the project at chapter 3 of the Scoping Report; these include:

- A runway between 3,200 and 3,500
- Three options for new taxiways
- Three options for a new terminal for an approximate amount of passengers per year
- Two options for the M25 realignment
- Four options for the new route of the A4
- Four options for the diversion of the A3044
- Four options for the replacement of a major connecting road junction at Stanwell Moor
- Five other significant traffic interventions depending on the outcome of other options
- Four options for the realignment of various rivers

- Extensive unidentified proposals for various airport related uses
- Various options for water treatment including extensive refurbishment of an existing facility

1.1.9. Many of these options, for example the M25 realignment, are EIA Schedule 1 developments in their own right; some of the others are Schedule 2 development and likely to have significant environmental effects requiring EIA. The Council is effectively being asked to provide assistance on identifying likely significant effects of dozens of options, the scale of which are EIA development in their own right; further, many of these options are interconnected increasing the combination of effects; finally, self evidently the majority of these options would not be delivered.

1.1.10. In turn, it is impossible to determine likely cumulative effects needing to be assessed, the interrelationship of effects or what and where receptors might be to determine the baseline approach to the assessment.

1.1.11. The Planning Inspectorate advice on Scoping submissions (Advice Note 7) addresses this point clearly:

*An effective scoping process should enable the refinement of the assessment and ultimately the information required to form the ES. If done well, it allows for an early identification of the likely significant effects applicable to the EIA Regulations (in particular Schedule 4) and also provides opportunity to agree where aspects and matters can be scoped out from further assessment.*

## **1.2. Public Consultations**

1.2.1. It is also noted from Advice Note 7 that there is encouragement of early stage consultations with the public to assist in the refinement of options.

*(4.8) Prior to submitting a scoping request, Applicants may choose to undertake their own non-statutory consultation with the consultation bodies, or others. This might allow for refinement of options prior to making a formal request. For example, Applicants may choose to consult on preferred sites or solutions.*

1.2.2. The Applicant has undertaken a public consultation but what relationship that has to the proposals set out in the Scoping Report remains uncertain. Given the extent of unrefined options still being presented, the consultation has been of little merit, and the application for a scoping opinion has been made far too early in the process.

### **1.3. Cumulative Effects - HS2**

- 1.3.1. The Council is unclear from the Scoping Report how the cumulative effects of certain environmental impacts will be taken into account in the final assessment. The proposed expansion will have serious impacts across large areas which are interconnected with existing impacts. For example, High Speed 2 will cross the Colne Valley north of the proposed Heathrow Expansion yet there appears to be no reference in the Scoping Report to the impacts of the significant severance through valley at two vital points; one by the largest rail viaduct in England, and one by the proposed third runway.
- 1.3.2. The Colne Valley is effectively one long interconnected wildlife corridor which also supports the West London Waterbodies designated sites.

***The Council recommends that the Applicant includes clarity as to the treatment of the cumulative effects of their proposals alongside HS2.***

### **1.4. Cumulative Effects - Luton Airport**

- 1.4.1. The Council has received notification that London Luton Airport Limited intend to submit a DCO application in 2019 for the expansion of Luton Airport. The implications of Luton expansion coming forward alongside Heathrow expansion need careful consideration, not least because the air space will be shared. Similarly, the cumulative impacts of Heathrow Expansion alongside RAF Northolt needs clarity; there is no reference in the Scoping Report as to how the RAF base, which accommodate commercial aircraft, will be considered in the ES.

### **1.5. Cumulative Effects - Lakeside Energy from Waste**

- 1.5.1. The Scoping Report provides limited details on the loss of the Lakeside Energy from Waste Plant:

*Once a preferred site has been identified and the planning and business case agreed, a standalone planning application could proceed in advance of the DCO application. A key part of facilitating this will be early dialogue with the appropriate Local Planning Authority and consultation with local people on the proposals*

- 1.5.2. The Applicant should provide clarity as to what the contingency is in place should a site for a major energy from waste plant not be found, or planning permission is not readily secured.
- 1.5.3. As matters stand, there is no reason to divert from a reasonable worst case scenario of a

closure of the Lakeside plant with no replacement identified. The Council expects a subsequent Environmental Statement to be based on this scenario unless there is a clear ground for an alternative, i.e. a planning permission is in place.

## **1.6. Habitats Regulation Assessment (HRA)**

- 1.6.1. There is a lack of clarity as to when an Appropriate Assessment relevant to the Habitats Regulation will be carried out. The National Policy Statement concluded:

*To address the uncertainties inherent in a strategic level HRA, and to most helpfully inform the project level HRA, this AA has proposed a suite of avoidance and mitigation measures to be considered in further detail as part of the project level HRA. At this stage, it is considered that the effective implementation of the proposed suite of avoidance and mitigation measures may help to address the identified adverse effects on European Site integrity. However a more detailed project level HRA is required to reach conclusions that are in accordance with the requirements of the European Habitats and Birds Directives and domestic Habitats Regulations. (12.2.2 - HRA for NPS)*

- 1.6.2. Matters relating to the HRA should have been properly dealt with through the NPS, however, it seems the issues have been deferred for the project to address in detail. The Scoping Report implies that the Secretary of State will undertake the Appropriate Assessment based on information they provide:

*In order to facilitate the Secretary of State in making their decision, Heathrow are required to provide the information required for an assessment to take place. The information to be provided by Heathrow will follow that outlined in Advice Note Ten.*

- 1.6.3. The Appropriate Assessment undertaken for the NPS states:

*Given the uncertainty surrounding flight paths and flight heights at this time, and perhaps even more so, a general lack of broader scientific understanding of the effects of aviation disturbance to waterbirds, the precautionary principle requires the assumption that any further disturbance effects would be likely to result in cumulative disturbance to the interest features of the site. As such an adverse effect on the sites integrity cannot be ruled out.*

- 1.6.4. A far more robust appraisal is needed to satisfy the Appropriate Assessment requirements. However, it is not clear what the process is for the submission of this, how this will inform a subsequent Environmental Statement and when it will be completed. We also query

whether there has been a lawful approach to this issue following the judgment of the European Court of Justice (Seventh Chamber) on 12 April 2018 in Case C-323/17/

## **1.7. Approach to Defining Significance**

- 1.7.1. The Scoping Report is unfortunately not advanced enough with regards to defining significance. A determination of significance is generally in line with the following calculation:

$$\textit{Magnitude of Impact} \times \textit{sensitivity of receptor} = \textit{Significance of Effect}$$

- 1.7.2. The Scoping Report provides an opportunity to determine how the magnitude of impact will be determined; for example any decrease in air quality already exceeding minimum standards for health will be a 'high' impact; similarly, it provides the opportunity to determine the sensitivity of the known receptors prior to an assessment for example in terms of air quality residential receptors will be considered highly sensitive.
- 1.7.3. Determining the criteria ahead of the assessment reduces the likelihood of concerns at the subsequent assessment stage where the focus of attention will be on the evidence and collation of data and the conclusions reached.
- 1.7.4. In this instance, there has been an incomplete identification of receptors, sporadic attempts to assign magnitude and no attempt to assign sensitivity to those receptors that have been identified. PINS Advice Note 7 states Scoping Requests should include:

*aspects and matters to be scoped in, the report should include details of the methods to be used to assess impacts and to determine significance of effect e.g. criteria for determining sensitivity and magnitude;*

- 1.7.5. The Community chapter identifies a range of receptors in figure 9.2.2 none of which have been assigned a level of sensitivity; it is not possible to determine how the subsequent assessment will treat for example, the Little Harlington Playing Fields in relation to Harlington Open Space. The same problems appear across all the chapters.
- 1.7.6. It is assumed that this failing has resulted in the urgency to get to this stage; for example there has been no interrogation of the facilities being used, whether these are of significant importance to communities (i.e. their usage cuts across a large area) or whether they are simply a local resource of limited usage. The level of work to undertake a proper and meaningful Scoping Report is extensive; it is disappointing that one of the highest profile infrastructure project fails to apply best practice and adopts the bare minimum of standards.



1.7.7. The failings will only escalate the likely scale of problems at the assessment stage and ultimately impede and hamper any subsequent DCO hearing.

## 1.8. Baseline

1.8.1. It is not clear from the assessment topics how growth has been factored into the subsequent assessments. For example, a flight path may have 'x' number of people under it now, but in the future this might (or might have) increase(d) to 'y'. The impacts of the airport on the future demographics are essential to understanding its long term impacts.

***There must be a clear approach to population growth and this needs clarification now.***

## 1.9. Geographical Scope

1.9.1. The Community and Economics Chapters identify two study areas, the 'inner study area' and the 'wider study area'. The inner study area is described as:

*The most local effects of the DCO Project on communities will be related to the displacement of (and changes to access to) homes, businesses, community facilities (including sports and leisure facilities) and publicly open recreational spaces and routes. The inner study area is defined as the area in which these local effects may occur, noting that there is a slight difference in the study area for the community facilities (including sports and leisure facilities) and recreational spaces and routes as explained further...*

1.9.2. The assignation of the inner study area prior to the fixation of a project (including flight paths) is premature. The direct impacts of the proposals relate to much more than just the loss of land for construction. There will be direct impacts from noise on as yet unknown flight paths and the loss of facilities within the inner study area will have immediate and serious consequences for those outside it; for example the loss of Little Harlington Playing Fields is relied upon as useable outdoor space for many communities north of the inner study area. The Scoping Report states:

*These community study areas [in the inner study area] are the most relevant for the assessment of impacts on these facilities as they capture the location and characteristics of any home, resident or physical community facility potentially displaced by the DCO Project. (Scoping Report 9.4.9)*

1.9.3. These areas are not the most relevant for the assessment of impacts; the areas likely to experience significant effects are the most relevant. As the Applicant has failed to

interrogate the evidence further, it is entirely premature to reach conclusions on the study area; for example, the Applicant should undertake the necessary level of work to understand the usage of Little Harlington Playing Fields and the area it serves, the scope of study is then set as a consequence of the investigations undertaken. Similarly, the areas directly impacted by flight paths, loss of open space, cemeteries, community facilities should all be given similar weighting to those in the inner study area.

- 1.9.4. The identification of study areas across the chapter has been ill informed and in some instances it is unclear as to what the being in the study area means for some receptors compared to other being outside.

***The identification of study areas can only be confirmed once the project description is known and a complete evidence base on the receptors is available.***

# Detailed Scoping Response Comments

## 1.10. Introduction

- 1.10.1. As set out in the preceding chapter, it is not possible for the Council to provide complete and meaningful assistance on the specific identification of likely significant effects due to the absence of an adequate project description with accompanying maps as well as the lack of information on flight paths.
- 1.10.2. The following comments on the individual topics will relate to the broad methodologies presented. Likely significant effects not addressed specifically have been raised **but this is without prejudice to the identification of further issues when a more complete understanding of the project is known.**

## 1.11. Biodiversity

### *Study Area*

- 1.11.1. The Council is concerned about the study area identified within Figure 6.1 and described in the Scoping Report:

*The study area for biodiversity, is based on the maximum amount of land being considered for the full range of options which could form part of the final DCO Project taking into account all options presented (6.4.1)*

- 1.11.2. It is premature to refine a study area when one of the most significant impacts of the airport, the flight paths, is not known.
- 1.11.3. Furthermore, there appears to be little appreciation for indirect impacts potentially causing significant effects. Large areas of land to the south of the borough will be sterilised, either through construction impacts or through noise. This will effectively push users of green spaces in these areas to non-sterilised sites (including designated conservation sites) thus increasing the footfall and potential harm to biodiversity not within the arbitrarily identified study area set out in 6.1.

### *Need for Robust Assessments*

- 1.11.4. The Scoping Report relies on the approach of no net loss to offset any harm. However, this should not be at the expense of robust appraisals clearly identifying the harm. For avoidance of doubt, assessments must be of the project without mitigation and then

reviewed once mitigation is factored in; the specifics of the mitigation must be known and it would be inappropriate to simply rely on a theoretical delivery of no net loss; the practical implementation, i.e. the specific schemes to achieve this, must be included in any subsequent assessment.

#### *Relocation of mitigation for Terminal 5*

- 1.11.5. The Council is concerned that some land identified in Figure 6.1 was mitigation for Terminal 5 and previous airport expansion. Simply removing this and placing it somewhere else will not be mitigating the harm of the third runway proposals; it will be simply relocating the last lot of mitigation.
- 1.11.6. The Assessment must identify the land provided for mitigation as a consequence of the Terminal 5 permission; in turn it must detail how this is factored into the mitigation for the third runway. It must not be 'double counted', i.e. to rely on it as mitigation for Terminal 5 in perpetuity and then again to offset the harm of the third runway.

#### **1.12. Carbon**

- 1.12.1. The carbon emissions from the construction and operation of the development must be considered cumulatively alongside all the expected ancillary development.

#### **1.13. Community**

##### *Undefined sensitivity*

- 1.13.1. It is not clear how significant effects will be determined. Table 9.7 sets out subjective criteria for determining magnitude of change for community and table 9.6 sets out subjective criteria for sensitivity to change. It is not clear how these two will be used to determine significant effects.
- 1.13.2. Furthermore, it is not clear what degree of sensitivity has been assigned to the identified receptors.

##### *No Baseline Data*

- 1.13.3. No baseline data on the receptors has been produced and therefore the Council is unable to provide comments on how these should be considered in the ensuing assessment.

*Long term effects*

1.13.4. The Council is concerned that the Community chapter fails to address the implications for facilities that are not removed or severely affected as a consequence of the proposals. For example, there is a strong likelihood that Little Harlington Playing Fields will be removed or constrained by noise as to be entirely unviable. This will deprive communities north of the inner study area a well used facility placing greater strain on facilities elsewhere. It is not clear from the baseline position whether any consideration will be given to communities outside the inner study area who will directly lost facilities within. The impacts on wider communities must be captured by the subsequent assessment

*Study Areas*

1.13.5. The Council cannot agree to the scope of the assessment as the project remains vague and undecided. Impacts on existing communities and their facilities will be experienced far and wide as a consequence of traffic impacts, noise from flights and ancillary development.

1.13.6. It is impossible to determine the scope of the Environmental Statement without a clear understanding of what the project is.

**1.14. Economics and Employment**

1.14.1. The Council remains unconvinced that the lauded economic growth as a consequence of Heathrow Expansion is properly understood by those making the claims. In the past 5 years there has been a variety of claims about the extent of employment growth as shown in the table below:

	Report	New Job Numbers	Year	The scope of growth (quoted from document)
1	<b>Original Final Airports Commission (2015)</b>	59 - 77000	2030	At and around the airport
		75 - 78,000	2050	Direct, indirect and induced
2	<b>Further Sensitivity Review - DfT October 2016</b>	37,740	2030	Local Jobs
		39,100	2050	Local Jobs

3*	NPSv1 Feb 17	37,740 - 76,650	2030	Local Jobs
		39,100 - 78,630	2050	Local Jobs
4**	NPSv2 Oct 17	57,000 - 114,000	2030	Local Jobs
		39,000 - 78,000	2050	Local Jobs
5	Heathrow 2018 Consultation Document	Up to 40,000	Not given	In the local area
		180,000	Not given	Across the Country
<p>3* - The official figures used in the NPS were essentially reporting the range from the two previous reports.</p> <p>4** - Heathrow expansion was less economically viable than Gatwick for the second NPS consultation in October 2017. However, Heathrow was preferred because it offered benefits quicker but would then reduce to levels previously reported</p>				

1.14.2. As can be seen, there is obviously no coordinated understanding of how to measure and forecast growth. The Scoping Report should, but doesn't, set out clearly how the subsequent Environmental Statement will identify likely significant effects through the presentation of the methods to be used. Unfortunately, the Scoping Report provides no clarity:

*The detailed assessment methodology will be agreed with stakeholders during future engagement and response to scoping. (10.9.4)*

1.14.3. Clarity as to the methods for determining the growth needs to be provided. Employment growth relates directly to housing growth and a range of environmental and community effects that need consideration.

1.14.4. The employment growth from the operational impacts of the airport is entirely unclear. Similarly, the consequences from construction are also unclear. However there will be a likely significant effect from the loss of housing and employment uses south of the M4 as a consequence of the project. The implications for this must be fully assessed.

## **1.15. Historic Environment**

### *Study Areas*

- 1.15.1. This section divides the study areas into a core study area (Fig. 11.1) and a wider study area. As set out above, study areas are not possible to define yet until flight path data is understood clearly, as well as the direct and indirect impacts from the countless project options still to be developed.

### *Sources of data used in scoping*

- 1.15.2. The Historic England National Heritage List for England is named as a data source, although this is useful in identifying designated heritage assets, their grade and location, they are often extremely brief and not sufficient to establish significance. The heritage assets that are directly affected by the proposal need to be assessed at a much deeper level. The Historic Environment Record should be on this list as the NPPF 128 states that this should be consulted as a minimum requirement in order to ascertain significance. Given the nature of the project, the Council would expect a much greater degree of understanding of the historic environment, particularly with regards to those features to be demolished.
- 1.15.3. The baseline surveys to date include a high level walkover survey of the areas concerned. It is noted that there has only been an informal review of two interiors, Harmondsworth Church and Harmondsworth Great Barn. While undoubtedly important all the interiors of the listed buildings in the immediate vicinity of the proposed site should be visited in order to understand the proposal's impact.

### *Baseline conditions*

- 1.15.4. The baseline data collected to date is laid out in Appendix 11.2. This is sufficient to identify the designated assets affected but again would reiterate that those designated assets which are most directly affected should be highlighted.
- 1.15.5. However, relying on Historic England's NHLE will not in most cases be sufficient to establish significance. A detailed Heritage Statement should be drawn up for each listed building affected.
- 1.15.6. It is noted that the chronological overview (11.6.11-19) jumps from the 12th and 13th centuries to the 19th and 20th century urban developments. This is to ignore the core centuries between the 14th and 18th centuries when many of the heritage assets affected date.

1.15.7. The report states that baseline data on non-designated heritage assets will form part of the historic environment assessment. This is welcome but it is not clear as to why locally listed buildings have not been included at this stage. Information is readily available on the Hillingdon heritage asset maps available publically.

1.15.8. No mention is made of Areas of Special Local Character in the report. These should also be included within an historic environment assessment.

*Determining Significance*

1.15.9. The Council disagrees strongly with the applicant's definition of significance:

*as the sum of the heritage interests that a heritage asset holds is referred to as significance (11.6.20)*

1.15.10. The assessment should align more closely to the definition laid out in the NPPF

*The value of a heritage asset to this and future generations because of its heritage interest*

1.15.11. This is a nuanced difference but nonetheless important if the correct assessment is to be made of significance.

*Effects not requiring assessment*

1.15.12. The Council has significant problems with trying to establish the scope of an assessment of a project not yet developed. It must also be noted that the cumulative impacts of the ancillary development must be considered, and given this remains unclear then it's not possible to determine the scope of the study.

1.15.13. It is also noted that in the wider study area only the operational effects will be studied and the Report states:

*it is therefore proposed that in relation to heritage assets in the wider study area assessment is limited to operational effects and only in relation to heritage assets considered sensitive to changes in noise levels and vibration. (11.8.1)*

1.15.14. There can be no assessment until the flight path data is available.

*Proposed approach to the assessment*

1.15.15. Paragraph 11.6 states that non-designated assets will be included in a subsequent assessment:



*Baseline data on non-designated heritage assets will be incorporated as part of the detailed baseline studies and non-designated heritage assets will form part of the historic environment assessment, both as described in Section 11.9*

1.15.16. However Section 11.9 makes no direct reference to non-designated assets save for an unclear footnote which states:

*If specific intelligence is available on non-designated heritage assets that warrant consideration they can be included within the scope of the assessment without the need to modify or amend the methodology.*

1.15.17. Given the comments at 11.6, the approach to the assessment at 11.9 for non-designated assets makes little sense. For avoidance of doubt, the Historic Environment is made up of designated and non-designated heritage assets. The subsequent historic area assessment must include detailed analysis on the impacts across the whole of historic environment. The Cumulative impacts on non-designated assets will devalue the historic environment and this must be fully appraised; this can only happen once a clear record of the non-designated assets is properly understood.

#### *Figures*

1.15.18. The initial overview figure, although necessary to identify the core area, combines so many heritage assets that it is not overly informative. Despite the assets identified, there are no non-designated assets included. It will be necessary to include non-designated assets on the maps and if an inner core area is defined, as suggested above, there should be a map showing in great detail all the heritage assets affected with an overlay of the proposed runway. Without this the maps are not informative.

### **1.16. Health**

#### *Unclear Assessment Methodology*

1.16.1. A significant failing of the Scoping Report is that it fails to clearly set out how impacts will be assessed. This is particularly prevalent in the Health section in relation to noise. It is not clear how the applicant will describe the significant effects related to health or what methods will be used.

1.16.2. There is now a specific requirement in the EIA Regulations to consider the risks to human health from a development. Previous attempts to simply identify annoyance as a health effect associated with aircraft noise would not be satisfactory under the new Regulations.

- 1.16.3. Noise and health are essential to the assessment of effects but there is no agreed approach to assessment and these needs to be done.
- 1.16.4. Similarly, for the other topics the approach to identifying health effects is unclear. The applicant would be expected to present the studies they intend to rely on in relation to health and how these will inform the methodology. Likely health effects will come from many sources, loss of housing, loss of communities, loss of jobs, air quality, noise, loss of access to open space, construction impacts, flood risk increases and so on.
- 1.16.5. The approach to the health assessment is not adequate. There is no clarity as to how the applicant intends to arrive at conclusions. Table 12.6 has a column titled methodology, presumably to set out how the assessment will be conducted. Instead it provides a very vague overview. For example, in relation to Living conditions: Relocation and change in living conditions for those being relocated, a fairly important subject as a consequence thousands of people being required to leave their homes, it states:

*The methodology will draw on the outputs of Chapter 9: Community and identify the number of people likely to be subject to compulsory acquisition. A review of evidence will identify the likely positive and negative impacts that could be expected to be experienced by the population, including vulnerable groups. An overview of the local demography will provide inputs to the assessment of types and numbers of people affected. The methodology will consider the existing mitigation measures (property schemes, compensation, hardship schemes and assistance in relocation).*

- 1.16.6. The above refers to 'the methodology' as if this will be determined at a later date. It also identifies vulnerable groups without definition; the local demography without explanation; and a review of evidence without disclosure.
- 1.16.7. In simple terms, it is not clear from the Scoping Report how health effects from the airport will be determined. This is a significant failing.

## **1.17. Health Facilities and Providers**

- 1.17.1. Given the likely significant health effects from noise and other topics, the Council would also expect any environmental statement to consider the impacts on the health service facilities and providers in the areas impacted. These have not been identified, baseline data not provided and appears to have been omitted.

## **1.18. Noise and Vibration**

1.18.1. The methodology for identifying significant effects is unclear. There is a distinct lack of clarity as to how LOAEL and SOAEL and have been informed by information on health and in turn these will inform significant effects.

1.18.2. It is also disappointing to note:

*The LOAEL and SOAEL values to be used in the assessment of likely significant effects, as referred to in Table 16.7 have been informed by a review of policy, standards, scientific evidence and previous projects. This evidence review will be published as a separate Technical Report on 'adverse effect levels' to accompany the PEIR.*

1.18.3. It is unclear why this technical report has not been presented with this Scoping Report since this appears to be the most suitable place to understand the methodology for assessing significance. Indeed, there appears to be no obvious clarity as to how the applicant has reached the conclusion on SOAEL. Hiding the evidence base to justify the decision is plainly incompatible with the purpose of the Scoping Report stage.

1.18.4. The noise chapter is one of the longest in the Scoping Report but the crucial parts of understanding the methodology are missing i.e. what evidence base will be used, what studies will inform significance and how will LOAEL and SOAEL be used.

1.18.5. Furthermore, it is important that subsequent assessment does not become simply a matter of assessing change in noise levels. An updated noise evidence (Survey on Attitudes for Noise 2017) has revealed that there would be many people currently impacted by noise and suffering significant effects. Previous studies were based on out of date metrics, and consequently it would not be appropriate to simply assess the change in noise levels.

1.18.6. It would be inappropriate to claim only increases in noise level (i.e. +10dB) will result in significant effects if communities are already exposed to significant effects.

1.18.7. The Environmental Statement must also identify those who are not assisted by forms of mitigation. Previous assessments regarding Heathrow have failed to grasp those changes in runway operation, i.e. switching operations from northern runway to southern runway does not result in respite for all. Some communities are equidistant between the two operations and consequently do not receive the respite claimed.

1.18.8. In general, the Scoping Report fails to provide clarity as to how noise and subsequent effects will be treated in the environmental statement. In particular, there is a distinct lack of clarity

as to how significant effects will be considered particularly at the level of the onset of adverse effects.

## **1.19. Traffic**

### *Study Area*

- 1.19.1. Given the unrefined nature of the project it is entirely premature to identify study areas or scopes of assessment. It is noted 17.4.6 states:

*Beyond the boundaries of the AoDM and RoFMA, the increase in Heathrow related trips on the majority of links falls below 5% and are therefore not deemed necessary for inclusion in this assessment. Initially, this is how the study area was determined, however the focus of the EIA will be on locations within this study area which experience a greater change in traffic flow.*

- 1.19.2. The options open to the M4, A4 and M25 and other supporting roads are not at a stage where the extent of road modelling can be refined. Furthermore, the arbitrary 5% criteria may not be appropriate if some at capacity roads see any further increase.

### *Significance Criteria*

- 1.19.3. The significance criteria set out in tables 17.4 and 17.5 are too ambiguous to be of assistance. The aim of the Scoping Report is to assist with the specific application of these, instead the Report states:

*It should be noted that the approach to assigning significance will be based upon reasoned argument, professional judgement of qualified transport planners, assessment of the extent of the traffic flow changes and consulting with appropriate stakeholders.*

- 1.19.4. This approach does not assist in developing an effective methodology.

## **1.20. Water Management**

### *Catchment Areas*

- 1.20.1. The surface water catchments identified incorporate the above ground topography which may feature and interact with the airport, however it does not take into account the below sewerage catchment for both surface and foul water. The foul water catchment and associated issues already identified by Thames Water do not appear to have been

considered.

#### *Lead Local Flood Authority*

- 1.20.2. For both HS2 and now Heathrow, the applicants have been inclined to liaise heavily with the Environment Agency and determine their approach to water management with them. This fundamentally ignores the fact that the Environment Agency is just one body responsible for the management of water. The Lead Local Flood Authority has been handed responsibility for flood risk on a range of matters, including groundwater and surface water.

#### *Water Framework Directive Assessment*

- 1.20.3. The baseline assessment is not detailed enough and should include ordinary watercourses and their condition. Further field based assessment and monitoring and surveys are required without reliance on Table 18.1.2. The table also refers to flow gauges but only with regards to main Rivers; this omits a sensitive west to east north of the airport at the Frogs Ditch; this is a strategic spring fed watercourse and needs to be considered further. Evidently, the Council cannot provide full details of the watercourse omitted because the project has not yet been finalised.
- 1.20.4. There is limited reference to Ordinary Watercourses and the lack of investigative work has resulted in omissions on Figures 18.2 and 18.3 which do not show all of those that have been identified by the Lead Local Flood Authority (LLFA). Their importance in the catchment is fundamental to be included in the EIA. As such the current land use receptors in Figure 14.18 are not detailed sufficiently.
- 1.20.5. Small ordinary watercourse can be an indicator of the significant water issues in the area, and the water framework directive requires that a holistic approach is taken which considers surface water, groundwater and water dependant ecosystems and their interactions.
- 1.20.6. Consideration of ordinary watercourses and LLFA data is a necessity for a full understanding of the water environment. They must inform further data collection to provide a baseline understanding that is comprehensive and robust.
- 1.20.7. There is also a critical need for historic flooding information to be part of the assessment method to determine impacts and should be taken into account.

#### *Determining Significance*

- 1.20.8. As with the other topics, the Scoping Report fails to clearly set out how significance will be determined, or what has been deemed to be the sensitive receptors.

## **1.21. Water Supply**

- 1.21.1. It is not clear from the Scoping Report how significant effects to and from public and private water supplies will be determined. It is worrying to note that appears the only receptor identified is:

*Affinity Water maintained assets around the boundaries of the airfield and Heathrow maintained assets on the airfield.*

- 1.21.2. The development, including the myriad of options under consideration, has the potential to have significant impacts on natural springs, groundwater, man made lakes and other watercourses. It will also have a significant high demand of water.
- 1.21.3. The Council expects the assessment on water supplies to consider the implications of the airport being in a severely water stressed and the impacts on the water environment as a whole. The assessment must be expanded to all the relevant sensitive receptors, which evidently cannot yet be identified because of the lack of information available from the Applicant.

## **1.22. Conclusion**

- 1.22.1. The Scoping Report as submitted is not considered fit for purpose. It relates to a project without any certainty, is too undeveloped and directly linked to development not identified.
- 1.22.2. There is no flight path data rendering it impossible to compile a composite scope of study and identification of receptors.
- 1.22.3. The methodologies provided are too vague, not project specific and poorly refined.



HeathrowAirport@pins.gsi.gov.uk

**Your contact:** Geoff Hugall

**Direct Line:** 020 8583 4936

**Email:** [planning@hounslow.gov.uk](mailto:planning@hounslow.gov.uk)

**Date:** 19/06/2018

Dear Sirs,

**Re - TR020003**

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11  
Application by Heathrow Airport Limited (the Applicant) for an Order granting  
Development Consent for the Expansion of Heathrow Airport (Third Runway) (the  
Proposed Development)**

I write further to your consultation letter dated 22<sup>nd</sup> May 2018 requesting comments on Heathrow Airport Limited's request for a Scoping Opinion.

We have had sight of the Heathrow Strategic Planning Group's (HSPG) technical response to the EIA Scoping (attached for information and ease of reference) and would generally concur with its contents and trust that their comments, suggestions and proposals are given significant weight. Notwithstanding that, further comments on specific chapters are set out below –

**Chapter 1 –**

- Figures should be cross-referenced when describing defined areas throughout the document for ease of understanding
- Table 1- Summary of Scope
  - With regard to the construction phase of the Public Transport we would question the decision to exclude 'Economics and Employment' from the assessment .
- Table 1.2 – Relevant policy documents
  - West of Borough LP Review is an emerging document
  - Add the Great West Corridor LP Review to emerging document

**Chapter 5 (Air Quality and Odour) -**

- DfT's revised ANPS states that the environmental statement should assess any likely significant air quality effects, their mitigation, any residual likely significant effects, distinguishing between those applicable to the construction and operation of the scheme including any interaction between construction and operational changes and taking account of the impact of the scheme is likely to cause on air quality arising from road and other surface access traffic. However, as there may be different standards for significance criteria, in use by clients and LPAs, we seek clarity as to the significance criteria that should be used for the EIA scoping report?

- In reference to comments within the Aviation Policy Framework (2013), How would Heathrow work differently with LPAs than in the past to improve air quality, as is expected by the Government to take this responsibility seriously, implying as we understand it different approach is needed in delivering the best possible mitigation measures?
- In reference to DfT's 'Beyond the Horizon. The Future of UK Aviation. Next steps towards an aviation strategy 2018', this document states that "Surface transport continues to be the main contributor to local air quality emissions...". How does approach outlined in this document would address projections made in the LAEI 2013, which predicts that emissions from aviation would be twice as high as those from road transport, by 2030? Perhaps, more significant points are as how these impacts will be assessed, to what baseline year and mitigation strategy and measures will be pursued?
- In reference to comments in fourth paragraph "Table 5 Engagement with stakeholders" that states "Model performance will also be evaluated using appropriate diffusion tube data", it should be noted that Hounslow Council has no diffusion tube positioned along A312 section between Jolly Waggoners roundabout and M4, northbound. Besides, it should be noted that air quality model should be verified against a more accurate method than a diffusion tube method as the latter method should only be used for indicative purposes (as a general rule, verification/calibration method/tool should be 10 times more accurate, i.e. an order of magnitude greater than the model, sample under test). Therefore, Heathrow should consider installing a temporary monitor, to establish a true baseline, as discussed at the engagement and subsequent HSPG meetings.
- We consider the study area of 12km x 11km is too small, even when change in air quality due to airfield operations, aircraft and road traffic may be relatively small but yet sufficient to cause new exceedances of air quality objective (AQO) and or delay compliance with the AQO in such areas at the earliest possible date. In the assessment compliance with the EU limit values at additional PCM road links between Heathrow and Central London (5.4.13), it's absolutely critical that a true baseline is established using measured data, rather than relying on Defra background maps that under-predict baseline NO2 concentration levels.
- Reviewing PM10 emission results of Table 5.5, the Council has grave concerns at the lack of progress in annual emission reductions of this pollutant (PM10) and therefore it's corresponding component of PM2.5 at Cranford and Hatton Cross, which are background urban background sites within Hounslow. Therefore, we perceive there is a need for a different strategic approach aimed at reducing particulate and fine particulate concentrations, regardless of whether the source is airfield operations, aircraft and road traffic.
- We anticipate that year of maximum "air quality effects" could be during construction phase when third runway operations commence, however, as construction phase is wound-down, operations are likely to wind-up, which would make it difficult to predict and draw comfort from the fact the emissions in subsequent years will be lower than the year of 3rd runway opening. We also believe the overall effect on air quality on the road network surrounding Heathrow will inevitably depend upon successful delivery of surface access scheme.
- The Council appreciates and understands benefits of role of dispersion modelling particularly when quantifying and identifying sources of pollution (source apportionment), however we believe source apportionment of road traffic using ANPR is one of most accurate ways, which should be undertaken because this is a much more robust method of verifying the ADMS-Roads version of the model.



## **Chapter 6 (Biodiversity) –**

Final documents should take a more simplified/clarified approach to ensure compliance.

Please find some comments below, noting that some were addressed but could be improved.

- Details of an effective river monitoring program should be provided, in place over construction and operation time frames. The monitoring program should be comprehensive to detect any impacts to down-stream ecosystems, covering population assemblages, pollutants, etc.
- It is critical that river re-directions are feasible without impacting flow rates across associated river systems. This is important to maintain downstream ecological health, and assist with drainage of potential floodwaters (particularly with increasing severe weather events related to climate change).
- Biodiversity assessments of river impact should not only measure impacts resulting from directly modified areas, but also potential impacts on either side of the airport resulting from breakages in ecological linkage. An adequate ecological contingency plan should be identified, to address any unforeseen ecological impacts associated with river diversions.
- Biodiversity offsetting approaches should not only consider habitat quality/quantity, but also significance of biodiversity linkages in both removed and proposed habitat.
- It should be clarified how the loss of river habitat will be calculated and offset. Biodiversity offsetting is likely difficult to apply for water habitats, due difficulty in measuring various important features, as potential downstream impacts. It is critical to ensure that potential impacts to downstream environments are assessed.
- Although the biodiversity offsetting approach seems effective to assess ecological value of existing habitat, assessment of potential indirect impacts is also important. Such impacts to biodiversity may include increased traffic, increased emissions/pollution, increased travel and business demands, additional flight paths, etc.
- It is important that biodiversity offsets consider species specific recolonisation potential. Habitats with identified high biodiversity potential are not always such for all species, and it must therefore be ensured that new habitat is suitable for impacted species.
- The development is likely to impact habitat used by designated bat species. Hounslow should be considered for bat habitat offsetting options, as various sites of known presence exist on land to the immediate/proximate east of the airport.
- It would be beneficial to provide more information on how environmental monitoring, biodiversity offset implementation, etc., will be regulated/enforced, including responsible parties at all levels, what baselines/criteria will be used, how progress/targets will be monitored, etc.
- All green space sites important for maintaining biodiversity should be included in measurements, including gardens, allotments, parkland, wastelands and other unlisted vegetated sites. Quantification of total biodiversity impact as a result of the development is critical to meet relevant policy, and the objectives of Biodiversity 2020, and to allow for the adoption of appropriate biodiversity compensation ratios.
- Where used, relative terms such as 'significant harm' should be clarified to a measurable extent. Criteria should also be included to indicate when impact minimisation would be considered an appropriate alternative to impact avoidance. Additional information should also be included on what measures may be taken to minimise biodiversity impact when avoidance is not possible (where relevant).
- Further to the point above, it should also be clarified when compensation or offsetting would be an appropriate measure in place of impact avoidance or minimisation.

## **Chapters 7 (Carbon and Other Greenhouse Gasses) & Chapter 8 (Climate Change) -**

The document lacked mitigation detail. Hounslow Council should be consulted for the forthcoming Climate Change Adaptation Plan. Further comments below,

- It must be ensured that site plant, vehicles and site operations are in accordance with relevant sustainability, emission and environmental health standards, and carbon neutral if possible.
- Flood storage requirements should encompass potential increases in rainfall associated with climate change.
- A monitoring program should be in place to ensure that significant emission increases are not apparent due to increased over-ground access. Contingency/regulation should also be proposed, in the event significant emission increases are apparent.
- Aircraft emissions will account for approximately 95% of all current Heathrow related carbon emissions (site operations and travel to/from the airport account for 5%). This proportion is likely to increase with the additional proposed flights, and the increase in carbon emissions will be significant if timely measures are not implemented. Measures for sufficient adoption of fuel-efficient aircraft and sustainable biofuel is critical to achieve the carbon reduction targets set by Heathrow, and UK/EU Legislation, and must therefore be proposed.
- For airport operations, it must be ensured that effective baseline, monitoring and periodic targets are set to ensure carbon reduction is apparent. As above, contingency/regulation measures should also be in place.
- Interim carbon reduction targets are likely necessary. It is often unrealistic, and highly risky, to set long-term targets only. Further, considerable research indicates that imminent carbon reduction action is required to meet UK/EU/Global targets. Scientists warn that it won't be enough for emissions to flatline or decline slowly in the years ahead, and that emissions must fall sharply to reach targets. Scientists state that even a few years of delay could make that task much harder, and the rate of change matters as much as the direction. Even a temporary delay could therefore be hugely consequential.
- Further, it is widely agreed that failure to reduce carbon emissions immediately will result in ever-increasing costs and public safety risk associated with the impacts of climate change. 2017 disasters in the USA, for instance, caused a record \$306 billion (£220 billion) in damages. Many believe the severity is likely related to human-induced climate change, and that the UK is subject to such impacts.
- Although Heathrow proposes to offset biodiversity loss, much of this will likely occur in already existing greenspace via biodiversity quality improvements. A net decrease in actual green area can therefore be expected as a result of the development. This should be an important consideration, and reason for Heathrow to commit to carbon reduction/climate change initiatives, as green space is critically important for carbon storage, temperature regulation and flood mitigation.
- As water scarcity is a potential impact of climate change, and is detailed as a likely forthcoming issue to London in the London Environmental Strategy, serious efforts should be made to reuse as much water onsite as possible. This will additionally reduce pressure on surrounding infrastructure, Mogden sewer works, etc.
- Flood risk mitigation methods should be aligned within other biodiversity/green infrastructure benefitting-work where possible.

### **Chapter 9 (Community) –**

- There's no mention of traffic impacts of relocation of leisure services or playing spaces, this should be considered when testing outcomes
- Would expect to see Crane Valley and Osterley Park included in the survey area
- No mention of ensuring access to recreational and community services or increased services for vulnerable populations to mitigate potential impacts

### **Chapter 11 (Historic Environment) –**

- Ensure that cumulative impacts on the historic environment and assets are assessed

### **Chapter 13 (Landscape and Visual Amenity) -**

- Table 13.4. Consider including view from Osterley Park.
- Include reference to Hounslow Council's published Character Area Study.
- Consider the potential for off-site visual and landscape improvements.

### **Chapter 14 (Land Quality) –**

- Ensure that the proposed methodology for assessing land quality is fully compliant with industry best practice and current guidance.

### **Chapter 16 (Noise and Vibration) -**

- In accordance with 'Night Noise Guidelines (NNG) for Europe, 2009', the increase in "mean motility" relates to the L<sub>night</sub> at external façade and not LA<sub>eq</sub> 8hr, and therefore the metric proposed at point 8 in 16.10/16.11, under 'relevance to assessment', is not appropriate when determining LOAEL for night. We suggest that the metric should remain as that stated in the WHO standard.
- The outcome of DfT's Airspace Consultation Response, under point 9, the sub-clause 3 (pg. 16.11) is misrepresented because the Government has reviewed its position following the Public Inquiry (Enabling Works to Allow Implementation of full runway alternation during easterly operation at Heathrow Airport, 2015), where the operator is expected to offer financial assistance towards acoustic insulation to residential properties, regardless of whether or not they experience 3dB or more increase, which leaves them exposed to levels of noise 63dB, LA<sub>eq</sub>, 16hr or more. This mean that if any air space change, expansion or otherwise that leaves residents exposed to noise of 63dB, they would be entitled to financial assistance towards acoustic insulation.
- In the context of point 1 above, the 'noise objective' stated in 10/11 (16.12) should be interpreted in accordance with WHO NNG Guidelines.
- In the context of successful application of the ICAO's 'balanced approach', almost all of the four principals elements have failed to deliver because 'reduction at source' through use of quieter aircraft has not worked because the latest chapter aircraft engine technology might have become quieter, however their sound power and therefore their noise level has offset gains made through quieter design; Land use planning and management has been less effective due to pressure on LPAs to build more housing; Noise abatement operational procedures remain largely ineffective for communities in the immediately vicinity of the airport; and 'Operating restrictions' to prevent noisier type of aircraft during sensitive time periods, early mornings and late departures have been ineffective because there are always unscheduled flights that are sanctioned to avoid delays the next day. It would seem that different approach is needed for the operator to demonstrate compliance with the ICAO principals, possibly through ICCAN.
- We accept the fact that the airspace change process (ACP) and development consent order (DCO) processes needs to be independently robust, however CAA guidance and best practise should be followed and the use of indicative flight paths should be avoided because they may not be fully representative of real-time multiple flight paths that will be likely under expanded Heathrow operations. In other words, use of indicative flights paths is likely to lead to under-estimation of noise climate around Heathrow (16.7.3).
- Re. section 16.10.70, the potential impact of static noise sources, in addition to using BS4142, should consider designing out noise from such static sources by limiting their

noise level 10dB below the background, i.e. restrict sound power level of all static sources.

**Chapter 18 (Water Environment)**

- EIA needs to be compliant with best practice guidance and most up to date borough evidence base such as the SFRA

I trust this is of assistance.

Yours Sincerely,

**Marilyn Smith**  
**Chief Planning Officer**

GH

**INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
General	Contents	No overall contents page	Future reports should include an overall contents page to facilitate better navigation of the document for consultees.	Include an overall contents page in future reports.
Chapter 1 - Introduction	Volume 1, Chapter 1 (Introduction), Paragraph 1.2.5	<i>'The components themselves are well determined and their final locations and detailed design are being refined'</i> – It is unclear exactly what this statement means and how it related to the scheme to be assessed.	Refer to comments below regarding Rochdale Envelope approach and the need to clearly set out the parameters and flexibility of each of the design components at each stage of assessment.	HSPG to be consulted on the Rochdale Envelope approach to be applied to ensure assessment of reasonable worst case.
	Volume 1, Chapter 1 (Introduction), Paragraph 1.2.5	Section notes that a 'further Scoping Opinion' may be sought in future. In what circumstances would a further Scoping Report be issued for consultation? HSPG is concerned that the need for a further Scoping Report implies that the scheme is insufficiently developed at present for an informed Scoping Opinion to be adopted by PINS. The current Scoping Report suffers due to a very high degree of uncertainty on scheme elements at present.	HSPG would support production of a further refined Scoping Report for consultation once further scheme details have been developed; this would ensure the assessment effort is focussed on the key environmental risks and appropriate mitigation is built into the design at an early stage.	HSPG would support production of a further Scoping Report once a greater level of design detail is available to ensure the focus of the EIA is properly directed and identify appropriate mitigation measures as early in the assessment process as possible.
	Volume 1, Chapter 1, Section 1.7.11	The relationship between the ACP and DCO processes is not clearly set out here, i.e. <i>'coordinated but kept separate throughout'</i> . It is accepted that indicative flight paths will need to be adopted in the EIA, but what will the mechanisms be to ensure some integration in the approach?	Greater clarity on the relationship and interaction between the ACP and DCO going forward is required, which will ensure that the EIA provides an fair and accurate assessment of the environmental effects of the proposal.	Further detail on the relationship between the ACP and DCO and the mechanisms to be adopted to ensure an integrated approach.
Chapter 2 – Description of the existing site and its surroundings	Volume 1, Chapter 2	Provides an appropriate summary of the existing site.	More detailed information on the existing site would be expected to be included in the PEIR and ES.	More detailed information on the existing site would be expected to be included in the PEIR and ES.

**INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Chapter 3 – The DCO Project	Volume 1, Chapter 3	<p><u>Rochdale Envelope Approach</u></p> <p>HSPG recognises that the scheme is still at options masterplanning stage and there are elements of each component which are undefined, and will need a degree of flexibility up to and including the final DCO scheme.</p> <p>However, at present HSPG consider that the approach to the Rochdale Envelope to be adopted at later stages of assessment is poorly defined in the Scoping Report in relation to treatment of individual environmental topics.</p> <p>The Rochdale Envelope approach should ensure the assessment of a reasonable worst case, i.e. a conservative approach to each of the topic areas. The scheme parameters to be assessed may therefore vary by topic area, depending on what configuration of elements are the 'worst-case' for each topic. This is a standard approach adopted on several similar major schemes where design flexibility has been required, but is not adequately set out in the Scoping Report at present.</p> <p>The flexibility requirements inherent in each major component of the development is considered to be adequately addressed in the Scoping Report but will need to be reviewed and updated as the scheme design progresses.</p>	<p>Transparency in method and application of a Rochdale Envelope approach will allow for a comprehensive assessment and identification of mitigation measures for the local community, whilst retaining flexibility for amendments as the plans evolve.</p>	<p>The Rochdale Envelope Approach is currently poorly defined and does not fully adopt best practice and the approach set out in PINS advice note Nine. Recommend review of PINS advice note Nine and the setting out of a more clearly defined approach. HSPG to be consulted on the Rochdale Envelope approach to be applied to ensure assessment of reasonable worst case.</p>
Chapter 4 – Approach to EIA Scoping	Volume 1, Chapter 4, Section 4.2.6	<p>This section states that <i>..the topic chapters consider the environmental effects of the full range of options, to ensure that the likely significant effects of each of the component</i></p>	<p>The combination of elements representing the worst case for each environmental topic would represent a more comprehensive and useful method while still retaining flexibility in the design.</p>	<p>The Rochdale Envelope Approach is currently poorly defined and does not accurately adopt best practice and the approach set out in PINS advice note Nine. Recommend review of</p>

INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p><i>options have been scoped into the assessment, meaning the scoping exercise will remain applicable and robust after the options have been further refined...</i> Refer to comments above on Rochdale Envelope approach – this statement does not suggest the adoption of a transparent and robust Rochdale Envelope approach.</p>		<p>PINS advice note 9 and more clearly defined approach. HSPG to be consulted on the Rochdale Envelope approach to be applied to ensure assessment of reasonable worst case.</p>
	<p>Volume 1, Chapter 4, Section 4.4</p>	<p>Consideration of waste is proposed to be excluded from the EIA as it will be covered in other DCO products including the Resource Management Plan. This is not typical of similar DCO EIAs, and the approach risks ignoring significant environmental effects of the proposal in relation to waste and materials management, difficulties in identifying cumulative effects, and the effects on traffic and local communities, if not fully integrated in EIA process.</p>	<p>An integrated waste assessment within the EIA process will ensure that all potentially significant effects are considered, mitigation measures identified and the receptors directly and indirectly affected by waste-related issues clearly identified.</p>	<p>HSPG would like to see waste issues included as a fully integrated part of the EIA. This will ensure cumulative and in-combination waste effects are identified and addressed and the significance of any potential effects are identified.</p>
	<p>Volume 1, Table 4.3</p>	<p>Generic significance matrix and preceding text indicates that 'moderate' effects would be considered usually significant, but in some topic specific circumstances, may be deemed not significant. All other levels of effect are deemed non-significant (marked green in Table 4.3). EIA best practice almost always adopts an approach which defines major and moderate effects as significant. It is also not clear how the decision as to whether a moderate effect is significant will be made.</p>	<p>Moderate effects should be considered significant in all cases and appropriate mitigation applied accordingly – this is in accordance with best practice. Otherwise, a very robust argument and transparent process for determining which moderate effects are not significant needs to be demonstrated.</p>	<p>Moderate effects should be considered significant in all cases and appropriate mitigation applied accordingly – this is in accordance with best practice. Otherwise, a very robust argument and transparent process for determining which moderate effects are not significant needs to be demonstrated.</p>
<p>Chapter 19 – Outline Structure of the ES</p>	<p>Volume 1, Chapter 19</p>	<p>HSPG question the logic of separating the cumulative effects and in-combination effects. A combined chapter in the PEIR/ES would be in keeping with best practice and ensure all interactions are identified and visible in one place.</p>	<p>A combined cumulative and in-combination assessment would reflect best practice and ensure all interactions and effects on local communities are identified.</p>	<p>Combined cumulative/in-combination chapter recommended for PEIR/ES.</p>
	<p>Volume 1, Chapter 19</p>	<p>A section describing the Rochdale Envelope approach to be adopted and any remaining</p>	<p>See comments above re Rochdale Envelope approach and clearly setting out parameters and</p>	<p>See comments above re Rochdale Envelope approach and clearly setting out parameters</p>

**INTRODUCTORY CHAPTERS 1-4, CHAPTER 19 – Outline Structure of ES**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		flex in the design should be included in the PEIR and ES. The assessment parameters of the scheme for each environmental topic should also be set out in each topic chapter.	flexibility for each scheme element and environmental topic assessment.	and flexibility for each scheme element and environmental topic assessment.

**Chapter 5 – Air Quality and Odour**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
EIA Methodology	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), Para 5.4.4 Volume 2, Figure 3.1 and 5.1	<u>Extent of the core assessment area</u> The initial core assessment area is proposed as a grid 12 km by 11 km centred on the existing Heathrow Planning Boundary. Whilst it is noted that the boundaries may be subject to change (based on identification of affected roads, it is our view that the initial assessment area is too limited in spatial extent, particularly to the west where it appears not to acknowledge the location of the new runway. It also omits the Additional Development areas shown in Figure 3.1.	The initial core assessment area should as a minimum use the DCO boundary as a basis, not the existing planning boundary, and apply a suitable buffer around it on a precautionary basis so as to not exclude important baseline information. Slough Borough Council is expected to declare an AQMA in Langley, slightly further west than the extent of the core assessment area, in addition to their existing AQMAs adjacent to the M4 which may be affected by the proposals. The study area should actively include these existing and proposed AQMAs which may similarly have been excluded on the basis of the initial, limited study area.	Extend the core assessment area to take account of (i) the DCO boundary; (ii) Additional Development Areas; (iii) existing and proposed AQMAs for all affected local authorities (HSPG to coordinate provision of data?)
	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), para 5.4.9	<u>Identification of affected roads</u> The spatial limit of the core assessment area may be extended if traffic modelling indicates that traffic movements on links outside the proposed 12 km by 11 km grid are likely to be affected. The report states that Highways England DMRB (2007) <sup>1</sup> screening criteria will be	A precautionary approach to identification of affected road network, particularly in light of the limited extent of the initial core assessment area and poor air quality in some local urban areas, is preferred. The IAQM <sup>2</sup> (2017) land-use planning guidance includes more stringent screening criteria, set specifically with land development in mind, including that	Use IAQM Screening Criteria to identify affected road links

<sup>1</sup> Highways Agency, Design Manual for Roads and Bridges. Volume 11. Section 3. Environmental Assessment Techniques. Part 1. HA2007/07. Air Quality, 2007



Chapter 5 – Air Quality and Odour	
Aspect	Volume/Report references
	<p>used to determine whether road links will be affected:</p> <ul style="list-style-type: none"> <li>- Road alignment will change by 5 m or more</li> <li>- Daily traffic flows will change by 1,000</li> <li>- Annual Average Daily Traffic (AADT) or more</li> <li>- HDV flows will change by 200 AADT or more</li> <li>- Daily average speed will change by 10km/hr or more</li> <li>- Peak hour speed will change by 20km/hr or more.</li> </ul> <p>The HE's guidance is intended for use on schemes affecting the Strategic Road Network, which would typically move traffic away from populated areas. It was not intended for land development which has the potential to increase flows on roads in urban areas.</p> <p>The DMRB air quality guidance was developed over 10 years ago, at a time when (i) less was known about the health effects of NO<sub>2</sub>, now understood to be associated with morbidity (not just in combination with PM), and (ii) when vehicle emission reductions were expected to result in lower concentrations in future, a trend which has not been realised in many areas (despite certain of the newest, mostly petrol, vehicles having lower emissions closer to the latest standards).</p> <p>The scoping report shows that local NO<sub>2</sub> concentrations are high and a downward trend is not clearly apparent, thus a smaller change now may be of greater importance than it was in 2007. AQMAs continue to be declared, specifically in congested areas where emission rates have historically underestimated actual exhaust conditions (a point acknowledged in</p>
	<p>used to determine whether road links will be affected:</p> <ul style="list-style-type: none"> <li>- Road alignment will change by 5 m or more</li> <li>- Daily traffic flows will change by 1,000</li> <li>- Annual Average Daily Traffic (AADT) or more</li> <li>- HDV flows will change by 200 AADT or more</li> <li>- Daily average speed will change by 10km/hr or more</li> <li>- Peak hour speed will change by 20km/hr or more.</li> </ul> <p>The HE's guidance is intended for use on schemes affecting the Strategic Road Network, which would typically move traffic away from populated areas. It was not intended for land development which has the potential to increase flows on roads in urban areas.</p> <p>The DMRB air quality guidance was developed over 10 years ago, at a time when (i) less was known about the health effects of NO<sub>2</sub>, now understood to be associated with morbidity (not just in combination with PM), and (ii) when vehicle emission reductions were expected to result in lower concentrations in future, a trend which has not been realised in many areas (despite certain of the newest, mostly petrol, vehicles having lower emissions closer to the latest standards).</p> <p>The scoping report shows that local NO<sub>2</sub> concentrations are high and a downward trend is not clearly apparent, thus a smaller change now may be of greater importance than it was in 2007. AQMAs continue to be declared, specifically in congested areas where emission rates have historically underestimated actual exhaust conditions (a point acknowledged in</p>
Questions and concerns	Proposed HSPG approach to address concerns
<p>used to determine whether road links will be affected:</p> <ul style="list-style-type: none"> <li>- Road alignment will change by 5 m or more</li> <li>- Daily traffic flows will change by 1,000</li> <li>- Annual Average Daily Traffic (AADT) or more</li> <li>- HDV flows will change by 200 AADT or more</li> <li>- Daily average speed will change by 10km/hr or more</li> <li>- Peak hour speed will change by 20km/hr or more.</li> </ul> <p>The HE's guidance is intended for use on schemes affecting the Strategic Road Network, which would typically move traffic away from populated areas. It was not intended for land development which has the potential to increase flows on roads in urban areas.</p> <p>The DMRB air quality guidance was developed over 10 years ago, at a time when (i) less was known about the health effects of NO<sub>2</sub>, now understood to be associated with morbidity (not just in combination with PM), and (ii) when vehicle emission reductions were expected to result in lower concentrations in future, a trend which has not been realised in many areas (despite certain of the newest, mostly petrol, vehicles having lower emissions closer to the latest standards).</p> <p>The scoping report shows that local NO<sub>2</sub> concentrations are high and a downward trend is not clearly apparent, thus a smaller change now may be of greater importance than it was in 2007. AQMAs continue to be declared, specifically in congested areas where emission rates have historically underestimated actual exhaust conditions (a point acknowledged in</p>	<p>within urban areas. It includes the following traffic flow thresholds:</p> <ul style="list-style-type: none"> <li>- Changes in LDV flows by (i) more than 100 AADT within or adjacent to an AQMA; or (ii) more than 500 AADT elsewhere;</li> <li>- Changes in HDV flows by (i) more than 25 AADT within or adjacent to an AQMA; or (ii) more than 100 AADT elsewhere.</li> </ul> <p>The IAQM notes that "where whole authority AQMAs are present and it is known that the affected roads have concentrations below 90% of the objective, the less stringent criteria are likely to be more appropriate."</p> <p>For example, using DMRB, any roads where there is an increase of fewer than 200 HGVs per day would not be assessed in detail in the EIA. By contrast, IAQM guidance states that an increase of 25 HGV per day in an AQMA should trigger a detailed air quality assessment, or 100 outside an AQMA. These criteria are considered more appropriate in urban settings where smaller changes in air quality may be critical to achieving compliance with EU limit values.</p> <p>Given (i) the proximity to current and planned AQMAs, (ii) the proximity to areas of known Limit Value exceedance as modelled by Defra's PCM (see comments on the limitations of this national scale model), and as demonstrated by local monitoring, (iii) the magnitude of the proposed development and duration of the construction period, (iv) uncertainty of future baseline projections, (v) the range of uncertainty of the forecast impacts of the Surface Transport and Freight Strategies, it is recommended the study takes a precautionary approach and applies IAQM screening criteria for changes to traffic flows, as a minimum those in urban areas and existing and proposed AQMAs, in order to identify a robust study area and ensure potentially significant impacts are not missed.</p>
Summary	

<sup>2</sup> EPUK & IAQM Land Use Planning & Development Control: Planning for Air Quality, January 2017.

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
	<p>Appendix 5.1, para 1.4.6). Arguably, then, a smaller increment could now result in a significant effect, particularly within AQMAs in town centres.</p> <p>The traffic assessment will consider only areas with change in flows of 30% or 10% HGV flows in sensitive areas.</p> <p>It is important that potential air quality impacts within AQMAs are given due consideration even where these may not fall below the thresholds for the traffic assessment. A numerical change in HGV numbers is preferable as a criterion to a percentage change.</p>	<p>Review traffic assessment methodology to ensure all potential air quality impacts within AQMAs are given due consideration.</p>	<p>The traffic assessment should include consideration of impacts on AQMAs even where the change may be less than 10% of the total flow.</p>
	<p>Volume 1, Chapter 17 (Traffic and Transport), Section 17.4 (Study Area), para 17.4.8</p> <p>Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), para 5.4.13-14</p> <p>Volume 2, Figure 5.2</p>	<p><b>Assessment of compliance</b></p> <p>The methodology proposes comparison with selected PCM links to assess compliance with EU limit values.</p> <p>In fact, the wording in the Airports National Policy Statement is broader than this, requiring the applicant to demonstrate that construction and operation “will not affect the UK’s ability to comply with legal obligations”. These include EU limit values (as established under the Air Quality Directive 2008), but reference is also made to the National Emission Ceilings Directive. The NPS requires the environmental statement to assess “existing air quality levels for all relevant pollutants referred to in the AQS Regulations 2010 and the National Emission Ceilings Regulations 2002” in addition to “forecasts of levels for all relevant air quality pollutants at the time of opening”.</p> <p>The Airports NPS does not specifically refer to Defra PCM compliance, but “areas above the</p>	<p>The assessment of compliance should include consideration of the National Emission Ceilings Regulations, in addition to the AQS Regulations.</p> <p>Assessment of compliance with EU limit values should be broader than use of the PCM model alone.</p>

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>limit value", requiring a broader definition of compliance (ref. also the recent Silvertown DCO). Revisions to the text of the National Planning Policy Framework signal that it is now not only areas of exceedance that are of concern.</p> <p>Project compliance with objectives and EU limit values must look beyond the PCM modelled area and Greater London Agglomeration as impacts may occur at sites not in the model, and further to the west including M4 Slough AQMA. Given the uncertainties and gaps in Defra's crude nationwide PCM model, which are well known to AQ specialists, it seems wholly inadequate for the proposed development only to focus on compliance on PCM links, not least because it omits the entire M25 as well as M4 through Slough.</p> <p>Furthermore, the rates of decline in concentrations assumed in the PCM model (Table 5.7) bear little resemblance to the trends in the study area (Table 5.3). For example, the PCM model suggests that concentrations in Colnbrook AQMA at roadside are meeting the NO<sub>2</sub> AQ objective; Slough monitoring (Figure 5.5) suggests otherwise.</p>		
		<p><b>Figure 5.2</b> shows the "key Defra PCM locations" just as centre points rather than the full extent of the model links.</p>	Compliance along the full extent of PCM links should be assessed not simply as a point, to ensure the worst case receptors are considered.	Assess the full extent of PCM links, not only at the centre points. Revise figure to show the full length.
		<p><b>Para 5.4.14:</b> As written, this seems to suggest that airport related emissions will not be included in the assessment of compliance.</p>	Emissions from all sources should be included within the compliance assessment, to ensure that all impacts are considered when calculating total change with the proposals.	Include emissions from all sources within the assessment of compliance
	Volume 1, Chapter 5 (Air Quality),	<p><b>Construction Dust</b> The dust assessment must be transparent in its definition of construction dust emission</p>	Transparency in method and application of a Rochdale Envelope approach will allow for a comprehensive assessment	HSPG to be consulted in definition of construction dust

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
	Section 5.4 (Study Area), para 5.4.15, paras 5.9.10-16	magnitudes, and of receptor/area sensitivity. A Rochdale Envelope approach should ensure the assessment of a reasonable worst case, i.e. a conservative approach to construction dust emissions estimates.	and identification of mitigation measures for the local community, whilst retaining flexibility for amendments as the plans evolve.	emission magnitudes and area sensitivity and on the Rochdale Envelope approach is applied to ensure assessment of reasonable worst case.
	Volume 1, Chapter 5 (Air Quality), Section 5.4 (Study Area), para 5.4.17, para 5.9.17	<b>Odour</b> More detail on potential odour sources locations, strength, and emission type required to allow comment on the proposed assessment method. A qualitative Source-Pathway-Receptor approach for odour (as outlined in IAQM guidance) is reasonable during construction. It is unclear whether detailed modelling of aircraft odorous emissions of VOCs including diffuse emissions from fuel handling is proposed.	Further information should be presented in the PEIR to justify the chosen approach to odour assessment.  Good practice mitigation measures for handling, containing and disposing of any contaminated soil or other odour sources should be adequate to ensure no significant impacts on the local community.	Present further analysis in the PEIR to justify chosen approach to odour assessment.  Consult with HSPG on recommended odour containment methods
	Volume 1, Chapter 5 (Air Quality), Section 5.5 (Sources of data used in scoping), paras 5.5.4-5 Volume 2, Figures 5.4 and 5.5	<b>Baseline monitoring data</b> Figures 5.4 and 5.5 do not include any monitoring from within the Slough AQMA on the M4  It would be more informative to present the data with an intermediate colour for sites approaching/just exceeding the AQS objective (e.g. within 10%), as these may exceed/meet in future with the proposals	Inclusion of additional monitoring data from nearby AQMAS, coupled with more detailed presentation of results, would enhance understanding of the baseline conditions at sensitive locations and potential for improvements/small deteriorations to have a significant impact.	Include monitoring data from relevant local authorities in a wider study area.  Present monitoring data with an intermediate colour for sites approaching the objective (e.g. within/over 10%).
	Volume 1, Chapter 5 (Air Quality), Section 5.6 (Baseline Conditions)	<b>Baseline Conditions</b> <b>Para 5.6.3:</b> This could also acknowledge the portion of PM that is formed by secondary particulate formation following emission of NO <sub>x</sub> and SO <sub>2</sub> (of which aircraft and land transport are a key source)		

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p><b>Table 5.3:</b> - Although not formally removed from the air quality strategy<sup>3</sup>, the higher benzene objective for 2003 is essentially superseded by the lower limit to be achieved by 2010. The annual mean objective for PM<sub>2.5</sub> (as alluded to in 5.6.7) is not included in this table.</p> <p><b>Para 5.6.6:</b> This should reference AQMA which may be on a route affected by additional traffic as a result of the airport expansion. For instance, both the Slough M4, and the proposed new AQMA in Langley.</p> <p><b>Para 5.6.13</b> – CO objective/concentrations should be described in units of mg/m<sup>3</sup></p> <p><b>Table 5.4:</b> The scoping report has not included a complete analysis of the data such as trends. Inclusion of 2017 data would help illustrate recent trends as 2016 is generally considered a poor year for air quality. Some monitoring sites appear at first sight not to show any clear trend, many are stable and some may be increasing. This is in contrast to the justification provided for use of DMRB traffic change criteria (para 5.4.11), which focuses on the expected reductions in vehicle emissions in future.</p> <p><b>Paras 5.6.20 and 5.6.21:</b> Other information sources to provide baseline evidence regarding dust deposition and/or odour would be useful in order to establish a robust starting point. Does Heathrow maintain a complaints log regarding its activities? Is there any further evidence or monitoring from the Environmental Management System?</p> <p><b>Para 5.6.21:</b> Information regarding the scope of the baseline odour surveys is limited.</p>	<p>Include PM<sub>2.5</sub> annual mean objective</p> <p>Ensure definition of study area and description of baseline within it is an iterative process</p> <p>Include trend analysis at PEIR stage</p> <p>Include information from historic Heathrow surveys of dust and odour</p> <p>What will the surveys consider – sniff tests, specific, indicator compounds or odour by</p>
			<p>AQMA in a potentially wider study area to be considered, noting that the IAQM criteria for traffic changes are more stringent. Inclusion of additional AQMAs in the assessment will provide HSPG with information on where small changes may have a significant impact.</p> <p>Statistical analysis of at least 5 years' data should ideally be reviewed in the PEIR to build a robust baseline and thus ensure that future projections are appropriate and realistic</p> <p>A robust monitoring regime will help to ensure appropriate mitigation is put in place</p>

<sup>3</sup> Defra (2007) Air Quality Strategy [https://uk-air.defra.gov.uk/assets/documents/Air\\_Quality\\_Objectives\\_Update.pdf](https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update.pdf)

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
	Volume 1, Chapter 5 (Air Quality), Section 5.7 (Likely significant effects)	<p><b>Likely Significant Effects</b></p> <p><b>Para 5.7.1:</b> Limiting the scope of the road traffic assessment to NO<sub>x</sub>/NO<sub>2</sub> and PM<sub>10/2.5</sub>, is considered appropriate. It is noted VOCs will also be included for aircraft emissions. If industrial processes associated with the airport are specific emitters of other pollutants e.g. SO<sub>2</sub>, heavy metals, these should also be considered.</p> <p><b>Table 5.8:</b> No reference to ecological sites as receptors.</p> <p><b>Table 5.8:</b> The scope of the assessment for the construction phase includes emissions from construction vehicles and plant through fuel combustion that could increase concentrations of NO<sub>2</sub> and PM. Emissions from worker vehicles accessing the site appear not to have been considered. Further, it is unclear whether an assessment of road traffic emissions will be undertaken during construction as well as operation.</p> <p>Table 17.3 of Chapter 17 (Traffic and transport) appears comprehensive in its coverage of likely effects. Consideration of HGV impacts in the air quality chapter, given a) significant construction movements b) possible freight parking area (para 5.10.6) and c) increase in freight at the airport, appears weak in comparison.</p> <p>Under mitigation options for the construction phase (para 5.10.5), it is noted opportunities are being investigated to maximise the transport of bulk construction materials by rail, as a means of reducing construction traffic and emissions. If this option is taken forward, rail freight emissions should be subject to screening at PEIR stage. Note screening criteria within Defra's Local Air Quality Management Technical Guidance TG (16) relate to passenger trains (DMU) which</p>	<p>olfactometry?</p> <p>Include ecological sites as receptors in Table 5.8.</p> <p>Detailed air quality assessment of traffic emissions during the construction phase, including HGV movements, worker vehicles, and temporary traffic management, and any increase in freight movements once operational.</p> <p>Undertake detailed screening of construction rail emissions</p>
		<p><b>Table 5.8:</b> Receptors in final column should also include ecological sites.</p> <p>A conservative approach to the assessment of construction traffic emissions should be taken in the event of uncertainty regarding phasing of works. This should include both HGV and worker movements, as well as temporary traffic management, particularly with regard to the M25 works which may displace traffic.</p> <p>Given the timeframes for construction works, and the extensive changes proposed to the road network once operational, plans to manage the traffic disruption should be set out (e.g. diversions, contraflow, or overnight works), and a suitably detailed air quality assessment undertaken to identify mitigation.</p> <p>A detailed approach to the screening of construction rail emissions would be welcome in the PEIR, which should as a minimum include identification of sensitive receptors within 30 m of the proposed freight routes and investigation of current NO<sub>2</sub> concentrations at those receptors, and potential for impacts in combination with construction traffic emissions, prior to screening out significant impacts (Defra background maps of annual mean may not accurately reflect the concentrations experienced at receptor locations).</p>	<p>Include ecological sites as receptors in Table 5.8.</p> <p>Detailed air quality assessment of traffic emissions during the construction phase, including HGV movements, worker vehicles, and temporary traffic management, and any increase in freight movements once operational.</p> <p>Undertake detailed screening of construction rail emissions</p>

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>have much lower emissions than freight trains (ref. DfT webTAG guidance).</p> <p><b>Table 5.8:</b> The scope of the assessment for the operational phase considers aircraft movements on the new runway and taxiways. Appears not to consider reductions in emissions from the two existing runways, once the third runway is operational</p> <p><b>Table 5.8:</b> The scope of the assessment for the operation phase includes combustion emissions on of NO<sub>2</sub> and PM from both aircraft movements on the new runway and taxiways, as well as land based activities in support of airport operation. However, there may also be non-combustion emissions of PM from tyre wear, particularly from aircraft landings. Whilst emission factors are likely to be highly uncertain, given the focus on reduction to exposure to PM<sub>2.5</sub> within the 2018 Clean Air Strategy, the PEIR should consider this source / provide justification for scoping out.</p>	<p>Assessment of potential reduction in emissions from other runways, e.g. through reduced holding time may identify air quality benefit</p> <p>Include consideration of non-combustion PM emissions from airport operations and aircraft (e.g. tyre wear from aircraft landings), with reference to objectives to reduce exposure to PM<sub>2.5</sub>.</p>
	<p>Volume 1, Chapter 5 (Air Quality), Section 5.9 (Assessment Methodology), para 5.9.22</p> <p>Volume 3, Appendix 5.1 (Detailed Modelling)</p>	<p><b>Assessment Method: Detailed Modelling</b></p> <p><b>Appendix 5.1, Section 1.1 Sources:</b> This appears only to consider operational phase sources. Detailed modelling should also be undertaken for the construction phase, given length of time and expected numbers of construction traffic movements (both HGVs and workers)/construction plant and NRRMM.</p> <p><b>Appendix 5.1, Para 1.1.2:</b> The recognition of uncertainty is welcome although it is unclear how or why the models will be validated. Use of a state of the art model that is approved for use by the Environment Agency / Defra, such as ADMS or AERMOD, would remove need to validate models. However, as set out in Appendix 5.1, Section 2.6, the model results should be verified through comparison with real world monitoring data, and adjusted where appropriate.</p>	<p>Holistic assessment of operation of the three runways operating together.</p> <p>Consider non-combustion PM emissions from aircraft and airport operations</p>
			<p>Detailed air quality modelling of construction phase to fully assess impacts on sensitive receptors in a well defined and precautionary study area.</p> <p>Proportionate approach to model validation and verification</p>
			<p>Include detailed air quality modelling for the construction phase where appropriate</p> <p>Consider whether validation of the models themselves is necessary.</p>

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>Calculation of LTO emissions up to 1km height is considered appropriate for aircraft emissions with regard to impacts on local air quality. However there may be impacts on ecological sites through deposition of pollutants and justification of applying the same approach should be provided.</p>	<p>Consideration / justification required for deposition of nitrogen/acid to ecological receptors further afield once aircraft are beyond this area.</p>
		<p><b>App 5.2</b></p> <p><b>Para 2.3.2</b> – there is unlikely to be a single “worst case” meteorological year for all receptors under varying operational scenarios/ layout options/runway allocations. This may result in underreporting of findings.</p> <p><b>Para 2.5.2, 2.7.6</b> – the primary NO<sub>2</sub> emission from aircraft is likely to differ to those for road vehicles therefore application of PCM/LAQM approaches may not be suitable. Justification for applying these factors, including demonstrating they are conservative, should be provided in full.</p> <p><b>Para 2.7.3</b> – Justification that the assumption that only direct deposition of NO<sub>x</sub> is relevant appears to be missing, can a reference be provided? Clarify if same exclusion of ammonia for road traffic is relevant to aircraft emissions. Even if released in smaller quantities, its relative contribution to N deposition is greater.</p>	<p>Concentrations should be presented for a variety of years</p> <p>Ensure appropriate NO<sub>x</sub> to NO<sub>2</sub> conversion is applied</p> <p>A full explanation of the justification behind choices for approach to ecological assessment</p>
	Volume 1, Chapter 5 (Air Quality), Section 5.9 (Assessment)	<p><b>Effect significance</b></p> <p>The approach for construction traffic is to use HE interim guidance<sup>4</sup> to assess the significance of effects from changes in NO<sub>2</sub> and PM concentrations. This defines changes of less</p>	<p>Use IAQM guidance on land use planning and development control criteria to determine significance of effect, as a</p>

<sup>4</sup> Highways England, Interim Advice Note 174/13 Evaluation of Significant Local Air Quality Effects, 2013



Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
	Methodology), para 5.9.25-27 and Table 5.10	<p>than or equal to 1% of the air quality threshold as 'imperceptible' (0.4 µg/m<sup>3</sup> for NO<sub>2</sub> as an annual average). Conversely, IAQM guidance on land use planning and development control,<sup>5</sup> which is considered more appropriate for developments in urban areas, describes changes of less than 0.5% as negligible (0.2 µg/m<sup>3</sup> NO<sub>2</sub> as an annual average). Use of DMRB guidance, may result in changes that are significant for local authorities to be missed.</p> <p>Definition of significance may need to be redefined in light of Defra's draft Clean Air Strategy which aims to reduce exposure to PM<sub>2.5</sub> and introduction of tighter standard. DMRB does not explicitly consider this pollutant.</p>	<p>monitoring, (iii) the magnitude of the proposed development and duration of the construction period, (iv) uncertainty of future baseline projections, (v) the range of uncertainty of the forecast impacts of the Surface Transport and Freight Strategies, it is recommended the study takes a precautionary approach and applies IAQM guidance significance criteria, particularly in areas within or adjacent to AQMAs, or where concentrations are approaching the air quality objectives.</p> <p>Consideration of significance of PM<sub>2.5</sub> results with reference to exposure reduction will help identify appropriate mitigation.</p>
	Volume 3, Appendix 4.3 (Guidance and Best Practice Documents)	<p><b>Guidance and Best Practice Documents</b></p> <p>Relevant guidance for air quality also includes IAQM Guidance on land-use planning and development control, considered best practice methodology for land development in spatial planning. The DMRB is intended for application to major new road schemes. This IAQM guidance document on the other hand is applicable to assessing the effect of changes in exposure of members of the public resulting from residential and mixed-use developments, especially those within urban areas where air quality is poorer (and thus a smaller change in air quality may be more significant).</p> <p>Environment Agency (EA) online guidance for dispersion modelling of point sources should be referred to for sources such as power generating plant.</p> <p>The reference in this table and in Appendix 5 1.2.1 to PSDH report on air quality is welcomed.</p>	<p>Include consideration of PM<sub>2.5</sub> significance in context of exposure reduction</p> <p>Use IAQM Guidance on land use planning and development control, as best practice methodology for land development, applicable to assessing the effect of changes of exposure, particularly within urban areas.</p> <p>EA guidance for dispersion modelling of point sources</p> <p>Assessment to be done in line with PSDH</p>

<sup>5</sup> EPUK & IAQM Land Use Planning & Development Control: Planning for Air Quality, January 2017.

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>Slough has developed a draft Low Emissions Strategy<sup>6</sup>, which references Defra's emission damage cost approach to assess mitigation requirements. The London Plan (Policy 7.14) also includes the requirement that developments are 'air quality neutral', and require calculations of building and transport emissions. Inclusion of such an approach to mitigation for the Heathrow Expansion would be relevant, particularly in light of the wide area that may be affected by emissions and thus population exposed, including to PM<sub>2.5</sub>. The AQO air quality neutral guidance<sup>7</sup> recognises that major transport infrastructure development uses the DfT's webTAG methodology which includes economic valuation.</p>	<p>Inclusion of an emission damage cost methodology or equivalent, would provide a means of quantification and monetisation of emissions impacts, which could be used to inform the assessment of mitigation options (including on-site, off-site and financial contributions).</p>	<p>Include an emissions damage cost assessment or equivalent, for the construction and operation phases.</p>
Alternative options	General	<p>Ensure a Rochdale Envelope approach is applied to ensure the assessment of a reasonable worst case, i.e. a conservative and precautionary approach, where potential exists for the location/magnitude/temporal scope of emissions to change during the DCO process and once operational</p>	<p>Transparency in method and application of a Rochdale Envelope approach will allow for a comprehensive assessment and identification of mitigation measures, whilst retaining flexibility for amendments as the plans evolve.</p>	<p>Ensure a Rochdale Envelope approach is applied to ensure assessment of reasonable worst case</p>
Cumulative effects	Volume 3, Appendix 3.1 (Cumulative effects)	<p>The principle of the approach appears sound in relation to air quality effects:</p> <ol style="list-style-type: none"> <li>Scheme-wide effects = DCO with "other development" associated with airport expansion</li> <li>Effects of Scheme plus other development - under construction, permitted, submitted - in line with PINS advice note 17</li> </ol>	-	-

<sup>6</sup> Slough Low Emission Strategy (LES) 2018-25 Draft, November 2017. Available online at: [http://www.slough.gov.uk/downloads/LES\\_final\\_draft\\_23Nov.pdf](http://www.slough.gov.uk/downloads/LES_final_draft_23Nov.pdf)

<sup>7</sup> Air Quality Consultants/Environ (2014) Air Quality Neutral Planning Support Update <http://www.aqconsultants.co.uk/getattachment/Resources/Download-Reports/GLA-AQ-Neutral-Policy-Final-Report-April-2014.pdf.aspx>

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>c. In combination effects - e.g. noise, air quality and visual on health.</p> <p>The assessment scenarios (Appendix, Table 3.2) appear sound, covering both construction and operational impacts on existing and new receptors.</p> <p>A robust assessment year should be selected, ensuring a balance between likely improvements in air quality vs increase in emissions due to growth in land/air traffic</p> <p>The proposed use of strategic traffic model data should take into account growth as a result of development as set out in local plans. This should include plans for surrounding local authorities not just those within which the DCO boundary sits, as this may affect flows in wider area. Model adjustment may be necessary to also consider for other developments not included in local plans.</p> <p>Table 3.1.1 - the air quality study area for cumulative impacts cannot be commented upon at this stage. It should be noted the area presented in the scoping report is subject to change (but in our opinion, should be expanded), as is the case for noise.</p> <p>Appendix A3.4 identifies 2079 cumulative developments. A proportionate approach to assessment would be welcome to ensure the assessment can be interpreted readily and the key impacts identified by stakeholders. This could incorporate an initial screening step undertaken to identify those with potential AQ Impacts.</p>	<p>HSPG should ensure ongoing consultation in the identification on relevant developments and on any approach to screening. Consideration should be given as to whether the Western Rail Link should be included as a Scheme Wide impact.</p>
Scheme design	-	-	<p>For cumulative developments where there is a high degree of uncertainty, apply precautionary principle and professional judgement in a qualitative assessment, if numerical data are not available to allow for modelling.</p> <p>-</p> <p>As a general measure, construction and operation should be planned so as to increase distance between source and receptor where practicable</p> <p>Potential to extend Ultra Low Emission Zone (ULEZ) to just inside the M25 boundary. Joint monitoring and review</p>
			<p>Summary</p>

Chapter 5 – Air Quality and Odour				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Mitigation	Volume 1, Chapter 5 (Air Quality), Section 5.10 (Approach to Mitigation)	<p><b>Mitigation: Construction</b></p> <p>References to specific guidance and further detail on proposed mitigation measures should be included, e.g. dust, non-road mobile machinery (NRMM), construction vehicles (HGVs and LGVs) and construction worker movements</p>	<p>processes and action are required to monitor are quality targets and manage the improvement of air quality improvement and across the HSPG area impacted by expansion; HAL should be required to fund the air quality monitoring.</p> <p>Mitigation measures for construction dust should reference guidance by the GLA and IAQM. A commitment to vehicle standards for NRMM, should follow GLA guidance and SPGs. Emissions performance of HGVs and LDVs used during construction should be Euro VI/6 or better. Emissions from concrete batching/crushing screening will be controlled by a local authority permit</p>	<p>Assessment should be iterative, so that due consideration is given to emissions from mitigation measures such as the use of rail/waterways</p>
	Volume 1, Chapter 5 (Air Quality), Section 5.10 (Approach to Mitigation)	<p><b>Mitigation: Operation</b></p> <p>It would be useful to include details of the methodology by which the impact on air quality emissions and concentrations of mitigation measures will be quantified. For example, whilst it is assumed that changes to traffic volumes resulting from Surface Traffic and Freight mitigation will be incorporated into traffic modelling (and therefore into the AQ model), there are no details regarding a methodology to quantify the impacts of emission reduction measures, i.e. incentivising / requiring use of low emission vehicles – both as part of airport operations, as well as public vehicles accessing the site (e.g. measures identified within the ANPS, para 5.10.11, emission-based vehicle charging para 5.10.16).</p> <p>The methodology proposed does not include reference to air quality neutral or emissions damage costs (ref. Policy 7.14 within the London Plan and Slough's draft Low Emissions Strategy). Inclusion of such an approach to mitigation for the Heathrow Expansion, for both construction and operation phases, is welcome,</p>	<p>The air quality emissions and concentrations impacts of mitigation measures should be fully quantified, ideally including use of emission damage cost methodologies to inform whether additional mitigation (on-site, off-site or financial contributions) is required for either construction or operation phase emissions. Details of the methodology to be used set out in the PEIR.</p>	<p>Establish methods to be used to quantify mitigation impacts. Include an emissions damage cost assessment for the construction and operation phases.</p>

Chapter 5 – Air Quality and Odour			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		<p>particularly in light of the wide area that may be affected and thus population exposed, in particular to PM<sub>2.5</sub>.</p> <p>Outline mitigation is provided at this stage and a more detailed mitigation strategy will be required for the EIA.</p> <p>The success of the air quality mitigation is dependent on the contents and delivery of separate documents (Surface Traffic Strategy, Freight Strategy and existing Heathrow Low Emissions Plan). The impacts of these strategies on air quality should be clearly established.</p>	<p>The following additional measures should be considered, many of which could be initiated at an early stage to improve local air quality, contribute to achieving legal compliance and help to offset both construction and operation emissions.</p> <ul style="list-style-type: none"> <li>- Investment in low emission bus fleet (i) servicing Heathrow; (ii) on other routes in surrounding areas as off-site / financial mitigation</li> <li>- Investment / funding to incentivise low emission taxis, for example provision of ULEV taxi ranks and supporting charging infrastructure at the airport, and surrounding rail hubs, supporting complete electric journeys from home to Heathrow. Note, there is a direct opportunity to work with Network Rail and develop Langley as an ultra-low emission hub, as Slough has already received £157k in OLEV funding for rapid charging facilities for plug-in taxis and the licensing committee is set to approve plans for all taxis to be ULEV by 2025.</li> <li>- Broader expansion of EV charging infrastructure, both within the airport and in the surrounding areas</li> <li>- Zero/low emission or electric vehicles as part of airport operations</li> <li>- Ringfencing of funds from emission-based access to support low emission measures within the local area</li> </ul>
			<p>Consider broader measures to contribute to air quality improvement in surrounding areas. Maintain close communications with local authorities to maximise opportunities for a coordinated approach.</p> <p>HSPG should be kept informed of the development of mitigation options, and opportunities for a coordinated approach should be maximised.</p>
Chapter 6 – Biodiversity			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
EIA Methodology	Volume 1, Chapter 6	The desk study search area extends to 20km for international/European sites in relation to nitrogen deposition due to traffic. The HRA should also take into consideration SACs designated for bat	<p>Full consideration should be taken of local development policies.</p> <p>The implementation of the Biodiversity Offsetting Strategy in full should ensure locally significant losses of habitat are taken into</p>
			<p>Effects on bat species in relation to SACs should be assessed under the HRA.</p> <p>Clarification of the value of Local</p>

Chapter 6 – Biodiversity				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>species which can be highly mobile and range long distances.</p> <p>Effects of local or negligible significance are proposed to be scoped out. LNRs and Sites of Local Importance for Nature Conservation (SLINCs) could be argued to be of local importance and any loss of these sites is of local significance. However, these sites have been valued at higher than local importance (Borough or County) in the Scoping report. This avoids these sites being scoped out of further assessment.</p> <p>The report states that Species of Principle Importance (SPI) are generally considered to be Nationally important (para 6.9.9), but in Table 6.12 regularly occurring populations of SPI are considered to be of Regional importance.</p> <p>The Biodiversity Offsetting Strategy would take into account negative effects on ecological features of local importance, even though effects on these features is deemed to be not significant. There is a risk that, if locally significant effects are not included within the EIA, these effects could be relegated at later stages of scheme development in relation to biodiversity offsetting targets.</p> <p>The identification of likely effects does not include the effect of increased run-off from the new runway and hard surfaces into watercourses causing increased water flow and flooding events.</p>	<p>consideration in providing biodiversity net gain. However, the mechanism for how this would be delivered, if not an integral part of the EIA process, should be fully explained.</p>	<p>sites (LNRs and SLINCs).</p> <p>Clarification of the value of populations of SPI.</p> <p>Clarification that biodiversity offsetting will take into account locally important habitats.</p> <p>Clarification that surface water run-off will be assessed in terms of volumes and flooding and the effects on biodiversity.</p> <p>A firm commitment to ensuring all effects of local or negligible significance are captured in the Biodiversity Offsetting strategy and the mechanisms for achieving this is not assessed in the EIA.</p>
Cumulative effects	Volume 1, Chapter 6	<p>Effects of local or negligible significance are proposed to be scoped out, without consideration of the cumulative effect of a number of locally significant effects.</p>	<p>Consideration should be made to the cumulative effect of a number of locally significant effects that could collectively be more significant.</p>	<p>Confirmation that the cumulative effect of a number of locally-significant effects will be taken into consideration.</p>
Scheme design	Volume 1, Chapter	<p>The outline scheme design provides large areas of new habitat. However, the detail of this habitat</p>	<p>-</p>	<p>Provision of preliminary</p>

Chapter 6 – Biodiversity			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
	6	is outline at this stage and detailed calculations for the provision of offsetting for biodiversity net-gain is not set out in the Scoping report.	
Mitigation	Volume 1, Chapter 6	New habitats will require management in the long term (some e.g. meadow that are labour intensive). New habitats may be given over to local countryside organisations for future management which will require sufficient financial support. There is a risk that created habitats lose biodiversity value over time due to lack of management.	Consideration should be made of the ecosystem services provided by existing habitats loss and these services should be inherent in the new habitats provided.  Clarification required on how ecosystem services and long-term management of compensation sites are being taken into consideration.
Summary			
		biodiversity net gain calculations.	

Chapter 7 – Carbon and other Greenhouse Gases			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
EIA Methodology	Volume 1, Sections 7.9.12 – 7.9.29	The positioning of the scope boundaries is important to the robustness of the study, as any exclusions or omissions will lead to an underestimated result. Further clarity on what specific items will be excluded and included in the study area is required.  It is stated that the scope of the assessment will be decided by the amount of 'reasonable data or assumptions' available. Further detail should be provided, for each emission source, on the amount of data expected to be from actual project data, the amount that will be estimated p data, and what will be based on non-project-specific proxies. Any exclusions from the study should be clearly justified, and the effect of any	Further detail required on what specific items will be included in and excluded from the study boundary, which parts of the calculation will be based on actual project data and which will be based on proxy data.  Further detail required on the basis of assumptions (e.g. has a reasonable worst-case been selected).  Details on the approach to quantify and present carbon offsetting/sequestration to be provided.
Summary			
		Further detail required on what specific items will be included in and excluded from the study boundary, which parts of the calculation will be based on actual project data and which will be based on proxy data.  Further detail required on the basis of assumptions (e.g. has a reasonable worst-case been selected).  Details on the approach to quantify and present carbon offsetting/sequestration to be	

**Chapter 7 – Carbon and other Greenhouse Gases**

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>assumptions on the accuracy of the result should be made.</p> <p>The assessment of operational emissions will use future projections, for example projected decarbonisation of the UK National Grid, and reduction in use of fossil-fuel powered vehicles. It is unclear how these future scenarios will be selected. Will a realistic worst-case be used? Over-estimation of UK electricity decarbonisation, for example, will lead to an under-estimation of operational emissions. Depending on the scenarios chosen, this may lead to significant inaccuracies in the study.</p> <p>The Scoping Report does not explain what the approach will be to quantifying and presenting carbon offsetting/sequestration as described in the Consultation Document.</p>		<p>provided.</p>
	<p>Volume 1, Sections 7.9.32 – 7.9.33</p>	<p><b>Significance Assessment</b> The Scoping Report states that professional judgement will be used to determine whether emissions are significant, however it is not clear how this will be done in the absence of suitable best practice guidance.</p> <p>The IEMA guidance referenced in the report states that because GHG emissions will all contribute to climate change (the largest cumulative environmental effect and one that has a scientifically defined threshold) any GHG emissions might be considered significant.</p>	-	<p><b>Significance Assessment</b> Further detail required on how 'professional judgement' will be used to determine significance of emissions.</p>



Chapter 7 – Carbon and other Greenhouse Gases				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Alternative options	Volume 1, Section Table 3.7	GHG emissions are scoped out for a number of items under the category 'airport supporting facilities'. It is not clear why this is the case, as there will be both construction and operation impacts for these components.	-	Clarification on reasons why airport supporting facilities have been scoped out of the GHG emission calculations.
Mitigation	Volume 1, Section 7.10	Very little detail on mitigation measures is provided. It is suggested that mitigation measures will meet the requirements in ANPS (5.77, 5.78 & 5.79) and will include design elements, construction approach and traffic management. Further detail on envisaged mitigation measures that directly address the different sources of emissions should be provided. A significant proportion of GHG mitigation measures are achieved at design stage, when decisions about the scale and nature of development and the materials that will be used are made. Further mitigation for the construction phase can come through the specification of construction approaches. Actual and potential mitigation measures presented at this stage would demonstrate that carbon reduction is being embedded into the design.	GHG mitigation measures are integral to the design – see opportunities above. Some detail on how mitigation is being integrated into the design process should be included in the EIA. clima	Further detailed information around specific mitigation measures that are planned. This might include choice of materials and how material quantities are being reduced, how the design of the scheme minimises emissions from the operational phase, and what construction approaches might be specified to reduce emissions.

Chapter 8 – Climate Change				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary

EIA Methodology	Volume 1, Chapter 8	The methodology seems appropriate and proportionate, and based on relevant policy and legislation. It has also been agreed with the Environment Agency, who will be consulted on an ongoing basis as the study develops. However, it should be noted that the Environment Agency only has responsibility to the Government for ensuring climate change adaptation in relation to water related aspects.	-	-
Alternative options	Volume 1, Table 3.7	Climate Change is scoped out of the options consideration for a number of items under the category 'airport supporting facilities'. It is not clear why this is the case, as the climate resilience of these elements will need to be considered.	Clarification on reasons why airport supporting facilities have been scoped out of the climate change assessment.	Further clarification on scoping out of airport supporting facilities to be provided.
Mitigation	Volume 1, Section 8.10.1 – 8.10.9	The Scoping Report does not specify mitigation measures, rather states that these will be developed by environmental topic leads and embedded through the EIA process. Any additional mitigation will be incorporated into the Climate Change Adaptation Plan.  Effects of climate change on local communities and local resilience to climate change should be considered in the EIA.	Measures to reduce the impacts of climate change on the local area and improve local resilience should be considered as part of the package of mitigation measures.	Local measures to address climate change should be considered in the package of mitigation measures.  HSPG to be consulted on the Climate Change Adaptation Plan.

<b>Chapter 9 - Community</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
EIA Methodology	Volume 1, Chapter 9	The method focuses heavily on recreational spaces and routes; there is very little information on how effects of other types of community facility will be assessed (e.g. schools, places of worship etc).	Set out the approach to assessing the effects of the project on community facilities such as schools etc. This will need to consider / set out the approach to assessing displacement, severance and viability of the facilities	Set out approach to assessing effects on other community facilities, as it stands the method is focused on recreational spaces and routes.

Paragraph 9.3.6	Paragraph 9.3.6 states that user surveys will be drawn upon where published by LPAs and undertaken with regard to users of recreational facilities, spaces and routes. The onus should be on the applicant to undertake these and this should include a wider range of community facilities (e.g. indoor sports facilities etc).	Paragraph 9.3.6 – Include a user survey of other community facilities, not just recreational spaces and routes.	Ensure that the applicant fills the gaps in user survey data and doesn't rely on solely LPA user surveys, this should include other community facilities not just recreational spaces and routes.
Volume 1, Section 9.6 and Table 9.4	Section 9.6 and Table 9.4 – Identifies baseline population & demographic information. However, it is not clear what the approach will be to assess the impact of the project on the population and demographic mix of the communities	Section 9.6 and Table 9.4 - Provide clarity on the approach to assessing the effect of the project on the baseline population and demographic conditions in each community and the impact this has on the viability of the community.	Clarify how the effects on community viability will be assessed with reference to the effect on population and demographics.
Volume 1, Table 9.3	<p>Table 9.3 – Data Sources. Refers to studies from local authorities etc. The assumption is that local authority assessments will be used, however where these don't exist the Open Space Assessment (OSA) that is being carried out and is referred to in paragraph 9.9:10 should be used.</p> <p>Table 9.3 – open space and indoor recreation deficiency maps should be referred to as a specific data source in this table.</p> <p>Table 9.3 - The quality and value of the recreational space hasn't been referred to. This is important data that should be extracted and included in the assessment.</p>	<p>Table 9.3:</p> <ul style="list-style-type: none"> <li>- Ensure that local authority assessments are used as the starting point, to ensure data is based on local assessments of recreational need.</li> <li>- Include open space and indoor sport catchment / deficiency maps as a data source, and prepare these where they are not available. This will be important for understanding how the project impacts on existing deficiencies in open space and sports facility provision.</li> <li>- Inclusion of value and quality data, to ensure that there is a clear understanding of which are the best quality and highest valued recreational spaces.</li> </ul>	<p>Open space assessments are an important data source, and it is helpful the OSA is being prepared but local assessments of need should take precedence, with the OSA supplementing these.</p> <p>Existing open space and recreational facility deficiency maps are an important data source and where not available should be prepared.</p> <p>The applicant should be using data on the value and quality of recreational spaces to inform the assessment.</p> <p>Local workers should be included as a potential receptor.</p>
Volume 1, Sections 9.6.9 - 10	Paragraph 9.6.9 - 10 and Table 9.5 – doesn't include workers at local businesses who could / are also likely to be users of recreational spaces and routes	Paragraphs 9.6.9 / 10 and Table 9.5 – to add local workers as a potential receptor.	<p>Improve the user survey data by collecting usage data for a wider selection of community facilities (i.e. built facilities).</p> <p>Strengthen user data by collecting detailed information such as</p>

<p>Volume 1, Section 9.9.10 – bullet 7</p>	<p>Paragraph 9.9.10 (7) - Surveys of users of recreation facilities. There are some weaknesses with the proposed approach including:</p> <ul style="list-style-type: none"> <li>- The survey is exclusively assessing recreational routes and spaces, it would also be valuable to collect data on the use of indoor sports facilities and other community uses.</li> <li>- The paragraph doesn't specify what information about usage will be collected.</li> </ul>	<p>Paragraph 9.9.10 (7) - User survey data collection could be improved by:</p> <ul style="list-style-type: none"> <li>- Collecting usage information for a sample of other community facilities.</li> <li>- Strengthen user data, by collecting data on frequency of use of recreational space / route; distance travelled by user, mode of travel of user, whether the space / route is the primary space / route that the user visits (if not where is their primary space/ route and what others do they visit).</li> </ul>	<p>frequency of use etc.</p> <p>The assessment should use recreational provision standards that have been either adopted by LPAs or defined through an assessment of local needs. The standards need to be for all types open space and include indoor sports.</p> <p>Sensitivity of receptors should be amended so that it is clear where users of non-park recreational spaces and indoor facilities would be placed in terms of magnitude</p>
<p>Volume 1, Section 9.9.10 – bullet 8</p>	<p>Paragraph 9.9.10 (8) – States that the OSA will set common standards for provision of open space throughout the agreed study area. The starting point should be to use adopted local provision standards as defined / adopted by the LPAs for affected recreational spaces. It is not clear from the scoping report that the standards will be for all types of open space (i.e. allotments, natural and semi-natural greenspace etc.) not just parks.</p>	<p>Paragraph 9.9.10 (8) – Where LPA's recreational provision standards are missing/ unavailable, adopting standards would be appropriate (if based on an assessment of local needs). The standards used in the assessment should be for all types of open space (i.e. allotments, natural and semi-natural greenspace etc.) not just parks. Indoor sports standards should also be used / defined.</p>	<p>Define or identify how users of non-park open space types will be classified into a 'hierarchy' based on their size and importance.</p> <p>Identify how users of indoor recreation facilities will be classified into a hierarchy, based on their catchment.</p>
<p>Volume 1, Table 9.9</p>	<p>Table 9.9 – refers sensitivity of receptors to change of recreation and amenity. There are weaknesses in the approach proposed including:</p> <ul style="list-style-type: none"> <li>- The approach refers to users of 'Regional' or 'Metropolitan' parks etc as a way of considering the sensitivity. This approach works for parks which tend to be defined by a set 'hierarchy' but there are issues with other open space types (including semi-natural green space, water bodies etc.), as it is not immediately clear how each recreation space would be categorised.</li> <li>- It's not clear how indoor recreation facilities will be accounted for in terms of sensitivity, as they are not referred to in this table.</li> </ul>	<p>Table 9.9 – improve the approach to sensitivity of receptors as follows:</p> <ul style="list-style-type: none"> <li>- Define or identify how users of non-park open space types will be classified into a 'hierarchy' based on their size and importance.</li> <li>- Identify how users of indoor recreation facilities will be classified into a hierarchy, based on their catchment.</li> </ul>	<p>The following summarises the recommendations related to the proforma attribute table, Volume 3:</p> <ul style="list-style-type: none"> <li>- Amend the proforma to make improvements to the data collected in order to provide a clear understanding of the</li> </ul>
<p>Volume 3, Proforma Attribute Table</p>	<p>Appendix 9.4-3 Proforma Attribute Table</p> <p>The information collected during the walk over survey of recreational spaces and routes has some weaknesses including:</p> <ul style="list-style-type: none"> <li>- Quality – this attribute appears to be based on whether the site is 'fit for purpose' rather than the quality of the</li> </ul>	<p>Appendix 9.4-3 Proforma Attribute Table could be improved by:</p> <ul style="list-style-type: none"> <li>- Quality - Define / assess the quality of the recreational space, rather than whether they are 'fit for purpose'.</li> <li>- Value - Include the value of open space as an attribute to ensure highly valued spaces that</li> </ul>	<p>The following summarises the recommendations related to the proforma attribute table, Volume 3:</p> <ul style="list-style-type: none"> <li>- Amend the proforma to make improvements to the data collected in order to provide a clear understanding of the</li> </ul>

<p>Adequacy of consideration of cumulative effects</p>	<p>Volume 1, Chapter 9, Section 9.4</p>	<ul style="list-style-type: none"> <li>- site.</li> <li>- Value – The value of the recreational space is not considered.</li> <li>- Access does not consider how many points of entry the space has, sites with multiple access points will be widely accessible to their surrounding communities</li> <li>- Amenities – doesn't refer to car or cycle parking, which is important in understanding how the spaces are used.</li> <li>- Perceptual features – refers to noise, this shouldn't be considered a perceptual feature.</li> <li>- Physical attributes – it is not clear how sports facilities e.g. tennis courts etc within a park would be considered, these are recreational facilities in their own right but also part of the overall recreational offer of the park</li> <li>- Does the proforma pick up the full range of multi-functional roles that public spaces can play, for example are the spaces used by local schools as outdoor classrooms, or is the space used for events (e.g. fireworks, fairs etc).</li> </ul>	<ul style="list-style-type: none"> <li>- might be affected by the proposals can be clearly identified.</li> <li>- Access - Should note the number of entry points / ease of entry under public accessibility attribute.</li> <li>- Amenities - Ensure amenities that would impact on the usage of the recreational spaces are identified.</li> <li>- Perceptual feature - Noise in recreational spaces should be considered / assessed using noise data, and shouldn't be considered a perceptual feature.</li> <li>- Physical attributes - Ensure sports facilities get picked up in proforma</li> </ul> <p>All the above are important in helping to understand the quality, value and role of the recreational spaces that could be affected by the project, and will be important in ensuring any replacement land proposed in secondary mitigation would be of equivalent or better provision.</p>	<p>quality, value and role of the recreational spaces that could be affected by the project. This is important for ensuring any replacement land proposed in secondary mitigation would be of equivalent or better provision than that displaced.</p>
<p>Outline scheme design</p>	<p>Volume 1, Chapter 3, Section 3.3 and Table 3.7</p>	<p>Chapter 9 - No specific approach is identified for cumulative effects on community.</p> <p>Section 9.4 – although study areas are defined, it is not specifically stated that these would also be the Zone of Influence for assessing cumulative effects on community.</p> <p>Section 3.3 and Table 3.7 – identify that only new cargo floorspace and car parking could be considered as relevant topics for community; the scoping report should clarify why other airport supporting facilities are not relevant to community.</p>	<ul style="list-style-type: none"> <li>-</li> </ul> <p>Section 3.3 and Table 3.7 - Ensure that airport supporting facilities are not relevant for the community topic. For example, the utilities network, is referred to as being to the west of the airport, diversions to these networks could potentially affect the community (either temporary or permanent) and therefore shouldn't be scoped out as relevant to the topic at this stage.</p> <p>Consider whether land take for car parking, (in particular, off airport) and the level of parking overall could be reduced in order to minimise the impact on communities and community facilities. Particularly given the potential for changes in technology that could result in a significant modal shift.</p>	<p>HSPG would like to see clearer evidence of how community effects will be integrated into the cumulative effects assessment.</p> <p>Confirm that the airport supporting facilities that have been scoped out as not relevant for the community topic could not potentially affect the community (either temporary or permanent).</p> <p>Ask for detail on how the level of parking required in particular off airport has been calculated and whether this allows for scenarios for reduced levels of parking.</p>

<p>Suitability and robustness of proposed mitigation measures (on site, off site and financial)</p>	<p>Volume 1, Section 9.10 – Approach to mitigation.</p>	<p>Section 9.10 - For community the embedded measures included are:</p> <ul style="list-style-type: none"> <li>- Property compensation package in the CPZ and voluntary package in the WPOZ</li> <li>- A commitment to set up a Heathrow Community Engagement Board</li> <li>- Commitment to Community Mitigation Fund</li> </ul> <p>For the property compensation package, the measure identified refers to residents; it's not clear whether this measure extends to business and in particular community facing businesses?</p> <p>The compensation package for the community is not clearly explained.</p> <p>The community mitigation fund is not clearly explained.</p>	<p>Explain how WPOZ and CPZ are defined and how the compensation package is calculated.</p> <p>Explain the community mitigation fund: what it will be used for and how the funds will be distributed.</p> <p>Consider whether there is an opportunity to phase development in a way that ensures communities are only displaced to minimise disruption and ensuring adequate facility provision prior to displacement.</p> <p>For communities surrounding the airport there are likely to be a range of 'secondary' mitigation measures that, as yet, are not identified in the scoping report and will be identified at the next stage. It will be important to ensure these secondary mitigation measures such as replacement community facilities and recreational amenities (both temporary and permanent replacement facilities) are identified.</p>	<p>Provide a more detailed explanation of the embedded measures such as the compensation package and community mitigation fund.</p> <p>Secondary mitigation measures will be important for the community topic which are not defined at this stage of the EIA.</p>
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<b>Chapter 10 – Economics and Employment</b>			
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	
<p>Adequacy of EIA Methodology</p>	<p>Volume 1, Chapter 10</p>	<p>The proposed methodology does not include analysis of the net additionality of socio-economic impacts. So for example, it would not capture what proportion of "new" jobs would really be new and would not be displaced from elsewhere. Or what proportion of these jobs would be taken up by local people and benefit local communities, rather than leak further away.</p> <p>The policy review makes no mention of the Government's Industrial Strategy.</p>	
<p>Adequacy of alternative options</p>	<p>Volume 1, Chapter 10</p>	<p>The scoping report states that a variety of scenarios will be used to assess the range of likely significant effects that could occur. This is an appropriate approach given the</p>	
		<p><b>Proposed HSPG approach to address concerns</b></p>	<p><b>Summary</b></p>
		<p>-</p>	<p>The assessment needs to include analysis of the net additionality of socio-economic impacts. In addition to the economic multiplier effects already mentioned in the scoping chapter. This includes deadweight, leakage, substitution and displacement effects. This would provide a more robust assessment of the true socio-economic impacts of the scheme. The Industrial Strategy is the key national economic development document and the socio-economic assessment needs to show how the scheme aligns with it.</p>
		<p>-</p>	<p>See comments above re Rochdale Envelope approach and clearly setting out parameters and flexibility for each scheme element and</p>

		number of uncertainties at this provided that a more clearly defined approach to the Rochdale Envelope (see comments above) is adopted.	environmental topic assessment.
Adequacy of consideration of cumulative effects	Volume 1, Chapter 10	The socio-economic chapter provides no details of likely socio-economic cumulative effects. It refers to the generic cross-topic text provided in Chapter 4.	The assessment should indicate the nature of likely cumulative socio-economic impacts as well as the projects that should be considered as part of the cumulative assessment.
Suitability and robustness of proposed mitigation measures (on site, off site and financial)	Volume 1, Chapter 10	-	HSPG to be consulted on complementary actions which could help maximise the positive socio-economic effects of the scheme for local communities and businesses.
			The scheme has the potential to deliver significant positive socio-economic effects. Therefore, alongside the consideration of mitigation actions for addressing adverse effects, measures to maximise these positive effects (e.g. appropriate complementary actions) should be explored in consultation with HSPG.

<b>Chapter 11 - Historic Environment</b>			
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>
EIA Methodology	Volume 1, Section 4.2.12, Table 4.3 and Table 11.8 (page 11.25).	Historic environment section does not state that Table 4.3 will be used in conjunction with Table 11.8. The historic environment assessment needs to identify where significant positive or adverse effects are Major or Moderate, to identify the most beneficial and harmful effects.	-
	Volume 1, Section 11.4, Appendix 2, Fig. 11.1, Para 11.8	The Core Study Area boundary seems mostly realistic in relation to airport related development. However, it excludes the extent of the ZTV, which would be in the Wider Study Area. If a heritage asset is within a project's ZTV it is usually considered likely to be affected by both construction and operation, and the effects may be significant, depending on the nature of the asset and the change. 11.4.3 and 11.4.4 imply that in excluding the ZTV, the Core Study Area is sufficiently 'holistic' to identify the heritage assets affected during construction, where tall cranes and temporary structures may be erected. This is a departure from usual	Request clarification that historic environment assessment will use both Table 4.3 and Table 11.8 in conjunction in the historic environment methodology.  ZTV should be used to establish heritage assets impacted by construction as well as operation.  Request that significant operational effects relating to visual changes to the settings of heritage assets beyond the Core Study Area, within the ZTV are included in the assessment.
			Using ZTV to identify heritage assets for inclusion in the baseline that may be subject to significant construction effects would allow for appropriate mitigation for setting effects beyond the Core Study Area.  This would also be the case with visual setting impacts within the ZTV beyond the Core Study Area (the

	practice. Para 11.8 also states that within the Wider Study Area (including, according to the definition of the wider Study Area, the area covered by the ZTV) operational effects will only be assessed in relation to noise and vibration and not in relation to visual impacts. As the ZTV is a by definition visual, it seems inappropriate to exclude visual effects within the ZTV in the methodology	methodology currently excludes these).	
Volume 1, Table 4.6 Summary Scope of the Assessment and Chapter 11	Methodology in relation to Setting: Terminology/phrasing used is potentially misleading. Setting changes are material changes in planning terms as well as physical changes. Therefore, in Table 4.6, under Historic Environment 'material' should be changed to 'physical'. Similarly setting changes are referred to as 'perceptual' changes. Setting guidance and previous decisions demonstrate that setting can also relate to former associations and former spatial relationships. Although appreciation is an important element of setting, using the term 'perceptual' may potentially exclude some elements of setting.	Addressing all setting related issues, including spatial relationships, may help capture design opportunities to respond to former relationships better	Suggest terminology changes are adopted in the EIA.
Volume 1, Section 11.9.31	Paragraph 11.9.31 states that setting assessment is subjective. Setting impacts are assessed on the basis of the impact on the contribution of setting to significance and on the ability to appreciate the significance. Identifying how setting contributes in these respects provides a robust baseline from which to assess impacts with supporting evidence.	Failure to provide a robust, proportionate and logically argued analysis of the contribution of setting to the significance and appreciation of the assets in terms of the criteria set out in the guidance would provide an inaccurate assessment, and potentially inappropriate mitigation/design responses.	HSPG question whether the setting assessment is, as suggested in the scoping report, subjective and request that criteria for assessing the contribution of setting to the significance and appreciation of the assets in terms of the criteria within the guidance are clearly set out and argued in the assessment.
Alternative options Volume 1, Chapter 11, General and 11.10.2	Historic environment mitigation does not extend to building design, just landscape design, interpretation, archaeology etc.	There may be opportunities for design of structures and layout, to respond to and reference historic environment significance. Especially the case with structures of airport related development and supporting facilities.	HSPG would expect to see enhancement through design references to heritage assets and building design and layout responses. Design should better reveal the significance of heritage assets and respond positively to historic character.
Scheme design Volume 1 and	Form, massing, extent and/or exact location of car parking	Design and sensitive siting of these	HSPG would expect to see responsive



	<p>Figures</p>	<p>and airport related development is outline and could potentially significantly impact nearby heritage assets.</p> <p>This is also the case with potential impacts to Colnbrook heritage assets/historic character from more offline A4 diversions south of the A4 and from river diversions from Assembly Option 1.</p> <p>Parameters of options around Stanwell also have potential to impact its heritage assets.</p>	<p>elements have the potential to preserve, enhance or harm significance, and it is vital that design of these elements responds to the specific nature of the heritage assets' character and significance, rather than being standardised.</p> <p>Interpretation of history and archaeology should be through building and public realm design and public art, as well as being through more conventional interpretative display and outreach programmes, etc.</p>	<p>nonstandard, detailed design around historic village cores and in areas where historic character survives, to enhance it and the sense of place and historic environment interpretation including public art, building and public realm design.</p>
<p>Mitigation</p>	<p>General</p>	<p>The settings of any surviving areas of Hammondsworth village core would be significantly affected by the proximity of the runway. The design of structures and landscape beyond the north edge of the proposed airport boundary is vital to maintaining the significance of the village core.</p>	<p>Design should aim to robustly protect significance where large scale new development is immediately adjacent to village cores.</p>	<p>A more detailed design should aim to robustly protect significance where large scale new development is immediately adjacent to village cores.</p>
	<p>-</p>	<p>-</p>	<p>Colnbrook village conservation area enhancement package – building upon the heritage mitigation scheme to achieve wider objectives to achieve rounded package of traffic management, environmental and social economic compensatory and mitigation actions. Similar will be appropriate in other local communities. HSPG seek not only mitigation but enhancement of this area, it is already prone to cumulative development pressures.</p>	<p>-</p>

Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Summary scope of the assessment	Volume 1, Executive Summary, p. iv and Chapter 3 The DCO Report, p.3.15	No rationale provided as to why Rivers and Flood storage, operation phase has been scoped out, only construction phase is assessed.	Given climate change it is precautionary to make some assessment of implications of flooding during operational phase.	Ensure inclusion of Rivers and Flood storage in the health assessment of the operational phase to ensure that flooding issues take account of climate change and local communities as well as future developments around Heathrow over the next 20-50 years.
Policy context	Volume 1, 1. Introduction, p.1.14	Only Section 4 of the revised draft ANPS is mentioned. This section, like Chapter 12 Health, should also mention the paragraph in Section 1 and this specific point. The ANPS, June 2018, has this in Section 4 but also in Section 1, p. 11 states "The application should include and propose health mitigation, which seeks to maximise the health benefits of the scheme and mitigate any negative health impacts."	This sets out a clear strategic principle for the scheme that aligns with HSPG.  This point is mentioned in the Health chapter but needs to be upfront as well.	There should be explicit mention of Section 1 and this particular sentence in the policy context.
Airport supporting facilities	Volume 1, 1. Introduction, p.3.17	Unclear why aviation fuel storage facilities have been scoped out from the community health assessment	There is potential for leaks as well as unforeseen events where the location of the aviation fuel storage could have adverse implications for local communities	Aviation fuel storage facilities should be considered as part of the health assessment.
Approach to assessment of impacts from waste (Table 4.5)	Volume 1, 4. Approach to EIA scoping, p.4.14, row on Environmental Impacts of New Waste Management Facilities	In the column on 'Key considerations raised by the revised draft ANPS', nothing is stated.	The ANPS (June 2018) gives a clear steer on the broad scope that should be used to assess community health and so key statements from the ANPS should be stated here.	This section should refer to para 1.37 of ANPS (June 2018) "The application should include and propose health mitigation, which seeks to maximise the health benefits of the scheme and mitigate any negative health impacts."  And para 4.73 of ANPS (June 2018) "The applicant should identify measures to avoid, reduce or compensate for adverse health impacts as appropriate. These impacts may affect people simultaneously, so the applicant, the Examining Authority and the Secretary of State (in determining an application for development consent) should consider the cumulative impact on health."
Summary scope of assessment (Table 4.6)	Volume 1, 4. Approach to EIA scoping, p.4.18, row on Air Quality	For both construction and operation, there is no mention of in-combination or cumulative air quality related health impacts i.e. baseline (existing aircraft and roads) plus scheme construction plus other development in the neighbouring areas.	This is a key inconsistency in the document, it is mentioned (again inconsistently) in the Health chapter	Explicit mention for both construction and operation, of in-combination or cumulative air quality related health impacts
Summary scope of assessment	Volume 1, 4. Approach to EIA scoping, p.4.22,	Only health and safety impacts of extreme weather/climatic events during the construction phase are considered.	There are likely to health and safety impacts on visitors and users of the airport in extreme weather/climatic	This needs to be assessed in more detail before being scoped out.

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Summary	
(Table 4.6)	row on Climate Change			
Summary scope of assessment (Table 4.6)	<p>Volume 1, 4, Approach to EIA scoping, p.4.25, row on Health</p>	<p>No mention that impacts will be separated out into local and wider community beneficial impacts to recognise the differential and unequal (inequitable) impacts on local people compared to those living further away (those living further will mostly/wholly experience the positive impacts).</p> <p><u>Living conditions: Construction and Operation</u></p> <p>No mention of impact on local house prices during both construction and operational phases.</p> <p>No mention of potential difficulties in selling homes during construction and early operational phases.</p> <p>Living conditions should remain a theme for the operation phase. Its removal shows that this theme is only about relocation of some residents and hence not about local living conditions but simply about resettlement.</p> <p><u>Safety: Construction and operation</u> This should be part of both construction and operation not just operation.</p> <p><u>Assessment of key health outcomes</u> There is no mention of assessing the effects on four of the five main health outcomes of any scheme – non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity) [communicable disease - in the UK context - is only relevant in terms of global epidemics e.g. SARS].</p> <p>Mental health and wellbeing should be the term used not just wellbeing, which is too broad and as defined in the scoping report is decoupled from the fact that adverse effects on wellbeing can lead to mental health/ill health effects.</p> <p><u>Receptors</u></p>	<p>events and possibly local communities as well during the operational phase</p> <p>This is about protecting community health and making a full and well considered assessment of health impacts.</p> <p>It is important that the health assessment recognise and assess effects with the understanding that the adverse impacts and beneficial impacts fall on different groups of people. They cannot be summed.</p> <p>The themes under Environment should be under Living Conditions and the theme Environment should be removed. This would more logical and connect up key in-combination impacts and associated health effects.</p> <p>There needs to be a stronger focus on health outcomes as this is lost in the generic themes that will be used to assess health impacts.</p>	<p>An explicit statement should be added in the health assessment to clarify the fact that in general negative impacts are likely to be experienced by local residents and the positive benefits likely to be experienced by people living further away using or being employed in the airport.</p> <p>Review of determinants/themes used to make them more consistent and more aligned to community concerns and needs.</p> <p>The health assessment should consider the health and wellbeing impacts of:</p> <ul style="list-style-type: none"> <li>- Changes in local house prices during both construction and operational phases.</li> <li>- Difficulties in selling homes during construction and early operational phases.</li> </ul> <p>Safety issues should be considered as part of both construction and operation.</p> <p>There should be explicit mention that the health assessment will consider the key health outcomes: non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity).</p> <p>Mental health and wellbeing should be the term used not just wellbeing which is too broad and as defined in the scoping report is decoupled from the fact that adverse effects on wellbeing can lead to mental health/ill health effects.</p> <p>The following receptors should be included:</p>

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		Users of the airport Airport staff/ People who work in the airport (this is the bigger group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces		<u>Receptors</u> Users of the airport Airport staff/ People who work in the airport (this is the bigger group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces
Summary scope of assessment (Table 4.6)	Volume 1, 4. Approach to EIA scoping, p.4.27, row on Land Quality	No mention of in-combination and cumulative impacts on health.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Explicit mention of in-combination and cumulative health impacts.
Summary scope of assessment (Table 4.6)	Volume 1, 4. Approach to EIA scoping, p. 4.28, row on Major Accidents and Disasters	Accident and disaster plans for the airport need to be updated to include the construction and operational phases as part of mitigation proposals.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Explicit mention that accident and disaster plan for the airport will be updated to include the construction and operation phases as part of mitigation proposals.
In-combination effects	Volume 1, Approach to EIA scoping, p.4.37-4.37, 4.7 In-combination effects	Paragraph 4.7.1 defines in-combination effects narrowly as effects on a single receptor at one point in time, however this does not take into account in-combination effects over long periods of time.  Paragraph 4.7.2 states that impacts are rarely additive. From a public health perspective in-combination health effects are either additive or synergistic (in most situations). Some health effects can be quantified using recognised UK or international methodologies e.g. air pollution and noise. Therefore, it is unclear what is meant by "a collection of impacts need to be drawn together in a meaningful way"	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.  The definition for in-combination effects should be "the combined environmental impacts/effects from the DCO project on a single receptor at a single point in time or over a period of time". This would ensure that the assessment of in-combination impacts/effects took account of single point, intermittent predictable, intermittent unpredictable and continuous effects (short, medium and long term.  Where necessary HSPG should ensure that if required the EIA	Recommend changing definition to be broader so a more holistic analysis of in-combination impacts can be undertaken.  Ensure that the scope allows HSPG to request that the modelled changes in air quality and noise be quantified into estimated changes in key health outcomes if needed.

Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
			undertakes quantification. This is likely only to be useful in specific cases e.g. effects on a school. This is because there is some evidence that indoor air in schools is worse than local outdoor air pollution.  See, <a href="#">Indoor air quality in London's schools report</a> .
Air quality and odour	Volume 1, 5. Air quality and odour, p.5.27-5.28, Table 5.8 Likely significant air quality and odour effects	No mention of potential health effects on people (especially children) using open, green and play spaces.  No mention of sensitive receptors such as the elderly, those with existing respiratory conditions and young children (it is mentioned in the Health chapter).	Explicit mention of potential effects on people (especially children) using open, green and play spaces.  Explicit mention of sensitive receptors such as the elderly, those with existing respiratory conditions and young children.
Climate change	Volume 1, 8. Climate change, p.8.15 Table 8.3 Likely significant climate change effects	Extreme weather events are only considered for the construction phase and not the operation phase. They should be considered for both.  The potential health impacts of these events would be on local communities, airport staff, users of the airport, and visitors to the local area.  Not sure why 'Changes in seasonal patterns of rainfall, temperature and wind resulting in changes in air quality exacerbating health and safety impacts' is only in the operation phase. It would also apply to the construction phase.	Recommend that extreme weather events are considered for both the construction phase and operation phase.  Ensure that the full range of receptors is considered: local communities, airport staff, users of the airport, and visitors to the local area.  Changes in seasonal patterns of rainfall, temperature and wind resulting in changes in air quality exacerbating health and safety impacts' also applies to the construction phase
Climate change	Volume 1, 8. Climate change, p.8.20, Construction and operation assessment methodology	Paragraph 8.9.11 should also include the WHO report, <a href="#">Promoting health while mitigating climate change</a> .	Request that Paragraph 8.9.11 should also include the WHO report, <a href="#">Promoting health while mitigating climate change</a>
Health Likely	Volume 1, 12. Health, p.12.16-	As mentioned earlier in the comment on the summary of the scope:	As stated previously, an explicit statement should be added in the Health assessment to

Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
significant health effects	12.17, Table 12.3 Likely significant health effects	<p>No mention of the fact that impacts will be separated out into local and wider community beneficial impacts to recognise the differential and unequal (inequitable) impacts on local people compared to those living further away (those living further will mostly/wholly experience the positive impacts).</p> <p><u>Living conditions: Construction and Operation</u> No mention of health impact of changes in local house prices during both construction and operation phases.</p> <p>No mention of the health impact of potential difficulties in selling homes during construction and early operation phases.</p> <p>The environmental theme is really better seen as living conditions. Currently, Living Conditions theme is really about Resettlement.</p> <p><u>Safety: Construction and operation</u> This should be part of both construction and operation not just operation.</p> <p><u>Assessment of key health outcomes</u> There is no mention of assessing the effects on four of the five main health outcomes of any scheme – non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity) [communicable disease - in the UK context - is only relevant in terms of global epidemics e.g. SARS].</p> <p>The human set of receptors is mentioned in 12.9.24, p. 12.23 but not elsewhere:</p> <p>“The general population scope of the health assessment considers: residents of and visitors to local communities (in the inner and wider study areas); the workforce and passengers of Heathrow (current and future); and construction workers for the DCO Project. However, the focus is on community effects.”</p>	<p>assessment is holistic and fully and appropriately analyses the community health impacts.</p>
			<p>clarify the fact that in general negative impacts are likely to be experienced by local residents and the positive benefits likely to be experienced by people living further away using or being employed in the airport.</p> <p>Undertake a review of determinants/themes used to make them more consistent and more aligned to community concerns and needs.</p> <p>The health assessment should consider the health and wellbeing impacts of:</p> <ul style="list-style-type: none"> <li>- Changes in local house prices during both construction and operational phases.</li> <li>- Difficulties in selling homes during construction and early operational phases.</li> </ul> <p>Safety issues should be considered as part of both construction and operation.</p> <p>There should be explicit mention of the fact that the health assessment will consider the key health outcomes: non-communicable disease (heart disease, respiratory disease), mental health and wellbeing, injury and nutritional disorders (obesity).</p> <p>Mental health and wellbeing should be the term used not just wellbeing which is too broad and as defined in the scoping report is decoupled from the fact that adverse effects on wellbeing can lead to mental health/ill health effects.</p> <p>The following receptors should be included:</p> <p>Receptors Users of the airport Airport staff/ People who work in the airport</p>

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		<p>Receptors Users of the airport Airport staff/ People who work in the airport (this is the bigger group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces</p>		(this is the bigger group to benefit and most of these will not be local residents) Visitors to the local area Open, green and play spaces
Health Health impacts and mitigation of health impacts of flooding	Volume 1, 12. Health, p.12.18, Paragraphs 12.8.3 and 12.9.20	<p>Taking a precautionary approach, flooding (assessment and mitigation) should be part of the assessments: as with climate change, potential flooding would create a public health emergency in the area and Heathrow would be an important stakeholder in supporting the management of any local flooding. Flood risk management plan and how Heathrow will link in with other emergency services, especially health services, should be part of the mitigation.</p> <p>A public health perspective is needed alongside the review by the Environment Agency. This should be provided by the HIA team and/or Public Health England as the appropriate statutory agency working at the same level as the Environment Agency.</p>	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Recommend that flooding (assessment and mitigation) should be part of the assessments; as with climate change, potential flooding would create a public health emergency in the area and Heathrow would be an important stakeholder in supporting the management of any local flooding. Flood risk management plan detailing how Heathrow will link in with other emergency services, especially health services, should be part of the mitigation.  A public health perspective is needed alongside the review by the Environment Agency. This should be provided by the HIA team and/or Public Health England as the appropriate statutory agency working at the same level as the Environment Agency.
Health Transparency in assessing complex impacts	Volume 1, 12. Health, p.12.19, Paragraph 12.9.5	The health assessment will need to assess individual components of the development and then develop a combined assessment of significance. For transparency of these individual components of the DCO will need to be assessed separately e.g. using a health impact table/matrix.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	The health assessment will need to assess individual components and then develop a combined assessment of significance. For transparency of the assessment key individual components of the DCO will need to be assessed separately e.g. using a health impact table/matrix.
Health How other assessment findings link into the health assessment	Volume 1, 12. Health, p.12.20, Paragraph 12.9.9	Unclear what is meant by "applied in the health assessment", it should be informed by as the health assessment taking the findings of these assessments into account may judge that some aspects are significant even if these other assessment do not judge them significant.	This is about protecting community health and ensuring the health assessment is holistic, and fully and	Clarify what is meant in this paragraph. The other specialist assessment should inform the health assessment and should not be applied without reflection and critical review into the health assessment.
Health Uncertainty of health	Volume 1, 12. Health, p.12.22, Paragraph	Unclear where the uncertainty lies; is it an uncertain relationship between a project activity and health outcome, and hence uncertainty of the possibility or likelihood of the health impact?	This is about protecting community health and ensuring the health assessment is holistic, and fully and	Clarify what is meant in this paragraph.

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
pathway relationships and impacts	12.9.16	Adopting a precautionary approach to the assessment will help address uncertainty.	appropriately analyses the community health impacts.	
Health Precautionary approach	Volume 1, 12. Health, p.12.23, Paragraph 12.9.18	The assessment is either precautionary or it is not (i.e. pragmatic in this context implies non-precautionary). It cannot be both. It is strongly recommended that the approach is precautionary.  The second part of this paragraph, is an obvious point and it is unclear why it is made here.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	The scoping report and EIA must take precautionary approach that is consistently applied across the whole scoping report and EIA.
Health Assessing significance	Volume 1, 12. Health, p.12.23, Paragraph 12.9.21	The full analysis of the health impacts should consider impacts that are moderate and then analyse whether these have the potential for significant in-combination or cumulative impacts/effects.  Similarly potential cumulative impacts linked to other projects in the locality need to be considered?	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	The health assessment must consider, and not scope out, health impacts that are moderate. These moderate impacts must be discussed in the environmental statement and then analysed in terms of whether these have significant in-combination or cumulative impacts/effects.  The health assessment must consider the cumulative impacts linked to other projects that are likely to occur in the locality.
Health Population scope	Volume 1, 12. Health, p.12.23, Paragraph 12.9.24	The meaning of the statement specifying the focus will be on "community effects" is not clear. Does this mean the assessment is not holistically considering all human receptors and will narrowly focus on immediate local residents?	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Clarification on what is meant by a focus on community effects. The whole focus of the health assessment is on the community.
Health In-combination effects and cumulative effects	Volume 1, 12. Health, p.12.24, Paragraph 12.9.27	What about reporting of cumulative impacts? These should also be considered in the Health assessment and presented in brief in the health chapter.  This is mentioned in 12.9.7 but not mentioned in 12.9.27	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Both in-combination and cumulative impacts should also be considered in the health assessment and presented in brief in the health chapter (and in detail in the separate cumulative assessment chapter).
Health Exposure-response relationships	Volume 1, 12. Health, p.12.25, Paragraph 12.9.30	This is not an accurate statement.  Exposure-function is a typo it seems. Exposure-response functions (relationships) for quantifying health impacts can be used when there is expert consensus (WHO) and sufficiently strong evidence from rigorous studies.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	Paragraph should be amended so it is scientifically accurate and include the fact that DEFRA has developed guidance on noise quantification.



Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Summary
		<p>The issue of chance, bias and confounding applies only to the studies that inform the expert consensus.</p> <p>There is DEFRA guidance on noise quantification.</p>	
Health Quantitative analysis	Volume 1, 12, Health, p.12.25, Paragraph 12.9.31 and Table 12.5	<p>Does this mean that the health assessment will use the quantitative modelling findings to inform the health assessments qualitative judgment of impact and significance? Or does this mean that a quantitative analysis of the health outcomes will also be undertaken using exposure?</p> <p>The air quality and noise chapters do not discuss quantifying health outcomes.</p> <p>The Air Quality and Noise Expert Groups should inform the health assessment on this aspect.</p>	<p>Ensure that HSPG can request a quantification of the health outcomes of modelled changes in air quality and noise, if deemed appropriate, particularly for sensitive receptors like schools.</p>
Health	Volume 1, 12, Health, p.12.26-28, Table 12.6	<p>These rows should be linked to physical health outcomes as well as mental health and wellbeing:</p> <p>Relocation as a minimum should be linked to mental health and wellbeing.</p> <p>The effects of noise and air quality on cardiovascular and respiratory health (as with changes in local traffic in Lifestyle row, there is no threshold effect for air quality and for aircraft noise on learning and cognition) should be examined.</p> <p>Employment is linked to cardiovascular health.</p> <p>Given a precautionary approach and that there is reasonable evidence of a health pathway, physical as well as mental health and wellbeing effects should be considered in the health assessment.</p>	<p>The Living conditions, Environment and Economy rows should mention both physical health outcomes and mental health and wellbeing</p>
Health	Volume 1, 12, Health, p.12.29, Paragraph 12.9.1	<p>The assessment should use a matrix approach to analyse the nine criteria (ticks and crosses) to be transparent about the qualitative professional judgment used for each category to determine significance of impacts.</p> <p>Non-significant moderate impacts should be reported. Particularly as Paragraph 12.10.3 states that:</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p> <p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p> <p>This should be an explicit analysis of the nine dimensions used to determinant level of impact.</p>

Chapter 12 - Health				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Health Criteria for scientific evidence set too high	Volume 1, 12, Health, p.12.30, Table 12.7	<p>"The application of mitigation measures will not be limited to health effects that have been identified as being 'significant'."</p> <p>Given a precautionary approach, the bar for scientific evidence is being set too high.</p> <p>How is sufficient defined and decided? Who decides this?</p> <p>The threshold should be based on the balance of probabilities i.e. is there a reasonable chance for the health effect to be experienced by a given population.</p>	<p>This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.</p> <p>The methodology sets a high scientific bar for what can be considered a likely health impact, that goes against the stated precautionary approach taken by in the scoping report and health assessment.</p>	<p>This paragraph should be re-worded to say:</p> <p>"Is there a plausible health pathway, outcome or determinants with some good quality scientific evidence to support the link between.....?"</p>
Health Approach to determining significance	Volume 1, 12, Health, p.12.30, Paragraph 12.9.3	This paragraph should add that a precautionary approach will be used to judge significance.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	This paragraph should also say explicitly that a precautionary approach will be used to judge significance.
Health Reporting of moderate impacts not just major impacts	Volume 1, 12, Health, p.12.32, Paragraph 12.9.4	<p>HIA good practice advocates transparency of judgment for stakeholders so that the number and range of moderate impacts are clear; all moderate impacts should be reported.</p> <p>Discretion and professional judgment will need to be used as some moderate impacts could be deemed significant.</p> <p>As stated previously in-combination moderate impacts can lead to a significant impact. This is not considered in this assessment criteria checklist.</p>	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyse the community health impacts.	Moderate impacts should also be discussed alongside major impacts in the health assessment chapter and HIA report appendix.
Health Mitigation proposals	Volume 1, 12, Health, p.12.34, Paragraph 12.10.5	<p>The proposals are very general:</p> <p>There is no mention of:</p> <ul style="list-style-type: none"> <li>- protecting and enhancing open, green and play spaces,</li> <li>- protecting and enhancing social capital and cohesion</li> <li>- identifying those worse affected/vulnerable and providing additional support for them</li> <li>- working with local communities to deal with complaints and grievances over the construction and operation phases</li> </ul>	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.	<p>Include the following broad proposals:</p> <ul style="list-style-type: none"> <li>- protecting and enhancing open, green and play spaces,</li> <li>- protecting and enhancing social capital and cohesion</li> <li>- identifying those worse affected/vulnerable and providing additional support for them</li> </ul>

Chapter 12 - Health			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
		- supporting local schools with educational, training and employment opportunities	
Health Population and human health	Volume 1, 15. Major accidents and disasters, p.15.11, table 15.4	The row Population and Human Health should include Chapter 12: Health	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.
Community Appendix 9.2	Volume 3, pdf pages 969-979 Index of multiple deprivation	These are useful high level maps. However, there is a need for more zoomed in maps and identification of the wards where 10% and 20% most deprived areas are located, to better inform the health assessment and its analysis of inequalities and inequity.	This is about protecting community health and ensuring the health assessment is holistic and fully and appropriately analyses the community health impacts.
			- working with local communities to deal with complaints and grievances over the construction and operation phases - supporting local schools with educational, training and employment opportunities
			The row Population and Human Health should include Chapter 12: Health
			Zoomed in deprivation maps and identification of the wards where the 10% and 20% most deprived areas are located would be useful to better inform the health assessment and its analysis of inequalities and inequity.

Chapter 13 - Landscape and visual amenity			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
Adequacy of EIA Methodology	Volume 1, Chapter 13 Appendices and Figures for Chapter 13.	<b>Scoping Report:</b> Reference is made to current guidance, relating to and Landscape and Visual Effects Assessment guidance (IAN 135/10). Note recent changes to this guidance. <b>Appendices:</b> There is no background or baseline information relating to landscape in the Appendices. Given that baseline work and field study has been initiated in 2017, it would be useful to see this early work recorded, noting of course there will be a need to return and review the study as the schemes become more progressed. A Landscape Constraints Plan provides a preliminary ZTV, representative viewpoints and designations but does not yet illustrate local Landscape Character, or Protected view	There are many strands that are cross cutting and this project gives a unique opportunity to review the landscape issues across a series of authorities. Identifying criteria for design exploration could include the following: <ul style="list-style-type: none"> <li>• London Green Grid</li> <li>• General plan of localised published landscape character variation.</li> <li>• Vegetation and open space lost and quantified</li> </ul>
			Integrate additional considerations into the design including London Green Grid, landscape character variations, vegetated and open space areas ad land requiring remediation.  Provision of a GIS baseline that provides a mapped series of assets across all the HSPG boroughs.

Chapter 13 - Landscape and visual amenity				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
		corridors.	<ul style="list-style-type: none"> <li>in terms of areas within the DCP scheme area.</li> <li>Areas in need of management of distinctly similar themes, e.g., land requiring remediation or in a degraded/despoiled condition or character; essentially these are future opportunity areas.</li> </ul>	
Landscape Characterisation	Volume 1, Chapter 13	The report identifies and quotes extracts from the National Character Area, NCA 115, Thames Valley, but does not to set out the local borough character mapping, which would be expected at the assessment stage.	Develop a full plan of the local published character areas, highlighting where the opportunities exist for management especially in areas of lesser quality or urban/degraded landscape, as a tool to identify off-site improvements.	HSPG to be consulted on these issues during PEIR review period.
Viewpoints	Volume 1, Chapter 13	The viewpoints are still to be finalised and agreed with Borough Landscape Officers. The land to the west of London is generally flat and the responses from Colne Valley Regional Park highlight this and the concerns for visibility. Once agreed, 'existing' and 'after' views along a suitable timeline (e.g. Years 0, 1 and 15), with consideration of the changes between winter and summer, need to be set out in the method, perhaps highlighting where these are going to be of greatest interest.	Review the Harmondsworth View to consider views the open space, Harmondsworth Moor and settlement areas, to ensure the loss of viewpoints is noted, as well as change in views. Viewpoints within the CVRP are set out in 'All London Green Grid: 10, River Colne and Crane Area Framework'; note that one of these views would be lost to the proposals. The proposal needs to provide new potential viewpoints (which are recreational and related to design of new spaces as part of a visual framework for the masterplan.)	Request confirmation of viewpoint agreement, with the Boroughs Landscape Officers, a composite plan and requirements for visualisation to be explored to achieve a pragmatic set of representative viewpoints. Develop and share a 3D model for visualisation of the scheme, to be developed to assist in conveying the proposals, and as a cost-effective means of reviewing views from different receptor viewpoints.
Protected Views	Volume 1, Chapter 13	No reference to any protected view corridors, which should be highlighted or excluded. The 87m tower will be visible from parts of outer London and elevated viewpoints within the nearby boroughs. This will similarly be an issue from Windsor and Slough's elevated viewpoints, e.g. viewpoints No. 17, 20 and 23.	Review the Richmond Planning sources and the King Henry's Mound Viewing Platform. This is a protected viewing point towards St. Paul's in London, but views west are noted towards both Windsor Castle /	Review views westwards from selected high points in outer London (Richmond Policy DMHD7) and protected views or views within and surrounding Windsor.

Chapter 13 - Landscape and visual amenity				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary
Alternative options	Volume 1, Chapter 13, Section 3.10.2	Reference is made to the different options and the requirements in relation to construction and operation landscape and visual measures, but they are not specific yet.	Albert Bridge and Heathrow, part of which would include the new 87m tower.  There is potential to consider a tabular alternative layout to give an indication of the potential landscape and visual effects, perhaps to assist in determining the greater spread of visibility of one option.  Consider the potential for off-site enhancement to add value as renewed landscape infrastructure in areas of degraded landscape, as well as providing visual amelioration.	Review the options in terms of loss of landscape elements and quality/value.
Scheme design	Figure 1.2, Annex B of the revised draft ANPS.	Loss of assets to the north and south - including open space, landscape components, severance of PRoW - their function and uses and value to the wider neighbourhoods of Harmondsworth, Sipson to the north and Stanwell to the south-west. For these it is not clear where re-provision of open space will be located and if it provides the same accessibility and amenity to the neighbourhoods it formerly served.  The same principle would apply to lakes or water features as landscape components, although this is possibly covered elsewhere. Upstream flood compensation areas need to be included in the masterplan and their capacity for providing other habitat or open space roles explored.  Areas in need of management of distinctly similar themes, e.g., land requiring remediation or in a degraded/despoiled condition.  The masterplan needs to embed the ecological measures, which will emerge as the assessments are completed.	There is no obvious re-provision of open space or landscape components to the south-west at Stanwell, this needs to be addressed.  Understanding the rationale for the re-provision of all types of open space and parkland to meet need in terms of accessibility.	Provide a strategy which sets out the equivalency of open space and a rationale for its location to demonstrate that the land for open space is on an 'equally advantageous' basis (as embedded in the DCO land acquisition process) with clear criteria for why it is acceptable.

<b>Chapter 14 – Land quality</b>			
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>
EIA Methodology	Volume 1 Chapter 14, Volume 3 Appendix 14.1	Proposed methodology for assessing land quality issues is fully compliant with current guidance and industry best practice.  Land quality has been included in the EIA scope for all construction aspects and most operational aspects. It has been excluded from the operational stages of road construction and public transport which is considered to be appropriate.  Scoping report has been based on a conventional desk study which has been undertaken in accordance with relevant published guidance and industry best practice.	There is opportunity for a number of local contaminated sites to be remediated, including multiple dilute and disperse landfills, as part of the airport expansion. HSPG would like to see remediation of these sites incorporated into the mitigation package.
Alternative options	Volume 1, Chapter 14	The proposed scope of the assessment considers all land within the DCO boundary plus a 500m buffer which is considered to be appropriate.	-
Mitigation	Volume 1, Chapter 14	Proposed approach to development of mitigation measures is considered to be appropriate and consistent with relevant published guidance e.g. CLR 11.	-
			The spatial coverage of the land quality section is considered sufficient to encompass all appropriate alternative options.
			-

<b>Chapter 15 – Major accidents and disasters</b>		
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>
EIA Methodology	Volume 1, Chapter 15, Appendix 15.5	HSPG are generally satisfied with the approach to assessment of Major Accidents and Disasters, including the types of incident to be included and excluded within the assessment which seems reasonable and logical.
		At PEIR stage it would be expected to see an indication of the receptors which could potentially be affected by each potential type of incident.
		At PEIR stage it would be expected to see an indication of the receptors which could potentially be affected by each potential type of incident

Chapter 16 – Noise and vibration			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
EIA Methodology	Volume 1, Chapter 16	<p>The methodology describes 8 different assessment years, but it is not clear which comparisons will be made to consider all of the effects. Certain comparisons could give rise to more/less adverse impacts.</p> <p>Two different aircraft noise calculation methodologies are noted, but it is not clear why two are needed.</p> <p>For non-residential receptors it is stated that annoyance would be assessed for operational noise. For construction noise disruption of function/cognitive impairment is also assessed – this also needs to be assessed for operational noise.</p> <p>The assumptions on future flight paths may be key in determining if operational impacts are significant or not.</p> <p>The LOAEL and SOAEL Table 16.7 currently includes a non-specific maximum criterion for aircraft noise “<math>L_{Amax}</math>/number of events and a risk assessment of objective sleep disturbance”. An appropriate <math>L_{Amax}</math> value should be inserted to ensure the is not ambiguous.</p>	<p>The EIA methodology indicates that study areas would be expanded where it is clear that LOAEL is exceeded at the currently expected study areas. This could be an opportunity to ensure that impacts are picked up in wider areas.</p> <p>It is proposed that the <math>L_{Amax}</math> parameter is also considered for night-time construction works to protect against sleep disturbance.</p> <p>It was not clear that the engine testing facility will be included in “maintenance”. It is also not clear if engine testing noise will be assessed under ground noise or fixed noise sources. It is proposed that engine testing noise should be assessed as a fixed noise source in accordance with BS4142.</p>
Alternative options	Volume 1, Chapter 16	<p>The Airspace Change Process (ACP) is proposed to be developed separately, and will continue after the DCO process has concluded the PEIR will need to be based on a number of indicative flight path options that will be further refined. The scheme parameters to be assessed should be based on the ‘worst case’ combination of scheme elements including worst case flight paths.</p> <p>It is not clear how impacts would be assigned as a result of DCO or ACP processes.</p>	<p>Worst case scheme parameters to be adopted in the assessment in relation to flight paths.</p>
			<p>In general the assessment methodology and criteria are considered appropriate, but clarification required on the issues raised here to ensure a robust methodology is adopted.</p>
			<p>Summary</p>

Cumulative effects	Volume 1, Chapter 16	Some of the displaced activities (paragraph 3.3.37) would appear to be essential activities to the operation of the airfield, and these are combined into cumulative effects.	In general, it is accepted that cumulative impacts will be assessed qualitatively. However, in some instances it may be feasible to combine inter-project contributions quantitatively rather than qualitatively i.e. contribution from road, rail and aircraft.	Quantitative approaches to cumulative assessment in relation to noise should be explored and justification for a qualitative/quantitative method justified.
Mitigation	Volume 1, Chapter 16	The Scoping report states that mitigation in the form of noise insulation will be considered. It is not clear how this will be considered where existing properties already have noise insulation.	If the project is taking existing noise insulation into account, HSPG would expect to see verification that noise insulation is still working as intended in those properties.	If the project is taking existing noise insulation into account, HSPG would expect to see verification that noise insulation is still working as intended in those properties.

<b>Chapter 17 – Traffic and transport</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
EIA Methodology	Volume 1, Chapter 17, Section 17.9.17	The methodology references the Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment, 1993). Following recent correspondence with the Institute of Environmental Management and Assessment (IEMA) we have been advised these guidelines should be treated with a 'health warning'. Whilst the Guidance remains the most current version, many sections are out of date. It also does not cover topics which have become more prominent since 1993 such as Health. A greater use of professional judgement is also now advocated in place of the previous 'threshold based assessment.'	Recognising that there can be limitations to the accuracy of a traffic model the lower down the roads hierarchy, it may be appropriate for HSPG to provide HAL with guidance with respect to sensitive or heavily congested locations in each respective Borough/ Council area.	A list of sensitive areas on the local road network (this can reflect congestion levels, road safety, potential rat-runs or economic importance) should be developed in conjunction with HSPG so that these can be incorporated into the baseline conditions to be considered by Heathrow. We note the ES Scope states at Chapter 17, para 17.8.1 that <i>"no effects have been scoped out of the assessment"</i> , however the prescriptive use of the thresholds outlined in the IEA Guidelines may potentially scope out sensitive locations due to the simplistic nature of this approach. As advised by IEMA, care should be taken and greater emphasis ought to be placed on professional judgement when considering the significance of an effect in terms of changes in traffic volumes. [For example, a 1% increase in traffic on a congested network may have a high impact whereas a 10% increase in traffic on a lightly



Mitigation	Volume 1, Chapter 17, Section 17.10.14 "...Heathrow would be committed to securing the necessary mitigation to address the impacts of the DCO Project."	-	-	trafficked road may not The Scoping Report states that there is a commitment to providing the necessary mitigation to offset the impacts provided that it is demonstrated through the EIA and TA process. HSPG to be consulted to ensure traffic and transport impacts are fully identified and appropriately mitigated. Bespoke plans may be required to specify some of the mitigation proposals for example a Construction Traffic Management Plan and a Construction Workforce Travel Plan.
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Chapter 18 – Water environment – surface water aspects			
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns
			Summary

EIA Methodology	Volume 1, Chapter 18, Baseline sections	<p>No indication in the main text of the current status and objectives of the water bodies in the study area. No reference to derogations for disproportionate costs for phosphate (currently Poor for example in some water bodies).</p> <p>Section 8.6.41 Protected Sites - those with water dependence should be listed as they (should) have Very High sensitivity (for water).</p> <p>No reference has been made to main rivers and ordinary watercourses - so HSPG partners have no clear picture of which attributes they may have responsibility for.</p> <p>Table 18.8 (impacts) does not identify nutrients as a likely impact (nutrients are the focus of modelling described in the surface water assessment in Appendix 18.3) - all those identified are a result of construction or changes to source water (i.e. another catchment from diversion or change in baseflow dilution) or air deposition (from increased aviation. None of these warrant the modelling for nutrients (laid out in Appendix 18.3).</p> <p>No focus on the likely substances to be found in runoff:</p> <ul style="list-style-type: none"> <li>• Construction - sediments, oils and chemicals from spillage - all controllable by best practice.</li> <li>• Operation - de-icer, herbicides, pesticides, some metals. All related to intermittent - should follow a risk based approach - look at what is draining where and what is likely to be in that catchment - what SUDs and other mitigation should be applied.</li> </ul>	<p>Provision of a table to show the current status and objective of the water bodies and their sensitivity/importance so that the significance of any impacts can start to be gauged (need this to be able to scope attributes in or out).</p> <p>Modelling for nutrients is not considered an appropriate method of identifying potential impacts as nutrients do not represent a likely impact of the scheme. Substances likely to be found in runoff need to be addressed in the assessment methodology.</p> <p>Significance criteria should follow standard guidance, for example DMRB in particular for road components, and criteria needs to be more detailed than the coarse High/Med/Low approach suggested at present.</p> <p>Main rivers and ordinary watercourses should be identified in the assessment.</p>	<p>It is considered that there are significant flaws in the methodology proposed which does not adhere to best practice guidance and appears to adopt methods which are not relevant to the types of issues likely to be associated with the proposal. HSPG recommend a full review and update of the proposed assessment approach for surface water issues as it is currently not considered fit for purpose.</p>
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	<p>Volume 1, Chapter 18, Approach</p>	<p>Sensitivity of receptor is coarser than the norm - just High/Med/Low; approach is not based on WebTAG or DMRB (DMRB uses Very High as an additional level for designated/sensitive sites)</p> <p>Descriptions of sensitivity and impact are not based on well used methods like WebTAG or DMRB. E.g. EQS used for low impact but not cited in other categories.</p> <p>DMRB needs to be followed for all the road aspects of the design (not even mentioned) - it would be best to focus on this approach for the runway areas too (i.e. rainfall linked drainage to outfalls).</p> <p>Whole approach is taken as if for new continuous discharges - i.e. WWTW where the make-up of the discharge is better understood. Using P as a surrogate seems to be a hangover from default description of modelling for WWTWs.</p>		
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	<p>Volume 1, Chapter 18 Mitigation</p>	<p>Mitigation is not well covered - it refers to Section 3 for drainage, but there is very little information provided.</p> <p>Overall, there is no attempt to value the baseline or gauge the magnitude of likely effects. The assessment methods do not appear to be lined up with the impacts that are expected and could be misleading - for example large scale modelling of nutrient budgets is not going to show intermittent quality issues for sediment, de-icer and potential metal/plastics contamination.</p> <p>Sanitary/ continuous discharges are likely to be treated by Thames Water as current, so should have no direct permit for discharge to receiving waters</p>	<p>Reference should be made to current drainage balancing and treatment in the baseline and how this will be employed for the extension. Information on the type of drainage features they may have to adopt and maintain. All the receiving water re-alignments and diversions will have to take account of WFD and will require enhancements and offsetting. The report should be more explicit on this.</p> <p>Instead of nutrient modelling, focus should be on SUDs drainage and pollution prevention that will alleviate the majority of impacts.</p> <p>It is unclear as to why reservoir and lake modelling is focusing on nutrients? This approach seems to be driven by compliance for the SPA but is likely that there will be limited nutrients from Heathrow? It is recommended that the conceptual model should just link standing water to the source water – as most of the embanked reservoirs will be pumped from nearby rivers. If there is a pathway from the project/source risk from the project then consider modelling.</p> <p>Using SIMCAT for construction impacts may not be the best approach - best practice pollution prevention should be applied as it is a risk assessment for spillages and potential incidents.</p>	
<p>Volume 1, Appendix 18.3 - Surface water assessment</p>	<p>New continuous discharges should be small scale and covered by EPA permit so modelling is probably not required beyond RQP.</p> <p>New intermittent discharges should be controlled by attenuation and addition of best practice SuDS features to pick up WQ issues, allow drainage to be isolated in emergency etc - again it may not be necessary to model this?</p>	<p>-</p>		

Scheme design	-		<p>Rivers/water courses are addressed and intertwined with runway, roads, etc. The enhancement of Green and Blue infrastructure (including habitats, biodiversity and access routes for recreation) should be approached as design objectives / principles and not left to deal with the consequences of other decisions. Rivers will need to be culverted but the Colnbrook should be retained as an open channel with as much of other water courses remaining as open channels. Rivers, water bodies and storage are interconnected systems and need to be considered on a macro scale - diversions at one point will have impacts at another. Need information and clarity on what happens with surface water run-off and any exceptional release of polluted waters.</p>	-
<b>Chapter 18 – Water environment – groundwater aspects</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
EIA methodology	<p>Volume 1, Chapter 18, Water environment  Appendix 18.1 WFD compliance assessment methodology  Appendix 18.2 Numerical Groundwater Modelling Method Statement  Appendix 18.4 Flood Risk Assessment Method Statement (groundwater sections)</p>	<p><u>Monitoring</u>  Monitoring groundwater levels in the gravels across the areas of interest and adjacent to water courses is essential. This is referred to briefly in Table 18.10 and in Appendix 18.2. Baseline monitoring should be for at least 1 year in order to provide sufficient data for conceptualisation and model calibration.  <u>WFD groundwater bodies</u>  The list of water bodies to be considered for WFD compliance in Appendix 18.1 includes only one groundwater body – Lower Thames gravels. However, Appendix 18.2 suggests there is also a risk to the Chalk e.g. in listing the potential environmental receptors in Table 18.2.1, or e.g. text in Section 5.4 (of 18.2) which refers to “interaction with the deep subsurface” and that “some elements of the Project may sit beyond the spatial extent of the Lower Thames Gravels Groundwater Body (e.g. to the north, where the Cretaceous Chalk is unconfined).” Chapter 18 of the main report also refers to potential impacts on the Chalk as well</p>	<p>Further detail would be expected on groundwater monitoring in future scoping report and PEIR.  Potential effects in relation to the Chalk should be included in the assessment, or justification provided for scoping out.  In relation to WFD compliance assessment, the assessment should be presented as results for individual tests.  The extent of the groundwater modelling and gravel aquifer should be shown on a plan.  The scale at which it is appropriate to use the model Groundwater flood risk model will need further consideration.</p>	<p>Overall approach to groundwater aspects appears reasonable. HSPG would expect to see the clarifications listed here addressed in the future scoping report and PEIR.</p>

		<p>as gravels.</p> <p><u>WFD groundwater tests</u></p> <p>With regard to the approach to WFD compliance, screening and detailed assessment (Section 6 and 7 of Appendix 18.1), it would be more transparent if the groundwater assessment is presented as results for each individual test, rather than just overall quantitative and overall chemical effects (e.g. for quantity: Saline or other intrusions, surface water, GWDTE, water balance).</p> <p><u>Extent of groundwater model</u></p> <p>Figure 18.2.3 in Appendix 18.2 does not show the proposed extent of groundwater modelling, nor the extent of the gravel aquifer.</p> <p><u>Groundwater flood risk modelling</u></p> <p>Appendix 18.4 gives a brief account of how groundwater flooding risk will be assessed, referring to use of the groundwater model. The scale at which it is appropriate to use the model will need consideration, as it may not work well for local scale flood issues (this is mentioned in Appendix 18.2). Careful interpretation of model outputs will be required.</p> <p><u>Document formatting</u></p> <p>Appendices 18.1 and 18.4 include quite a few typographical errors, particularly around bullet point format, which hinder interpretation.</p>		
Chapter 18 – Water environment – Flood risk aspects				
Aspect	Volume/Report references	Questions and concerns	Proposed HSPG approach to address concerns	Summary

EIA methodology	Volume 1, Chapter 18, Baseline	<p>Local watercourses are described in "Surface water features". Surface water flood risk should be considered additionally to both fluvial and reservoirs. This distinction is not clear in Section 18.6.</p> <p>Figure 18.1 demonstrates the water environment study area within the context of the assessment. Figures 18.2 and 18.3 demonstrate the distinction between main rivers and ordinary watercourses. A more detailed map would provide greater clarity.</p> <p>No mapping of surface water flood risk has been provided. Although this is listed in the Water environment data sources table (Table 18.4) and briefly discussed in Section 18.6.36. A more detailed assessment of surface water flood risk would be expected at a later stage.</p>	There should be a clear distinction between fluvial flood risk (including main river or ordinary watercourse), surface water flood risk, reservoirs or canal (artificial) sources of flood risk.	Overall approach to flood risk aspects appears reasonable. HSPG would expect to see the clarifications listed here addressed in the future scoping report and PEIR.
	Volume 1, Chapter 18, Approach	<p>The Flood Risk Assessment and EIA should adopt DMRB criteria (DMRB uses Very High as an additional level for designated/sensitive sites) and be NPPF compliant. The Flood Risk Assessment should demonstrate that there is no increase to flood risk as a result of the proposed development, to the Heathrow site or any of the satellite developments. Sewer flooding was not listed as a source of flooding in the scoping report; HSPG expect this flood source to be considered in the Flood Risk Assessment, as detailed in Table 18.11.</p> <p>Detailed modelling of the proposed culverting and diversion must be completed to demonstrate that any works to the watercourses will not have any adverse impacts on the watercourses or increase flood risk to the surrounding area.</p> <p>A more detailed map of the sections of the watercourse that will be modified should be provided in the Flood Risk Assessment.</p>	The FRA and EIA should adopt DMRB significance criteria and be NPPF compliant. The risk of sewer flooding should be included in the assessment.	

	Volume 1, Chapter 18 Mitigation	<p>A level for floodplain compensation should be provided for any lost flood storage and any loss of floodplain as a result of the development. The Scoping report provides no indication of the current preferred locations for floodplain compensation.</p> <p>Culverted river corridors are proposed to ensure connectivity remains across the proposed development. HSPG would expect to see hydraulic modelling to demonstrate that there are no adverse impacts to flood risk as a result of culverting the river corridor and combining the Colne and the Wraybury watercourses.</p> <p>Demonstration that there would be no increase to flood risk as a result of any new open channels would be expected as well as details of ownership and maintenance responsibilities.</p>	<p>All floodplain compensation areas should be located away from any areas of development allocated in the local plan. HSPG would expect to receive more detail of the ownership and maintenance responsibilities of the floodplain compensation areas in the Flood Risk Assessment.</p> <p>Hydraulic modelling to demonstrate that there are no adverse impacts to flood risk as a result of culverting the river corridor or any new open channels should be undertaken</p>	
	Volume 1, Chapter 18, Appendix 18.4 – Flood Risk Assessment	<p>HSPG would expect to see mitigation and floodplain compensation included within the Flood Risk Assessment. A flood plan and access and operating arrangements in extreme flood events should be outlined in the Flood Risk Assessment.</p> <p>Justification for the sequential test and the exception test within the Flood Risk Assessment should be provided</p> <p>The level at which mitigation is required (as a result of modelling flood risk) should be discussed and agreed with the Environment Agency and HSPG.</p>	<p>Inclusion of a flood plan and access and operating arrangements should be included in the FRA.</p> <p>Justification for the sequential test and the exception test within the Flood Risk Assessment should be provided.</p>	
<b>Chapter 18 – Water environment – Water Framework Directive</b>				
<b>Aspect</b>	<b>Volume/Report references</b>	<b>Questions and concerns</b>	<b>Proposed HSPG approach to address concerns</b>	<b>Summary</b>
EIA Methodology	Volume 1, Chapter 18 and Appendix 18.1, Table 18.1.1	Current status is not identified in the main report chapter, although the overall status is shown in the appendix. However, there is no acknowledgement for the Reasons for Not Attaining Good (RNAAG) and therefore no understanding of the overall current pressures which give context to the proposed options when commenting.	Improve insight into the water environment.	Recommend inclusion of the RNAAG and mitigation measures.
	Volume 1, Chapter 18, Table 18.14	Sensitivity Criteria: Does not conform with recognised methods, e.g. DMRB. See: <a href="http://www.standardsforhighways.co.uk/ha/standards/dmrb/v">http://www.standardsforhighways.co.uk/ha/standards/dmrb/v</a>	-	Expand on the sensitivity criteria to include a category for "Very High" and add more clarity on



		<p><a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/638648/TAG_unit_a3_envir_imp_app_dec_15.pdf">ol11/section2/ha20508.pdf</a> – Table 2.1 and <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/638648/TAG_unit_a3_envir_imp_app_dec_15.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/638648/TAG_unit_a3_envir_imp_app_dec_15.pdf</a> - Table 14; Both of which included a “very High” classification for sensitivity and importance respectively. Sensitivity criteria is quite simplified and does not touch on specific sediment or morphological conditions, nor any supporting fluvial processes for habitats</p>		<p>observable conditions (specifically for hydromorphology) for the sediment regime, channel morphology and natural fluvial processes.</p>
	Volume 1, Chapter 18, Table 18.15	<p>Magnitude of impact: as above, regarding guidance, typically terminology is <i>Neutral, Slight, Moderate, Large and Very Large</i> (Webtag) or <i>Major to Minor</i> (DMRB); does not differentiate between <i>Adverse and Beneficial</i>; does not account for potential for beneficial effects resulting from the proposed works; does not account for <i>No change</i> either.</p>	-	<p>Consider a change in terminology to be in line with recognised relevant standards, and include potential for beneficial effects.</p>
	Volume 1, Chapter 18, and Appendix 18.1	<p>Does not differentiate between <i>main river</i> and <i>ordinary watercourses</i>; The responsibility for ordinary watercourses lay with the LFA or IDB.</p>	<p>Opportunity to ensure the protection of the wider water environment, not only those designated under the WFD.</p>	<p>Identification of the entire potential impact on watercourses, both main and ordinary.</p>
	Volume 3, Appendix 18.1	<p>Lengths are based on 1:50k maps – this seems a little coarse given there are more accurate datasets available, e.g. OS Open Rivers 1:15-30k or Mastermap or the Digital River Networks (DRN)</p>	<p>Will also enable the smaller ordinary watercourses to be identified. Ensure thorough mitigation for all water bodies.</p>	<p>Better scale to encourage more accurate mapping and impacts assessment.</p>
	Volume 1, Chapter 18, Table 18.1.5	<p>Statement reads “An appropriate percentage and/or channel length” – what is the appropriate % or length?</p>	<p>Transparent screening criteria to be discussed upfront with EA and stakeholders to agree what constitutes low – high?</p>	<p>More specificity on the quantitative assessments.</p>
Alternative options	HSPG slide deck 6th June issue, River Diversion Options and General Assembly Options 1 - 4	<p>The descriptions on the potential GA options are not clear nor intuitive. The realignment locations and extent are not totally clear.</p>	<p>Opportunity to improve the general understanding of the potential options for the local community, helping engage and get better feedback in the long run.</p>	<p>More detailed layouts and labelled impacts required to thoroughly understand the potential impacts further.</p>
Cumulative effects	Volume 3, Appendix 18.1	<p>Limited acknowledgement of cumulative impacts in the Appendix document</p>	-	<p>Clearer scope on how the cumulative impacts will be assessed for the water environment. EIA methodology asks for two types of cumulative impacts:  ... from a single project; and  ... from different projects (in combination with the project being assessed)  Not clear which is being recommended.</p>
Scheme design	HSPG slide deck 6th June issue,	<p>Too few details on the watercourse realignments and the proposed tunnel. Descriptions of the options are not intuitive</p>	-	<p>As above, more detailed focus on the scheme layouts for the</p>

	River Diversion Options and General Assembly Options 1 - 4	and slightly confusing. There is little clarity on the design and mitigation for the tunnel environment.		realignments. Labelled and clearly shown on the plans.
Mitigation	Volume 1, Chapter 18, and Volume 3, Appendix 18.1	Little detail on the potential mitigation proposed. Only the types of mitigation that will be considered.	Greater details on the tunnel and realignment mitigation.	Standard mitigation or best practice guidance should be outlined at the outset.

General – Cumulative effects				
Aspect	Volume/Report references	Questions and concerns		
EIA methodology	Volume 1, Table 4.6	<b>Scope of Assessment table:</b> The table is inconsistent with methodology provided within Volume 1 and 3. All chapters should refer to assessment of cumulative effects and In-combination effects within the Scope of Assessment as well as for both construction and operational phases.		
	Volume 1, Section 4.6.6	PINS guidance suggests that exclusion/ inclusion criteria should be applied to stage 2 and not stage 1 as is set out here.		
	Volume 1, Section 4.6.6	The methodology states that for Tier 1 developments a five-year exclusion criterion is in place. Some very large developments may have complex planning permissions with ongoing issues and may have temporal overlap despite their original planning permissions being approved outside of this 5-year timeframe. Justification for exclusion or confirmation of inclusion should be provided.		
	Volume 1, Section 4.6.6	The Scoping Report suggest that Tier 3 developments have insufficient information to undertake Cumulative Effects Assessment. PINS advice note 17 recognises this may be a limitation and has the following recommendation 3.4.2 <i>The assessment should be undertaken to an appropriate level of detail, commensurate with the information available at the time of assessment. Information on some proposals may be limited and such gaps should be acknowledged within the assessment, moving from a more quantitative to a more qualitative assessment as the availability and/or certainty of information decreases. The uncertainty in such assessments should be clearly documented. Despite limited information, it is likely that high-level qualitative assessment could still be undertaken for the majority of sites with spatial and temporal information. In particular identification any conflicting proposed land uses or potential effects on sensitive receptors within the vicinity of both developments.</i>		
	Volume 1, Section 4.6.7	It is proposed that the development schedule be frozen six months ahead of each phase of the assessment. If major DCO or EIA projects are anticipated to or do come forward in this intervening time they should be considered at each stage. The development schedule should be as up-to-date as possible at each phase; though some time lapse will be necessary, it should be minimised. This would also reduce the likelihood of being asked for further detail and assessment during the examination stage [as noted in PINS advice note 17 para.3.4.9]. This also applies to Volume 3 para. 3.4.1.		

Volume 1, Section 4.7.3	<p>Clarification is required on identification of receptors. Will this involve all receptors within the Zol being considered or is there an alternative spatial scale. Assets that fall outside of community areas should also be considered e.g. sensitive areas including SSSI or regional parks in the vicinity of the scheme that may be used by wider communities or be of national &amp; regional significance. How are receptors identified? And to what spatial extent?</p>
Volume 3, Appendices Table 2.1	<p><b>Stage 1</b> - The Zol appears to be limited, and it is considered that very large developments or specific types of development e.g. transport-related are likely to both impact on and be impacted by Heathrow expansion. These should be considered for inclusion despite lying outside the Zol e.g. any DCO within the Transport Modelling area may be more appropriate.</p>
Volume 3, Appendices Section 3.2.7	<p>5-year limit for inclusion in the development schedule may result in very large or complex developments being missed out of the assessment. It is recommended that the assessment include all extant permissions.</p>
Volume 3, Appendices Section 3.2.8	<p>Para. 3.2.8 states that NSIPs within 10km of the scheme will be considered. This appears to contradict para. 3.2.9 which says that Tier 2 (NSIPs with Scoping Opinions) will be considered within Zol.</p>
Volume 3, Appendices Section 3.2.13	<p>Where information on type of development, and spatial and temporal data is available it is thought that a high level cumulative effects assessment is possible. Although it is agreed that individual receptors and/or environmental topics may not be assessable, a high-level assumption-based summary on main issues is likely to be achievable for many sites allocated in local plans or similar.</p>
Volume 3, Appendices Section 3.2.15	<p>Whilst all developments of a certain size and threshold are required to undertake EIA this does not mean that all effects will be mitigated by either Heathrow Expansion Project or the 'other development'. Some losses are irreversible (e.g. ancient woodland) and should not be considered by a piecemeal approach but rather through a '<i>holistic mitigation strategy</i>' [PINS advice note 17; para. 3.4.12]. It is not suitable to leave it to 'other developments' to provide mitigation if there is likely to be a significant cumulative effect in the future. Due to the long time scales with this project, temporal overlap of site allocations in local plans is possible, even where these have not yet submitted planning applications.</p>
Volume 3, Appendices Section 3.4.1	<p>See comment above on development schedule freeze period.</p>
Volume 3, Appendices, Table 3.1.1	<p>The ZOI table should clearly set out distances or method of what constitutes 'area over which effects'. The latter suggests professional judgment has been exercised, but does not provide any further detail or justification for these spatial areas. For transparency the justification for the ZOI should be summarised here.</p>



# Ministry of Defence

Sir/Madam  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol  
BS1 6PN

# Defence Infrastructure Organisation

Safeguarding Department  
Statutory & Offshore

Defence Infrastructure Organisation  
Kingston Road  
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West Midlands  
B75 7RL

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[www.mod.uk/DIO](http://www.mod.uk/DIO)

18 June 2018

Your Reference: TR020003  
Our reference: 10042740 - rev 1

Dear Sir/Madam,

## **MOD Safeguarding – RAF Northolt**

**Proposal:** Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11 – Application by Heathrow Airport Limited (the applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development) – Scoping consultation

**Location:** Heathrow Airport

Thank you for consulting the Ministry of Defence (MOD) on the above Scoping consultation. The MOD has been asked to provide comments on what the applicant should consider when preparing their Environmental Statement.

Heathrow Airport occupies statutory safeguarding zones surrounding RAF Northolt in Ruislip. The airport is approximately 9.4km to the south of RAF Northolt and occupies aerodrome height and birdstrike safeguarding zones.

The EIA Scoping Report refers to the effects the airport expansion could have on surrounding surface and groundwater features. To mitigate flood risks new flood storage areas will be created which will also provide opportunities for creating new wetland habitats. Within the birdstrike safeguarding zone the MOD would have concerns with the creation of any habitats which have the potential to attract birds hazardous to air traffic.

The creation of any new water bodies to provide additional flood storage capacity particularly to the north of Heathrow Airport would be of concern to the MOD. The Environmental Impact Assessment and subsequent submissions prepared for this scheme should therefore consider birdstrike safeguarding when creating new wetland habitats and these should be designed to minimise their attractiveness to species of birds hazardous to air traffic.

Provided the design of any new flood storage areas and associated wetland habitats are designed to minimise their attractiveness to species of birds hazardous to air traffic and the aerodrome height safeguarding zones are not infringed by any structures then it is most likely that the MoD would not formally object to the scheme proposed.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely

A black rectangular redaction box covering the signature area.

Laura Nokes  
Safeguarding Officer

**Land and Acquisitions**

Spencer Jefferies  
Development Liaison Officer  
Network management  
Spencer.Jefferies@nationalgrid.com  
Direct tel: +44 (0)7812 651481

SUBMITTED ELECTRONICALLY:  
HeathrowAirport@pins.gsi.gov.uk

www.nationalgrid.com

19 June 2018

Dear Sir/Madam

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested**

This is a response on behalf of National Grid Electricity Transmission PLC (NGET).

I refer to your letter dated 22<sup>nd</sup> May 2018 regarding the proposed Order. NGET wish to express their interest in further consultation while the impact on our assets is still being assessed.

Can a representative of yours please contact me using the details above at the earliest convenience in regards to this proposed development.

In respect of existing NGET infrastructure, NGET will require appropriate protection for retained apparatus including compliance with relevant standards for works proposed within close proximity of its apparatus; providing that the order affects NGET apparatus in any way.

**NGET assets near the proposed Order:**

**EALING - LALEHAM 2: 275kV Cable**

**IVER-NORTH HYDE: 275kV Cable**

**VW ROUTE: 275kV Over Head Line**

Please see relevant guidance for working near NGET assets below.

**Where the Promoter intends to acquire land, extinguish rights, or interfere with any of NGET's apparatus, both will require appropriate protection and further discussion on the impact to its apparatus and rights.**

## **Specific Comments – Electricity Infrastructure:**

- National Grid's Overhead Line/s is protected by a Deed of Easement/Wayleave Agreement which provides full right of access to retain, maintain, repair and inspect our asset
- Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. National Grid recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for “overhead line clearances Issue 3 (2004).
- If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.
- The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's ([www.hse.gov.uk](http://www.hse.gov.uk)) Guidance Note GS 6 “Avoidance of Danger from Overhead Electric Lines” and all relevant site staff should make sure that they are both aware of and understand this guidance.
- Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum “sag” and “swing” and overhead line profile (maximum “sag” and “swing”) drawings should be obtained using the contact details above.
- If a landscaping scheme is proposed as part of the proposal, we request that only slow and low growing species of trees and shrubs are planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances.
- Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or “pillars of support” of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation (“pillar of support”) drawings can be obtained using the contact details above.
- National Grid Electricity Transmission high voltage underground cables are protected by a Deed of Grant; Easement; Wayleave Agreement or the provisions of the New Roads and Street Works Act. These provisions provide National Grid full right of access to retain, maintain, repair and inspect our assets. Hence we require that no permanent / temporary structures are to be built over our cables or within the easement strip. Any such proposals should be discussed and agreed with National Grid prior to any works taking place.
- Ground levels above our cables must not be altered in any way. Any alterations to the depth of our cables will subsequently alter the rating of the circuit and can compromise the

reliability, efficiency and safety of our electricity network and requires consultation with National Grid prior to any such changes in both level and construction being implemented.

**Technical information and guidance documents mentioned above in regards to National Grid's apparatus can be found at:**

<https://www.nationalgrid.com/uk/about-grid/our-networks-and-assets/land-planning-and-development>

I hope the above information is useful. If you require any further information please do not hesitate to contact me.

Yours sincerely



**Spencer Jefferies**  
**Development Liaison Officer, Land and Acquisitions.**



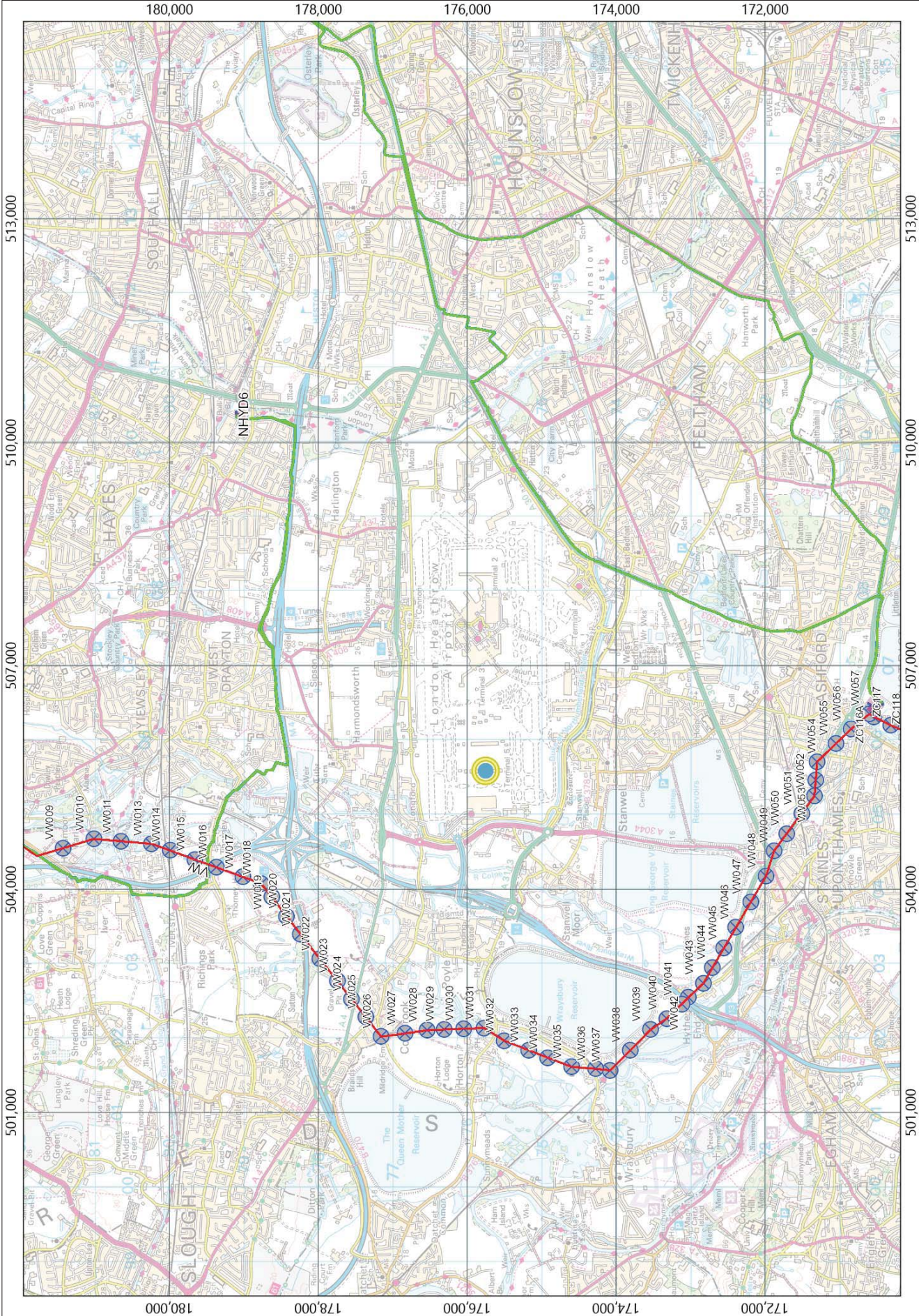


Legend:

- Substations Commissioned
- OHL 400kV Commissioned
- OHL 275kV Commissioned
- OHL 132kV & Below Commissioned
- Transmission Lines Commissioned
- Buried Cables Commissioned
- Fiber Cable Commissioned
- Pilot Cable
- Gas Operational Boundary
- Gas Site Boundary
- Block Valve
- Compressor
- MS Station
- Minimum Offtake
- Future Minimum Offtake
- Offtake
- Pressure Reduction Installation
- Pig Trap
- Terminal
- Transformed Offtake
- Advanced Metering Infrastructure
- CP Test Point
- Transformer Rectifier
- Gas Pipe Feeder
- Commissioned
- Discommissioned Group
- Revised Station
- Pipe Line Control Point

Notes:

Third Runway



0 1.27 2.5 Kilometers

Scale: 1:50,000

Page size: A3 Landscape

Print by: **Jefferies, Spencer**

Date: 19/06/2018

Time: 16:28:55

NG Disclaimer: National Grid UK Transmission. The asset position information represented on this map is the intellectual property of National Grid Plc (Warwick Technology Park, Warwick, CV346DA) and should not be used without prior authority of National Grid.

Note: Any sketches on the map are approximate and not captured to any particular level of precision.

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BS1 6PN

11<sup>th</sup> June 2018

Sent via email: [HeathrowAirport@pins.gsi.gov.uk](mailto:HeathrowAirport@pins.gsi.gov.uk)

Dear Sir/Madam,

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway)**

I refer to the application above by Heathrow Airport Limited (HAL) and can confirm that a third runway at Heathrow will have a major impact upon NATS En-route's (NERL) operations and infrastructure.

For this reason NERL is collaborating with HAL at various corporate and technical levels in respect of the third runway, not only in relation to the infrastructure and procedures required to ensure that the eventual three runway operation integrates with the wider air traffic environment but also that during the development phase the existing two runway airport continues to operate safely and efficiently.

NERL is satisfied that there is a very good working relationship with HAL and that through the joint NERL-HAL collaboration it will be able to address any concerns it might have, however NERL is happy to keep the Government informed in respect to its position and the progress of any on-going work.

Kind regards



Alasdair Auld  
On Behalf of NATS Safeguarding

Date: 19 June 2018  
Our ref: 249432  
Your ref: TR020003



Customer Services  
Hornbeam House  
Crewe Business Park  
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**BY EMAIL ONLY**

HeathrowAirport@pins.gsi.gov.uk

Dear Sir/Madam

**Environmental Impact Assessment Scoping consultation (Regulation 15 (3) (i) of the EIA Regulations 2011):** Expansion of Heathrow Airport and creation of third runway.  
**Location:** Heathrow Airport

Thank you for seeking our advice on the scope of the Environmental Impact Assessment/Environment Statement (EIA/ES) in your consultation which we received on 23 May 2018.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Case law<sup>1</sup> and guidance<sup>2</sup> has stressed the need for a full set of environmental information to be available for consideration prior to a decision being taken on whether or not to grant planning permission. Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for this development.

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us. For any queries relating to the specific advice in this letter only please contact Jonathan Shavelar at [jonathan.shavelar@naturalengland.org.uk](mailto:jonathan.shavelar@naturalengland.org.uk).

For any new consultations, or to provide further information on this consultation please send your correspondences to [consultations@naturalengland.org.uk](mailto:consultations@naturalengland.org.uk).

Yours faithfully

Jonathan Shavelar  
Thames Team

---

<sup>1</sup> Harrison, J in *R. v. Cornwall County Council ex parte Hardy* (2001)

<sup>2</sup> *Note on Environmental Impact Assessment Directive for Local Planning Authorities* Office of the Deputy Prime Minister (April 2004) available from

<http://webarchive.nationalarchives.gov.uk/+/http://www.communities.gov.uk/planningandbuilding/planning/sustainability/environmental/environmentalimpactassessment/noteenvironmental/>

## **Annex A – Advice related to EIA Scoping Requirements**

### **1. General Principles**

Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2011, sets out the necessary information to assess impacts on the natural environment to be included in an ES, specifically:

- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases.
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen.
- A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects. Effects should relate to the existence of the development, the use of natural resources and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment.
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
- A non-technical summary of the information.
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the 'in combination' effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

Natural England are broadly satisfied with the general principles throughout the ES, but do raise specific matters below.

### **2. Biodiversity and Geology**

#### **2.1 Ecological Aspects of an Environmental Statement**

Natural England advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. It is acknowledged that these opportunities are not yet fully developed due to the scale of the development. Guidelines for Ecological Impact Assessment (EclA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.

The National Planning Policy Framework sets out guidance in S.118 on how to take account of biodiversity interests in planning decisions and the framework that local authorities should provide to assist developers.

#### **2.2 Internationally and Nationally Designated Sites**

The ES should thoroughly assess the potential for the proposal to affect designated sites. Natural England note that for designated sites close to the development, potential impacts have been sufficiently scoped in. There is however the possibility that sites outside the study areas may be affected by air quality impacts resulting from increased vehicle movements. The scoping document does not provide full clarity about the assessment methodology for air quality effects. For example, it

is not clear if biodiversity effects of air quality will extend outside of the biodiversity study area (Figure 6.1), the air quality study area (Figure 5.1) or the traffic modelling area (Figure 17.1). Natural England note that “the study area may evolve as appropriate” and would encourage the inclusion of specific information about the assessment of air quality impacts on nationally and internationally designated sites. European sites (e.g. designated Special Areas of Conservation and Special Protection Areas) fall within the scope of the Conservation of Habitats and Species Regulations 2017. In addition paragraph 118 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

It has been identified that there is the potential for Likely Significant Effect on a European/Internationally designated site. As a result the competent authority will need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process.

Figure 6.3 shows the results of Phase 1 habitat surveys. Natural England note that the information could be presented in a more ‘user-friendly’ way, as it is currently difficult to read and identify the keys. For example, many of the letters used to indicate features become broken up by features on the map. This should be addressed in the EIA/ES.

### **Sites of Special Scientific Interest (SSSIs) and sites of European or international importance (Special Areas of Conservation, Special Protection Areas and Ramsar sites)**

For reference, further information on SSSIs and their special interest features can be found at [www.magic.gov](http://www.magic.gov). The Environmental Statement should include a full assessment of the direct and indirect effects of the development on features of special interest and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects. Natura 2000 network site conservation objectives are available on our website; <http://publications.naturalengland.org.uk/category/6490068894089216>

The EIA scoping document does not specifically refer to Special Protection Area Functionally Linked Habitat. Special Protection Areas (SPAs) are classified for rare and vulnerable birds, and for regularly occurring migratory species. Annex 1 bird species associated with the SPA receive protection both within and outside of the SPA boundary. Sites outside of the SPA which support the Annex 1 bird species, often referred to as SPA supporting habitat or ‘functionally linked’ habitat, play an important role in maintaining the SPA bird population through the provision of additional roosting or feeding areas. Due to the importance of these off-site habitats in maintaining Annex 1 bird populations, the supporting habitat benefits from the same level of protection as the SPA itself. Therefore, any impact to, or loss of, SPA functionally linked habitat would need to be adequately mitigated against or compensated for. The Wintering Bird Survey Methodology shows that relevant areas will be surveyed for relevant Annex 1 bird species. Natural England would advise that full consideration should be given to the assessment of Functionally Linked Habitat.

### **2.3 Regionally and Locally Important Sites**

The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The Environmental Statement should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures. Contact the local wildlife trust, geoconservation group or local sites body in this area for further information.

## **2.4 Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017**

The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law, but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.

The conservation of species protected by law is explained in Part IV and Annex A of Government Circular 06/2005 *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*. The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES.

In order to provide this information there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. Natural England has adopted [standing advice](#) for protected species which includes links to guidance on survey and mitigation.

## **2.5 Habitats and Species of Principal Importance**

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Further information on this duty is available [here](#).

Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, 'are capable of being a material consideration...in the making of planning decisions'. Natural England therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP.

Natural England advises that a habitat survey (equivalent to Phase 2) is carried out, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (e.g. from previous surveys);
- Additional surveys carried out as part of this proposal;
- The habitats and species present;
- The status of these habitats and species (e.g. whether priority species or habitat);
- The direct and indirect effects of the development upon those habitats and species;
- Full details of any mitigation or compensation that might be required.
- We note in paragraph 6.5.3. that the full area will be defined at a later stage.

The development should seek if possible to avoid adverse impact on sensitive areas for wildlife within the site, and we welcome the commitment to provide a biodiversity net-gain.

The current study area looks comprehensive but Natural England would advise it is likely that there are sites outside of the current survey extent which may require baseline survey effort if the development seeks to use these areas to provide mitigation, net gain or compensation. These will need to be included as and when they are identified.

The record centre for the relevant Local Authorities should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.

## **2.6 Contacts for Local Records**

Natural England does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species. We recommend that you seek further information from the appropriate bodies (which may include the local records centre, the local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document).

Natural England note that there have been delays in obtaining some local data sets and would highlight that these will need to be presented as part of the ES.

## **3. Access and Recreation**

Natural England encourages any proposal to incorporate measures to help encourage people to access the countryside for enjoyment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways are to be encouraged. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.

### **Rights of Way, Access land, and National Trails**

The EIA should consider potential impacts on access land, public open land, rights of way and coastal access routes in the vicinity of the development. Consideration should also be given to the potential impacts on nearby trails. The National Trails website [www.nationaltrail.co.uk](http://www.nationaltrail.co.uk) provides information including contact details for the National Trail Officer. Appropriate mitigation measures should be incorporated for any adverse impacts. We also recommend reference to the relevant Right of Way Improvement Plans (ROWIP) to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

The Colne Valley Trail is set to be directly impacted by the footprint of the third runway. This will have major consequences for the north/south connectivity within the Regional Park and the EIA needs to consider how the design of the development will ensure this connectivity is maintained.

### **Green Infrastructure**

Greening our towns and cities, and helping people improve their health and wellbeing by using green spaces are both key principles within the Government's 25 Year Environment Plan. Extensive and well-designed Green Infrastructure can deliver and reinforce wider community and environmental benefits, which directly deliver the Government's ambitions as set out in the plan.

Natural England welcome the plan to include an Open Space Assessment to inform the design of the green infrastructure plan. Effective green infrastructure should be utilised to increase the permeability of the local landscape for both biodiversity and people.

## **4. Protected Landscapes**

The construction of the airport will have an impact on local landscape but not on any nationally designated landscapes, whilst the operational element of the proposed development has the potential to impact nationally designated landscapes, such as the Chilterns Area of Outstanding Natural Beauty.

Natural England supports the use of the relevant National Character Areas for the broader landscape as well as more local landscape character assessments and other resources at local authority level where these are available. We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed. Where local areas are designated primarily for biodiversity or heritage they should

be included within the landscape and visual impact assessment if they are accessible to the public. We would recommend the inclusion of the London Environment Strategy as a resource (table 13.3).

Natural England supports the publication *Guidelines for Landscape and Visual Impact Assessment*, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition). We support the intention to use this methodology which is almost universally used for landscape and visual impact assessment. Using a nominal ZTV of 5km is appropriate to the scale of the project and the topography of the surrounding area.

Natural England are satisfied that both construction and operational effects are being considered. We note that the LVIA is anticipated to respond to any changes in project parameters and input from stakeholders where relevant and we continue to work with stakeholders to identify further areas to be included in the LVIA.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.

When considering an assessment of Airspace impacts on the landscape in due course, which is likely to include a wider area, consideration should be given to cumulative impacts in protected landscapes for example the route of HS2 within the Chilterns AONB.

We also advise that you consult the relevant AONB Partnership or Conservation Board. Their knowledge of the site and its wider landscape setting, together with the aims and objectives of the AONB's statutory management plan, will be a valuable contribution to the planning decision.

## **5. Soil and Agricultural Land Quality**

Impacts from the development should be considered in light of the Government's policy for the protection of the best and most versatile (BMV) agricultural land as set out in paragraph 112 of the NPPF. We also recommend that soils should be considered under a more general heading of sustainable use of land and the ecosystem services they provide as a natural resource in line with paragraph 109 of the NPPF.

Soil is a finite resource that fulfils many important functions and services (ecosystem services) for society, for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution. It is therefore important that the soil resources are protected and used sustainably.

The applicant should consider the following issues as part of the Environmental Statement:

1. The degree to which soils are going to be disturbed/harmed as part of this development and whether 'best and most versatile' agricultural land is involved. This may require a detailed survey if one is not already available. For further information on the availability of existing agricultural land classification (ALC) information see [www.magic.gov.uk](http://www.magic.gov.uk). Natural England Technical Information Note 049 - [\*Agricultural Land Classification: protecting the best and most versatile agricultural land\*](#) also contains useful background information.
2. If required, an agricultural land classification and soil survey of the land should be undertaken. This should normally be at a detailed level, eg one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, ie 1.2 metres.
3. The Environmental Statement should provided details of how any adverse impacts on soils can be minimised. Further guidance is contained in the [\*Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites\*](#).



## 6. Air Quality

Air quality in the UK has improved over recent decades but air pollution remains a significant issue; for example over 97% of sensitive habitat area in England is predicted to exceed the critical loads for ecosystem protection from atmospheric nitrogen deposition ([England Biodiversity Strategy](#), Defra 2011). A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity.

Table 3.6 shows that air quality effects on rivers and flood storage are not considered as part of the ES. Natural England would recommend screening air quality impacts to rivers and flood storage in to the ES. The plans at this stage are not sufficiently developed to screen this impact out. Future plans could include areas of stagnant or low flowing water which may be susceptible to impacts from air quality. There are numerous options being looked at for the road configurations, many of which will bring the potential air quality impacts close to water courses. Some water courses may flow into designated sites. Green infrastructure and mitigation plans may also feature wetland areas which could be impacted by air quality.

Table 3.7 shows relevant environmental topics to airport supporting facilities. Natural England would suggest that the rationale for scoping out car parking, along with other polluting elements of the proposals such as energy generation plant, has not been clearly set out. We highlight the need to justify this, otherwise we recommend these elements are scoped into the assessment.

Table 4.6 sets out the scope of the ES. It is notable that the emissions from aircraft operation are screened in only for their impacts to human health, not biodiversity. Natural England suggest that potential air quality impacts from aircraft fuel combustion are screened in at this stage, as this will allow for the assessment of relevant modelling documents.

Traffic increases on the road network potentially impacting nationally designated sites need to be specifically considered. Please see comments in Section 2.2.

Graphic 4.1 sets out the approach to in-combination assessment and paragraph 4.7.7 stipulates this approach will be used for aspects of the development which may impact ecology. 5.9.34 states cumulative effects of air quality will follow the approach in 4.6, although it is not clear if this is just for impacts on human health or if it also includes biodiversity. Natural England would suggest a specific approach is outlined regarding the method for in-combination assessment of biodiversity impacts from air quality.

Projects and plans that increase road traffic flow have a high likelihood of acting together, or in-combination, with other plans or projects that would also increase traffic on the same roads. Vehicles generated by different plans or projects can end up on the exact same road(s) (forming a line source of emissions) within or close to the same site. In these cases, it is difficult to justify use of a threshold alone for determining likelihood for significant effect by applying it solely to the project being assessed. The threshold should be applied in-combination.

An in-combination effect is one which does not represent a likely significant effect 'alone' but, when added to similar effects from other live plans and projects, becomes significant.

[The Wealden Judgment 2017](#) found that the use of the 1000 Annual Average Daily Traffic (AADT) guideline (a proxy for 1% (on road) of the critical level/load for the receiving habitat) as the sole means of catering for in-combination effects lacked coherence, particularly where other figures are known which, when added together, would cause that threshold to be exceeded. From that, the Court concluded that where the likely effect of an individual plan or project does not itself exceed the threshold of 1000 AADT (or 1%), its effect must still be considered alongside the similar effects of other 'live' plans and projects to check whether their added or combined effect on a site could be significant.

Natural England recognises that at both the screening and appropriate assessment stages of a HRA, the likely effects of a plan or project need to be thought about individually and in combination

with other relevant plans or projects. This is a legal requirement of the Habitats Regulations and it helps to ensure that European sites are not inadvertently damaged by the additive effects of multiple plans or projects.

Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System ([www.apis.ac.uk](http://www.apis.ac.uk)). Further information on air pollution modelling and assessment can be found on the Environment Agency website.

## **7. Climate Change Adaptation**

The [England Biodiversity Strategy](#) published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' ([NPPF](#) Para 109), which should be demonstrated through the ES.

## **8. Cumulative and in-combination effects**

A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):

- a. existing completed projects;
- b. approved but uncompleted projects;
- c. ongoing activities;
- d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
- e. plans and projects which are reasonably foreseeable, ie projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

From: [Morgan, Barbara](#)  
To: [Expansion of Heathrow Airport \(Third Runway\)](#)  
Subject: FW: Ref: TR020003 Expansion of Heathrow Airport (Third Runway)  
Date: 18 June 2018 09:07:08

Network Rail  
1st Floor  
Bristol Temple Point  
Bristol  
BS1 6NL

Ask for : Barbara Morgan  
Tel : 0117 3721125

My Ref : P/TP18/0397/BM  
Your Ref : TR020003

Date : 18 June 2018

Dear Sir/Madam

**Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11**

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if required->**

Western Rail Link to Heathrow (WRLTH) is a Nationally Significant Infrastructure Project and requires the submission of a Development Consent Order (DCO). Statutory consultation is taking place in May/June 2018 with an anticipated DCO submission date of mid-2019. The material within the Heathrow Expansion Scoping Report suggests that there may be design conflicts with WRLTH Shafts 2, 3 and 4 (surface portals to tunnels). It is essential that Heathrow works with Network Rail's project team to provide assurance on compatibility of design. Incompatibility could mean that the WRLTH alignment needs to be reviewed, which would have significant programme, cost, and delivery implications.

Our comments as set out below relate to the Scoping Report and those aspects where we believe there is an interface with the proposed WRLTH scheme. For clarity I have set out our response into the following sections:

- Cumulative development;
- Optioneering and design development; and
- Further information

**Cumulative development**

The methodology for cumulative effects assessment is set out in Chapter 4 and Appendix 4.2 of the Scoping Report. Within these documents the WRLTH project has been categorised as a Tier 2 scheme for the cumulative effects assessment with the proposed Heathrow Expansion. However, Table 3.4.4 of Appendix 3.4 contains outdated information from the Planning Inspectorate's website quoting the planned submission of the WRLTH Development Consent Order (DCO) application as "submission expected: Q4 2017".

For clarity the proposed dates Network Rail are working to are as follows:

- DCO application submission mid 2019;
- Construction commencing end 2020 for environmental works and 2022 for main construction works; and
- Construction works complete by end of 2027, a period of testing and commissioning would follow in 2028 (year of opening).

On the basis of the proposed dates associated with the DCO process for Heathrow Airport as set out in the Scoping Report, we are in agreement that the WRLTH should be considered a Tier 2 development for the Preliminary Environmental Impact Report (PEIR). We would note that for the Environmental Statement (ES), WRLTH should be considered as our DCO application is proposed to be submitted prior to the submission of the Heathrow Expansion DCO application.

**Optioneering and design development**

Chapter 3 'The DCO Project' of the Scoping Report sets out the principal components of the scheme and where there are a number of options for some of the elements (including but not limited to: runways and taxiways, terminals and aprons and M25 motorway and other road diversions). The proposals are also set out within Figures 3.1 – 3.15. Network Rail have identified a number of potential conflicts with the design for the WRLTH at Shafts 2, 3 and 4 and also note that some of this development including the proposed expanded airfield would be directly above the proposed WRLTH twin-bored tunnel.

Network Rail would request that Heathrow consider the options with the least impact on the WRLTH proposals and work with Network Rail's project team to provide assurance on compatibility of design. The load bearing capacity of the tunnel will need to be considered for any development that is proposed to be on top of the proposed alignment.

The proposed construction site plans for Heathrow Expansion are set out within Figure 3.17. Network Rail has again noted potential conflict with these locations and would request that a similar approach as set out above be considered to ensure that both schemes are compatible during both construction and operation.

**Further Information**

If you would like any further information or clarification on any point then please do not hesitate to contact [michaela.payne@networkrail.co.uk](mailto:michaela.payne@networkrail.co.uk).

Yours sincerely,

Barbara Morgan  
Town Planning Technician (Western & Wales)

[www.networkrail.co.uk/property](http://www.networkrail.co.uk/property)

Please send all Notifications and Consultations to [townplanningwestern@networkrail.co.uk](mailto:townplanningwestern@networkrail.co.uk) or by post to Network Rail, Town Planning, 1st Floor, Bristol Temple Point, Redcliffe Way, Bristol BS1 6NL.

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Your Ref : TR020003

Our Ref : 43907

19 June 2018

Dear Sir/Madam,

**Re: Scoping Consultation  
Application for an Order Granting Development Consent for the proposed  
Expansion of Heathrow Airport (Third Runway)**

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Advice offered by PHE is impartial and independent.

PHE exists to protect and improve the nation's health and wellbeing, and reduce health inequalities; these two organisational aims are reflected in the way we review and respond to Nationally Significant Infrastructure Project (NSIP) applications. The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from, for example, emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

This project sits within the remit of the draft Airports National Policy Statement (NPS), which specifically refers to the need to assess the likely significant effects of the project on health in Section 4 (paragraphs 4.66–4.69). The NPS indicates that airport infrastructure development proposals can have both beneficial and adverse impacts on health (para 4.66) and that the scale of development may have indirect impacts on health through a range of determinants (para 4.67). It also notes that more than one development may affect people simultaneously; as such, cumulative impacts on health should be given due consideration (para 4.69).

**Environmental Public Health**

We understand that the promoter will wish to avoid unnecessary duplication and that many issues including noise, air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the Environmental Statement (ES). We

believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration and potentially cumulative effects are properly considered. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made the promoters should fully explain and justify their rationale in the submitted documentation.

It is noted that the current proposals do not appear to consider possible health impacts of Electric and Magnetic Fields (EMF). The proposer should confirm either that the proposed development(s) does include or impact upon any potential sources of EMF; or ensure that an adequate assessment of the possible impacts is undertaken (see **Appendix A**) and included in the ES.

It is unclear at this point the extent to which some of the associated or supporting development, such as fuel storage, rail heads or the Lakeside waste management facility and electricity substation, will form part of the Development Consent Order (DCO) project. The current proposals suggest that the assessment will only consider the removal of these facilities (and not their replacement) as part of the DCO project. The intention is that the replacement of these facilities would be considered as part of the wider scheme and within the cumulative effects assessment as far as this is possible. In light of the nature of these facilities it may be prudent to include the removal and replacement of these facilities as part of the overall DCO project to ensure any public health issues are identified and appropriate mitigation measures implemented.

At this stage of the consultation, there is a level of uncertainty about the overall scope of the development, in light of this further consideration may be needed on the intention to screen out certain aspects from further assessment such as airborne aircraft emissions and the potential for regional ozone impacts. The complex nature of the proposed project and the associated development will require careful consideration of all the combined elements. Specific elements such as air quality or noise should not be considered in isolation, to ensure that any mitigation measures proposed for one aspect do not cause adverse impacts or unintended consequences for another.

### **Health and Wellbeing**

The draft Airports NPS includes coverage of the four health and wellbeing (HWB) themes that PHE focuses on:

- Access. For example: access to local public services and recreational opportunities in the natural or urban environment (e.g. within assessment principles – health, paragraph 4.67)
- Traffic and Transport. For example: opportunities for walking and cycling, and the proposal’s relationship with public transport (e.g. within assessment principles, paragraph 4.72 and specific impacts and requirements, paragraph 5.8)
- Socioeconomic. For example: the proposal’s influence on employment and training opportunities (e.g. within specific impacts and requirements, paragraphs 5.21, 5.190, 5.228, 5.251, 5.252, 5.253 and 5.255).
- Land Use. For example: the quality of the natural environment (e.g. within specific impacts and requirements, paragraphs 5.105 – 5.125 and 5.202–5.214).

Given the relevance of the wider determinants of health and wellbeing to your proposed NSIP development, we ask that you assess the issues set out in HWB Scoping Appendix (**Appendix B**) either to confirm that there are no likely significant impacts or, if there are, to consider ways to enhance beneficial effects and avoid or, as a minimum, mitigate adverse effects.

This section and the associated health and wellbeing scoping table (see HWB Scoping Appendix – **Appendix B**), identifies the wider determinants of health and wellbeing we expect your assessment to address, to demonstrate whether they are likely to give rise to significant effects. PHE recognises that evaluating an NSIP’s impacts on health through the wider determinants is more complex than assessing a project’s direct impacts against clearly defined regulatory protections (e.g. protected species). However, this does not mean that their assessment should be side-lined; with the 2017 Environmental Impact Assessment (EIA) Regulations clarifying that the likely significant effects of a development proposal on human health must be assessed. PHE’s expectations are that the proponent of an NSIP will conduct a proportionate and evidence-based assessment of indirect effects on health and wellbeing in line with the relevant regulatory and policy requirements. To assist developers PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements. The four themes are: - Access - Traffic and Transport – Socioeconomic – Land Use.

Feedback on your proposed approach to assessing impacts on health and wellbeing in the consultation document and PHE’s views on the specific health determinants relevant to your proposal are included as a table in the HWB Scoping **Appendix B**. The table, in **Appendix B**, sets out information relevant to a series of specific health determinants under each of the themes listed above. PHE has identified that each of the determinants set out in the HWB Scoping **Appendix B** require further consideration in your assessment. The table also includes the following:

- evidence demonstrating the link between the determinant of health and related health outcomes

- some examples of key national policy documents related to this determinant Health and wellbeing must be considered within EIA, and both health and the wider determinants of health are included in all available National Policy Statements.

The attached appendices outline areas, which are relevant to this proposal that should be addressed by all promoters when preparing ES for inclusion with an NSIP submission. We are happy to assist and discuss proposals further in the light of this advice.

Yours faithfully,

Public Health England

[nsipconsultations@phe.gov.uk](mailto:nsipconsultations@phe.gov.uk)

*Please mark any correspondence for the attention of National Infrastructure Planning Administration.*

**Enclosed:**

*Appendix A – PHE recommendations regarding the environmental public health aspects of the scoping document*

*Appendix B – PHE's Detailed Health & Wellbeing Scoping Response*

*Appendix C - PHE scoping response - noise*

## **Appendix A: PHE recommendations regarding the environmental public health aspects of the scoping document**

### **General approach**

The EIA should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA<sup>1</sup>. It is important that the EIA identifies and assesses the potential public health impacts of the activities at, and emissions from, the development. Assessment should consider the construction, operational, and any associated decommissioning phases.

It is not PHE's role to undertake these assessments on behalf of promoters as this would conflict with PHE's role as an impartial and independent body.

We note that the information provided highlights a number of displaced uses or associated developments that will need to be constructed, but that some of these will be the subject of separate planning consent applications. We recommend that the EIA for this installation includes consideration of the impacts of these associated developments and that cumulative impacts are fully accounted for.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, EIA should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES<sup>2</sup>.

The following text covers a range of issues that PHE would expect to be addressed by the promoter. However this list is not exhaustive and the onus is on the promoter to ensure that the relevant public health issues are identified and addressed. PHE's advice and recommendations carry no statutory weight and constitute non-binding guidance.

### **Receptors**

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

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<sup>1</sup> Environmental Impact Assessment: A guide to good practice and procedures - A consultation paper; 2006; Department for Communities and Local Government. Available from: <http://webarchive.nationalarchives.gov.uk/20100410180038/http://communities.gov.uk/planningandbuilding/planning/sustainability/environmental/environmentalimpactassessment/>

<sup>2</sup> DCLG guidance, 1999 <http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf>



## **Impacts arising from construction and decommissioning**

Any assessment of impacts arising from emissions due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

We would expect the promoter to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential impact on health from emissions (point source, fugitive and traffic-related). An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The promoter should ensure that there are robust mechanisms in place to respond to any complaints of traffic-related pollution, during construction, and decommissioning of the facility.

## **Emissions to air and water**

PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these:

- should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary
- should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment
- should consider the construction, operational, and decommissioning phases
- should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts
- should fully account for fugitive emissions
- should include appropriate estimates of background levels
- should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air)
- should include consideration of local authority, Environment Agency, Defra national network, and any other local site-specific sources of monitoring data
- should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels)
  - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in

### **Annex 1**

- This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion
- should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development.

Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure.

*Additional points specific to emissions to air*

When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these:

- should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)
- should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst case conditions)
- should include modelling taking into account local topography

*Additional points specific to noise*

When considering a baseline (of the existing noise environment) and in the assessment and future monitoring of impacts these:

- should include a clear definition of the tests for determining significance of impacts, which need to be framed around impacts on health and quality of life, and not around noise exposure per se; PHE expects such tests to be discussed and agreed with relevant stakeholders, and that they take into account a number of factors (see **Appendix C** for further detail)
- should be based on noise modelling that reflects the scenario(s) that are most likely to deliver the operational noise mitigation strategies proposed by the applicant, together with suitable sensitivity analyses, in order to estimate as accurately as possible the scale of noise exposure.
- should make use of the best available evidence to quantify the effects on health and quality of life, including the evidence base on a "change effect"
- should ensure that proposed mitigation measures are underpinned by good quality evidence, in particular whether mitigation measures are achievable, whether they may have adverse consequences on other environmental factors

such as air quality and carbon emissions, and whether they are proven to reduce adverse impacts on health and quality of life.

#### *Additional points specific to emissions to water*

When considering a baseline (of existing water quality) and in the assessment and future monitoring of impacts these:

- should include assessment of potential impacts on human health and not focus solely on ecological impacts
- should identify and consider all routes by which emissions may lead to population exposure (e.g. surface watercourses; recreational waters; sewers; geological routes etc.)
- should assess the potential off-site effects of emissions to groundwater (e.g. on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure
- should include consideration of potential impacts on recreational users (e.g. from fishing, canoeing etc) alongside assessment of potential exposure via drinking water.

#### **Land quality**

We would expect the promoter to provide details of any hazardous contamination present on site (including ground gas) as part of the site condition report.

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed<sup>3</sup> and the potential impact on nearby receptors and control and mitigation measures should be outlined.

Relevant areas outlined in the Government's Good Practice Guide for EIA include:

- effects associated with ground contamination that may already exist
- effects associated with the potential for polluting substances that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination
- impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.

#### **Waste**

The EIA should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).

For wastes arising from the installation the EIA should consider:

- the implications and wider environmental and public health impacts of different waste disposal options
- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated.

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<sup>3</sup> Following the approach outlined in the section above dealing with emissions to air and water i.e. comparing predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as Soil Guideline Values)

## **Other aspects**

Within the EIA PHE would expect to see information about how the promoter would respond to accidents with potential off-site emissions e.g. flooding or fires, spills, leaks or releases off-site. Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

The EIA should include consideration of the Control of Major Accident Hazards (COMAH) Regulations and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009: both in terms of their applicability to the installation itself, and the installation's potential to impact on, or be impacted by, any nearby installations themselves subject to the these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report<sup>4</sup>, jointly published by Liverpool John Moores University and the Health Protection Agency, examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible." PHE supports the inclusion of this information within EIAs as good practice.

## **Electromagnetic fields (EMF)**

This statement is intended to support planning proposals involving electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available in the following link:

<https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields>

There is a potential health impact associated with the electric and magnetic fields around substations, and power lines and cables. The field strength tends to reduce with distance from such equipment.

The following information provides a framework for considering the health impact associated with the electric and magnetic fields produced by the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

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<sup>4</sup> Available from: <http://www.cph.org.uk/wp-content/uploads/2012/08/health-risk-perception-and-environmental-problems--summary-report.pdf>

## **Policy Measures for the Electricity Industry**

The Department of Energy and Climate Change has published a voluntary code of practice which sets out key principles for complying with the ICNIRP guidelines:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf)

Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf)

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/224766/powerlines\\_vcop\\_microshocks.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf)

## **Exposure Guidelines**

PHE recommends the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP). Formal advice to this effect was published by one of PHE's predecessor organisations (NRPB) in 2004 based on an accompanying comprehensive review of the scientific evidence:-

<http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/>

Updates to the ICNIRP guidelines for static fields have been issued in 2009 and for low frequency fields in 2010. However, Government policy is that the ICNIRP guidelines are implemented in line with the terms of the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):

[http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/PublicHealth/HealthProtection/DH\\_4089500](http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/PublicHealth/HealthProtection/DH_4089500)

## **Static magnetic fields**

For static magnetic fields, the ICNIRP guidelines published in 2009 recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and injuries due to flying ferromagnetic objects and these considerations can lead to much lower restrictions, such as 0.5 mT.

## **Power frequency electric and magnetic fields**

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to the field. The ICNIRP guidelines published in 1998 give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively  $5 \text{ kV m}^{-1}$  (kilovolts per metre) and  $100 \text{ }\mu\text{T}$  (microtesla). The reference level for magnetic fields changes to  $200 \text{ }\mu\text{T}$  in the revised (ICNIRP 2010) guidelines because of new basic restrictions based on induced electric fields inside the body, rather than induced current density. If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with the basic restrictions and reducing the risk of indirect effects.

### **Long term effects**

There is concern about the possible effects of long-term exposure to electromagnetic fields, including possible carcinogenic effects at levels much lower than those given in the ICNIRP guidelines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

### **The Stakeholder Advisory Group on ELF EMFs (SAGE)**

SAGE was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government:

<http://www.emfs.info/policy/sage/>

SAGE issued its First Interim Assessment in 2007, making several recommendations concerning high voltage power lines. Government supported the implantation of low cost options such as optimal phasing to reduce exposure; however it did not support the option of creating corridors around power lines on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available here:

[http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_107124](http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124)

The Government also supported calls for providing more information on power frequency electric and magnetic fields which are available on the PHE web pages (<https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields>).

## Ionising radiation

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection<sup>5</sup> (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards<sup>6</sup> (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

PHE expects promoters to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group). Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the foetus should also be calculated<sup>7</sup>. The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate. The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012'<sup>8</sup>. It is

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<sup>5</sup> These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at <http://www.icrp.org/>

<sup>6</sup> Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

<sup>7</sup> HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at <https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients>

<sup>8</sup> The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA).

Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012. [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/296390/geho1202bklh-e-e.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf)

important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed. Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities<sup>9</sup>. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years. The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased. For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose. For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered. The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the 'expected' migration scenario can be used to compare the relatively early impacts from some disposal options if required.

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<sup>9</sup> HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009



## Annex 1

### Human health risk assessment (chemical pollutants)

The points below are cross-cutting and should be considered when undertaking a human health risk assessment:

- The promoter should consider including Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used
- When assessing the human health risk of a chemical emitted from a facility or operation, the background exposure to the chemical from other sources should be taken into account
- When quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach<sup>10</sup> is used.

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<sup>10</sup> Benford D et al. 2010. Application of the margin of exposure approach to substances in food that are genotoxic and carcinogenic. Food Chem Toxicol 48 Suppl 1: S2-24

## Appendix B: PHE's Detailed Health & Wellbeing Scoping Response

Health & Wellbeing Theme:	Standard Text	Associated Evidence	Policy
ACCESS	<p>Access to local facilities can increase mobility and social participation. Body mass index is significantly associated with access to facilities, including factors such as the mix and density of facilities in the area. The distance to facilities has no or only a small effect on walking and other physical activities. Access to recreational facilities can increase physical activity, especially walking for recreation, reduce body weight, reduce the risk of high blood pressure, and reduce the number of vehicle</p>	<p>Access to local amenities such as shops, schools and health centres may increase mobility and social participation among older adults (Levasseur et al., 2015); type of study: systematic review; study types in the review: cross-sectional, qualitative; quality of evidence: not clear; location of studies in review: high-income countries. ◊</p> <p>In the Caerphilly Prospective Study, body mass index was significantly associated with built environment factors including mix, density of retail, churches, and recreational and leisure services, street network accessibility, and slope variability; controlling for socio-demographic and lifestyle factors, and for vascular diseases had a negligible impact on the influence of built environment factors (Gong et al., 2014); type of study: prospective cohort; location of study: Caerphilly, Wales. ◊</p> <p>Distance to facilities had either no or only a small effect on the uptake of walking and other types of physical activities (Foster et al., 2009); type of study multivariate analysis; location of study: UK. ◊</p> <p>Walkability, regional accessibility, sidewalks, bike facilities and recreation facility access were positively associated with physical activity and negatively related to body weight, high blood pressure and transportation impacts (Ulmer et al., 2014); type of study: HIA methodology; location of study: Canada. ◊</p> <p>The location of employment, shops and services, provision of public and</p>	<p>* DCLG NPPF: Supporting a prosperous rural economy: Sets out the importance of promoting the retention and development of local services and community facilities in villages, such as local shops, meeting places, sports venues, cultural buildings, public houses and places of worship.</p> <p>* DfT Cycling and Walking Investment Strategy: Sets out the Government's ambition for walking and cycling to be a normal part of everyday life, and the natural choices for shorter journeys such as going to school, college or work, travelling to the</p>

trips, the distances travelled and greenhouse gas emissions.

active transport infrastructure and access to open space and recreational opportunities are associated with long-term disease risk factors, such as physical activity level, access to healthy food, social connectedness and air quality (Lowe et al, 2014); type of study: review; location of study: international. ▢

There is an association between child development and neighbourhood destinations, green spaces, interaction with nature, traffic exposure, and housing density (Villanueva et al, 2016); type of study: review; location of study: USA. ▢

station, and for simple enjoyment.

\* Lifetime

Neighbourhoods Report:

Contributes to the government's commitment to help older people live independently.

<p>Access to good-quality affordable housing</p>	<p>Housing refurbishment can lead to an improvement in general health, and reduce health inequalities. Housing improvements may also benefit mental health. The provision of diverse forms and types of housing is associated with increased physical activity. The provision of affordable housing is strongly associated with improved safety perceptions in the neighbourhood, particularly among people from low-income groups. For vulnerable groups, the provision of affordable housing can lead to improvements in social, behavioural and health-related outcomes. For some people with long-term conditions, the provision of secure and affordable housing can increase</p>	<p>Housing refurbishment, including damp proofing, re-roofing, and new window installation is associated with improvements in general health outcomes (Clark et al., 2007; Gibson et al., 2011, Thomson et al., 2013) and reduce health inequalities (Gibson et al., 2011); types of study: systematic review (Clark et al, Gibson et al, Thomson et al); study types in the reviews: cross-sectional and qualitative (Clark et al), randomised controlled trial, controlled repeat cross-sectional, uncontrolled repeat cross-sectional, controlled before-and-after, uncontrolled before-and-after, and qualitative (Thomson et al), not reported (Gibson et al); quality of evidence: moderate to poor (Clark et al), moderate (Gibson et al), moderate (Thomson et al); location of studies: high-income countries (Clark et al), UK, USA, New Zealand and Europe (Gibson et al), not reported (Thomson et al). Δ</p> <p>For residents experiencing housing improvement mean mental health scores were higher than in the control group but physical health scores were similar between groups (Egan et al, 2013: type of study: longitudinal cohort; location of study: Glasgow, UK. Δ</p> <p>Provision of mixed-use affordable housing (rent subsidies to create mixed-income or desegregated housing in low-income neighbourhoods) may improve perceptions of neighbourhood safety and overall self-reported health among low-income groups (Bambra et al, 2010); type of study: systematic review; study types in review: systematic reviews; quality of evidence: moderate; location of studies in review: US. Δ</p> <p>Diverse housing types may increase physical activity (Durand, 2011); type of study: systematic review; study types in review: mainly cross-sectional studies, some longitudinal/quasi-longitudinal; quality of evidence: low to moderate; location of studies in review: high-income countries. Δ</p> <p>Provision of affordable housing for substance users is associated with decreased substance use and increased housing tenure among the homeless and housed individuals (Fitzpatrick-Lewis et al, 2011; Reif et al</p>	<p>* PHE Guidance: Improving health through the home: Sets out why the right home environment is essential to health and wellbeing, throughout life.</p> <p>* PHE Guidance: Applying All Our Health: Sets out the health and wellbeing impacts of homelessness</p> <p>*DCLG Housing White Paper: Fixing our broken housing market: Sets out a broad range of reforms that government plans to introduce to help reform the housing market and increase the supply of new homes.</p>
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engagement with healthcare services, which can lead to improved health-related outcomes. The provision of secure and affordable housing can also reduce engagement in risky health-related behaviours. For people who are homeless, the provision of affordable housing increases engagement with healthcare services, improves quality of life and increases employment, and contributes to improving mental health.

2014); type of studies: systematic review; study types in reviews: RCTs, quasi-experimental, cross-sectional, uncontrolled cohort (Fitzpatrick-Lewis et al), RCTs, quasi-experimental (Reif et al); studies; quality of evidence: moderate; location of studies in review: middle- to high-income countries. ◊

Provision of affordable, secure tenancy is associated with improved health outcomes among inadequately housed people living with HIV/AIDS, including engagement with health services, improved psychiatric outcomes, sustained viral suppression and reduced engagement in risky behaviours (Aidala et al, 2016; Fitzpatrick-Lewis et al, 2011; Leaver et al, 2007); type of studies: systematic review; study types in reviews: RCT, quasi-experimental, uncontrolled cohort, case-control, cross-sectional, controlled repeat cross-sectional, longitudinal; quality of evidence: moderate, and moderate to high (latter relates to Aidala et al, 2016); location of studies in review: mainly high-income countries. ◊

Provision of affordable, secure tenancy for the homeless is associated with short-term housing improvement and increased employment (Bassuk et al, 2014); type of study: systematic review; study types in review: uncontrolled repeat cross-sectional, time-series; quality of evidence: low; location of studies in review: US. ◊

Provision of affordable, secure tenancy for the homeless living with severe persistent mental illness can lead to improved mental health, healthcare utilisation and quality of life outcomes (Kyle & Dunn, 2008; Nelson, Aubry & Lafrance, 2007); type of studies: systematic review; study types in reviews: RCT, experimental, quasi-experimental, uncontrolled cohort, cross-sectional; quality of evidence: moderate; location of studies in review: high-income countries including England (Kyle & Dunn), US (Nelson, Aubry & Lafrance).

<p>Access to healthy affordable healthy food</p>	<p>Access to healthy food is related to the provision of public and active transport infrastructure and the location and proximity of outlets selling healthier food such as fruit and vegetables. For the general population, increased access to healthy, affordable food through a variety of outlets (shops, supermarkets, farmers' markets and community gardens) is associated with improved dietary behaviours, including attitudes towards healthy eating and food purchasing behaviour, and improved adult weight. Increased access to healthier food retail outlets is associated with increased weight in the general population and increased obesity and unhealthy eating behaviours among</p>	<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with long-term disease risk factors such as physical activity levels, access to healthy food, social connectedness, and air quality (Lowe et al, 2014); type of study: review; location of study: international. Δ There is an association between access to fast-food takeaway outlets and decreased fruit and vegetable consumption, and increased access to fast-food takeaway outlets and increased weight status in the general population (Cobb et al, 2015; Giskes et al, 2010; Kent &amp; Thompson, 2014); type of study: systematic review; study types in the reviews: longitudinal, cross-sectional, natural experiment, and not reported (Kent &amp; Thompson); quality of evidence: low, and not reported (Kent &amp; Thompson); location of studies in reviews: high-income countries, including UK (preponderance of US), 'worldwide' (Kent &amp; Thompson). Δ There is an association between access to fast-food takeaway outlets and increased obesity and unhealthy eating among children residing in low-income areas (Cobb et al, 2015; Kent &amp; Thompson, 2014); type of study: systematic review; study types in the reviews: longitudinal, cross-sectional, and not reported (Kent &amp; Thompson); quality of evidence: low, and not reported (Kent &amp; Thompson); location of studies in reviews: high-income countries (Cobb et al), 'worldwide' (Kent &amp; Thompson. Δ Proximity to fruit and vegetable outlets is important in encouraging healthy eating (Kent &amp; Thompson, 2014); type of study: systematic review; study types in the review: not reported; quality of evidence: not reported; location of studies in review: 'worldwide'. Δ Improved access to healthier food in supermarkets is associated with reduced body mass index (BMI) (Giskes et al, 2010); type of study: systematic review; study types in review: cross-sectional, natural experiment; quality of evidence: not reported by review authors; location of studies in review: high-income countries, including UK. Δ Provision of low-cost healthier foods in convenience stores is associated with significant increases in purchasing frequency of healthier foods including fruit and vegetables, low-fat milk, high-fibre cereals and water (Gittlesohn et al, 2009); type of study: systematic review; study types in review: RCT, cross-sectional, uncontrolled repeat cross-sectional,</p>	<p>* CO/DH/HMT/PMO: Childhood Obesity - A Plan for Action: Sets out a cross-government plan for action to reduce childhood obesity. * PHE Obesity and the Environment Briefing - Regulating the growth of fast food outlets: Describes the opportunities to limit the number of fast food takeaways (especially near schools) and ways to make fast-food offers healthier. * PHE Guidance: Health matters - Obesity and the Food Environment: Sets out a whole-system approach to tackling obesity through the food environment. * DCLG Planning Practice Guidance: Health and wellbeing: Covers the role of health and wellbeing in planning, including the importance of opportunities for healthy lifestyles (e.g. an environment that promotes access to healthier food).</p>
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children living in low-income areas. Urban agriculture can improve attitudes towards healthier food and increase fruit and vegetable consumption.

descriptive; quality of evidence: not assessed by authors of review; location of studies in review: high-income countries including Scotland.  $\Delta$  Attitudes towards buying, preparation and eating healthier food are positively influenced by farmers' markets and community gardens (Kent & Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported; location of studies in review: 'worldwide'.  $\Delta$  Urban agriculture may increase opportunities for increased fruit and vegetable consumption (Kent & Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported by review authors; location of studies in review: "worldwide".  $\Delta$

<p>Access to the natural environment within the urban environment</p>	<p>Public open spaces are key elements of the built environment. Ecosystem services through the provision of green infrastructure are as important as other types of urban infrastructure, supporting physical, psychological and social health, although the quality and accessibility of green space affects its use, C19, ethnicity and perceptions of safety. Safe parks may be particularly important for promoting physical activity among urban adolescents. Proximity to urban green space and an increased proportion of green space are associated with decreased treatment of anxiety/mood disorders, the benefits deriving from both participation in usable</p>	<p>Ecosystem services through the provision of green infrastructure are as important as other urban infrastructure, but the combination of economic growth coupled with total population in the European Union means that, as a result of land-use change due to increased urban and industrial expansion, ecosystem services are expected to decrease by 0-5% by 2020 and to decrease by 10-15% by 2050 (relative to the base year of 2010); to maintain ecosystem services at 2010 levels, it was estimated for every additional percentage increase in the proportion of “artificial” land there needs to be an increase of 2.2% in green infrastructure (Maes et al, 2015); type of study: review?; location of study: European Union. Δ Urban green spaces provide many benefits, or ecosystem services, that support physical, psychological, and social health, although in many cases the benefits are not equitably distributed across diverse urban populations; some links between nature and health are widely recognised (e.g. connections between green space and physical activity) and some warrant further investigation (e.g. links between green space, sense of place, and social capital); cultural ecosystem services should not be overlooked or undervalued because they contribute to the social determinants of health in various ways (Jennings et al, 2016); type of study: review; location of study: USA. Δ A proxy measure was developed for assessing public accessibility to urban green spaces: ‘a 300-metre maximum linear distance to the boundary of urban green spaces of a minimum size of 1 hectare’ (van den Bosch et al, 2016); type of study: review of literature and case-studies, and methodology/tool; location of case-study cities: Kaunas, Lithuania, Malmo, Sweden and Utrecht, The Netherlands. Δ Most studies support the hypothesis that green space has a beneficial effect on health but establishing a causal relationship is difficult because the relationship is complex; there is weak evidence for the links between physical, mental health and well-being and urban green space; factors such as the quality and accessibility of green space affects its use for physical activity, and user determinants, such as age, gender, ethnicity and the perception of safety, are also important; many</p>	<p>* DCLG Planning Practice Guidance: Open space, sports and recreation facilities, public rights of way and the new Local Green Space designation.* DCLG Planning Practice Guidance: Natural environment: Explains key issues in implementing policy to protect biodiversity, including local requirements.* DCLG Planning Practice Guidance: Health and wellbeing: Covers the role of health and wellbeing in planning, including the importance of opportunities for healthy lifestyles have been considered (eg planning for an environment that promotes access to high-</p>
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<p>green space near to home and observable green space in the neighbourhood. Urban agriculture may increase opportunities for physical activity and social connections. A view of 'greenery' or of the sea moderates the annoyance response to noise. Water is associated with positive perceptible experiences in urban environments, with benefits for health such as enhanced contemplation, emotional bonding, participation and physical activity. Increasing biodiversity in urban environments, however, may promote the introduction of vector or host organisms for infectious pathogens, eg green connectivity may potentiate the role of rats and ticks in the spread of</p>	<p>studies are limited by poor design, failure to exclude confounding, bias or reverse causality and weak statistical associations, as such simplistic interventions may fail to address the underlying determinants of urban health that are not remediable by landscape redesign (Lee &amp; Maheswaran, 2011); type of study: review; location of study: international. Δ Urban green spaces generally have a positive impact on health outcomes (Kabisch et al, 2015); type of study: systematic review; types of study in the review: not reported by review authors; quality of evidence: not reported by review authors; location of studies in the review: high-income countries including the UK. Δ Access to a safe park was positively associated with regular physical activity and negatively associated with inactivity for adolescents in urban areas, but not for those in rural areas; adolescents with access to a safe park were less likely to be inactive than adolescents without access who were living in apartment buildings, unsafe neighbourhoods, and lower-income families – park access was not associated with regular physical activity for these groups; the association between park access and physical activity varied by race/ethnicity (Babey et al, 2008); type of study: logistic regression analysis; location of study: USA. Δ Decreased distance to usable green space and increased proportion of green space within the larger neighbourhood were associated with decreased anxiety/mood disorder treatment counts in an urban environment, suggesting the benefits of green space on mental health may relate both to active participation in usable green space near to the home and observable green space in the neighbourhood environment (Nutsford et al, 2013); type of study: comparative analysis; location of study: New Zealand. Δ Urban agriculture may increase opportunities for physical activity and social connections (Kent &amp; Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported by review authors; location of studies in review: 'worldwide'. Δ In a survey of 861 respondents, a 'greenery' view and a sea view were found to moderate annoyance responses to noise; personal characteristics that affected individuals' annoyance perception were the duration of time spent daily at home, which influenced the noise moderation effect exerted by a 'greenery' view, and the age of an individual, which</p>	<p>quality open spaces and green infrastructure). * PHE/IHE Local action on health inequalities: Improving access to green spaces: Provides an overview of the evidence linking access to green spaces with health benefits and interventions to increase equitable access and use of good-quality green spaces. * Natural England Green Infrastructure Guidance: Sets out the benefits of the creation and enhancement of green infrastructure, including: creating attractive and accessible places for people to enjoy direct and regular contact with the natural environment; strengthening links between urban areas and their surrounding countryside; bringing the natural world into every neighbourhood, with benefits for individual and community health and wellbeing.</p>
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disease, and bodies of water may provide habitats for mosquitoes. Owing to economic growth, population size and urban and industrial expansion in the EU, to maintain ecosystem services at 2010 levels, for every additional percentage increase in the proportion of 'artificial' land, there needs to be a 2.2% increase in green infrastructure.

influenced the noise moderation effect exerted by a sea view (Li et al, 2012); type of study: survey; location of study: Hong Kong.  $\Delta$  River promenades are favourite places to spend leisure time and to engage in recreational activities, in addition to providing restoration from everyday stresses; water is a strong predictor of preference and positive perceptual experiences in urban environments; users also report strong emotional attachments to the place; urban blue space may be interpreted as a therapeutic landscape with benefits for human health (Volker & Kistemann, 2013); type of study: mixed methods; location of study: Cologne & Dusseldorf, Germany.  $\Delta$  When compared with urban green space, urban blue space has some prominent health-enhancing effects for users including enhanced contemplation, emotional bonding, participation, and physical activity (Volker & Kistemann, 2015); type of study: qualitative interview; location of study: Cologne & Dusseldorf, Germany.  $\Delta$  Biodiversity is associated with physiological benefits for humans, but increasing the biodiversity of urban environments may also promote the introduction and survival of vector or host organisms for infectious pathogens with resulting spread of a variety of diseases: more green connectivity in urban areas may potentiate the role of rats and ticks in the spread of infectious diseases; increasing urban green space may also adversely affect citizens allergic to pollen; bodies of water and wetlands may provide habitats for mosquitoes and toxic algal blooms (Lohmus & Balbus, 2015); type of study: review?.  $\Delta$

<p>Access to leisure, recreation and physical activity opportunities within the urban and natural environments</p>	<p>Access to recreational opportunities, facilities and services is associated with risk factors for long-term disease; it can increase physical activity, especially walking for recreation, reduce body mass index and overweight and obesity, reduce the risk of high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions. It can also enhance social connectedness. Children tend to play on light-traffic streets, whereas outdoor activities are less common on high-traffic streets. A perception of air pollution can be a barrier to participating in outdoor physical</p>	<p>Access to open space and recreational opportunities are associated with risk factors for long-term disease such as physical activity levels and social connectedness (Lowe et al, 2014); type of study: review; location of study: international. Δ Walkability, regional accessibility, sidewalks, bike facilities and recreation facility access were positively associated with physical activity and negatively related to body weight, high blood pressure and transportation impacts (Ulmer et al, 2014); type of study: HIA methodology; location of study: Canada. Δ Access to recreational infrastructure, such as parks and playgrounds, may have the potential to increase physical activity among children and reduce obesity among adolescents (Davison &amp; Lawson, 2006; Dunton et al, 2009); type of study: systematic review; types of study in the review: cross-sectional, longitudinal; quality of evidence: not reported by both sets of reviewers; location of studies in the review: high-income countries including the UK. Δ In the Caerphilly Prospective Study, body mass index was significantly associated with built environment factors including mix, density of retail, churches, and recreational and leisure services, street network accessibility, and slope variability; controlling for socio-demographic and lifestyle factors, and for vascular diseases had a negligible impact on the influence of built environment factors (Gong et al, 2014); type of study: prospective cohort; location of study: Caerphilly, Wales. Δ Outdoor activities are less common on high-traffic streets: children are rarely found playing except on light-traffic streets (Jacobsen et al, 2009); type of study: review; location of studies: high-income countries. Δ Urban agriculture may increase opportunities for physical activity and social connections (Kent &amp; Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported by review authors; location of studies in review: 'worldwide'. Δ Gardening in an allotment setting may result in positive physical and mental health-related impacts and outcomes (Garden Organic &amp; Sustain, 2014); type of study: non-systematic review; location of studies in review: UK. Δ Exercise in the natural environment can have a positive effect on mental</p>	<p>* DCLG Planning Practice Guidance: Open space, sports and recreation facilities, public rights of way and local green space: Gives key advice on open space, sports and recreation facilities, public rights of way and the new Local Green Space designation.* DCLG Planning Practice Guidance: Natural environment: Explains key issues in implementing policy to protect biodiversity, including local requirements.* DCLG Planning Practice Guidance: Health and wellbeing: Covers the role of health and wellbeing in planning, including the importance of opportunities for healthy lifestyles have been considered (eg planning for an environment that helps to promote active travel and</p>
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activity. There is a positive association between urban agriculture and increased opportunities for physical activity and social connectivity. Gardening in an allotment setting can result in many positive physical and mental health-related outcomes. Exercising in the natural environment can have a positive effect on mental wellbeing when compared with exercising indoors.

wellbeing when compared with indoor exercise (Thompson Coon et al, 2011); type of study: systematic review; types of study in the review: RCT, longitudinal; quality of evidence: moderate; location of studies in the review: high-income countries. ▢

physical activity, and opportunities for play, sport and recreation)\*. PHE Local action on health inequalities: Improving access to green spaces: Provides an overview of the evidence linking access to green spaces with health benefits and interventions to increase equitable access and use of good-quality green spaces.\* PHE Everybody Active Everyday: An evidence based approach to physical activity: Provides an evidence-based approach for national and local action to address the physical inactivity epidemic.\* PHE Guidance: Health Matters - Getting every adult active every day: Sets out that for most people the easiest and most acceptable forms of physical activity are those that can be incorporated into everyday life, such as walking or cycling.

Health & Wellbeing Theme:	Standard Text	Associated Evidence	Policy
<b>TRAFFIC &amp; TRANSPORT</b>  Accessibility	<p>Walkability, regional accessibility, pavements and bike facilities are positively associated with physical activity and negatively related to body weight and high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions. Body mass index is associated with street network accessibility and slope variability.</p>	<p>Walkability, regional accessibility, sidewalks, bike facilities and recreation facility access were positively associated with physical activity and negatively related to body weight, high blood pressure and transportation impacts (Ulmer et al, 2014); type of study: HIA methodology; location of study: Canada. ◊</p> <p>In the Caerphilly Prospective Study, body mass index was significantly associated with built environment factors including mix, density of retail, churches, and recreational and leisure services, street network accessibility, and slope variability; controlling for socio-demographic and lifestyle factors, and for vascular diseases had a negligible impact on the influence of built environment factors (Gong et al, 2014); type of study: prospective cohort; location of study: Caerphilly, Wales. ◊</p>	0

<p>Provision of high-quality public transport is associated with an increase in active travel among children (Davison &amp; Lawson, 2006); type of study, systematic review; study types in the review, cross-sectional; quality of evidence, not reported; location of studies in review, high-income countries including UK. <math>\Delta</math> After adjusting for many potential confounders, the introduction of new public transport infrastructure (busway) promoted an increase in the share of commuting trips involving active travel and a decrease in the share made entirely by car (Heinen et al, 2015); type of study: quasi-experimental analysis nested within a cohort study; location of study: UK. <math>\Delta</math> Different transport user groups responded differently to the introduction of a new public transport system: existing users of public transport did not perceive the new system as an improvement and were frustrated that the system was differentiated from and not coherent with the existing system, whereas new users of public transport (the majority of whom were previously users of private cars) had a positive perception seeing the new system as a novel and superior form of travel. (Jones et al, 2013); type of study: qualitative - ethnography; location of study: Cambridge, UK. <math>\Delta</math> There is a sizable public health benefit associated with the adoption of light rail, but this needs to be balanced against the costs associated with constructing and operating such systems (Stokes et al, 2008); type of study: cost-benefit analysis; location of study: USA. <math>\Delta</math></p>	<p>* DfT Cycling and Walking Investment Strategy: Sets out the Government's ambition for walking and cycling to be a normal part of everyday life, and the natural choices for shorter journeys such as going to school, college or work, travelling to the station, and for simple enjoyment. * PHE Working together to promote active travel - A briefing for local authorities: Provides a range of evidence-based practical action for local authorities, from overall policy to practical implementation.</p>
<p>Provision of high-quality public transport is associated with an increase in active travel among children (Davison &amp; Lawson, 2006); type of study, systematic review; study types in the review, cross-sectional; quality of evidence, not reported; location of studies in review, high-income countries including UK. <math>\Delta</math> After adjusting for many potential confounders, the introduction of new public transport infrastructure (busway) promoted an increase in the share of commuting trips involving active travel and a decrease in the share made entirely by car (Heinen et al, 2015); type of study: quasi-experimental analysis nested within a cohort study; location of study: UK. <math>\Delta</math> Different transport user groups responded differently to the introduction of a new public transport system: existing users of public transport did not perceive the new system as an improvement and were frustrated that the system was differentiated from and not coherent with the existing system, whereas new users of public transport (the majority of whom were previously users of private cars) had a positive perception seeing the new system as a novel and superior form of travel. (Jones et al, 2013); type of study: qualitative - ethnography; location of study: Cambridge, UK. <math>\Delta</math> There is a sizable public health benefit associated with the adoption of light rail, but this needs to be balanced against the costs associated with constructing and operating such systems (Stokes et al, 2008); type of study: cost-benefit analysis; location of study: USA. <math>\Delta</math></p>	<p>* DfT Cycling and Walking Investment Strategy: Sets out the Government's ambition for walking and cycling to be a normal part of everyday life, and the natural choices for shorter journeys such as going to school, college or work, travelling to the station, and for simple enjoyment. * PHE Working together to promote active travel - A briefing for local authorities: Provides a range of evidence-based practical action for local authorities, from overall policy to practical implementation.</p>
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Access to / by public transport

Provision of high-quality public transport is associated with higher levels of active travel among children and among people commuting to work, with a decrease in the use of private cars. Combining public transport with other forms of active travel can improve cardiovascular fitness. Innovative or new public transport interventions may need to be marketed and promoted differently to different groups of transport users, eg by emphasising novelty to car users while ensuring that the new system is seen by existing users as coherently integrated with existing services.

<p>Opportunities for / access by cycling &amp; walking</p>	<p>Walking and cycling infrastructure can enhance street connectivity, helping to reduce perceptions of long-distance trips and providing alternative routes for active travel.</p> <p>Prioritising pedestrians and cyclists through changes in physical infrastructure can have positive behavioural and health outcomes, such as physical activity, mobility and cardiovascular outcomes. The provision and proximity of active transport infrastructure is also related to other long-term disease risk factors, such as access to healthy food, social connectedness and air quality. The</p>	<p>When the infrastructure of an extension to the M74 was built in Glasgow, there were no specific investment or promotion interventions which aimed to increase active travel in the area surrounding the new M74 extension, which could explain why the new M74 extension did not produce any increase in journey stages made actively by people living near the M74 extension when compared with people living near existing transport structures and the wider city region (Olsen et al, 2016); type of study: retrospective cross-sectional; location of study: Scotland. ▽</p> <p>Prioritising cycling infrastructure is associated with raised physical activity levels among children, adults and older adults (D'Haese et al, 2015; Larouche et al, 2014; Mueller et al, 2015; Wanner et al, 2012); type of study: systematic review; study types in the review: cross-sectional, controlled cohort, RCT, HIA, cost-benefit analysis (latter two, Mueller et al); quality of evidence: high (D'Haese et al), moderate (Larouche et al), low (Wanner et al), not reported by review authors (Mueller et al); location of studies in review: high-income countries, including UK. ▽</p> <p>Provision and proximity of cycle paths is positively associated with cycling rates (Fraser &amp; Lock, 2011); type of study: systematic review; study types in the review: cross-sectional, quasi-experimental; quality of evidence: low to moderate; location of studies in review: high-income countries, including UK. ▽</p> <p>Investing in infrastructure to support walking is associated with increased levels of physical activity among children, adults and older adults (Carlin et al, 2015; D'Haese et al, 2015; Grasser et al, 2013; Larouche et al, 2014; Mueller et al, 2015; Wanner et al, 2012); type of study: systematic review; study types in the review: quasi-experimental, cross-sectional, controlled cohort, RCT, HIA, cost-benefit analysis (latter two, Mueller et al), not clear (Grasser et al); quality of evidence: mixed (Carlin et al), high (D'Haese et al), moderate to high (Grasser et al), moderate (Larouche et</p>	<p>* DfT Cycling and Walking Investment Strategy: Sets out the Government's ambition for walking and cycling to be a normal part of everyday life, and the natural choices for shorter journeys such as going to school, college or work, travelling to the station, and for simple enjoyment.</p> <p>* PHE Working together to promote active travel - A briefing for local authorities: Provides a range of evidence-based practical action for local authorities, from overall policy to practical implementation.</p> <p>* Sport England - Planning for health and wellbeing through active design: Sets out ten principles of active design.</p>
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<p>perception of air pollution, however, appears to be a barrier to participating in active travel.</p> <p>Perceived or objective danger may also have an adverse effect on cycling and walking, both of which activities decrease with increasing traffic volume and speed, and cycling for leisure decreases as local traffic density increases. Health gains from active travel policies outweigh the adverse effects of road traffic incidents. New infrastructure to promote cycling, walking and the use of public transport can increase the time spent cycling on the commute to work, and the overall time spent commuting among the</p>	<p>al), low (Wanner et al), not reported by review authors (Mueller et al); location of studies in review: high-income countries, including UK, and not reported (Grasser et al). Δ</p> <p>Odds ratios of cycling for leisure dropped as local traffic density increased for both genders (Foster et al, 2009); type of study: multivariate analysis; location of study: UK. Δ</p> <p>Active travel is difficult to achieve in rural areas where residents live far away from local amenities and social services (Active Living Research, 2015); type of study: “report”. Δ</p> <p>Active travel has the potential to improve cardiovascular health (Xu et al, 2013); type of study: systematic review; study types in the review: cross-sectional, systematic review; quality of evidence, mixed (low, moderate and high); location of studies in review: not clear. Δ</p> <p>The provision of active and public transport infrastructure, the location of employment, shops and services, and access to open space and recreational opportunities are associated with chronic disease risk factors such as physical activity levels, access to healthy food, social connectedness, and air quality (Lowe et al, 2014); type of study: review; location of study: international. Δ</p> <p>Health gains from active travel policies outweigh the adverse effects of traffic incidents (Fraser &amp; Lock, 2011; Mueller et al, 2015); type of study: systematic review; study types in the review: cross-sectional, quasi-experimental (Fraser &amp; Lock) HIA, cost-benefit analysis (Mueller et al); quality of evidence: low to moderate, and not reported by review authors (Mueller et al); location of studies in review: high-income countries, including UK. Δ</p>
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least-active people. Active travel to work or school can be associated with body mass index and weight, and may reduce cardiovascular risk factors and improve cardiovascular outcomes. The distance of services from cycle paths can have an adverse effect on cycling behaviour, whereas mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking.

Perceived or objective danger may adversely affect cycling behaviour (Fraser & Lock, 2011); type of study: systematic review; study types in the review: cross-sectional, quasi-experimental; quality of evidence: low to moderate; location of studies in review: high-income countries, including UK. ▽

There is an inverse correlation between volumes and speeds of traffic and levels of walking and cycling - where pedestrians and cyclists are safer, levels of walking and cycling tend to be higher, which is consistent across a wide range of contexts (Jacobsen, 2009); type of study: review; location of studies in the review: high-income countries. ▽

Separation of cycling from other traffic may promote cycling (Fraser & Lock, 2011); type of study: systematic review; study types in the review: cross-sectional, quasi-experimental; quality of evidence: low to moderate; location of studies in review: high-income countries, including UK. ▽

In deprived urban neighbourhoods, perceptions of the local environment and objective proximity to major road infrastructure did not appear to explain much of the variance in active travel or overall physical activity - in a deprived environment, the population may be constrained by their socioeconomic circumstances including limited access to private cars and adapted to living in conditions that others would consider a barrier to active travel (Ogilvie et al, 2008); type of study: survey and multivariate logistic regression analysis; location of study: Glasgow, Scotland. ▽

Distance of services from cycle paths can adversely affect cycling behaviour (Fraser & Lock, 2011); type of study: systematic review; study types in the review: cross-sectional, quasi-experimental; quality of evidence: low to moderate; location of studies in review: high-income countries, including UK. ▽

Against a background of a decline in active commuting, new infrastructure to promote cycling, walking and use of public transport increased the time spent cycling on the commute to work, with an

	<p>increase in the overall time spent in active commuting among people least active at baseline; no effect was found on time spent walking on the commute, or in overall physical activity, which could be a false-negative result (Panter et al, 2016); type of study: quasi-experimental analysis nested within a cohort study; location of study: Cambridge, UK. ◊</p> <p>Walking and cycling to school or work may improve cardiovascular health and reduce cardiovascular risk factors (Oja et al, 2011; Xu et al, 2013); type of study: systematic review; study types in the review: cross-sectional, case-control, controlled cohort, RCT, systematic review; quality of evidence: mixed (low, moderate and high for both reviews); location of studies in reviews: high-income countries, plus China (Oja et al), not clear (Xu et al). ◊</p> <p>There is either a positive or no association between active travel to work or school and body mass index and weight status (Faulkner et al, 2009; Oja et al, 2011; Xu et al, 2013); type of study: systematic review; study types in the review: cross-sectional, case-control, controlled cohort, RCT, systematic review; quality of evidence: mixed (low, moderate and high) and not reported (Faulkner et al); location of studies in reviews: high-income countries, including UK, plus China and Philippines, and not clear (Xu et al). ◊</p> <p>There is a consistent positive relationship between transportation walking and density, distance to non-residential destinations and land-use mix (Saelens et al, 2008); type of study: review; location of studies: international. ◊</p>	<p>Social connectedness can be enhanced by the provision of public and active transport infrastructure and the location of employment, amenities, facilities</p>	<p>Links between communities</p>
<p>* DCLG Planning Practice Guidance: Health and wellbeing: Covers the role of health and wellbeing in planning, including that development proposals can support strong,</p>	<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with social connectedness (Lowe et al, 2014); type of study: review; location of study: international. ◊</p>		

Community severance	In neighbourhoods with high volumes of traffic, the likelihood of people knowing and trusting neighbours is reduced.	Neighbours are less likely to know and trust each other in neighbourhoods with high traffic volume (Jacobsen et al, 2009); type of study: review; location of studies in review: high-income countries. □	<p>vibrant and healthy communities and help create healthy living environments, including creating places and spaces to meet to support community engagement and social capital; as well as the importance of access to the whole community by all sections of the community, whether able-bodied or disabled.</p> <p>* PHE Working together to promote active travel - A briefing for local authorities: Sets out the evidence that the volume and speed of motorised traffic can reduce opportunities for positive contacts with other residents in a neighbourhood and, for many people, can contribute to increased social isolation.</p> <p>* DCLG Planning Practice Guidance: Health and wellbeing: Covers the role of health and wellbeing in planning, including that</p>
			<p>and services.C48</p>

development proposals can support strong, vibrant and healthy communities and help create healthy living environments, including creating places and spaces to meet to support community engagement and social capital; as well as the importance of access to the whole community by all sections of the community, whether able-bodied or disabled.\*  
PHE Working together to promote active travel - A briefing for local authorities: Sets out the evidence that the volume and speed of motorised traffic can reduce opportunities for positive contacts with other residents in a neighbourhood and, for many people, can contribute to increased social isolation.

<p>The location of employment opportunities and the provision of public and active transportation infrastructure are associated with risk factors for long-term disease such as physical activity levels, access to healthy food, social connectedness, and air quality (Lowe et al, 2014); type of study: review; location of study: international. ◊</p> <p>Against a background of a decline in active commuting, new infrastructure to promote cycling, walking and use of public transport increased the time spent cycling on the commute to work, with an increase in the overall time spent in active commuting among people least active at baseline; no effect was found on time spent walking on the commute, or in overall physical activity, which could be a false-negative result (Panter et al, 2016); type of study: quasi-experimental analysis nested within a cohort study; location of study: Cambridge, UK. ◊</p> <p>Good pedestrian and cycling infrastructure may play an important role in promoting commuting physical activity among the employed population, although the distance to and proportion of green space near a person's home may not be sufficient to initiate commuting physical activity; people 45-54 years were less likely to walk or cycle to and from work, whereas women and people who were physically active during leisure-time and living in an area with a high proportion of recreational green space were more likely to be physically active while commuting (Maki-Opas et al, 2016); type of study: cross-sectional; location of study: 6 cities in Finland. ◊</p> <p>There is a consistent positive relationship between transportation walking and density, distance to non-residential destinations and land-use mix (Saelens et al, 2008); type of study: review; location of studies: international. ◊</p>	<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with risk factors for long-term disease such as physical activity levels, access to healthy food, social connectedness, and air quality (Lowe et al, 2014); type of study: review; location of study: international. ◊</p> <p>Against a background of a decline in active commuting, new infrastructure to promote cycling, walking and use of public transport increased the time spent cycling on the commute to work, with an increase in the overall time spent in active commuting among people least active at baseline; no effect was found on time spent walking on the commute, or in overall physical activity, which could be a false-negative result (Panter et al, 2016); type of study: quasi-experimental analysis nested within a cohort study; location of study: Cambridge, UK. ◊</p> <p>Good pedestrian and cycling infrastructure may play an important role in promoting commuting physical activity among the employed population, although the distance to and proportion of green space near a person's home may not be sufficient to initiate commuting physical activity; people 45-54 years were less likely to walk or cycle to and from work, whereas women and people who were physically active during leisure-time and living in an area with a high proportion of recreational green space were more likely to be physically active while commuting (Maki-Opas et al, 2016); type of study: cross-sectional; location of study: 6 cities in Finland. ◊</p> <p>There is a consistent positive relationship between transportation walking and density, distance to non-residential destinations and land-use mix (Saelens et al, 2008); type of study: review; location of studies: international. ◊</p>	<p>* DfT Cycling and Walking Investment Strategy: Sets out the evidence that the delivery of the Government's ambition on cycling and walking will see employers benefit from a healthier workforce and thriving high streets supporting local employment.</p> <p>* PHE Working together - to promote active travel - A briefing for local authorities: Sets out the evidence that health-promoting transport systems are pro-business and support economic prosperity, enabling optimal travel to work with less congestion, collisions, pollution, and supporting a healthier workforce.</p>
<p>Connections to jobs</p>	<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with risk factors for long-term disease such as physical activity levels, access to healthy food, social connectedness, and air quality (Lowe et al, 2014); type of study: review; location of study: international. ◊</p> <p>Against a background of a decline in active commuting, new infrastructure to promote cycling, walking and use of public transport increased the time spent cycling on the commute to work, with an increase in the overall time spent in active commuting among people least active at baseline; no effect was found on time spent walking on the commute, or in overall physical activity, which could be a false-negative result (Panter et al, 2016); type of study: quasi-experimental analysis nested within a cohort study; location of study: Cambridge, UK. ◊</p> <p>Good pedestrian and cycling infrastructure may play an important role in promoting commuting physical activity among the employed population, although the distance to and proportion of green space near a person's home may not be sufficient to initiate commuting physical activity; people 45-54 years were less likely to walk or cycle to and from work, whereas women and people who were physically active during leisure-time and living in an area with a high proportion of recreational green space were more likely to be physically active while commuting (Maki-Opas et al, 2016); type of study: cross-sectional; location of study: 6 cities in Finland. ◊</p> <p>There is a consistent positive relationship between transportation walking and density, distance to non-residential destinations and land-use mix (Saelens et al, 2008); type of study: review; location of studies: international. ◊</p>	<p>* DfT Cycling and Walking Investment Strategy: Sets out the evidence that the delivery of the Government's ambition on cycling and walking will see employers benefit from a healthier workforce and thriving high streets supporting local employment.</p> <p>* PHE Working together - to promote active travel - A briefing for local authorities: Sets out the evidence that health-promoting transport systems are pro-business and support economic prosperity, enabling optimal travel to work with less congestion, collisions, pollution, and supporting a healthier workforce.</p>

<p>Mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking. Access to recreational opportunities and the location of shops and services are associated with risk factors for long-term disease such as physical activity, access to healthy food and social connectedness. Increased distance of services from cycle paths can have an adverse effect on cycling behaviour.</p>	<p>There is a consistent positive relationship between transportation walking and density, distance to non-residential destinations and land-use mix (Saelens et al, 2008); type of study: review; location of studies: international. ◊</p> <p>Access to open space and recreational opportunities, the location of shops, services and employment, and the provision of public and active transport infrastructure are associated with long-term disease risk factors such as physical activity levels, access to healthy food, social connectedness, and air quality (Lowe et al, 2014); type of study: review; location of study: international. ◊</p> <p>Distance of services from cycle paths can adversely affect cycling behaviour (Fraser &amp; Lock, 2011); type of study: systematic review; study types in the review: cross-sectional, quasi-experimental; quality of evidence: low to moderate; location of studies in review: high-income countries, including UK. ◊</p>	<p>* PHE Working together to promote active travel - A briefing for local authorities: Sets out the evidence that short car trips (under 5 miles) are a prime area for switching to active travel and to public transport.</p>
<p><b>Health &amp; Wellbeing Theme:</b></p>	<p><b>Associated Evidence</b></p>	<p><b>Policy</b></p>
<p><b>SOCIO-ECONOMIC</b></p>		


Local  
business  
activity

No Data

No Data

\* DCLG NPPG:  
Supporting a prosperous rural economy: Sets out the importance of supporting the sustainable growth and expansion of all types of business and enterprise in rural areas and promoting the development and diversification of agricultural and other land-based rural businesses. \* DCLG Planning Practice Guidance: Ensuring the vitality of town centres: Sets out that planning should support town centres to generate local employment, promote beneficial competition within and between town centres, and create attractive, diverse places where people want to live, visit and work.



Following rebuilding and housing improvements in deprived neighbourhoods, better housing conditions are associated with better health behaviours; allowing people to remain in their neighbourhood during demolition and rebuilding is more likely to stimulate life-changing improvements in health behaviour than in people who are relocated. The partial demolition of neighbourhoods does not appear to affect residents' physical or mental health. Mega-events, such as the Olympic Games, often promoted on the basis of their potential legacy for regeneration, appear to have only a short-term impact on mental health.

## Regeneration

In the 10-year GoWell study (2006-2015) of the effects of demolition, rebuilding and housing improvements, better internal dwelling conditions were associated with several better health behaviours in deprived neighbourhoods; in relation to neighbourhood conditions, people who were relocated ("outmovers") often exhibited worse health behaviours than people who remain in the neighbourhood ("remainers"), perhaps because environmental and social conditions were little altered by relocation, and personal support mechanisms were missing; health behaviours were relatively good among remainers, indicating that in-situ changes might stimulate life-changing improvements, but relocation less so (Kearns & Mason, 2015); type of study: unknown; location of study: Glasgow, UK.  $\Delta$  After adjustment for potential confounders and baseline health, for residents living in partly demolished neighborhoods their mean mental and physical health scores were similar to those of the control group (Egan et al, 2013); type of study: longitudinal cohort; location of study: Glasgow UK.  $\Delta$  In an adjusted model, exposure to multiple demolitions was found to have significant effects on children's blood lead levels; age of the child, race, and age of housing where the children lived were also significant predictors (Rabito et al, 2007); type of study: retrospective cohort; location of study: USA.  $\Delta$  In the ORiEL (Olympic Regeneration in East London) study of 2254 adolescents aged 11-12 years from 25 randomly selected schools in the Olympic host London Borough of Newham and in three adjacent comparison London boroughs, adolescents from the Olympic host borough were more likely to have 'remained depressed' between baseline and the 6-month and 18-month follow-ups when compared with adolescents from the comparison boroughs; no differences in wellbeing were observed; there was little evidence that urban regeneration in the form of public expenditure on mega-events had a positive influence on adolescent mental health and some suggestion that it may have been associated with maintenance of depressive symptoms (Clark et al, 2017); type of study: cross-sectional; location of study: London, including London Borough of Newham, UK.  $\Delta$

\* DCLG NPPF: Delivering sustainable development: Sets out the importance of Identifying priority areas for economic regeneration, infrastructure provision and environmental enhancement and assisting in urban regeneration, by encouraging the recycling of derelict and other urban land.\* DCLG Estate Regeneration National Strategy: Sets out how estate regeneration can transform neighbourhoods by delivering high-quality, well-designed places, more homes and opportunities for residents.

<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with risk factors for long-term disease such as social connectedness (Lowe et al, 2014); type of study: review; location of study: international. Δ Access to local amenities such as shops, schools and health centres may increase social participation among older adults (Levasseur et al, 2015); type of study: systematic review; study types in the review: cross-sectional, qualitative; quality of evidence: not clear; location of studies in review: high-income countries. Δ Neighbourhoods characterised as more walkable, either leisure-oriented or destination-driven, are associated with increased physical activity, increased social capital, lower overweight, lower reports of depression, and less reported alcohol abuse (Renalds et al, 2010); type of study: review; location of study: international. Δ Urban agriculture may increase opportunities for social connections (Kent &amp; Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported by review authors; location of studies in review: 'worldwide'. Δ In a study of two communities in the vicinity of wind turbine development, residents in some communities underwent substantial changes to quality of life, developed negative perceptions of 'the other' and in some cases, experienced intra-community conflict; policy-related forces together with existing community relationships may help to explain much of the differences between communities (Walker et al, 2015); type of study: grounded theory qualitative research; location of study: Ontario, Canada. Δ For communities near unconventional natural gas development and production sites one of the major stressors is psychosocial stress associated with community change (Adgate et al, 2014); type of study: review; location of study: USA. Δ</p>	<p>* DCLG Planning Practice Guidance: Health and wellbeing: Covers the role of health and wellbeing in planning, including that development proposals can support strong, vibrant and healthy communities and help create healthy living environments, including creating places and spaces to meet to support community engagement and social capital. * PHE/IHE Local action on health inequalities: Reducing social isolation across the lifecourse: Sets out the importance of reducing social isolation, including how aspects of the built and natural environment and transport infrastructure can help or hinder efforts to enhance social connections.</p>
<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with risk factors for long-term disease such as social connectedness (Lowe et al, 2014); type of study: review; location of study: international. Δ Access to local amenities such as shops, schools and health centres may increase social participation among older adults (Levasseur et al, 2015); type of study: systematic review; study types in the review: cross-sectional, qualitative; quality of evidence: not clear; location of studies in review: high-income countries. Δ Neighbourhoods characterised as more walkable, either leisure-oriented or destination-driven, are associated with increased physical activity, increased social capital, lower overweight, lower reports of depression, and less reported alcohol abuse (Renalds et al, 2010); type of study: review; location of study: international. Δ Urban agriculture may increase opportunities for social connections (Kent &amp; Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported by review authors; location of studies in review: 'worldwide'. Δ In a study of two communities in the vicinity of wind turbine development, residents in some communities underwent substantial changes to quality of life, developed negative perceptions of 'the other' and in some cases, experienced intra-community conflict; policy-related forces together with existing community relationships may help to explain much of the differences between communities (Walker et al, 2015); type of study: grounded theory qualitative research; location of study: Ontario, Canada. Δ For communities near unconventional natural gas development and production sites one of the major stressors is psychosocial stress associated with community change (Adgate et al, 2014); type of study: review; location of study: USA. Δ</p>	<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with risk factors for long-term disease such as social connectedness (Lowe et al, 2014); type of study: review; location of study: international. Δ Access to local amenities such as shops, schools and health centres may increase social participation among older adults (Levasseur et al, 2015); type of study: systematic review; study types in the review: cross-sectional, qualitative; quality of evidence: not clear; location of studies in review: high-income countries. Δ Neighbourhoods characterised as more walkable, either leisure-oriented or destination-driven, are associated with increased physical activity, increased social capital, lower overweight, lower reports of depression, and less reported alcohol abuse (Renalds et al, 2010); type of study: review; location of study: international. Δ Urban agriculture may increase opportunities for social connections (Kent &amp; Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported by review authors; location of studies in review: 'worldwide'. Δ In a study of two communities in the vicinity of wind turbine development, residents in some communities underwent substantial changes to quality of life, developed negative perceptions of 'the other' and in some cases, experienced intra-community conflict; policy-related forces together with existing community relationships may help to explain much of the differences between communities (Walker et al, 2015); type of study: grounded theory qualitative research; location of study: Ontario, Canada. Δ For communities near unconventional natural gas development and production sites one of the major stressors is psychosocial stress associated with community change (Adgate et al, 2014); type of study: review; location of study: USA. Δ</p>
<p>Community / social cohesion and access to social networks</p>	<p>The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with risk factors for long-term disease such as social connectedness (Lowe et al, 2014); type of study: review; location of study: international. Δ Access to local amenities such as shops, schools and health centres may increase social participation among older adults (Levasseur et al, 2015); type of study: systematic review; study types in the review: cross-sectional, qualitative; quality of evidence: not clear; location of studies in review: high-income countries. Δ Neighbourhoods characterised as more walkable, either leisure-oriented or destination-driven, are associated with increased physical activity, increased social capital, lower overweight, lower reports of depression, and less reported alcohol abuse (Renalds et al, 2010); type of study: review; location of study: international. Δ Urban agriculture may increase opportunities for social connections (Kent &amp; Thompson, 2014); type of study: systematic review; study types in review: not reported; quality of evidence: not reported by review authors; location of studies in review: 'worldwide'. Δ In a study of two communities in the vicinity of wind turbine development, residents in some communities underwent substantial changes to quality of life, developed negative perceptions of 'the other' and in some cases, experienced intra-community conflict; policy-related forces together with existing community relationships may help to explain much of the differences between communities (Walker et al, 2015); type of study: grounded theory qualitative research; location of study: Ontario, Canada. Δ For communities near unconventional natural gas development and production sites one of the major stressors is psychosocial stress associated with community change (Adgate et al, 2014); type of study: review; location of study: USA. Δ</p>

	conflict.		
		Standard Text	Policy
		Associated Evidence	
<b>Health &amp; Wellbeing Theme:</b> <b>LAND USE</b>			

Land use in urban and / or rural settings	Land-use mix including infrastructure: Land use affects health not only by shaping the built environment, but also through the balance of various types of infrastructure including transport. Vulnerable groups in the population are disproportionately affected by decisions about land use, transport and the built environment. Land use and transport policies can result in negative health impacts due to low physical activity levels, sedentary behaviours, road traffic incidents, social isolation, air pollution, noise and heat. Mixed land use can increase both active travel and physical activity. Transportation walking is related to	Urbanisation: Urban sprawl and land use mix were consistently found to be associated with adult weight status only in North America; the available research does not allow robust identification of ways in which that physical environment influences adult weight status, even after taking into account methodological quality (Mackenbach et al, 2014); type of study: systematic review; location of study: international. Δ	* DCLG NPPF: Promoting sustainable transport: Sets out the importance of planning policies aiming for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.
	Owing to urban expansion in the Rome metropolitan area, land fragmentation increased during the period 1949-2008; poorly protected or medium-low value-added land classes (e.g. vineyards, arable land, olive groves, pastures) experienced fragmentation whereas protected or high value-added land classes (eg forests, olive groves) showed larger 'core' areas and lower fragmentation; there was increased fragmentation for all land uses except for urban areas and forests (Salvati, 2014); location of study: Rome, Italy; type of study: multivariate statistical analysis. Δ		
	Using a predictive model, urbanisation involving a diffuse exploitation pattern had the greatest negative impacts on the habitat networks of focal species, and although urbanisation with concentrated exploitation patterns also had negative impacts, it was possible to mitigate them quite easily (Mortberg et al, 2007); type of study: predictive model; location of study: Sweden. Δ		
	Controlling the rate of development is the most effective policy option to reduce run-off during storm events; establishing setbacks along the mainstem is not as effective as controlling urban growth; reforestation can abate some of the run-off effects from urban growth but not all; future land-use patterns do not always lead to increased (worse) runoff than in the past – 62.5% of the sub-watersheds produced the greatest amount of run-off in 1900, shortly after the entire watershed was clear-cut, whereas 35% of the sub-watersheds contained the minimum amount of run-off in the 1960s and 1970s, a period when forest amounts were greatest and		

land-use mix, density and distance to non-residential destinations; recreational walking is related to density and mixed use. Using modelling, if land-use density and diversity are increased, there is a shift from motorised transport to cycling, walking and the use of public transport with consequent health gain from a reduction in long-term conditions including diabetes, cardiovascular disease and respiratory disease.

Proximity to infrastructure: Energy resource activities relating to oil, gas and coal production and nuclear power can have a range of negative effects on children and young

urban amounts relatively small (Ray et al, 2016); type of study: comparative analysis; location of study: Muskegon River Watershed, Michigan, USA. ◊

Urban sprawl: Urban sprawl is significantly associated with increased emergency medical service response time and a higher probability of delayed ambulance arrival following motor-vehicle crashes (Trowbridge et al, 2009); type of study: comparative analysis; location of study: USA. ◊

Land-use mix: In a longitudinal cohort study, there was a reduction in physical activity participation among people living in the study area surrounding the existing M8 motorway, and, within this area, greater proximity to the motorway was associated with a reduced likelihood of participating in moderate-to-vigorous physical activity over time; no statistically significant changes were found in moderate-to-vigorous physical activity, walking or sedentary behaviour among people exposed to the new M74 motorway extension (Prins et al, 2017); type of study: longitudinal cohort; location of study: UK. ◊

Mixed land use may raise physical activity levels (Gomez et al, 2015; McCormack & Shiell, 2011; WHO, 2007); type of study: systematic review (WHO); study types in the review: cross-sectional, longitudinal, controlled cohort, RCT, controlled repeat cross-sectional, quasi-experimental, experimental; quality of evidence: moderate (Gomez et al; McCormack & Shiell), low to moderate (WHO); location of studies in review: high-income countries (mainly US, McCormack & Shiell; Gomez et al), Latin America (Gomez et al), developed countries (WHO). ◊

There is a consistent positive relationship between transportation walking and density, distance to non-residential destinations and land-use mix;

people. Residing in proximity to motorway infrastructure can reduce physical activity. For residents in proximity to rail infrastructure, annoyance is mediated by concern about damage to their property and future levels of vibration. Rural communities have concerns about competing with unconventional gas mining for land and water for both the local population and their livestock.

the relationship is less clear for recreational walking; the results were equivocal for route/network connectivity, parks and open spaces and personal safety (Saelens et al, 2008); type of study: review; location of studies: international. ◊

Adults who moved to a denser, mixed-use neighborhood increased their levels of walking for both recreation and transportation, decreased their automobile travel, and increased their use of public transportation (Mumford et al, 2011); type of study: survey; location of study: USA. ◊

There is an association between child development and neighbourhood destinations, green spaces, interaction with nature, traffic exposure, and housing density (Villanueva et al, 2016); type of study: review; location of study: USA. ◊

In the year-10 follow-up of the Cognitive Function and Ageing Study in England, for people aged 75-79 years, the effect of high land-use mix on an elevated risk of mortality was mediated by comorbidity, but for people >80 years a higher land-use mix was directly associated with a 10% lower risk of five-year mortality (Wu et al, 2016 ); type of study: longitudinal cohort; location of study: UK. ◊

After adjustment for demographic- and impairment-related differences, for people with physical disabilities, living in communities (5-mile buffer) with greater land use mix and more destinations was associated with a decreased likelihood of reporting optimum social and physical activity, whereas living in neighbourhoods (0.5-mile buffer) with large portions of open space was positively associated with the likelihood of reporting full physical, occupational, and social participation; the overall living conditions of the built environment may be relevant to social inclusion for people with physical disabilities (Botticello et al, 2014); type of study: cross-sectional; location of study: USA. ◊

Land-use plans that included improvements to non-car transportation and more comprehensive policies to guide development were positively associated with both leisure and transportation-related physical activity; residents of counties with lower-income levels and higher proportions of non-white residents were less likely to have attributes supportive of physical activity included in the land-use plans (Aytur et al, 2008); type of study: impact analysis; location of study: USA. ◻

Modelling of increased land-use density and diversity and reduced distances to public transport in 6 cities produced a modal shift from private car use to walking, cycling and use of public transport with health gains overall of 420-826 disability-adjusted life-years (DALYs) per 100,000 population (from a reduction in long-term conditions such as diabetes, cardiovascular disease and respiratory disease); however, in moderately to highly motorised cities, the model also predicted a small increase in road trauma for pedestrians and cyclists leading to a health loss of between 34 and 41 DALYs per 100,000 population (Stevenson et al, 2016); type of study: modelling within an HIA framework; study 'sites': 6 cities, including Boston, Copenhagen, Delhi, London, Melbourne. ◻

Land-use and transport policies are contributing to worldwide epidemics of non-communicable disease and injuries through traffic exposure, noise, air pollution, social isolation, low physical activity, and sedentary behaviours (Sallis et al, 2016); type of study: model; location of study: UK. ◻

Using a quantitative systems dynamic model, an optimal reduction in the public health burden attributable to land transport was found when transport safety risk reduction policies were combined with land use and transport policies that minimised reliance on individual motorised transport and maximised use of active transport modes; the model's results were particularly sensitive to the level of development that characterised each city at the start of the simulation period (McClure et al, 2015); type of study: quantitative system dynamics model and

simulation; location of study: USA and Australia. ◊

In an impact assessment undertaken to support policy in New Zealand, road transport accounted for a net annual toll of about 17,815 years of life lost, and an estimated 24,736 years of healthy life lost (DALYs), representing at least 2.1% of deaths and 3.3% of the total years of life lost in 2012; road transport injuries, physical activity and traffic-related air pollution comprise the main agents of impact: cars are responsible for about 52% of the overall health burden, HGVs 21%, LGVs 19%, motorcycles 8% and buses 1%, showing that HGVs and motorcycles make a disproportionate contribution to the burden of disease; motorcyclists are the most at-risk group, with death rates 35 times those for car occupants, both per kilometre and per hour travelled; cyclists have a raised risk - for deaths twice that of car drivers and pedestrians, and for injuries (and DALYs) more than 6-fold higher (Briggs et al, 2015); type of study: impact assessment; location of study: New Zealand. ◊

In an impact assessment for urban and transport planning, non-compliance with recommended levels for physical activity, air pollution, noise, heat and access to green spaces was estimated to result in 52,001 DALYs in Barcelona each year, representing 13% of all annual DALYs, and direct health costs of 20.10 million euros annually (Mueller et al, 2017a); type of study: impact assessment; location of study: Spain. ◊

Transportation as a land use affects human health indirectly through physical activity behaviour; buildings influence transportation and affect health through decisions about sites, and landscape surroundings; land use, forestry, and agriculture also affect health by shaping the infrastructures for both transportation and buildings, and affecting access to green spaces; vulnerable populations are disproportionately affected with regard to transportation, buildings and land use; working across sectors to incorporate a health promotion approach in the design and development of built environment components may improve public health (Younger et al, 2008); type of study: review (?). ◊



An urban and transport planning impact assessment tool was used to estimate that nearly 20% of mortality in a year could be prevented if international recommendations for physical activity, exposure to air pollution, noise, and heat, and access to green space were followed; the greatest portion of preventable deaths was attributable to increases in physical activity, followed by reductions of exposure to air pollution, traffic noise, and heat, whereas access to green spaces had smaller effects on mortality - compliance was estimated to increase the average life-expectancy by 360 days with economic savings of 9.3 billion EUR/year (Mueller et al, 2017b); type of study: impact assessment; location of study: Barcelona, Spain. [△](#)

For residents living in the vicinity of rail infrastructure development, annoyance scores were strongly influenced by two attitudinal factors: concern about damage to property and expectations about future levels of vibration; the type of residential area and age of the respondent were found to have an important effect on annoyance whereas visibility of the railway and time spent at home showed a significant but small influence (Peris et al, 2014); type of study: mixed method; location of study: USA. [△](#)

The majority of research on the effects of energy resource activities on children and young people uncovers a range of negative health impacts directly and indirectly related to the development and ongoing operations of natural resource production, particularly oil and gas, coal, and nuclear energy (Cox et al, 2017); type of study: review; location of study: international. [△](#)

There are increasing health concerns relating to unconventional gas mining among rural communities in USA and Australia including competition for land and water for both people and livestock (Haswell & Bethmont, 2016); type of study: review and qualitative research; location of study: USA & Australia. [△](#)

There is a positive association between walkability indexes (land-use mix, residential density and street connectivity) and active travel among

children and adults (Davison & Lawson, 2006; Grasser et al, 2013); type of study: systematic review; study types in the review: cross-sectional (Davison & Lawson), not clear (Grasser et al); quality of evidence: moderate to high, and not reported by review authors (Davison & Lawson); location of studies in review: high-income countries including the UK (Davison & Lawson), not reported by review authors (Grasser et al). ▽

In a survey of 2,101 residents living within 50 miles of 11 existing major nuclear sites and 600 who lived elsewhere, 34% favoured concentrating new nuclear power plants at pre-existing major plants, 52% favoured concentrating waste management facilities at pre-existing major plants, and 50% favoured concentrating new nuclear laboratories at pre-existing major plants; the strongest supporters for this policy were college-educated, relatively affluent white men; they disproportionately trusted the people responsible for the facilities and were not worried about existing nuclear facilities or other local environmental issues, although they were concerned about continuing coal use and tended to be familiar with their existing local nuclear site (Greenberg, 2009); type of study: survey; location of study: USA. ▽

<p>Quality of urban and natural environments</p>	<p>Long-term conditions such as cardiovascular disease, diabetes, obesity, asthma and depression can be moderated by the built environment. People in neighbourhoods characterised by high 'walkability' walk more than people in neighbourhoods with low 'walkability' irrespective of the land-use mix. In neighbourhoods associated with high 'walkability' there is an increase in physical activity and social capital, a reduction in overweight and blood pressure, and fewer reports of depression and of alcohol abuse. The presence of walkable land uses, rather than their equal mixture, relates to a healthy weight. Transportation</p>	<p>The majority of environmental indicators correlate significantly, leading to multiple environmental burdens in specific neighbourhoods, some of which also have significantly larger proportions of residents of a lower socioeconomic position indicating hotspots of environmental inequalities (Flacke et al, 2016); type of study: case-study – mapping indicators; location of study: Dortmund, Germany. ◊</p> <p>Walking or running in a natural setting is associated with more beneficial emotional outcomes than walking or running in an artificial setting (Bowler et al, 2010); type of study: cross-over and quasi-experimental; quality of evidence: moderate; location of studies in review: UK. ◊</p> <p>Long-term conditions such as cardiovascular disease, cancer, diabetes, obesity, asthma, injuries, and depression, as well as health hazards from environmental toxins and infectious agents, can be moderated by the design and characteristics of the built environment; exclusionary housing, finance, and zoning policies have relegated disadvantaged and vulnerable populations to declining, less healthy, and dangerous inner-city communities that have high rates of crime, unemployment, despair, and abandoned buildings; unequal and sprawling metropolitan growth harms environmental quality while increasing health risks and promoting decentralised growth, automobile dependency, and polluted water runoff; neighbourhoods have become less walkable and cohesive as zoning has separated residential and commercial areas; inner cities and older suburbs lack targeted, well-planned business and civic investments as well as adequate policing and recreation to promote healthier, walkable communities (Hutch et al, 2014); type of study: review; location of study: USA. ◊</p> <p>People in high-walkable neighbourhoods reported up to almost twice the amount of walking than people in low-walkable neighbourhoods irrespective of measure of land-use mix used; transport walking (≥ 60</p>	<p>* DCLG Planning Practice Guidance: Natural environment: Explains key issues in implementing policy to protect biodiversity, including local requirements.</p> <p>* DCLG Planning Practice Guidance: Health and wellbeing: Covers the role of health and wellbeing in planning, including the importance of opportunities for healthy lifestyles have been considered (eg planning for an environment that promotes access to high-quality open spaces and green infrastructure).</p> <p>* PHE/IHE Local action on health inequalities: Improving access to green spaces: Provides an overview of the evidence linking access to green spaces with health benefits and</p>
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<p>walking is at its highest levels in neighbourhoods where the land-use mix includes residential, retail, office, health, welfare and community, and entertainment, culture and recreation land uses; recreational walking is at its highest levels when the land-use mix includes public open space, sporting infrastructure and primary and rural land uses. Reduced levels of pollution and street connectivity increase participation in physical activity.</p>	<p>mins/week) had the strongest and most significant association with the walkability index when the land-use mix included 'residential', 'retail', 'office', 'health, welfare and community', and 'entertainment, culture and recreation'; any (&gt; 0 mins/week) recreational walking was more strongly associated with the walkability index when land-use mix included 'public open space', 'sporting infrastructure' and 'primary and rural' land uses; the observed associations were generally stronger for ≥ 60 mins/week when compared with &gt; 0 mins/week of transport walking and total walking, but this relationship was not seen for recreational walking (Christian et al, 2011); type of study: cross-sectional; location of study: Australia. Δ</p> <p>Adults living in neighbourhoods of high walkability accumulated up to 766 more steps per day compared with those living in areas of low walkability (Hajna et al, 2015); type of study: systematic review; study types in the review: not clear; quality of evidence: not clear; location of studies in review: 'Europe, Asia'. Δ</p> <p>Neighbourhoods characterised as more walkable, either leisure-oriented or destination-driven, are associated with increased physical activity, increased social capital, lower overweight, lower reports of depression, and less reported alcohol abuse (Renalds et al, 2010); type of study: review; location of study: international. Δ</p>	<p>interventions to increase equitable access and use of good-quality green spaces.</p> <p>* Natural England Green Infrastructure Guidance: Sets out the benefits of the creation and enhancement of green infrastructure, including: creating attractive and accessible places for people to enjoy direct and regular contact with the natural environment; strengthening links between urban areas and their surrounding countryside; bringing the natural world into every neighbourhood, with benefits for individual and community health and wellbeing.</p>
<p>Good-quality street lighting and traffic calming can increase pedestrian activity, while traffic calming reduces the risk of pedestrian injury. 20-mph zones and limits</p>	<p>In 5000 randomly chosen licensed drivers aged 25-64 years in Salt Lake County, Utah, lower body mass index was related to older neighbourhoods, components of a 6-category land use entropy score, and nearby light rail stops; the presence of walkable land uses, rather than their equal mixture, relates to healthy weight (Brown et al, 2009); type of study: review (?); location of study: USA. Δ</p>	
	<p>Walkability, regional accessibility, sidewalks, bike facilities and recreation</p>	

<p>are effective at reducing the incidence of road traffic incidents and injuries, while good-quality street lighting may prevent them. Public open spaces within neighbourhoods encourage physical activity, although the physical activity is dependent on different aspects of open space, such as proximity, size and quality. Improving the quality of urban green spaces and parks can increase visitation and physical activity levels.</p> <p>Living in a neighbourhood overlooking public areas can improve mental health, and residential greenness can reduce the risk of cardiovascular</p>	<p>facility access were positively associated with physical activity and negatively related to body weight, high blood pressure and transportation impacts (Ulmer et al, 2014); type of study: HIA methodology; location of study: Canada. ◊</p> <p>In a systematic review of the built environment and obesity, there was little between-study similarity in methods, which prevented estimation of pooled effects, and the degree of heterogeneity across studies limited what could be learnt from the evidence identified (Feng et al, 2010); type of study: systematic review; location of study: international. ◊</p> <p>Street connectivity is positively associated with physical activity (McCormack &amp; Shiell, 2011; WHO, 2007); type of study: systematic review (McCormack &amp; Shiell), stakeholder documentation (WHO); study types in the review: cross-sectional, quasi-experimental, experimental; quality of evidence: moderate (McCormack &amp; Shiell), low to moderate (WHO); location of studies in review: high-income countries (mainly US, 1 UK study; McCormack &amp; Shiell), developed countries (WHO). ◊</p> <p>Good-quality street lighting may increase pedestrian activity (McCormack &amp; Shiell, 2011); type of study, systematic review; study types in the review: cross-sectional, quasi-experimental; quality of evidence: moderate; location of studies in review: high-income countries (mostly US; 1 UK study). ◊</p> <p>Good-quality street lighting may prevent road traffic collisions, injuries and fatalities among car occupants (Beyer &amp; Ker, 2009); type of study: systematic review; study types in the review: cost-benefit analysis; quality of evidence: low; location of studies in review: high-income countries including UK. ◊</p> <p>Traffic calming is associated with increased walking behaviour and</p>
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mortality. Crime and safety issues in a neighbourhood affect both health status and mental health. Despite the complexity of the relationship, the presence of green space has a positive effect on crime, and general environmental improvements may reduce the fear of crime. Trees can have a cooling effect on the environment – an urban park is cooler than a non-green site. Linking road infrastructure planning and green infrastructure planning can produce improved outcomes for both, including meeting local communities' landscape sustainability objectives.

reduced risk of pedestrian injury (Rothman et al, 2013); type of study: systematic review; study types in the review: blank space in table; quality of evidence: low to moderate; location of studies in review: high-income countries. Δ

20-mph zones and limits are effective in reducing the incidence of road traffic collisions and injuries (Cairns et al, 2015); type of study: systematic review; study types in the review: systematic review; quality of evidence: moderate to high; location of studies in review: UK. Δ

A reduction in pollution is associated with increased physical activity participation among older adults (Annear et al, 2014); type of study: systematic review; study types in the review: cross-sectional, longitudinal, RCT; quality of evidence: not reported by review authors; location of studies in review: high-income countries, plus 'Asia'. Δ

Public open spaces are key built environment elements within neighbourhoods for encouraging a variety of physical activity behaviours, however, the evidence shows mixed associations between different aspects of public open space (e.g. proximity, size, quality) and physical activity (Koohsari et al, 2015); type of study: impact assessment case-study; location of study: US. Δ

In a retrospective cross-sectional study, there was no significant relationship between two walkability characteristics and health outcomes, whereas neighbourhood problems relating to crime and safety were found to affect health status and mental health symptoms (Deguzman et al, 2013); type of study: retrospective cross-sectional; location of study: USA. Δ

More evidence supports the positive impact of green space on violence and crime, indicating potential for green space to shape health-promoting environments, although many factors influence the relationships among green space, crime, and violence (Bogar and Beyer, 2016); type of study: review; location of studies: US. Δ

General environmental improvements may have the potential to reduce fear of crime (Lorenc et al, 2013); type of study: systematic review; study types in the review: cost-benefit analysis, uncontrolled before and after study; quality of evidence: low; location of studies in review: high-income countries, mainly UK. ◊

Exposure to heavy traffic, temporary hazards and rubbish are associated with poorer physical health outcomes among older adults, including cardiovascular disease mortality, incidence of falls and reduced longevity (Annear et al, 2014); type of study: systematic review; study types in the review: cross-sectional, longitudinal, RCT; quality of evidence: not reported by review authors; location of studies in review: high-income countries, plus 'Asia'. ◊

Exposure to residential greenness is associated with a reduced risk of mortality from cardiovascular disease – a 10% increase in greenness resulted in a small reduction in the risk of CVD mortality (not statistically significant) (Gascon et al, 2016); type of study: systematic review; types of study in review: ecological, cohort, cross-sectional; quality of evidence: moderate to high; location of studies in review: middle- and high-income countries including UK. ◊

Aesthetic improvement of parks may increase visitation and raise physical activity levels among children and adults (McCormack & Shiell, 2011, WHO, 2007); type of study: systematic review (McCormack & Shiell), stakeholder documentation (WHO); study types in the review: cross-sectional, quasi-experimental, experimental; quality of evidence: moderate (McCormack & Shiell), low to moderate (WHO); location of studies in review: high-income countries (mainly US; McCormack & Shiell), developed countries (WHO). ◊

Improving the quality of urban green spaces can significantly increase visitation and physical activity levels (Hunter et al, 2015); type of study: systematic review; study types in the review: quasi-experimental, RCT

(n=1); quality of evidence: low; location of studies in review: high-income countries (mainly US).  $\Delta$

Living in an area overlooking public areas is associated with improved mental health outcomes (Annear et al, 2014); type of study: systematic review; types of study in the review: RCT, cross-sectional, cohort; quality of evidence: not reported by review authors; location of studies in the review: high-income countries.  $\Delta$

Planting trees has a cooling effect on the environment – an urban park is 1 degree C cooler than a non-green site (Bowler, 2010); type of study: systematic review; study types in the review: cross-over, quasi-experimental; quality of evidence: moderate; location of studies in review: UK.  $\Delta$

Landscape: Green infrastructure and highway infrastructure have inherent competing connectivity goals on landscapes and these two networks affect each other; linking highway infrastructure planning and green infrastructure planning can produce improved outcomes for both because (i) green infrastructure planning improves integrated transportation planning by providing data on ecological resources and the local community's objectives for landscape sustainability, (ii) these benefits are significant for integrated transportation planning, transportation authorities have reason to fund landscape-scale green infrastructure assessments in growing metropolitan areas, and planning organisations can provide an institutional framework to conduct green infrastructure assessment where none might exist, (iii) green infrastructure assessments and plans help in the development of specific highway projects by providing data for environmental review and streamlining the review process, and (iv) pre-existing green infrastructure plans benefit from highway project development plans by leveraging mitigation money for strategic environmental resource protection (Marcucci & Jordan, 2013); type of study: review and case-study; location of study: USA.  $\Delta$



Seascape: In an online survey of the impacts on people's values of changes that could arise in ecology and amenity from the installation of an offshore wind farm, respondents expressed preferences for ecological improvements but had less clear preferences regarding the height and visibility of the turbines; there were distance decay effects, with respondents further away from the coast being less concerned about the visual impact created by offshore turbines (Borger et al, 2015); type of study: survey (discrete choice experiment); location of study: Irish Sea, UK. ▽

## Appendix C - PHE scoping response - noise

PHE scoping response - noise	Relevant policy document	Refs and other relevant evidence and guidance
<p>General notes:</p> <ul style="list-style-type: none"> <li>It is assumed that <i>sound</i> emitted from activities associated with aviation is considered as unwanted by the general population, hence the term <i>noise</i> has been used throughout this response to make it easier to read.</li> <li>Unless otherwise stated, the term <i>noise</i> in this response refers to noise from all sources associated with the development, including construction, surface access, aviation-related ground activities and aircraft flyovers.</li> <li>In this response “impacts on health and quality of life from noise” refers to impacts on both noise sensitive receptors (including residential dwellings, hospitals and schools) and noise sensitive areas (including quiet areas as defined in Noise Action Plan Agglomerations Appendix D Defra, 2014)</li> </ul>		
<p>The NPS stipulates that:</p> <p><i>“Development consent should not be granted unless the Secretary of State is satisfied that the proposals will meet the following aims for the effective management and control of noise, within the context of Government policy on sustainable development:</i></p> <ul style="list-style-type: none"> <li><i>Avoid significant adverse impacts on health and quality of life from noise;</i></li> <li><i>Mitigate and minimise adverse impacts on health and quality of life from noise; and</i></li> <li><i>Where possible, contribute to improvements to health and quality of life”</i></li> </ul> <p>Within this context, determining whether impacts on health and quality of life from noise are <i>adverse</i> or <i>significant adverse</i> is a critical aspect of the assessment, because it determines whether impacts are to be avoided, or mitigated and minimised. The concept of significance needs to be clearly defined at the earliest opportunity, and needs to be framed around impacts on health and quality of life, and not around noise exposure <i>per se</i>. PHE expects significance to reflect both the severity of the different health outcomes and the size of the population affected. PHE recommends that the definition of significance is discussed and agreed with relevant stakeholders, including the airport, airlines, local authorities and local communities, through</p>	<p>Airports NPS para. 4.73, 5.68 4.73 Noise Policy Statement for England, 2010 National Planning Policy Framework</p>	<p>[1] ERCD REPORT 0904, 2009. [2] DOTRS. Australia, 2000. [3] J. Exposure Science and Environmental Epidemiology (2016) 26, 575–585. Government’s associated planning guidance on noise. Survey of noise attitudes 2014: Aircraft CAP 1506, 2017. WHO Night Noise Guidelines for Europe, 2009. WHO Burden of Disease from Environmental Noise, 2012. Special Issue “WHO Noise and Health Evidence Reviews”, Int. J. Environ. Res. Public Health, 2017-18. Scientific evidence published as part of DEBATS (Discussion on the health effects of aircraft noise, France), <a href="#">NORAH</a></p>

a consultative process. PHE recommends that any disagreement amongst stakeholders on the methodology of defining significance is acknowledged in the proposal, and could inform additional sensitivity analyses. PHE expects discussions around significance to take into consideration a number of factors, including but not limited to: existing health impacts from aviation and other sources of noise; existing health impacts from other environmental risk factors, including air pollution; absolute noise with and without expansion; existing background noise; distribution of noise throughout the day/evening/night periods; number of overflights; and opportunities for respite. Within this context, PHE expects the noise environment with and without the scheme to be quantified using a “noise scorecard” approach, using a variety of metrics such as averaged, maximum and background noise levels [1], number of event metrics [1,2], and intermittency metrics [3], split into appropriate time and seasonal periods.

PHE also expects the proposal to give due attention to the third aim, i.e. explore and identify opportunities for improvements to health and quality of life.

The NPS requires a noise assessment that includes the following:

- A description of the noise sources;
  - An assessment of the likely significant effect of predicted changes in the noise environment on any noise sensitive premises (including schools and hospitals) and noise sensitive areas (including National Parks and Areas of Outstanding Natural Beauty);
  - The characteristics of the existing noise environment, including noise from aircraft, using noise exposure maps, and from surface transport and ground operations associated with the project, the latter during both the construction and operational phases of the project;
  - A prediction on how the noise environment will change with the proposed project; and
  - Measures to be employed in mitigating the effects of noise;
- noting that: “The applicant’s assessment of aircraft noise should be

(Noise-Related Annoyance, Cognition, and Health, Germany) and [SiRENE](#) (Short and long term effects of transportation noise exposure, Switzerland) research projects.

Airports NPS  
para. 5.52, 5.53,  
5.57.  
Government  
Decision on  
Airspace Policy,  
October 2017  
para. 2.70-2.76

- [1] J. Acoust. Soc. Am. 125(5), 3018 (2009)
- [2] J. Acoust. Soc. Am. 125(2), 905 (2009)
- [3] J. Acoust. Soc. Am. 124(5), 2930 (2008)
- [4] Int. J. Environ. Res. Public Health 2017, 14, 873
- [5] J. Acoust. Soc. Am. 143(5), 2901 (2018)

- [6] Health Council of the Netherlands, Publication no. 2006/12, 2006.
- [7] LIFE09 ENV/NL/000423

*undertaken in accordance with the developing indicative airspace design. This may involve the use of appropriate design parameters and scenarios based on indicative flightpaths.”*

The NPS also requires the applicant to have regard to the noise assessment principles, including noise metrics, set out in the national policy on airspace.

PHE expects the noise modelling to be carried out using calculation methods/software that have been independently validated, and all relevant input assumptions and data (including aircraft fleet mix) made publicly accessible. The noise calculations will be some of the most technically complex aspects of the project and it is essential that relevant stakeholders have confidence in the outputs they generate.

PHE acknowledges that the exact flight paths associated with expansion may not be known whilst the noise assessment for the DCO process is being undertaken. This is an important factor that will limit the ability of the proposal to identify the exact local communities that will be affected by noise. Nevertheless PHE expects the noise modelling to reflect the scenario(s) that are most likely to deliver the operational mitigation strategies proposed by the applicant (e.g. maximising respite opportunities), together with suitable sensitivity analyses, in order to estimate as accurately as possible the scale of noise exposure.

There is a growing evidence base on a “change effect” with respect to annoyance reactions to aviation noise [1-5] In order to more accurately predict impacts on health and quality of life, PHE suggests that the population affected by aviation noise is split into four categories:

- Number of people experiencing noticeable aviation noise/overflights for the first time;
- Number of people experiencing a noticeable increase in aviation noise/number of flight movements;
- Number of people experiencing no noticeable change in aviation

noise/number of flight movements;

- Number of people experiencing a noticeable decrease in aviation noise/number of flight movements; and the best available evidence with respect to the change effect used to quantify the associated health impacts. PHE expects what is a *noticeable* increase/decrease to be informed by the evidence and agreed with relevant stakeholders.

In its assessment of the likely significant effect of predicted changes in the noise environment, PHE expects the applicant to define the principles by which it proposes to address the potentially conflicting needs of avoiding to overly noise sensitive receptors and noise sensitive areas. PHE expects the proposal to take into consideration the evidence suggesting that quiet urban areas can have both a direct beneficial health effect and can also help restore or compensate for the adverse health effects of noise in the residential environment [6-8]. For example research from the Netherlands suggests that people living in noisy areas appear to have a greater need for areas offering quiet than people not exposed to noise at home [6].

The NPS requires that “operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance”. The NPS also notes that “evidence has shown that people’s sensitivity to noise has increased in recent years, and there has been growing evidence that exposure to high levels of aircraft noise can adversely affect people’s health”.

The scientific evidence base on the health effects of noise has rapidly developed in the last decade. PHE expects that the proposal makes use of the best available up-to-date evidence in order to quantify the impacts on health and quality of life from noise. PHE expects the most appropriate evidence to be agreed with relevant stakeholders. For health outcomes that can be strongly influenced by the local context and situation, such as annoyance and self-reported sleep disturbance, PHE recommends that,

Airports NPS  
para. 5.46, 5.53

Survey of noise attitudes 2014: Aircraft CAP 1506, 2017.  
WHO Night Noise Guidelines for Europe, 2009.

WHO Burden of Disease from Environmental Noise, 2012.  
Special Issue "WHO Noise and Health Evidence Reviews", Int. J. Environ. Res. Public Health, 2017-18.

Scientific evidence published as part of DEBATS (Discussion on the health effects of aircraft noise, France), [NORAH](#) (Noise-Related Annoyance, Cognition, and Health, Germany) and [SiRENE](#)

subject to availability, exposure-response relationships derived in a local context are used whenever possible. For other health outcomes, including physiological sleep disturbance, cardiovascular and metabolic health outcomes, it is PHE's view that the WHO-commissioned systematic reviews, together with more recent research from the NORAH, DEBATS and SiRENE projects, offer a good foundation for appraisal of transportation noise.

(Short and long term effects of transportation noise exposure, Switzerland) research projects.

The NPS requires the prediction, assessment and management of construction noise to make reference to any British Standards and other guidance which give examples of mitigation strategies.

Airports NPS 5.53

[1] HS2 U&A ref 2109 in [HS2 Phase One register of undertakings and assurances](#)

There is a lack of scientific evidence on the health effects attributable to construction noise for very large infrastructure projects, where construction activities may take several years. PHE expects the applicant to carry out an evidence review to inform it's assessment of impacts and the effectiveness of mitigation. This could include results from health monitoring carried out by other large infrastructure projects, such as HS2 [1].

The NPS requires the applicant to assess the implications of airport expansion on surface access network capacity using the WebTAG methodology. The WebTAG methodology stipulate that,

Airports NPS para. 5.10  
TAG UNIT A3 Environmental Impact Appraisal. DfT December 2015.

*“1.2.1...where a statutory environmental impact assessment is being undertaken, a more comprehensive level of information should become available and a detailed environmental appraisal can be carried out....Sensitivity testing should be carried out, consistent with that for other impacts ..., with any assumptions clearly stated, and, where appropriate, the ‘precautionary principle’ should be applied.”*

*“2.1.2 ...Where noise impacts are particularly significant, sensitivity testing to reflect these various uncertainties may be required and further advice should be sought from the Department on an appropriate range of sensitivity tests.*

*“2.2.23 ...Where noise impacts are significant, and materially affect value for money conclusions, it might be appropriate to undertake more bespoke analysis of the population affected for each impact pathway.”*

<p>PHE expects that all changes to road and rail surface access that are required to enable airport expansion (including schemes required for the project to achieve air quality compliance) are assessed in terms of impacts to health and quality of life. Given the potential scale of noise impacts PHE recommends a more bespoke analysis of the population affected by surface access noise for each impact pathway, including appropriate sensitivity testing to be agreed with relevant stakeholders.</p>	<p>The NPS stipulates that the Secretary of State will consider any relevant nationally significant road and rail elements of the applicant's proposals in accordance with the National Networks NPS and with the Airports NPS. and that the Airports NPS and the National Networks NPS may also be a material consideration in decision making on applications for road and rail schemes associated with or related to the preferred scheme that fall under the Town and Country Planning Act 1990, the Transport and Works Act 1992, or other legislation relating to planning.</p> <p>Both the Airports and National Networks NPSs require the proposals to meet the following aims:</p> <ul style="list-style-type: none"> <li>• Avoid significant adverse impacts on health and quality of life from noise;</li> <li>• Mitigate and minimise adverse impacts on health and quality of life from noise; and</li> <li>• Where possible, contribute to improvements to health and quality of life</li> </ul> <p>Therefore PHE expects that noise associated with the road and rail elements of the applicant's proposal is assessed in terms of the effects on health and quality of life. PHE expects the proposal to use the best available evidence on noise and health to inform the assessment; if necessary a bespoke review of the latest available evidence may be required in line with Government guidance [1].</p>	<p>Airports NPS para. 4.8</p> <p>NPS National Networks 5.195</p> <p>Airports NPS [1] Defra/Interdepartmental Group on Costs and Benefits Noise Subject Group, 2014.</p> <p>WHO Night Noise Guidelines for Europe, 2009.</p> <p>WHO Burden of Disease from Environmental Noise, 2012.</p> <p>Special Issue "WHO Noise and Health Evidence Reviews", Int. J. Environ. Res. Public Health, 2017-18.</p> <p>Airports NPS para. 1.37, 4.17, 5.2, 5.46, 5.51,</p> <p>[1] Int. J. Environ. Res. Public Health 2017, 14(8), 873.</p>
<p>The NPS has multiple references to mitigation measures associated with potential noise impacts, including technological and operational improvements, personal- and community-level compensation, respite, a</p>	<p>mitigation measures associated with potential noise impacts, including technological and operational improvements, personal- and community-level compensation, respite, a</p>	<p>Airports NPS para. 1.37, 4.17, 5.2, 5.46, 5.51,</p> <p>[1] Int. J. Environ. Res. Public Health 2017, 14(8), 873.</p>

5.56, 5.60-5.66,  
5.240, 5.245-  
5.247, 5.250-  
5.253

noise envelope, screening and noise insulation. The NPS also states that “The Secretary of State will expect the applicant to demonstrate how these provisions are secured, and how they will be operated.”

PHE expects decisions about mitigation measures to be underpinned by good quality evidence, in particular whether mitigation measures are achievable (in particular with regards to technological and operational improvements), whether they may have adverse consequences on other environmental factors such as air quality and carbon emissions, and whether they are proven to reduce adverse impacts on health and quality of life. The WHO-commissioned systematic review of transport noise interventions [1] is a good starting point for the latter point, but due to the scale of this proposal, PHE expects the assessment to carry out a systematic review of relevant mitigation options. Furthermore, given the rapidly evolving nature of the scientific evidence on noise and health, PHE expects the proposal to outline how, if consent is granted, additional mitigation measures can be considered if new evidence becomes available. Where evidence is weak or lacking, PHE expects the applicant to demonstrate how the effectiveness of interventions will be monitored during construction and operation of the scheme, to ensure that the desired effects are being achieved.

Specifically on the ban on scheduled night flights for a period of six and a half hours, the NPS states that “The rules around its operation, including the exact timings of such a ban, should be defined in consultation with local communities and relevant stakeholders, in line with EU Regulation 598/2014. In addition, outside the hours of a ban, the Government expects the applicant to make particular efforts to incentivise the use of the quietest aircraft at night.”

PHE expects that discussions on the exact timings of such a ban, and the night-time impacts of aviation-related activities outside this period, are informed by the best available evidence on physiological noise-induced sleep disturbance and associated health outcomes, including that found in [1,2],

Airports NPS  
para. 5.62

[1] WHO Night Noise Guidelines for Europe, 2009.  
[2] Int. J. Environ. Res. Public Health 2018, 15(3), 519  
[3] Defra/Interdepartmental Group on Costs and Benefits Noise Subject Group, 2014.



and impacts on productivity [3].

The NPS requires the applicant to produce a project-level Health Impact Assessment (HIA). The purpose of a Health Impact Assessment is different from that of an Environmental Impact Assessment (EIA). A HIA can be defined as[1]  
“a combination of procedures, methods and tools by which a policy, a program or project may be judged as to its potential effects on the health of a population and the distribution of effects within the population” .  
Therefore, unlike an EIA, a HIA

- is not limited to assessing *significant* effects; and
- requires an assessment of the *distribution* of effects within the population, taking specific regard of local conditions and/or circumstances.

PHE expects the following topics to be considered for inclusion within the scope of the HIA

- A clearly defined management structure, including a steering group; management group and assessor(s)
- Decision-making forums for the HIA, including stakeholders and points of influence
- Aims, objectives and values of the HIA
- Description of proposal
- Identification of other proposals that might affect the proposal under investigation
- Geographical area covered
- Communities or populations directly affected by the proposal
- Vulnerable/high-risk groups affected by the proposal
- Local conditions and/or circumstances of relevance to the HIA
- Health impacts of concern at the outset of the investigation
- Relevant determinants of health
- Systematic review of the evidence tailored to the proposal
- Appraisal methods
- Assessment results and discussion

Airports NPS  
para. 1.37  
Airports NPS  
para. 5.250

- [1] WHO Gothenburg Consensus Paper, 1999
- [2] Environment International 115 (2018) 170–179
- [3] Glob Health Action 2015, 8: 27106 <http://dx.doi.org/10.3402/gha.v8.27106>
- [4] Noise Health 2013;15:153-9.
- [5] J. American College Cardiology 71 (6) 2018
- [6] Int. J. Environ. Res. Public Health 2017, 14(8), 873

WHO Night Noise Guidelines for Europe, 2009.

WHO Burden of Disease from Environmental Noise, 2012.  
Special Issue "WHO Noise and Health Evidence Reviews", Int. J. Environ. Res. Public Health, 2017-18.

HIA scoping list adapted from evidence provided by PHE to DfT as part of the Appraisal of Sustainability process

- Proposed strategy for disseminating the results of the HIA,
- Proposed strategy for monitoring and evaluating the health impacts and/or improvements, and the effectiveness of mitigation, during construction and operation of the proposal.

Specifically with respect to noise, PHE expects the HIA to quantify positive and negative effects on health and quality of life of the general population according to the best available evidence, together with an analysis of any health inequalities arising from the distribution of exposure [2] and the varying health risk of different population groups [3,4]. PHE acknowledges that for aviation noise this will be particularly challenging, since modelling will be based on indicative, rather than finalised flightpaths. PHE expects the applicant to agree a strategy with relevant stakeholders to address this issue, and an additional HIA may be necessary during the finalisation of flightpaths if consent is granted. Furthermore PHE expects the HIA to consider potential interaction effects between environmental risk factors, and the emerging evidence that, as a consequence of stress and sleep disturbance, noise may affect other lifestyle risk factors, such as physical inactivity and possibly smoking and alcohol consumption [5].

As stated elsewhere, any proposed mitigation measures need to be evidence-based. PHE expects mitigation measures for health impacts attributable to noise to include exposure related and non-exposure related interventions [6]. For interventions where evidence is weak or lacking, PHE expects a proposed strategy for monitoring and evaluating their effectiveness.





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**Planning Act (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 – Regulations 10 and 11**

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the expansion of Heathrow Airport (Third Runway)**

**Proposal: Request for Environmental Impact Assessment Scoping Opinion for expansion of Heathrow Airport and creation of third runway.**

**Location: Heathrow airport**

Dear Sir or Madam

Thank you for your letter 22 May 2018 advising that Heathrow Airport Limited has asked the Planning Inspectorate on behalf of the Secretary of State (SoS) for its opinion (a Scoping Opinion) as to the information to be provided in an Environmental Statement (ES) relating to the Proposed Development.

It is noted that the Planning Inspectorate has identified the Royal Borough of Kingston upon Thames (RBK) as a consultation body which must be consulted before adopting its Scoping Opinion.

You have requested that we

- inform the Planning Inspectorate of the information you consider should be provided in the Environmental Statement (ES); or
- Confirm that you do not have any comments.

The letter sets out the advice of the RBK on the matters to be covered in the ES that would need to be submitted alongside any future applications for permissions/consents made in respect of components of the development to which the request for a scoping opinion relates.

This letter has been prepared in accordance with the requirements set out in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Please note that our comments are without prejudice to any comments we may wish to make when consulted on any subsequent planning or analogous applications or on the submission of a more detailed Scoping Report or the full Environmental Statement. At the time of any

planning or analogous application there may be new information available which we will need to take into account in making a formal response to the relevant decision maker.

Having reviewed the submitted information, it is clear that the proposed expansion of Heathrow Airport and creation of a third runway would give rise to direct and in-direct environmental impacts on the Royal Borough of Kingston upon Thames.

### **General Considerations**

The purpose of an Environmental Statement (ES) is to enable the environmental impacts of a proposed development to be fully considered, alongside the anticipated economic or social benefits of the development, before the application for consent is determined. The ES provides environmental information to aid the decision making process.

The ES should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA. It is important that the ES identifies and assesses the potential environmental effects of the activities at and around the application site, and emissions from, the proposed development.

Assessment should consider the development and operational phases. Consideration of alternatives (including alternative sites and the phasing of construction) is widely regarded as good practice. The ES should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES.

The following text covers a range of issues that the RBK would expect to be addressed. However this list is not exhaustive and the onus is on the developer to ensure that environmental issues are identified and addressed.

### **Receptors**

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from and activities at or associated with the development. Off-site receptors may include people living in residential premises, people attending/working in educational and health establishments, people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

### **Noise**

Aviation noise can be a source of constant and/or disruptive annoyance to those who live under airport flight paths. In July 2016 the European Commission published a summary of a report looking at how living with aircraft noise affects wellbeing. It found that living within a daytime aircraft noise path (with noise at or above 55 decibels) was negatively associated with all measures of subjective wellbeing: lower life satisfaction, lower sense of worthwhile, lower happiness, lower positive affect balance, and increased anxiety.<sup>1</sup> This followed the publication of the final report of the Airports Commission, in July 2015 (see section 4, above).

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<sup>1</sup> "How does living with aircraft noise affect wellbeing? A study of UK airports", Science for Environment Policy, Issue 462, 8 July 2016; based on: Lawton, R. and Fujiwara, D. (2016). Living with aircraft noise: Airport proximity, aviation noise and subjective wellbeing in England. Transportation Research Part D: Transport and Environment, 42: 104– 118. DOI: 10.1016/j.trd. 2015.11.002

Alongside the report the Commission published a review looking at aircraft noise effects on health. It briefly summarised the strength of the evidence for aircraft noise effects on:

- cardiovascular health;
- sleep disturbance;
- annoyance;
- psychological well-being; and
- effects on children's cognition and learning

The proposed expansion of Heathrow airport is to take place outside of the Kingston and the borough boundary is a distance of several miles from the development. Therefore, impacts from activities on the site will be outside of the borough so will not affect borough residents. However, there is a real potential for the effects to be felt across a wider area and the submitted information states that noise emissions from aircraft flight-paths are expected to cover an area that extends several miles around the land being considered. As such, the area of consideration for potential impacts within the ES should be extended to cover the whole of the Royal Borough and should cover impacts from aircrafts flying below the 4000ft range as well as above that range where there are noise impacts on noise sensitive receptors.

There is a continuing concern that flight paths will be dictated by those areas that do not already have significant noise issues, i.e. where there is some pollution 'headroom' before EU limits are breached. However, such flight paths will necessarily be over areas with existing low ambient noise levels. Therefore the ES needs to compressively address the assessment principles which are to be utilised and ultimately what this may mean for the residents of Kingston. The ES also needs to address the approach regarding the capping of airport size and flight numbers so the benefit of reduced stacking is permanent. Additionally, it is important to understand whether stated reductions in stacking will still be there when the airport is operating at full capacity.

Of particular relevance to residents of Kingston is respite from night flights. BAA have ruled out an 8 hour ban on night flights. However, an 8 hour respite for individual flight paths could be particularly important i.e. if a resident suffers late night noise, they will not be disturbed by early morning noise.

RBK is concerned that potential impacts of the development cannot be fully assessed until such time as the airspace design for Heathrow has been finalised. Whilst it is accepted that changes to the movement of aircraft over the ground will need to go through an airspace change process (ACP) it is submitted that in the absence of a full understanding of the potential amendments to the airspace design the ES cannot fully assess the potential noise impacts of the development.

RBK submits that it is essential that the final airspace design is established before the consent is made, otherwise all relevant material considerations may not have been addressed in making the decision.

### **Air Quality**

London is one of the areas in the UK that has been failing to meet its air quality targets for nitrogen dioxide (NO<sub>2</sub>) under EU legislation. The Government's current Air Quality Plan

(AQP) does not expect London to meet quality standards for nitrogen oxides (NO<sub>x</sub>)<sup>2</sup> until 2025<sup>3</sup>

Latest air quality assessments demonstrate that for years 2026-28 Heathrow expansion will make the London Zone non-compliant; it is understood that this matter would be addressed if a Clean Air Zone and/or Zero Emissions Zone were to be implemented. The conclusion is that a scenario with a third Heathrow runway can only meet air quality requirements if it relies on the benefits of air pollution measures unrelated to expansion, which would (and should) otherwise be used to improve general public health in London. Matters are further exacerbated by the questionable accuracy of the air quality modelling.

From Kingston's perspective, it is important that air quality impacts are considered over the wider area. Without sufficient investment in improving the public transport network including links between Heathrow and Kingston, there will be negative impacts on the road network over a wider area than just the immediate vicinity of the airport. Additionally, while improvements to the road network may assist traffic flows, such an approach could have the negative effect of encouraging increased travel to the airport by road. RBK considers that the Air Quality Chapter of the ES should be based on a fully informed and up-to-date Transport Assessment (TA). The TA should include a robust estimate of the additional vehicle movements along the Borough's highway network as a result of the proposed expansion.

TfL modelling demonstrates that even with the proposed full package of transport schemes in place by 2031, it is still insufficient to ensure no net increase in passenger and staff highway trips, with both the highway and public transport networks becoming overloaded. As such, there is a need to maximise the number of journeys to the airport by sustainable forms of transport; this is particularly relevant at a time when general growth across the area will be high. The key challenge will be the timely delivery of effective mitigation genuinely capable of dealing with the increased numbers of people and the inevitable impacts on the local and national transport networks of congestion and environmental impacts. RBK considers that the Air Quality chapter of the ES should not be based on an overly optimistic prediction in modal shift, instead it should assess the potential impacts in terms of air quality on a range of different modal shift levels, including a worst case scenario of not achieving any shift at all. Moreover, it is important to test a worst case, long term scenario including a large, fully operational airport with a full complement of staff (this is not the case with the work undertaken to date). Additionally, the estimates for future public transport mode share remain very optimistic (unlikely to be deliverable in practice) and this is a significant contributory factor leading to an underestimation of traffic generation.

The inclusion of a requirement for Heathrow to report annually on air quality targets is welcomed, however it is not clear whether any penalties will be imposed if they fail to meet the targets. In accordance with the London Plan, major developments in London should be at least air quality neutral. Therefore, the expansion of Heathrow should also demonstrate that it is air quality neutral, rather than just be within legal air quality limits. The reference to legal air quality limits will also incentivise flights over areas which currently have better air quality i.e. headroom.

The National Policy Statement suggests that it will be for the promotor to demonstrate that air quality requirements can be satisfied, however this will inevitably be a very difficult task.

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<sup>2</sup> Nitrogen oxides (NO<sub>x</sub>) is the term used to describe the sum of nitrogen dioxide (NO<sub>2</sub>) and nitric oxide (NO); ambient NO<sub>2</sub> concentrations include contributions from both directly emitted primary NO<sub>2</sub> and secondary NO<sub>2</sub> formed in the atmosphere by the oxidation of NO

<sup>3</sup> Defra, Improving air quality in the UK: Tackling nitrogen dioxide in our towns and cities - UK overview document, 17 December 2015, table 3, p11

RBK considers that the Air Quality chapter should fully assess the implications of any amendments to the the access / egress arrangements to the airport estate. Any amendments, in particular the proposed southern access road tunnel, should be fully assessed in terms of the potential sub regional impacts on traffic and air quality associated therewith.

RBK notes that the ES intends to take account of improvements secured through a proposed Clean Air Zone, this will need to be secured and the emission limits and area covered will need to be agreed. RBK note that the focus of the submitted information is about demonstrating that the Air Quality Objectives will not be exceeded or that the extent of non-compliance is not increased. However, the emphasis needs to be on minimising the air quality impacts rather than just meeting the target so adequate controls will need to be secured once the outcomes from the assessment are known.

It is to be noted that RBK is concerned that potential impacts of the development cannot be fully assessed until such time as the airspace design for Heathrow has been finalised. Whilst it is accepted that changes to the movement of aircraft over the ground will need to go through an airspace change process (ACP) it is submitted that in the absence of a full understanding of the potential amendments to the airspace design the ES cannot fully assess the potential air quality impacts of the development.

RBK submit it is essential that the final airspace design is established before the consent is made, otherwise all relevant material considerations may not have been addressed in making the decision.

### **Odour**

The assessment of odour appears to be included with the Air Quality Assessment. While it is not anticipated that there will be odour impacts for residents within the Borough. RBK recommends that the outcomes from the assessments of the two separate issues be submitted in separate reports so as to avoid confusion.

### **Conclusion**

RBK notes that the proposal is that there will be a consultation on the timing of a night time ban and we would seek to have input into this consultation. Consultation with local authorities within the area of consideration is continuing regarding the methodological approach and we will use the engagement workshops to raise any issues that come up and which have not been covered in the submitted information. We will also require discussions on the details of the proposed runway alternation scheme and the determination of any residents affected by an increase in noise levels who may be eligible for additional noise insulation.

Please do not hesitate to contact us should you wish to discuss further any of the issues outlined in this submission.

Yours faithfully



Lisa Fairmaner  
Acting Assistant Director Strategic Planning & Infrastructure





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19 June 2018

Dear Sir/Madam,

## **RESPONSE TO HEATHROW EXPANSION SCOPING CONSULTATION ROYAL MAIL GROUP LIMITED**

We act on behalf of the Royal Mail Group in respect of the Heathrow Third Runway proposals and their impact on Royal Mail's operations. The Planning Inspectorate has identified Royal Mail as a consultation body which must be consulted before adopting its Scoping Opinion.

We set out herein our response to the Scoping Consultation.

Our response to the public consultation which closed on 28 March (attached as an appendix to this letter) drew Heathrow Airport Limited's attention to Royal Mail's concerns about the impact of the proposals and in particular the impact of the construction works on various Royal Mail operations in and around Heathrow.

Properties which are in the vicinity of the proposed Third Runway and which will be directly affected by the proposals:

- Heathrow Worldwide Distribution Centre ('HWDC'), Hurricane Way, Slough SL3 8AQ
- London Air Mail Unit ('LAMU'), Short Road, Heathrow, TW6 3PR
- Jubilee Mail Centre ('JMC'), Godfrey Way, Hounslow TW4 5XX

Property within a 3-mile radius of the third runway and which may also be affected:

- Hayes Delivery Office, 4-5 Silverdale Road, Hayes UB3 3HZ

### **Information Required in the Environmental Statement**

The Environmental Statement should include sufficient information for Royal Mail Group Limited to understand the applicant's assessment of the impacts on the above mentioned properties. This information should include, inter alia:

- Forecast change in traffic movements in vicinity of properties
- Impact on travel times to/from properties – on a 24-hour, 365-day basis



## **BNP PARIBAS REAL ESTATE**

- Forecast change in traffic movements on wider Motorway and A-Road network
- Other environmental impacts on the properties - noise, dust, etc.

The above-mentioned information should be provided for the pre-scheme (baseline), construction and post-scheme phases of the project.

As can be seen from our response to the public consultation, it is vital in particular that Royal Mail has sufficient information on the following:

- Impact on accessibility for operations and staff
- Impact on continuity of access

Please direct all communications regarding this Response to the undersigned in the first instance.

Yours sincerely,



**John Davies**  
**Director**  
**Compulsory Purchase and Infrastructure**



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28 March 2018

Dear Sir/Madam,

## **RESPONSE TO HEATHROW EXPANSION PUBLIC CONSULTATION ROYAL MAIL GROUP LIMITED**

We act on behalf of the Royal Mail Group in respect of the Heathrow Third Runway proposals and their impact on Royal Mail's operations. We set out herein our response to the public consultation of 17 January - 28 March 2018.

### **Royal Mail**

Royal Mail Group Limited ('RMG') is the operator of universal postal service functions through the Royal Mail letter post delivery and collection service handling letters, postal packets, parcels and high value (registered) packets. It also operates Parcelforce Worldwide, which is a priority parcels carrier. Royal Mail Estates Limited is a subsidiary of Royal Mail Group which owns certain property interests used in the delivery of Royal Mail Group's operations.

### **Universal Service Provider Obligation**

Under section 35 of the Postal Services Act 2011 (the "Act"), RMG has been designated by Ofcom (the independent communications regulator) as a provider of the Universal Postal Service. RMG is the only such provider in the United Kingdom. Its services are regulated by the Communications Industry Regulator, Ofcom.

In respect of its postal services functions, section 29 of the Act provides that Ofcom's primary regulatory duty is to secure the provision of the Universal Postal Service. Ofcom discharges this duty by imposing regulatory conditions on RMG, requiring it to provide the Universal Postal Service. By sections 30 and 31 of the Act (read with sections 32 and 33) there is a set of minimum standards for Universal Service Providers, which Ofcom must secure. The conditions imposed by Ofcom reflect those standards. There is, in effect, a statutory obligation on RMG to provide at least one collection from letterboxes and post offices six days a week and one delivery of letters to all 29 million homes and businesses in the UK six days a week (five days a week for parcels). RMG must also provide a range of "end to end" services meeting users' needs, e.g. First Class, Second Class, Special Delivery by 1 p.m., International and Redirections services.



RMG is under some of the highest specification performance obligations for quality of service in Europe. Its performance of the Universal Service Provider obligations is in the public interest and should not be affected detrimentally by any statutorily authorised project.

## **Affected Properties**

RMG own or have an interest in a number of properties which are in the vicinity of the proposed Third Runway and works and which will be directly affected by the proposals:

- Heathrow Worldwide Distribution Centre ('HWDC'), Hurricane Way, Slough SL3 8AQ
- London Air Mail Unit ('LAMU'), Short Road, Heathrow, TW6 3PR
- Jubilee Mail Centre ('JMC'), Godfrey Way, Hounslow TW4 5XX

LAMU, which is airside at Heathrow, is not leased directly but RMG operates via a service contract.

RMG also operates at the following property which is within a 3 mile radius of the third runway and which may also be affected:

- Hayes Delivery Office, 4-5 Silverdale Road, Hayes UB3 3HZ

We set out below details of the three directly affected properties.

### **Heathrow Worldwide Distribution Centre ('HWDC')**

**Address:** Hurricane Way, Slough SL3 8AQ

**Tenure:** The existing lease expires in May 2020. A new lease was completed in March 2018 for a further 15 years from 2020 – expiring May 2035.

**Floor Area:** 462,000

**Staff:** Approximately 1,600 with a further 495 at the adjacent International Logistics Centre ('ILC')

**Usual Operating Hours:** 24 hrs per day, 365 days per year. However to allow for maintenance HWDC does not normally process after 1000 Sunday until 0600 Monday.

HWDC is responsible for the import and export of mail (letters and parcels) which involves the receipt, processing and despatch of mail to and from the following parts of the network:

- London Air Mail Unit (LAMU - airside facility)
- Other Airport units/handlers and Gatwick Air Mail Unit (GAMU)
- Multiple Royal Mail sites, and other UK airports

A Vehicle Operating Centre (VOC) on site at HWDC operates:

- Red Fleet – 40' trailers, shuttles to/from LAMU/Airport handlers 24/7, to/from RDCs and Mail Centres 24/6.5
- O licence for c.160 vehicles/trailers. The VOC services RM International and RM domestic and RDCs.

There are in excess of 500 vehicle movements per day. These include:



## BNP PARIBAS REAL ESTATE

- Road hauliers taking traffic to European destinations (timed to meet access to continent and scheduled arrival times)
- Smaller sprint vehicles bringing import priority (time critical) mail from near European countries
- Multiple types/sizes of vehicles bringing commercially cleared traffic from off-airport freight clearance premises (daily)
- Direct customer vehicles (to/from)

All export and import mail passes through these facilities and they connect with key Royal Mail and Parcelforce domestic processing sites, specific large domestic customers, and European postal administrations and others through road hauliers, making extensive use of air and road access points.

The HWDC is therefore a very substantial operation within a highly complex network of other operations.

We would draw your attention to the following particular concerns and requirements:

- With the large numbers of vehicles and staff, full access is needed at all times. Road access is primarily via the A4 and M4/M25
- Many of the staff live close to Heathrow in the Hayes/Southall area. Shift changeover times are very busy (0530-0630, 1330-1430, 2130-2230) although overtime, admin staff and other shift patterns mean almost constant movements
- Some staff travel up to an hour to get to work
- Car parking is already difficult at HWDC and ILC, and use is made of an overspill car park at a nearby garden centre. Because of the location, most staff travel by car, although there is some very limited rail/bus travel (the work is generally at unsociable hours). RM will need to understand any impact of disruption on staff
- Truck movement is 24/7 as described above. Any restriction to this would severely compromise the operation. There is also a risk of missed flights, with additional impacts on conveyance costs.

Continuity of operations at HWDC and connectivity of HWDC with various parts of the network is therefore vital to the performance of Royal Mail's universal postal service functions. Any compromise of the operation - including the ability of staff to get to work - will have impacts on the service and potential fines.

### **London Air Mail Unit ('LAMU')**

**Address:** Short Road, Heathrow, TW6 3PR

**Tenure:** The property is not leased directly but is operated via a service contract. We will be able to provide further details upon request.

**Staff:** 122

**Usual Operating Hours:** 24 hours per day, 365 days per year, in 3 shifts.

LAMU is responsible for the airside receipt of import mail in aircraft bins (ULDs), and segregation to HWDC, ILC or Parcelforce. It also builds some export ULDs, and despatches airside to airlines or handling agents.



# BNP PARIBAS REAL ESTATE

Connectivity between LAMU and HWDC and other parts of the network is vital to the performance of Royal Mail's universal postal service functions. Any compromise of the operation - including the ability of staff to get to work - will have impacts on the service and potential fines.

## **Jubilee Mail Centre ('JMC')**

**Address:** Godfrey Way, Hounslow TW4 5XX

**Tenure:** The existing lease expires in May 2020. A new lease was completed in March 2018 for a further 15 years from 2020 - expiring May 2035.

**Floor Area:** 220,435 square feet

**Staff:** 700 increasing to 1,000+ from November to January

**Usual Operating Hours:** 24 hours per day, 364 days per year (closed Christmas Day)

Jubilee Mail Centre is the main site for processing mail both inward and outbound for the Guildford (GU), Kingston (KT) and Twickenham (TW) postcode areas and also distributes mail nationally. There are currently 518 vehicle movements per day, in and out, comprising 188 articulated lorries, 262 7.5t lorries and 68 small vehicles.

Although some distance from the Third Runway site, the extent and duration of construction works is likely to have a severe impact on the road network across a wide area, which in the absence of traffic management measures has the potential to adversely affect the operation of JLC and consequently Royal Mail's ability to perform its universal postal service functions across a number of postcode areas.

## **Concluding Comments**

All of the aforementioned operations fall outside of the boundary of the Third Runway proposals. However given the extent and duration of constructions works and their likely impact upon the transport network of a very wide area there is a real risk that the project will severely compromise Royal Mail's operations.

Given the limited information currently in the public domain concerning the impact of works of surroundings areas, in particular the impact on the transport network, Royal Mail requests that Heathrow Airport engage with them at the earliest opportunity on the following:

1. Consultation upon the scheme proposals and likely impact on Royal Mail operations
2. Consultation upon proposed mitigation measures
3. Agreement of a formal process for ongoing dialogue regarding the scheme proposals and mitigation measures.

Please direct all communications regarding this Response to the undersigned in the first instance.

Yours sincerely,



**John Davies**  
**Director, Compulsory Purchase and Infrastructure**

Date 19 June 2018

The Planning Inspectorate  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol BS1 6PN

SENT BY EMAIL: HeathrowAirport@pins.gsi.gov.uk

Dear Sirs

**Planning Act 2008 (as amended) and The Infrastructure Planning  
(Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) –  
Regulations 10 and 11**

**Application by Heathrow Airport Limited (the Applicant) for an Order granting  
Development Consent for the Expansion of Heathrow Airport (Third Runway)  
(the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty  
to make available information to the Applicant if requested**

**CONSULTATION RESPONSE BY RUNNYMEDE BOROUGH COUNCIL**

I refer to your consultation to Runnymede Borough Council in respect of your production of a Scoping Opinion relating to the Proposed Development. This letter details the authority's comments regarding the adequacy of the EIA Scoping Report prepared by the Applicant, but in doing so it is noted that the Applicant has acknowledged the potential need for a further Scoping Opinion arising from a further refined Scoping Report for consultation once further scheme details have been developed. Runnymede supports the production of such a report due to need to ensure the ongoing assessment and consequent mitigations are properly informed as the final design is reached.

Topics Scoped in and out of the Report

Runnymede agrees that the topics that have been scoped in and out of the report, as summarised in Table 1 of the EIA Scoping Report, appropriately identifies the topics and scheme components that should and should not be included in the Preliminary Environmental Information Report ('PIER').

The approach to setting the study areas for each topic

Runnymede notes and agrees that the study area for the topics of **Economic and Employment, Traffic and Transport and Community** includes the whole Borough of Runnymede. This is considered the correct approach to fully understand the environmental impacts and necessary scope of mitigation. Similarly it is agreed that the geographical extent of study in respect of Land Quality need not include land within Runnymede Borough.

Runnymede would however recommend that the study area proposed for **Air Quality** should be extended to include the whole of the Borough of Runnymede, or failing that the full extent of the AQMA's contained within the Borough that are linked to the air quality implications of traffic accessing

and using the Strategic Road Network. It is also advised that the figures (Figure 5.3 and Figure 5.5) used to show AQMAs within and adjacent to the currently proposed core assessment area and the location of nitrogen dioxide diffusion tubes incorrectly identifies the updated extent of the AQMA within Runnymede centred on the M25 Motorway or acknowledges the diffusion tubes within Runnymede Borough effected by the Motorway.

The Scoping Report does not adequately justify the geographical extent of the study area in respect of **Biodiversity**, as represented in Figure 6.1. The cumulative effects arising from Nitrogen deposition associated with traffic movements on the local and strategic should be considered for the full extent of European sites designated for nature conservation, which in Runnymede would include the South-West London waterbodies SPA and the Thames Basin Heath SPA. At this design stage it is not known if necessary biodiversity offsetting opportunities will fall outside the current study areas and the consequential effects on local ecology on the finally selected sites, which may fall within Runnymede Borough, should be properly considered within the scope of the PIER and subsequent assessments.

Runnymede would also endorse the comments of the HSPG that the baseline used for **Landscape and Visual Impact** is likely to be inadequate. Runnymede would recommend that the study area boundary for landscape and visual impact should be reviewed following a detailed assessment of the base line and broadened to include a larger area of Runnymede, in particular the key viewpoint at Coopers Hill, Englefield Green and the Royal Airforce Memorial.

It is recommended that the study area in respect of **Major Accidents and disasters** should be reviewed to include the whole Borough of Runnymede to align with the area for response to major accidents and disasters involving the human population.

Runnymede notes the concerns of HSPG regarding the **Water** topics of the Scoping Report. In addition it is recommended the study areas associated with Flood Risk aspects should be informed by the further Flood Risk Assessment and the affected area and implications for fluvial flooding used to guide the geographical extent of the further environmental assessment.

Runnymede has no comments at this stage regarding the proposed scoping in respect of **Carbon and Greenhouse Gases** and **Climate Change**.

The need to refine the study area in respect of **Noise** as the DCO project is refined is noted. This work will need to be informed by the finalised flight paths and a precautionary approach to assessing the scope of noise and vibration should be used based on indicative flightpaths in advance of that finalisation.

Runnymede Borough Council is also a member of the Heathrow Strategic Planning Group ('the HSPG'). In that role Runnymede also endorses the response HSPG has provide collectively from its Members and on our behalf.

Yours sincerely



**Ian Maguire**  
Corporate Director of Planning and Environmental Services



19<sup>th</sup> June 2018

**Department:** Planning and Transport  
**Contact Name:** Jason Newman  
**Contact No:** 01753 875219  
**Fax:**  
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**Our Ref:**  
**Your Ref:** TR020003

The Planning Inspectorate  
3D Eagle Wing  
Temple Quay House  
2 The Square  
Bristol, BSI 6PN

Dear Mr Sir/Madam

**Re: Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulation 2017 (the EIA regulations) – Regulation 10 and 11**

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development)**

**Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested**

Thank you for letter dated 22<sup>nd</sup> May confirming the applicant Heathrow Airport Limited has asked the Planning Inspectorate on behalf of the Secretary of State for its scoping opinion as to the information to be provided in an Environment Statement relating to the Proposed Development for the expansion of Heathrow Airport (Third Runway).

The Planning Inspectorate would be grateful if Slough Borough Council (a consultation body) informs the Planning Inspectorate of the information it considers should be provided in the Environmental Statement. **The request deadline is Tuesday 19<sup>th</sup> June 2018.**

*This response relates specifically to Slough Borough Councils 'Environmental Quality Team' specialist areas (air quality, noise and vibration, contaminated (land quality) and carbon management (carbon and other greenhouse gases and climate change). All other topic areas sit outside the remit and expertise of the EQ Team and therefore no comments are attached.*

**Chapter 1 Introduction**

Heathrow Airport Limited submitted their Environmental Impact Assessment (EIA) Scoping Report for the expansion of Heathrow Airport to the Secretary of State on 21 May 2018. The Scoping Report comprises 3 volumes:

- Volume 1 (Main Report)
- Volume 2 (Figures)
- Volume 3 (Appendices)

The opinion of the Secretary of State is being sought specifically on:

1. The environmental topics that should be included in the EIA
2. The relevant components of the DCO Project and the resultant likely significant effects
3. Those effects not likely to be significant that do not need to be considered further
4. The approach to setting the study areas for each topic
5. The data that has been gathered (and will be gathered)
6. The assessment methods that will be used to determine likely significant effects
7. The approach to determining the environmental measures that could be incorporated into the DCO Project to avoid, prevent, reduce or, if necessary, offset significant effects.

**Section 1.2.5** HAL state “the approach to defining the study area, baseline data gathering and methodologies for assessment of the likely significant effects described in this Scoping Report are applicable regardless of the final choice of location or detailed design options for each of the components”.

*However, Slough has a different view the study area for some impacts and potentially the baseline data may indeed need to change dependent upon the precise location and detailed design of the components of the scheme. The effects, their magnitude, and their significance will be dependent on the final locations of key components, for example ‘A’ roads and ‘construction compounds’, ‘car parks’ and other associated airport expansion components could potentially give rise to significant effects (individually or in-combination) potentially outside the study area. Consideration will therefore need to be given to a further scoping opinion, once key components, design details and final locations have been fixed.*

### **Airspace Change process**

**Section 1.7.3** any changes to the procedural design of the airspace around Heathrow (i.e. flight paths) cannot be consented under the DCO. Required changes to airspace design will be consented via submission of an Airspace Change Proposal to the Civil Aviation Authority (CAA) in accordance with the Airspace Change Process. This process will be completed after the DCO process for the expanded airport, approximately 2 years later.

**1.7.8** the assessments in the ES will therefore be based on indicative flight path designs, consisting of:

- (i) design envelopes indicating the geographical areas within which flight paths will likely be; and

(ii) prototype routes within these envelopes, which will likely be operationally viable flight path options.

These will represent the best estimates of future flight paths available at the time of the DCO application.

**Section 1.7.9** although there will not at that stage be confirmed flight paths, there will be a higher certainty of route location closer to the runways.

***This is very relevant to Slough where new areas within the Borough will be overflowed for the first time when the 3rd runway becomes operational. The NWR is located in Slough.***

*The two statutory regimes with their out of sync timelines presents a significant challenge for the Heathrow Expansion DCO and the designation of the 'study areas' with respect to indicative flight paths and predicted noise contours.*

*It is recommended an approach that considers 'worse case' indicative flight path scenarios be applied to ensure the 'appropriate study area is well defined' and to ensure 'worse case noise effects' are adequately assessed as part of the EIA process.*

### **Chapter 3: The DCO Project**

This section covers project design and key features of the principal components of the DCO project. It is acknowledged that HAL is at the Masterplan Option Development stage and a preferred master plan is currently being developed. The final Masterplan will be presented in Consultation 2 in early 2019. It is noted that dependent on feedback there may be some further refinements which will include on-going environmental assessment to refine and define appropriate mitigation for the effects of the masterplan on communities and the environment.

*It is important that as the masterplan is being developed that ongoing environmental assessments are undertaken and mitigation is identified and communicated to local authorities affected by the development in order to feedback into the process. The type of mitigation (primary, secondary and tertiary see 4.2.12) and assumptions also needs to be clearly reported.*

**Section 3.1.5** a long list of component option alternatives has been considered and is reported in the Scheme Development Report which formed part of the suite of material consulted on as part of Consultation 1. The feedback on options from Consultation 1 will inform the design process and this, including the alternatives considered, will be reported in the Preliminary Environmental Information Report (PEIR) and consulted on in Consultation 2 for the DCO Project.

**A3044 Options are shown in Figure 3.8** *It should be noted that during consultation 1 Slough objected to all of HALs proposed A3044 options due to the potential environmental and health impacts these will have on our residents in Poyle and /or Colnbrook Village.*

**Table 3.4** it is noted that that the proposed EA will consider air quality and noise and vibration during the construction and operation stage for road options. ***However it is concerning that in combination effects are going to be considered qualitatively and not quantitatively.***

**Airport supporting facilities are shown in Figure 3.13** *it should be noted that during consultation 1 Slough objected to the proposed 'Poyle' car park and raised concerns relating to airport supporting facilities located to the south of the NWR as these are located close to existing residents in Colnbrook and Poyle.*

**Table 3.7** outlines the environmental topics HAL consider are relevant to airport supporting facilities. ***Slough disagrees with the scoping approach.***

It should be noted that there are discrepancies between the Main Report – Vol 1 and the Appendices – Vol 3, whereby certain aspects of the new airport supporting facilities do not appear to include AQ in the scope of assessment, however, in the Appendices (V3, Section 5.1, Dispersion Modelling Methodology) they do appear to be covered]. **Clarification is therefore sought on this issue?**

#### **Airport supporting facilities (Vol 1, Paragraph 3.3.34 – 3.3.36 and Table 3.7)**

Point 2 – expansion will require the growth of Maintenance, Repair and Overhaul (MRO) facilities including hangars and engine ground run pen facilities, and potentially a forward maintenance unit outside the existing base. *It is concerning air quality effects and noise effects have been scoped out for the MRO areas as some of these facilities could be located closer to our residents.*

Point 4 – delivery of new aviation fuel storage facilities. The new storage facilities will increase Heathrow's existing fuel network supply capacity from a maximum of circa 27 million litres per day to circa 34 million litres per day. *An odour assessment should be considered for the new aviation fuel storage facilities (it appears air quality is scoped out).*

Point 5 – Upgraded and new waste water treatment and network infrastructure. *Air quality and odour assessments relating to moving public utilities (sewers and sludge mains) should be considered currently air quality and odour is scoped out.*

Point 7 – there will be new generation plant to support the energy demand of the airport, however, *air quality is scoped out of the EIA for this issue but should be included.*

Point 8 – Upgraded and new waste and recycling centres. This is expected to include a resource recovery centre to promote re-use and recycling of airport wastes, areas to receive sweepings from runway, apron and highway cleaning and enhanced management of aircraft cabin waste. These centres have the potential for increase vehicle movements, *however, air quality and noise is scoped out of the EIA for this issue but should be included.*

Point 9 – while it is proposed that airport car parking will be kept at a similar level to present levels, there will be some consolidation and concentration into fewer areas. A car park is proposed in Poyle. *Air quality is scoped out of the EIA for this issue but should be included.*

**Construction activities in Slough** due to their location as shown in **Figure 3.17** and activity they have the potential for significant effects on residents in Colnbrook, Poyle, Brands Hill, and Langley and the cumulative and in combination effects alongside the operation of the airport is also likely to be significant.

***Langley has not been scoped into the ES impact for air quality. Figure 4.2 Langley should also be included in the Community areas for reporting of in-combination effects.***

#### **Chapter 4 Approach to EIA scoping**

The general approach to EIA scoping is acceptable with the exception of a couple of key significance issues relating to effects and in-combination effects.

The principal problem lies with the current stage of the master planning and the components set out in section 3.1: Project Design.

***Is the potential 'worse case' being considered?***

***Will the study area need to change?***

***Will a new scoping opinion be required?***

Due to the flexibility of the current project design and principal components, it is important to consider the in-combination of component impacts as well as cumulative impacts with other schemes within the scoping approach. *This is particularly important where the magnitude of an individual impact is considered to be **Low** but when taking into combination with other impacts could lead to an overall effect classified as significant.*

Section 4.2.12 and Table 4.3 *it is unclear why 'moderate' effects would for some topic specific circumstances, may not be deemed to be significant? The process needs to be clearly laid out, how these conclusions are reached with a clear rationale behind the decision whether an effect is significant or not?*

Significance is discussed and a generic significance matrix, Table 4.3 is provided and also generic descriptions of significance ratings, Table 4.4. More detail could be provided in due course. *It is considered that impacts that significantly affect health should be included within the 'major' significance rating description.*

Section 4.7.2 discusses in-combination effects. There is no standard approach to the assessment of in-combination effects. A process is outlined in Graphic 4.1. *In our view the process should also include cumulative impacts from other schemes at that geographical location.*

*Whilst we accept the importance of a qualitative assessment of in-combination effects by EIA practitioner and discrete reporting at appropriate geographical level, this does raise a degree of ambiguity to the assessment process, and will also raise the potential for challenge.*

*Additionally, consideration should also be given to creating a quantitative assessment on in-combination effects. This could be based on a significance effects matrix across all the topic areas at a receptors; a similar approach to a risk assessment whereby scoring each impact as negligible 0, low 1, moderate 2, major 3 across each topic area - in addition to relying on professional judgement.*

*Finally, a combined cumulative and in-combination assessment would reflect best practice and ensure all interactions and effects on local communities are identified. We are concerned that in-combination effects may be considered low and not significant but when taking into account cumulative effects with other schemes may change the significance rating.*

*Langley is an area that is currently experiencing high levels of air pollution and is also likely to be significantly impacted by existing schemes and new schemes (i.e. Western rail access to Heathrow).*

## **Chapter 5 Air Quality and Odour Control**

Overall, the Scoping Report for air quality impacts is fairly comprehensive, however, there are some issues and points of concern relating to the scoping of air quality issues and these are detailed below.

### **Airports National Policy Statement**

It is stated that air quality considerations are likely to be particularly relevant where the proposed scheme:

- **“is within or adjacent to Air Quality Management Areas, roads identified as being above limit values, or nature conservation sites (including Natura 2000 sites and Sites of Special Scientific Interest);**
- **would have effects sufficient to bring about the need for new Air Quality Management Areas or change the size of an existing Air Quality Management Area, or bring about changes to exceedances of the limit values, or have the potential to have an impact on nature conservation sites; and**
- **after taking into account mitigation, would lead to a significant air quality impact in relation to Environmental Impact Assessment and / or to a deterioration in air quality in a zone or agglomeration.”**

### **Study Area**

The initial core assessment area is proposed as a grid 12 km by 11 km (Figure 5.1) is centred on the existing Heathrow Planning Boundary. Whilst it is noted that the boundaries may be subject to change (based on identification of affected roads, it is our view that the initial assessment area is too limited in spatial extent, particularly to the west where it appears not to acknowledge the location of the new runway and significant proposed changes to roads (A4, A3044). It also omits the Additional Development areas shown in (Figure 3.1).

*The initial core assessment area should as a minimum use the DCO boundary as a basis, not the existing planning boundary, and apply a suitable buffer around it on a precautionary approach so as to not exclude important baseline information.*

*Slough Borough Council is likely to declare an AQMA in Langley due to elevated pollution concentrations for annual mean nitrogen dioxide (Figure 5.5). Langley is slightly further west than the extent of the current core assessment area (Figure 5.1), which only currently includes part of Langley. The existing AQMA adjacent to the M4 may be affected by the proposals but has not been fully included within the study area (Figure 5.3). The study area should actively include these existing and proposed AQMAs. It is recommended the study area is moved further west to include all of Langley and M4 AQMA.*

## **Screening Criteria and Modelling**

The report states that Highways England DMRB (2007) screening criteria will be used to determine whether road links will be affected:

- Road alignment will change by 5m or more
- Daily traffic flows will change by 1,000 Annual Average Daily Traffic (AADT) or more
- HDV flows will change by 200 AADT or more
- Daily average speed will change by 10km/hr or more
- Peak hour speed will change by 20km/hr more.

*The HE's guidance is intended for use on schemes affecting the Strategic Road Network, which would typically move traffic away from populated areas. It was not intended for land development which has the potential to increase flows on roads in urban areas.*

The DMRB air quality guidance was developed over 10 years ago, at a time when:

- (i) less was known about the health effects of NO<sub>2</sub>, now understood to be associated with morbidity (not just in combination with PM), and
- (ii) when vehicle emission reductions were expected to result in lower concentrations in future, a trend which has not been realised in many areas.

The scoping report shows that local NO<sub>2</sub> concentrations are high and a downward trend is not always clearly apparent, thus a smaller change now may be of greater importance than it was in 2007. AQMAs continue to be declared, specifically in congested areas where emission rates have historically underestimated actual exhaust conditions (a point acknowledged in Appendix 5.1, para 1.4.6). *Arguably, then, a smaller increment could now result in a significant effect, particularly within AQMAs in town centres and urban areas.*

Dispersion modelling methodology is discussed in further detail in section 5.1 in the Appendices (V3, paragraph 1.4.5). Future road fleet emission standards will be taken from the Emission Factor Toolkit (EFT) which is regularly reviewed and updated. *It is known that the EFT assumptions are over optimistic, particularly with respect to bus and freight vehicle emission standards. It is, therefore, essential that in line with the ruling in Secretary of State v Gladman (2017) that the assessment should include a worst case scenario which takes into*

*account the fact that both the model predictions of future air quality improvements and assumptions over vehicle fleet emission standard improvements may not materialise at the rate predicted.*

*The DMRB approach is acceptable for the realignment of the M25 as this relates to the strategic road network, but it is not appropriate for local roads and the re-routing of the A4 and A3044 and for the traffic impacts (both construction and operational) on existing local road networks.*

## **IAQM Screening Approach Recommended**

*A precautionary approach to the identification of affected road network, particularly in light of the limited extent of the initial core assessment area and poor air quality in some local urban areas, is preferred.*

*The IAQM (2017) land-use planning guidance includes more stringent screening criteria, this guidance criteria is used for major developments within Slough. The criteria, is set specifically with land development in mind, including that within urban areas. It includes the following traffic flow thresholds:*

- *Changes in LDV flows by (i) more than 100 AADT within or adjacent to an AQMA; or (ii) more than 500 AADT elsewhere;*
- *Changes in HDV flows by (i) more than 25 AADT within or adjacent to an AQMA; or (ii) more than 100 AADT elsewhere.*

*The IAQM notes that “where whole authority AQMAs are present and it is known that the affected roads have concentrations below 90% of the objective, the less stringent criteria are likely to be more appropriate.”*

*For example, using DMRB, any roads where there is an increase of fewer than 200 HGVs per day would not be assessed in detail in the EIA. By contrast, IAQM guidance states that an increase of 25 HGV per day in an AQMA should trigger a detailed air quality assessment, or 100 HGV per day outside an AQMA.*

*These criteria are considered more appropriate in urban settings where smaller changes in air quality may be critical to achieving compliance with EU limit values and the national air quality objectives.*

*Given the following critical elements:*

- (i) the proximity to current and planned AQMAs in Slough;*
- (ii) the proximity to areas of known Limit Value exceedance as modelled by Defra’s PCM (see comments on the limitations of this national scale model), and as demonstrated by local monitoring;*
- (iii) the magnitude of the proposed development and duration of the construction period;*
- (iv) uncertainty of future baseline projections in the context of real world emissions from vehicles and conformity of European Emissions Standards;*



- (v) *the range of uncertainty of the forecast impacts of the Surface Transport and Freight Strategies*

*It is recommended the study takes a precautionary approach and applies IAQM screening criteria for changes to traffic flows, as a minimum those in urban areas and existing and proposed AQMAs, in order to identify a robust study area and ensure potentially significant impacts are not missed.*

### **Monitoring Stations (Baseline Monitoring and verification)**

The only continuous monitoring station in Slough that is to be included in the study appears to be Colnbrook (see V2, figure 5.4). However, it does mention that Heathrow has funded an automatic station at Brands Hill which will become operational in 2018.

*This station became operational in October 2017 so is able to provide ratified data for 2018 and consideration should be given to using data from this station located within the Brands Hill AQMA for the baseline assessment and for verification purposes.*

### **Effect significance for in relation to Air Quality Objectives**

Section 5.9.25 it is proposed that the significance of effects on NO<sub>2</sub> and PM concentrations as determined through dispersion modelling will be assessed using the guidance contained in the Highways England Interim Advice Note 174/13 on Evaluation of Significant Local Air Quality Effects. **It is recognised that further government guidance on the assessment of the environmental effects of major infrastructure projects may be published before the assessment is complete.** In this case, the application of the most recent relevant guidance will be considered in the assessment.

**Table 5.10** (Magnitude of change criteria) provides descriptors that are designed to play down the magnitude of concentration changes. For example, anything up to a 2 µg/m<sup>3</sup> change is described as **small** and changes up to 0.4 µg/m<sup>3</sup> are described as **imperceptible** and these will be scoped out of the judgement on significance.

*These descriptors are not acceptable and do not accurately reflect the impact of the scheme on changes in local air quality concentrations. If Slough had a measure to improve air quality by 2 µg/m<sup>3</sup> it would be described as having a moderate to major impact.*

Conversely, IAQM guidance on land use planning and development control, which is considered more appropriate for developments in urban areas, describes changes of less than **0.5% as negligible (0.2 µg/m<sup>3</sup>)**. Use of DMRB guidance, may result in changes that are significant for local authorities to be omitted.

*It is recommended that significance of effects refers to the IAQM guidance Land-Use Planning & Development Control: Planning For Air Quality. Table 6.3 outlines an approach to impact descriptors for individual receptors which is more relevant to the scheme and which also reflects the current long term average concentration at the receptor in the assessment year against the % change in concentration relative to the AQAL (Air Quality Assessment*

*Level . The AQAL may be an air quality objective, EU limits or target value or Environment Agency 'Environment Assessment Level)*

### **Cumulative effects assessment (V1, Section 4.6 and V2, Tables 4.1, 4.2, 5.1, 5.2, 5.4, 5.5)**

**This is a significant issue for Slough and is particularly pertinent given the construction effects from the Western Rail Link to Heathrow around Langley.**

The appendices (V3) include a list of developments that will be considered as part of the in-combination effects in the ZOI.

The list of developments for Slough BC is comprehensive, however, some emerging schemes in the planning application stage, particularly logistics and quarrying applications should be included if approved.

*The list for South Bucks does not include the CEMEX scheme which will add a further 240 lorries a day through the Brands Hill AQMA.*

### **Mitigation - ULEZ**

Potential mitigation is discussed in detail (section 5.10) in line with the revised draft ANPS (now fully published). *There is no mention of an ultra-low emission zone (ULEZ) or Clean Air Zone. An ultra-low emission zone is being implemented in Central London and is proposed to be extended to the north and south circular by 2021 to tackle poor air quality. However, air quality around Heathrow is also poor the DCO scheme should consider plans for an ULEZ around the airport. Additional comments from Slough on mitigation are also included within the HSPG response.*

## **Chapter 7 Carbon and other greenhouse gases**

There are some issues with the scoping approach to carbon and greenhouse gas emissions we would like to highlight.

**Section 7.2** Policy and Legislation. Relating to the relevant policy legislation table and the Airports National Policy Statement (ANPS), as stated in the table; 'Paragraph 5.81 states that "Any increase in carbon emissions alone is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the project is so significant that it would have a material impact of the ability of Government to meet its carbon reduction targets, including carbon budgets".'. *The EIA should include evidence that the Heathrow Expansion can comply with the government targets set out in the Climate Change Act 2008 of at least an 80% reduction in GHGs relative to 1990. (Page 7.7)*

**Section 7.7** Likely significant effects requiring assessment. Regarding Table 7.5 'Likely significant carbon and other GHG effects for assessment'. *A detailed breakdown should be provided explaining the full methodology for all activities and effects to ensure that all GHG emissions are accounted for. In addition emissions from Land use, land-use change, and*

*forestry should be included. Carbon sequestering vegetation and soil that would be affected during the construction phase should be accounted for in the GHG calculations. (Page 7.13).*

**Section 7.9 Proposed approach to the assessment: 7.9.9 Assessment scenarios.** Of the principal scenarios to be modelled, the '2R future baseline' includes a number of future projections. For example the future 2R future baseline 'will factor in improvements for example: a) Low carbon energy provision from the grid...'. For future projections the methodology and all assumptions should be stated. *These projections should also state uncertainty levels.*

GHG Emissions Estimation: Operation Emissions – **Flight Emissions 7.9.18.** The report outlines that "Emission factors for future aircraft types not included in the EMEP guidebook will be developed based on a review of literature and best available guidance on performance of future aircraft types". *For future projections the methodology and all assumptions should be stated. These projections should also state uncertainty levels. (Page7.19)*

**Transboundary effects - 7.9.53.** The report states that; "...it is not possible to apportion or identify any impact of an increase in GHG emissions in terms of environmental effects on any particular country or state". The reason provided is that the environmental receptor is the global atmosphere. *This is incorrect as studies have attributed probabilities that anthropogenic climate change is linked to individual climate related events.* The associated GHG emissions from the NWR project can be incorporated into the global GHG emissions totals. *The overall contribution of the NWR project should be calculated and applied to the IPCC AR5 emission scenarios. (Page7.26)*

*There is detail lacking as to how the future facilities would operate efficiently. For example it is not outlined whether new buildings will adhere to 'excellent' BREEAM standards or what EPC ratings the buildings would be designed to achieve.*

## **Chapter 8 Climate Change**

This chapter covers the principal projected impacts of climate change. References are drawn upon the UKCP09 and UKCP18 projections.

*However, local climate projections are necessary to understand the impacts of the NWR Project upon the Urban Heat Island effect in Berkshire affecting mean temperatures and temperature extremes. It is also recommended that impacts to local precipitation should be projected due to changes in the water cycle such as transpiration rates.*

## **Chapter 14 Land Quality**

Overall, the Scoping Report for land quality impacts is comprehensive, there are some points we would like to highlight.

**Table 4.6** Summary scope of the assessment outlines the scope of assessment for Land Quality. The proposed issues to be assessed are very encompassing and comprehensive, for each stage of the development. *However, the construction phase should also be assessing the impact of the scheme on the existing landfills, and the proposed movement of waste between sites and establishing new landfills in the proposed borrow pits.*

The overall proposed assessment is acceptable. *However, a better approach for the ground investigations, risk assessments and CSM within the boundary and the buffer areas, is to be carried out using a zoned approach, according to the proposed end uses. The investigation and assessment should then be designed according to the intended land uses, and for each stage of the development: construction and operation. This chapter mentions that there will be a separated approach for the different stages of development, but an even more specific assessment is required, in order to ensure due consideration has been given to the relevant Potential Pollutant Linkages for each area of the development.*

**Appendix 14.1: Land Quality Approach to Human Health and Controlled Waters Risk Assessment.** *Comments to this document have already been provided by Slough in early March this year and are included within the Appendix.*

## **Chapter 16 Noise and Vibration**

The overall approach to scoping noise and vibration is very comprehensive and well defined. There are some elements to the approach that requires additional information, clarification or consideration.

### **Study Areas**

**Section 16.4.5** the operational noise assessment study areas for the different sources of noise are defined as:

- Aircraft noise based on the LOAELs for daytime and nighttime could extend 40 miles (east-west and 20 miles north-south) – *whilst indicative flight paths will be used to determine the extent of the study area, worse case scenarios should be considered. All of Slough's communities are likely to experience aircraft noise above the LOAELs for the new runway in operation with the current 2 runways and a substantial area of Slough is likely to experience levels above the SOAELs. These are of critical importance in terms of the noise impact assessment and mitigation.*
- Aircraft ground and airfield noise: up to 1km from any ground operations *it is not clear how this distance has been determined, and this is of critical relevance to Slough given the proximity of its residents to proposed ground operations (with a NWR)? Clarification as to how the 1km study area has been defined is requested? Consideration of the noise impact of ground operations on local residents using WHO guidelines for community noise and WHO night noise guidelines is recommended.*

### **Likely Significant effects requiring assessment**

**Table 16.4** outlines the likely significant noise effects during the construction and operational stage of the development.

*It is unclear why operational noise effects on disruption of function (for example cognitive impairment in schools) has not been considered but have been for construction noise effects?*

## Proposed Approach to Noise Assessment

*It was not clear that the engine testing facility will be included in “maintenance”. It is also not clear if engine testing noise will be assessed under ground noise or fixed noise sources. It is proposed that engine testing noise should be assessed as a fixed noise source in accordance with BS4142. Methods for rating and assessing industrial and commercial sound (BS 4142).*

### Construction assessment methodology: source by source

The approach to construction assessment methodology is acceptable and noise impact thresholds are outlined in **Table 16.5** using ABC method outlined in BS5228. *However, it is also recommended that the  $L_{Amax}$  parameter, in line with WHO night-time noise guidelines, is also considered for night-time construction works in order to protect residents against sleep disturbance and also to determine if residents should be offered sound insulation or temporary re-housing .*

### Operation assessment methodology: Source by source

It is noted in section 16.10.47 for aircraft noise assessment the primary and additional outputs will be generated for the following cases:

4. Maximum noise level from individual aircraft flight operations ( $L_{Amax}$ ) will be derived for aircraft operations at night
5. Objective awakenings for the night-time period (23:00 to 07:00) generated from the  $L_{Amax}$  data for the summer overall average night-time, the average easterly and westerly night-time and the night-time mode specific cases

**Table 16.7 LOAEL and SOAEL levels to be used in the assessment for residential Receptors** include a non-specific maximum criterion for aircraft noise “ $L_{Amax}$ /number of events and a risk assessment of objective sleep disturbance”.

*An appropriate  $L_{Amax}$  value/number of events needs to be inserted to identify what are the SOAEL criteria for these events?*

## Evaluation 2 – Likely significant effects on an area basis, in line with EIA regulations

**Section 16.10.108** where the noise exposure is between the relevant LOAEL and SOAEL values, the combinations of the three primary factors that result in the identification of likely significant effects on an area basis are being developed drawing on the context of the communities within the study area. The combinations will be published and consulted on as part of the PEIR following review by NERG.

*Further Clarity is required in the determination of significant effects for receptors which are predicted to exceed LOAELs using the primary factors outlined within the scoping report Graphic 16.3. It is currently ambiguous how the identification of significant effects is to be determined for these receptors and areas as they rely on three primary factors?*

## **Cumulative Noise Effects**

*In our opinion a quantitative approach to cumulative assessment in relation to noise should be considered in addition to a qualitative approach.*

I trust these comments have proved useful. If you have any questions, please contact me on my direct line.

Yours faithfully,

Jason Newman  
Environmental Quality Team Manager

19<sup>th</sup> June 2018

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**Our Ref:** 180619 SBC LHR Scoping  
**Your Ref:** TR020003

To whom it may concern,

**Re: Response to the consultation on Scoping for the DCO for expansion at Heathrow**

Slough Borough Council agrees with PINS that it is a consultation body and welcomes the opportunity to comment on the Scoping report.

This response considers the ES Scoping in light of elements of the proposal that affect Slough, and should be read in conjunction with

- The Councils response to Consultation 1 in March 2018
- The response to the Scoping from SBC Environmental Quality (Air Quality, Noise, Carbon/ Climate Change and contaminated land)
- The Emerging preferred Spatial Strategy November 2017
- The Rochdale envelope approach
- The HSPG documents – the response to the Scoping Consultation; the Vision and Development Principles and Draft Outcomes Statement

Slough Borough Council's broad support for the expansion of Heathrow is included in the Emerging Preferred Spatial Strategy to "accommodate the proposed third runway at Heathrow and mitigate the impact." The ES Baseline data collection should be informed by this, the Scoping Report for the Slough Local Plan (November 2016), and its accompanying Sustainability Appraisal and the update to that available at [www.slough.gov.uk/localplan](http://www.slough.gov.uk/localplan).

**Rochdale Envelope Approach**

As stated in the HSPG response elements of the DCO are subject to a high degree of uncertainty. This includes the description of the development; the extent of alternatives (given the 'puzzle' assembly of options approach to Masterplanning); the intentional omission of a Surface Access Strategy (para. 17.1.13); and strategies to alternatives for and re-provision of displaced uses as described in 3.3.37.

The surface access strategy has a major impact on the east of the Borough and as such effects other elements of the significance of effects. That includes the need for meeting commitments to public transport accessibility by modes including walking, cycling, and buses. Slough Borough Council would therefore like to specifically reserve the right to comment on a later stage on this work as it evolves, and the impacts that this has on other elements of the Scoping; and how the effects will be assessed. Particularly the socio-economic effects on the local community given their proximity to negative effects.

**Scope of the assessment - Table 1 (Summary scope of the assessment)**

The assessment should include consideration of the following:

Public transport – during construction – effects on economics and employment off airport – for example during construction of the Campus the location of facilities "yet to be determined" set out in paragraph 3.4.14 and 3.4.16.

Rivers and Flood storage – during construction and operation – effects on economics and employment. The decision in the Scoping at 3.3.32 not to provide compensation for flood storage that reduces the existing rather than maintains existing, or to the south.

### Significant effects

The priority for the emerging Local Plan is that the ES and the DCO process are utilised to highlight and respond to likely significant effects; deliver mitigation for the social, economic and environmental impacts in the Borough, and in particular address

- HALs commercial preferences on airport related development
- The need to deliver physical and operational measures to ensure public transport, walking or cycling offers preferential journeys (time and cost) from the Slough to the airport.
- The impact on Slough and the sub-region of the loss of the Lakeside Energy from Waste
- The need to retain and optimise the use of the rail line
- The cumulative impact on the Conservation area in Colnbrook
- The cumulative impacts of development of the DCO on the residents and businesses directly affected by the new runway including visual amenity to those remaining, loss of premises, facilities and severance.
- The consideration of alternatives for alignment of the roads and green infrastructure that deliver the Local Plan Emerging Spatial Strategy objectives.
- The extent to which the DCO ‘red line boundary’ will ensure that green infrastructure mitigation is delivered including through CPO powers: as related to the study areas.
- The extent to which compensation for negative impact on Colnbrook and Poyle (i.e. that cannot be mitigated for) can be directed by the Borough: for example to include improvements to flood risk rather than a do minimum approach; the realignment of watercourses; the viability of biodiversity.
- The extent to which the safety zone associated with the third runway will impact on existing residential areas in Slough, and inhibit the delivery of new housing.

Additional indicative comments are given in the table attached below.

Yours sincerely,



Pippa Hopkins  
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<b>Slough Borough Council comment - initial responses</b>		
	<b>Volume/Report references</b>	
Community	Chapter 9 Table 9.4	<p>The EA should assess the impact upon the makeup of the local community as a result of the proposal as a whole including the proposed compensation package to owner occupiers who will be offered 125% of the value of their property. Table 9.4 shows that there already is a high level of private rented housing stock in Colnbrook, Poyle and Brands Hill. The impact upon the community of a change in tenure should therefore be assessed.</p> <p>The impact of the new safety zone on existing communities should also be considered.</p> <p>The construction phase is likely to result in a need for temporary accommodation for construction workers. This could also have an effect upon the local community and so needs to be assessed.</p>
	Section 9.4	Support HSPG response regarding assessment and integration of cumulative effects on existing and construction communities.
Economics and employment	Chapter 10	<p>Support the majority of the assessment but reserve the option to make comments given the lack of information at present on issues such as the description of the development; the extent of alternatives (given the 'puzzle' assembly of options approach to Masterplanning); the intentional omission of a Surface Access Strategy (para. 17.1.13); and strategies to alternatives for and re-provision of displaced uses as described in 3.3.37.</p> <p>Mitigation should include for example measures that promote access to jobs to the local community, deliver priority to public transport access; address HGV routing and support targets for car parking and access by private car.</p>
	Table 10.3	The data sources should also look to the HSPG Joint Infrastructure and Evidence Base study.
	Table 10.7	Scoping out the effect of displaced uses on the commercial property market is premature to scope out given that the Surface Access Strategy has yet to be agreed and this could have a significant effect on for example Poyle trading estate.
Historic Environment	Chapter 11 Table 11.5.	Land use changes as a result of the operation of the airport should include an assessment of whether heritage assets will lose their function as a result of severance or loss of catchment area. This could include pubs which may close as a result of loss of trade.
	Table 11.15	Changes in the visibility of airport operations should specifically include the visual impact upon the setting of a heritage asset caused by planes flying over them.

Slough Borough Council comment - initial responses		
	Volume/Report references	
	Paragraph 11.8	The visual effect of aircraft over flying heritage assets close to the new runway but outside of the core are should be assessed. This would apply to places like Ditton Park Historic Park and Garden.
	Paragraph 11.9.8	The baseline surveys in the core study area should in include Conservation Area Assessments such as the one for Colnbrook.
	Paragraph 11.10.2	Mitigation measures could include the recreation of historic landscape features. One example of this could be the creation of new Orange Pippins orchards in Colnbrook which could enhance the setting and interpretation of heritage assets.  Support the HSPG comment that Colnbrook village conservation area should have an enhancement package – building upon the heritage mitigation scheme to achieve wider objectives to achieve rounded package of traffic management, environmental and social economic compensatory and mitigation actions. Similar will be appropriate in other local communities. HSPG seek not only mitigation but enhancement of this area, it is already prone to cumulative development pressures.
Landscape and Visual Amenity	Chapter 13	It is considered that a detailed 3D plan should be produced so that the full impact of raising the runway by up to 5 metres can be properly assessed – including for impacts on residential amenity nearby.
Traffic and Transport	Chapter 17 17.1.13	It is noted that whilst the Surface Access Strategy will play a part in mitigating the effects of the proposal it is not covered within the Scoping Report. The Council would therefore wish to have the opportunity of commenting upon this at a later date.
	Chapter 17 17.1.13	In addition to the delays to public transport, the severance of public transport routes and the pleasantness of public transport it is considered that the impact of the proposal upon the overall convenience, speed and attractiveness of public transport should be assessed. This is particularly important for local services from the Langley, Colnbrook and Poyle area where the reconfiguration of the road network could make bus journeys longer and some services less viable.
Water Environment	Chapter 18 Paragraph 18.10.2	The mitigation should go beyond no increase in flood risk to people and property. Given the overall impact of the proposal upon places like Colnbrook and Poyle which cannot be mitigated it is reasonable to consider measures which will reduce the risk of flooding that some residents currently face

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19 June 2018

Submitted by hard copy and email: [HeathrowAirport@pins.gsi.gov.uk](mailto:HeathrowAirport@pins.gsi.gov.uk)

Dear Sirs,

**Re: PINS Consultation reference TRO20003**  
**Consultation response to Heathrow Airport Limited EIA Scoping Report**

Thank you for the opportunity to contribute to this important statutory consultation. South Bucks Council Officers are part of the Heathrow Strategic Planning Group (HSPG) and have been providing comments to Heathrow Airport Limited (HAL) via work requests on a number of policy wide matters, which are included within the scoping report. As such, the information provided by South Bucks Officers appears to have been used in part by HAL to inform this scoping report. However there are additional matters which the Council wishes to raise. These are indicated in this response. Noting this, PINS should also be aware that detailed comments relating to the topic matters and particularly in combination and cumulative impacts have previously been submitted to HAL and that the Council is concerned that they are not all contained in this scoping report.

Generic, overlapping and very chapter specific comments are detailed within the Council's response at Appendix one. Some cross references are made to the Bucks County Council response which provides a strategic view in regard to some policy matters particularly in relation to local impacts, highways, transport impacts, health, strategic flood management etc.

This response seeks to outline the impacts which in our opinion should be included in the assessment; how information should be collected and the method and criteria that should be used for analysing impacts. The initial table appears to have scoped out some interconnected matters which is of concern. Officers are of the view that interrelated matters should not be scoped out so early in the process.

Council Officers trust that the Council's comments and observations will be given due consideration alongside the comments which have already been supplied to the HSPG group on the various consultation topics to date and their cumulative impacts. South Bucks Council will continue to work with Heathrow to

ensure that the impacts of the expansion benefit our communities and any adverse impacts are mitigated satisfactorily and are appropriately compensated for.

Yours sincerely



**Andrew Ashcroft**  
**Interim Head of Planning & Economic Development**  
**Chiltern District Council and South Bucks District Council**

## **Appendix One**

### **Chapters 1 to 4 Introduction, Description, the DCO project and Approach to EIA Scoping**

#### **Land use and land take**

Permanent land take as a consequence of Heathrow expansion will severely affect the Colne Valley Regional Park, much of which is within South Bucks and to a lesser extent Chiltern Districts. There will also be a significant loss of strategic Green Belt separating Slough from London. The draft NPPF para 137 states that loss of Green Belt should be offset through compensatory improvements to the environmental quality and accessibility of remaining Green Belt land. Some Green Belt land within the District affected by the proposals are specifically designated as biological opportunity areas which would benefit from improvements in terms of environmental quality and increased accessibility.

#### **Fuel depot and airport related development**

It is proposed to use a borrow pit during construction off Old Slade Lane in Richings Park. In principle this is a sound proposition extracting raw materials as close to the construction site as possible. However borrow pits can generate significant HGV traffic and associated dust and noise which could have a negative impact upon local residents. The proposed borrow pit is adjacent to a bridge across the M4, however this bridge is likely to be demolished as part of M4 Smart Motorway Scheme and although it will be replaced the timing of this is currently uncertain. The bridge is also only suitable for light traffic and is primarily used as a footpath and bridleway. In discussions HAL have suggested a conveyor system could be used to reach the main construction sites on the south side of the M4 (within Slough). This may be complex to deliver, particularly carrying materials over a motorway and may be objected to by Highways England. Extra HGV traffic in combination with other HGV traffic in the locality could affect the timing for some Local Plan proposed developments. This is an important issue for the District Council who will need to deliver a step change in housing to meet need.

Thorney Mill rail sidings and the adjacent site are identified as the only site within the District suitable for airport related development. The rail sidings were previously used as a rail connected aggregates depot but are currently vacant. It is recognised that rail connected depots are protected in the NPPF so no alternative proposal is suggested in the emerging Local Plan. The adjacent site is used for a number of unauthorised uses including airport parking (there is a current planning application on this part of the site). Both sites are previously developed sites within the Green Belt. The alternative proposals include consideration for aggregates depot or an oil storage facility both of which would need a rail connection. Although it is recognised that the latter is some distance from the airport. The eastern boundary is the River Colne and future uses should not have a detrimental impact on the watercourse or contradict the biodiversity gains to be achieved through the siting of a fuel depot e.g. there should be an appropriate buffer and there could be implications for flood risk, as set out in the BCC response.

In addition sites will need to be identified and delivered for biodiversity offsetting and enhancement of the Green Belt (see above). Additional sites will need to have a funded programme for ongoing management and where appropriate public access. South Bucks (as the largest District affected) is supporting the Colne Valley Regional Park in its response to the consultation, and ongoing discussions and negotiations with the Airport. The scoping report should incorporate this.

The replacement of the current Total Fuel Depot site currently located within Poyle Industrial Estate is discussed. Due to the rail line that serves the facility being likely to be severed by the new runway, a replacement terminal will be required. One of the considered options is described as Thorney Mill Road site (to the north of the M4 and east of the M25).

This site appears to be a former landfill. The site was known as Bagley Ditch. The site received industrial waste and last received waste in 1972. This site will need to be fully characterised and the associated risks assessed if it is the preferred option, though not supported for fuel storage purposes for the reasons expressed above.

The proposed scope for assessment of sites within the study area will be undertaken in accordance with relevant guidance and standards. The proposed scope for assessment of sites is considered to be acceptable to officers.

### **HGVs, In combination and cumulative Impacts**

HGVs have had a significant adverse impact on the parish of Iver and particularly Iver village and Richings Park for some considerable time. This is exacerbated by business sites in LB Hillingdon, on the boundary with South Bucks, which can only be accessed by passing through Iver. The South Bucks Core Strategy has attempted to reduce the number of HGVs by encouraging change of use in order to limit HGV traffic. One of the sites proposed for change of use to residential and commercial purposes within the emerging Joint Local Plan currently generates 57% of the HGVs (Green Belt option 13). The County Council has proposed, after carrying out several studies, that the only solution is an Iver Relief Road. If the proposals put forward as part of the airport expansion generate HGV traffic in addition and potentially to a similar timescale to that generated by other major infrastructure providers currently impacting the same area such as WRLtH, M4 Smart Motorway and in the future M25 Smart Motorway, then the Councils would expect a significant contribution to the cost of the Iver Relief Road. The cumulative impact of these schemes should also be addressed. Bucks County Council demonstrates the joint work in place in support of the Iver Relief Road and the impacts or limitations to HAL expansion in the absence of it's delivery. (ref: Local impacts section, page 2).

### **Accommodation for employees and alternative modes of travel**

The Council supports the construction of temporary accommodation but would ask that it is built in such a way that it could become permanent accommodation which could be used long term as affordable housing.

From South Bucks new easily deliverable walking and cycling and new bus routes (particularly from Iver) could be important additions to Crossrail, and Western Rail Access services when they arrive.

Charging on access roads to Heathrow and pricing of new car parks will need to be carefully thought out to avoid unintended consequences in terms of exacerbating the illegal/unauthorised car parking issues in South Bucks and encouraging drivers to seek alternative and perhaps more unsuitable route options.

Green infrastructure and river diversion proposals will generate HGV movements. The extent of this is unknown. As such, the impacts on residents of the Poynings and Old Slade lane and Thorney Mill Road in South Bucks need to be clarified.

HAL should be aware of the Local Plan transport evidence which could be useful as background information in the assessment of impacts on the local and strategic road networks. Chiltern and South Bucks, with BCC, are currently modelling the impacts of the Local Plan growth scenario on the local road network. The work is currently being updated but the latest findings can be found on:

<http://www.southbucks.gov.uk/article/7362/Local-Transport-Modelling>

In addition Chiltern and South Bucks Councils are in discussion with Highways England at present in relation to the requirement to model the impacts of the Local Plan growth scenario on motorway junctions within an or close to the plan area. An initial estimate of impacts can be found in the Phase 3a local modelling report which is set out below. However this work is due to be extended with a detailed assessment of impacts. More information on this will be added to the website in due course.

[http://www.southbucks.gov.uk/media/12061/Chiltern-and-South-Bucks-Local-Plan-Modelling-Phase-3a/pdf/Chiltern and South Bucks Local Plan Modelling Phase 3a.pdf](http://www.southbucks.gov.uk/media/12061/Chiltern-and-South-Bucks-Local-Plan-Modelling-Phase-3a/pdf/Chiltern%20and%20South%20Bucks%20Local%20Plan%20Modelling%20Phase%203a.pdf)

### **Visual intrusion/views**

The proposed new runway will pass at a height over the M25 (south of the M4) there is concern that noise and visual intrusion may arise. This can be seen from surrounding viewpoints in the south of the District. One view point has been identified in Iver however officers have emphasised to the HSPG group (at a workshop which took place post submission of this scoping consultation- 12 June 2018) that the in combination and cumulative impact to be experienced in the Ivers as a result of all the forthcoming national infrastructure projects needs to be considered collectively. The proposal for a building in Richings Park for the WRLtH has not been sensitively drawn, nor does it consider biodiversity enhancement/mitigation and landscaping, this is of concern to the Council.

In addition the various other emerging developments in South Bucks and their cumulative and cumulative impacts to the District should be addressed, together with their timeframes, likely HGV movements and visual impacts. This has been indicated both verbally and in writing to HSPG through the submission of detailed responses to work requests (as stated above).

### **Biodiversity**

Biodiversity offsetting to mitigate impacts is mentioned in regards to Burnham Beeches. This is to be addressed within the biodiversity work. In accordance with the Conservation of Habitats and Species Regulations Chiltern and South Bucks District Councils are currently working with Natural England, City of London and other relevant bodies to develop a mitigation strategy to ensure that the impacts of additional visitor numbers arising from Local Plan growth do not adversely impact on the integrity of the SAC. If additional visitor numbers to the SAC are likely to arise as a result of the Heathrow proposals, the additional recreation impacts to the SAC will require mitigation. Recreational impacts will need to be considered cumulatively with other plans for the area (e.g. Local Plans), and if appropriate contributions toward the agreed mitigation strategy, or the provision of alternative mitigation will be required. Heathrow will need to undertake a HRA Screening, and then undertake AA for any likely significant impacts identified. This must consider the cumulative impacts of plans and projects in the area and should build upon the assessment and evidence base work undertaken by the Local Planning Authorities in support of their respective Local Plans. A collaborative approach will be required to identify and deliver suitable mitigation measures.

### **Chapter 5: Air quality and odour**

These comments apply to both the construction and operational phases.

The South Bucks Core Strategy has attempted to reduce the number of Heavy Goods Vehicles (HGV) by encouraging change of use of sites from commercial to residential which reduces the need for HGVs. Unfortunately South Bucks is primarily accessed by vehicles passing through Iver. This has a negative effect on air quality. After carrying out several studies the County Council has suggested that an obvious solution is a relief road for the village. If the proposals put forward as part of the DCO generate HGV traffic in addition to and potentially on a similar timeline to that generated by other major infrastructure providers

(e.g. WRLtH, M4 Smart Motorway and in the future M25 Smart Motorway) then the Councils would look for a significant contribution to the cost of a relief road. The in combination and cumulative impact of these schemes should be addressed in the scoping report.

It is evident from the scoping report that South Bucks is not in the study area for Air Quality Assessment and will only be scoped in when the criteria set out in the DMRB apply. There is concern that the cumulative impact on the number of additional LDVs and HGVs that could potentially be travelling through Iver will not be taken into account. Therefore South Bucks District Council requires that assessment criteria be changed to:

“Cumulative change in HDV by 200AADT or more from all Major projects in the area both during the construction and operational phase”

All construction routes identified should be agreed with the Local Planning Authority.

South Bucks district Council would require HAL to reconsider the study area in light of the 2017 air quality monitoring results. A number of monitoring locations set up in January 2017 have measure concentrations of Nitrogen Dioxide above the annual mean objective. Consequently an AQMA is being declared in Iver.

Charging on access roads to Heathrow and pricing of new car parks will need to be carefully thought out to not deliver unintended consequences in terms of exacerbating the illegal/unauthorised car parking issues in South Bucks and encouraging drivers to seek alternative and perhaps more unsuitable route options. There are currently no public car parks in Iver and on street parking is causing bottle necks along the High Street and increasing pollution concentrations.

Parking for freight trucks needs to be carefully considered. To combat air pollution all trucks used during construction should be classified as Euro VI or better. Construction traffic impacts and routes should be planned and agreed with Local Planning Authorities. HAL should consider a quality of life fund for local residents who will suffer noise, air quality, construction impacts etc. during the construction and operation of the expanded airport. Compensation that could be considered includes benefits of cheaper transport, employee bus shuttles from main stations (as at Schipol airport).

Extending the Ultra- Low Emissions Zone to the area around the airport including preferably the Motorways could assist in improving air quality for local residents.

## **Chapter 14- Land Quality**

The Council does not have any comments to make with regards to agricultural land quality and minerals safeguarding. However the following comments to land quality should be considered:

In Appendix 14.1 - 5.2.2, it states that where the listed generic assessment criteria are not available for certain contaminants, then European standards, US standards and then standards from the rest of the world will be used (albeit with caution), although it is expected that these values would be rarely used and it is likely that the derivation of in-house criteria would be undertaken prior to using non-UK standards.

The Council would prefer to see UK generic assessment criteria used where available and then derived criteria. Dutch, USEPA values etc. are not considered to be appropriate.

It would be preferable for interpretative reports to be sectioned by Local Authority area and for the study area not be treated as one site. Two areas within South Bucks have been identified as sites possibly within the study area.



Within those areas there are sites that have had a previous potentially contaminative use. These sites include a paper mill (1869-1888), paper packaging products (manufacturing) (1881) (1900) (1920), the G.W.R. Staines Branch (1898-1899), quarrying (1932), a nursery, a sand & gravel works, a sand & gravel pit, a gravel pit, a sand & gravel pit, a tank (associated with sand & gravel pit, possibly mineral railway (1955-1974) and a mineral railway (1960).

There are twenty historical landfill sites within these areas that accepted various types of waste including putrescible waste. There are also several areas of unknown filled ground.

There is one private water supply within these areas.

Prior to any works taking place in these areas, each site will need to be fully characterised and an assessment of the risks from land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors.

In the Ritchings Park area, a potential borrow pit for construction is proposed. The borrow pit is adjacent to a former landfill. The aggregates extracted will be used in the construction phase. The resulting excavation will need to be filled with imported material. We will expect to see strict controls put in place with regards to the type of material used to backfill the excavation and for the restoration of the pit, noting the comments above on transportation of this material.

## **Chapter 15 Major Accidents and Disasters**

It is understood that COMAH is referenced in the developing methodology for the scoping and assessment because there is limited guidance relating to the assessment of environmental effects.

The Local Resilience Forum (LRF) may wish to comment on this chapter.

## **Chapter 16 Noise and vibration**

As a general observation it should be remembered that the definition and prediction of impacts and effects are two separate aspects in the EIA process but have a clear relationship. An effect is the consequence of an impact. Although practitioners are often use the terms interchangeably the scoping should be clear and focus on impact assessment rather than impact effect. The scoping tends towards describing likely effects. This would sit more comfortably in the PEIR. The scoping should not make value judgements or set LOEALS and SOAELS but rather explain how these judgements are likely to be made. This is particularly important if the project is to adopt the innovative approach of describing a noise envelope to be used in the DCO (see the Aviation Policy Framework 2013). In Paragraph 4.2.5 it is suggested that effects may be scoped out at this early stage. It is acknowledged that DCLG guidance says that Impacts which have little or no significance will need only very brief treatment to indicate that their possible relevance has been considered however it does not say they should be scoped out of the ES.

The emerging (draft revised) ANPS 5.51 and 5.52 contains a goal and guidance on noise performance. It would be useful if, in the PEIR, the applicant could provide a matrix showing how this has been addressed. When reading the scoping document it is difficult to see exactly how this will be tackled. For example the treatment of the AONB is mentioned in the paragraph 5.52 but not drawn out in the scoping.

The scoping document should clearly refer to the further project level Health Impact Assessment as required the Emerging ANPS (1.36 and 1.37) and how it will be used to inform the PEIR/ES.

Given the importance of “Noise envelopes” as described in the Aviation Policy Framework (March 2013), the setting of LOAELs and SOAELs specific to the DCO should be scoped in. The Table 16.6 is useful but should refer to the NPSE.

Less densely populated, rural areas tend to have a lower baseline than urban areas and a change in the noise environment is more noticeable. A method of assessing this should be scoped in.

The scoping should specifically include prediction of impacts between LOAEL and SOAEL, preferably 3dB below a future LOAEL.

Local planning authorities should be consulted throughout the whole process of setting noise baseline. Further discussion should take place on the study boundary. Groundborne noise should be included in construction noise assessment.

Table 4.6 considers effects caused by the operational airport including air traffic movements, ground noise from aircraft, airfield operations, maintenance, repair and overhaul of aircraft, surface access proposals and associated developments such as airport hotels. This list should specifically include freight since the intention is to almost double the freight handling capacity.

When discussing significance criteria, reference is made to a generic method of impact assessment, however it is not possible to generalise. Government Policy and best practice varies across EIA themes. A value judgement made on significance of landscape and visual impacts cannot be made on the same basis as a noise impact.

When considering cumulative and in combination effects Table 4.6 should include development proposed in local plans. This has been emphasised above.

Paragraph 16.1.3 should include all non-residential receptors, and not be constrained to community facilities. The applicant proposes to assess community impacts. The scoping should describe how communities will be defined.

The Council would like to see the NPSE 2010 which predates the ANPS given higher status in Table 16.1 than “due regard” e.g. “primary policy aligned with” It is assumed that national policy on aviation noise is a wide reference to more than one document.

In Table 16.1 it should be acknowledged that The Response on UK Airspace Policy, DfT, October 2017 was about airspace change not airport expansion. The setting LOAELs and SOAELs should be scoped in and not set in stone at this stage.

In Table 16.1 it should be acknowledged that Air Navigation Directions and Air Navigation Guidance to the Civil Aviation Authority (CAA) which will take effect from 1 January 2018 was about airspace change not airport expansion. Again, the setting LOAELs and SOAELs should be scoped in and not set in stone at this stage.

## **Chapter 18 Water Environment**

Bucks County Council has addressed within its response to yourselves the water environment impacts, which are applicable to South Bucks and should be noted. In addition the Council would like to draw to HAL’s attention the Draft Level 1 SFRA for Chiltern and South Bucks District Councils since it has information on local flood risk. This is also referred to within Bucks County Council’s response paragraph 11, page 22.

Draft SFRA

<http://www.southbucks.gov.uk/article/7367/Strategic-Flood-Risk-Assessment-Draft-Level-1-Update-October-2016->

Waste water impacts would be of concern and necessary for inclusion in the scoping assessment work to ensure that there would be no knock on effects post development and that capacity has been considered.

South Bucks and Chiltern Councils have been asked by the Environment Agency (EA) to carry out a Water Quality Assessment to assess the waste water impacts to the local network and biodiversity as part of our Local Plan Development Growth Scenario Testing. This study has been agreed by the EA and Thames Water.

Please refer to the link below:

[http://www.southbucks.gov.uk/media/12302/Water-Quality-Assessment-March-2018-/pdf/Water\\_Quality\\_Assessment\\_-\\_March\\_2018.pdf](http://www.southbucks.gov.uk/media/12302/Water-Quality-Assessment-March-2018-/pdf/Water_Quality_Assessment_-_March_2018.pdf)

Impact of the proposal and to the wider region would need to scope in capacity of potable water in consultation with the Environment Agency and the Water Companies.

### **Cumulative impacts**

Overall it can be concluded that Iver Parish in general and Richings Park area in particular is already saturated with HGVs and other traffic (the area is used as a rat run when the M4/M25 is congested) and is set to grow more with the Cemex Operation in North Park (Bucks County Ref: CM/51/16- Link:

[https://publicaccess.buckscc.gov.uk/online-applications/files/8C5163431DA176940E72EF13990E91F1/pdf/CM\\_51\\_16-COMMITTEE\\_REPORT-22852.pdf](https://publicaccess.buckscc.gov.uk/online-applications/files/8C5163431DA176940E72EF13990E91F1/pdf/CM_51_16-COMMITTEE_REPORT-22852.pdf)

(amongst other forthcoming developments in the pipeline which HAL has been informed of), the operating Cross Rail station, the redevelopment of the Thorney Business Park, the potential development on the rail sidings etc. together with the future Western Rail Link to Heathrow. There are timing concerns, and quantifiable concerns as to the detrimental impact of the proposed developments within this area. There are land take concerns in that a number of operators will need to use the same sites within Iver, which will impact amenity for residents, air quality, damage to local roads, traffic etc. Each of these projects will increase traffic flows overall and the numbers of HGVs. The main receptor that is likely to experience cumulative effects is the local road network where construction of developments in close proximity to the DCO Scheme. The same haulage routes are used. Additional traffic, air quality, noise and impact to local residents, quality of life and health will need to be appropriately addressed and mitigated. The monitoring and reporting of air quality impacts their negative effects on health are crucial, hence the generic comments interlink and provide a response to the various policy matters collectively.

# **Heathrow Expansion Environment Impact Assessment Scoping Report 2018**

*Summary of responses from Spelthorne Borough Council  
(June 2018)*

## ***Introduction***

This document provides a summary of Spelthorne Borough Council's (SBC) responses to PINs consultation exercise on Heathrow Expansion's Environmental Impact Assessment (EIA) Scoping Report to inform the preparation and completion of the Preliminary Environmental Information Report as part of the Development Consent Order (DCO) process.

### General Comments

- Reference is given to the 'heavy rail' alignment, though not explicitly the 'light rail' (Southern Light Rail) which is a proposed alignment.
- The existing Planning Boundaries need respecting and the emerging Local Plan documentation of SBC needs to be fully considered.
- The current scoping provide an illustrative boundary, however, SBC reserves the right to challenge other components of the expansion masterplan, if sufficient consideration has not been given through the EIA.
- Paragraph 4.9.3 outlines that "several dedicated groups have also been established for the purposes of consultation and assurance for the DCO Project". The bullet points under this paragraph include the Heathrow Strategic Planning Group. Participation in this partnership, and the terms of reference of the HSPG group, does not include provision of assurance.
- The Executive Summary of the EIA Scoping Report states that "The components of the DCO Project are presented in this Scoping Report at a number of locations and in a range of design configurations. These design options were consulted upon in Heathrow's first public consultation on expansion, Consultation 1, undertaken between January and March 2018. The type and function of the components themselves are now well understood". The type and function of the components themselves and how they accumulatively impact and impinge upon the quality of life of residents is far from well understood. There needs to be a holistic approach in addition to component assessments.

## **Question 1. The environmental topics that should be included in the EIA**

### General

Paragraph 2.2.17 (Volume 1, p29) discussed committed rails schemes, namely the Elizabeth Line. There is no mention here about the Network Rail Western Rail Link to Heathrow (WRLtHR) scheme, which has an Environmental Impact Assessment: Preliminary Environmental Information Report consultation with PINS at this moment in time. The WRLtHR is discussed in terms of rail noise in Chapter 16, e.g. para 16.6.17, but it is not discussed in the context of the DCO Scheme nor as a cumulative scheme outside of the appendices. Western Rail access has been considered as required for Heathrow to meet its surface access targets.

There is also no reference in any of the volumes about the renewal of the Esso Southampton to London Pipeline which delivers oil from its refinery in Fawley to the West London Terminal storage facility at Heathrow. A consultation on pipeline corridor options has just closed, and statutory consultation on the preferred route is expected in Autumn 2018 with an application to be submitted for a Development Consent Order in early 2019. The project timeline has commencement of construction works in 2021, and therefore construction works through Spelthorne will be on-going coincidentally to enabling works of this DCO scheme, if granted. Cumulative impacts of the pipeline scheme should be considered.

Paragraph 2.2.22 (Volume 1, p30) discusses current operations and in particular the Cranford Agreement. This section details that planning permission has been granted for the infrastructure necessary to implement the end of the Cranford Agreement, but that as yet the enabling works have not been done, so airport operations remain as under the Agreement (i.e. no runway alternation on easterlies). Neither the description of the existing site nor the Chapter on the DCO Project provide any clarification of when these enabling works would be undertaken. Will they now be included within the DCO Project, or would the changes be made ahead of the DCO application/ decision? The change will impact on the proportion of landings and take-offs experienced by communities under easterly operations, with commensurate impacts on noise, air quality and other community impacts.

Paragraphs 3.3.13 to 3.3.24 (Volume 1, pp41-43) discuss local road diversions. The options presented for diversion of the A4, A3044 and Stanwell Moor Road junction (Figures 3.7 to 3.9, Volume 2, pp 20-22) differ from the options being presented to HSPG as Masterplan Assembly Options. With respect to the A4 shortlisted options, only Option 6C features in the Masterplan Assembly Options, with a variant option on 3A (with differing junction connections to the M4 Spur) and new Options for taking the A4 east of the M4 Spur and reconnecting to the existing A4 via the bottom of the A408 Sipson Road. For the A3044 none of the four options set out in Figure 3.8 have been taken forward in the Masterplan Assembly Options – options 2A and 3G do not feature and the variants of options 2AI and 3D connect directly into the roundabout above Junction 14 of the M25 and not to Horton Road in the Masterplan Assembly Options. For the Stanwell Moor Road junction, EIA scoping options SMJ1 and SMJ3

do not feature in Masterplan Assembly Options, which do include configurations not included in the EIA Scoping with a direct connection from Junction14 of the M25 into a proposed Western Parkway east of Stanwell Moor Road.

Similarly, all four options presented in the EIA Scoping Report for River diversions (from para 3.3.31, Volume 1, p45 and Figure 3.11 Conveyance options to retain river flows) are different from those being consulted on in the Masterplan Assembly Options. The scope of the EIA needs to be adaptive to encompass all options being taken forward as potential components as the scheme progresses towards a preferred Masterplan.

Paragraph 3.3.25 (Volume 1, p43) Other Road Network Changes does not include the option for Southern Road Tunnel access, which is discussed in paragraphs 5.10.25 to 5.10.27 (Volume 1, p144).

Paragraph 3.3.37 (Volume 1, p48) discussed Displaced Uses, including the Total Rail Head. This states that a re-provided rail head will be located on the Colnbrook branch of the Great Western Main Line. No plan(s) has been provided of the location options for this facility. Paragraph 3.3.37 also states that “The re-provided rail head will provide the principal import and export facility for earth and landfill, aggregates”. In contrast paragraph 5.10.5 (Volume 1, p140), is vague about the use of the railhead to transfer waste materials stating that “opportunities are being investigated”.

Paragraph 3.3.40 and Table 3.9 (Volume 1, p52) discusses airport related development. Improved clarity is needed about how much of future demand for these facilities will be provided within the DCO scheme, and how the remainder will be considered under cumulative assessment.

The EIA report will need to include more detailed timetabling of construction/operational components and definitive construction sites in order to be able to properly assess significance, especially in relation to geographical areas and possible clustering of sites and activities temporally and spatially.

Improved clarity is need in Paragraph 3.3.38 (Volume 1 p49), relevant environmental topics for displaced uses, as it states that the Environmental Impact Assessment scope will only include demolition of displaced uses, with the exception of the Immigration Removal Centres, but will be considered as part of the wider scheme and within the cumulative effects assessment.

Table 4.4 (Generic descriptions of significance ratings, Volume 1, p66) makes no reference to impacts on human health, only changes to environmental or socio-economic conditions.

### Biodiversity

From the report, it is clear that rivers and flood storage are not going to be assessed during the operational phase for their effects on air quality and health of river systems. What is worthy of note is that air quality could have an impact on the ecosystems surrounding rivers during the operational phase as a result of increased pollution. In addition, a reduction in the health of river systems can also have a knock

on effect on people's access to open spaces and mental wellbeing and could probably, lead to health issues such as dangerous algal blooms.

Paragraph 6.6.18 discusses baseline conditions, stating that desk studies and 2017 surveys suggest no schedule 8 plants are at risk from the development. However, Brown Galingale is listed as a schedule 8 species and is present in the seedbank at Shortwood Common, close enough to put habitats at risk of damage through pollution. This could damage ongoing efforts to get the plant to germinate successfully in the future.

Ecological impact assessment on birds of an expanded operational airport needs to be assessed particularly in respect to large birds such as swans. That is, assessing the impact that the airports current and future proposed Bird Team activities on bird populations and natural (nesting) habitats extending to an area that also encompasses Spelthorne.

Waste Water routing and treatment will also need articulating.

### Traffic & Transport

Within Heathrow's Consultation 1 Heathrow related traffic was defined as "movements by motorised vehicles into and out of the airport and using the public highway whether carrying passengers or colleagues or for the purposes of airport related freight and servicing". In the EIA Scoping report the term has been restricted further and is inconsistently defined between topic chapters. In Section 5.6.1 (Ambient Air Quality) pp115-116, airport-related traffic is defined as trips starting at or ending at the airport, whilst any trips not starting/ending at the airport are included as non-airport related road traffic. In Table 5.8 [Likely Significant AQ & Odour Effects Volume 1, pp127-130] increased emissions from vehicles associated with the DCO scheme are termed as 'Vehicular traffic associated with the Airport' (including airport staff and passengers and freight vehicles). The latter is still limited only to vehicle trips on the public highway. The EIA Scoping needs to be able to distinguish all new trip flows as a consequence of the DCO scheme including airport staff, passengers, ancillary workers and business trips associated with airport supporting facilities, passenger driven airport related development (i.e. offices, hotels, retail, commerce, supply chain uses) and cargo driven airport related development. Where the DCO Scheme is only providing for a proportion of the anticipated need for ASF, passenger driven and ARD facilities, with the remainder to be provided by market forces outside the DCO application, this should be specified, with estimated traffic flows included in traffic and AQ modelling to reflect the true impacts of the completed scheme.

Table 4.6 also only includes vehicle emissions from vehicles on the public highway. Further, Table 5.8 (Likely significant AQ and odour effects, Volume 1, p127) limits construction vehicle impacts to those vehicles using the public highway or temporary construction haul roads – Heathrow controlled roads are not included. And the scope of the traffic and transport assessment in Chapter 17 is also limited to just vehicles on the public highway, e.g. paragraph 17.1.3.

In Table 17.3 (Likely Significant traffic and transport effects, p 597), the assessment of operational phase impacts are restricted to movement of people and freight "to and from the Airport" - the scope of the assessment should include all movements to



and from the DCO scheme, and sensitivity testing of the additional movements to and from all the airport related development necessary to support a successful and sustainable expanded airport. Within Table 17.3 people is defined as passengers and colleagues - the scope of colleagues is vague and should incorporate all maintenance workers, cargo industry workers and those in service industries, offices, hotels and supply chain companies.

The Perimeter Roads and tunnels are owned by Heathrow Airport Ltd and are not public highways. The scope must include traffic on all roads, as vehicle movements on the airport controlled landside roads could have significant highways, air quality and noise impacts. Vehicles do not stop emitting pollutants and noise upon leaving the public highway and joining the airport controlled roads. Yet the scope of Chapter 17 (Traffic & transport impacts) is specifically limited to all modes of surface transport using the public highways and public transport networks (para 17.1.3, Volume 1, p584).

The Perimeter Roads currently carry a high proportion of traffic circulating around the airport between terminals, car parks and other ancillary airport facilities. These movements must be included in both the baseline and future assessment of vehicle movements. With a scope covering only public highways and public transport networks it is likely that the assessment is not capturing all types of vehicle movements around the site, such as staff shuttle buses, car park shuttles (staff and passenger), car hire and hotel shuttles, and terminal transfers – some of these could have also been scoped out as not being public transport networks. Many of these movements may not currently leave the perimeter roads, but with the severance of the north and western perimeter roads are likely to be required to with the DCO scheme.

Chapter 17 on traffic and transport is to cover all modes of surface transport including private hire vehicles and taxis. On-street parking of PHVs is already a problem in our communities of Stanwell Moor and Stanwell. With proposed consolidation of parking to south west of the airport and improved access into the terminals, the problem could be further exacerbated. There is no mention in the EIA Scoping Report about parking issues in Stanwell, or any other communities around the airport. This issue needs to be accounted for in the traffic and transport assessment and possible mitigation options developed for how the problem will be dealt with in a holistic manner so as not to transfer the problem around the airport as has occurred in the past.

### Noise

The DCO process and the airspace design process will not happen at the same time. Therefore following Civil Aviation Authority (CAA) guidance and best practice indicative airspace designs must be used in the assessment of aircraft noise for the DCO process, with *flight path designs being defined at a later stage after detailed airspace design work has taken place*

## ***Question 2. The relevant components of the DCO Project and the resultant likely significant effects***

### General

The EIA assessment zone is too tight and needs to encompass the entire area of Spelthorne, particularly in assessing the cumulative impact on existing communities.

### Biodiversity

Paragraph 6.8.1 (Volume 1, p190) states that ecological features of local or negligible importance are to be scoped out of the biodiversity assessment. However, the criteria and judgement of deciding what is 'local and negligible' is not apparent from Table 6.11.

### Economics & Employment

The economics and employment of Construction is warranted which is a major component for assessing expansion and ensuring the viability of operation. This is of critical importance to Spelthorne: the construction site(s) impact on SSSI Staines Moor needs assessing.

### Traffic & Transport

Table 3.2 Environmental topics to Terminals & Aprons (Volume 1, p40) includes traffic and transport impacts in the construction phase but not in the operational phase. The justification for this is not clear as terminals will have vehicular access once operational for private vehicles, taxis and buses/ coaches as well as servicing and supply chain goods vehicles.

Table 17.3, Likely Significant Traffic & Transport Effects, does not sufficiently reflect the scale of the required cut & fill operation. Until a new rail head at Colnbrook, and its use to transport waste materials to off-site disposal, is assured, the assessment needs to scope in transportation of all materials by road. Early estimates of the mass balance of the cut and fill operations have been in the order of four million cubic metres of material requiring movement.

### Air Quality

Air quality impacts below legal limits have been segregated from the main air quality assessment in Chapter 5 and included in the Health Assessment, Chapter 12. This should not degrade the significance of these impacts on the health of local communities.

Figure 5.4 (Volume 2, p36) shows the locations of existing continuous air quality monitoring stations. However this is presented at a different scale to Figure 5.1 (Volume 2, p33) showing the 12x11km air quality core assessment area, and so the whole of the core assessment area is not covered in Figure 5.4. This misleading gives the impression that the existing monitoring stations provide a good coverage across the core assessment area. There are ten monitoring stations to the northern side of the existing airport, yet only one to the south west of the airport (Oaks Road)

and one to the south east (Hatton Cross). Paragraph 5.5.7 (Volume 1, p115) states that no further monitoring stations are considered to be required to provide baseline air quality monitoring data.

This reflects the assessment needs of existing operations and the airport's current surface access prioritised from the M4/A4 to the north of the airport. This position is revised at paragraph 5.9.5 (Volume 1, p131) where it is stated that a new monitoring station is being considered by HAL along the A4 to the north to provide data to clarify the actual baseline versus the PCM modelling. This would be an 11th monitoring station to the north and east of the airport. Both monitoring stations on the southern side are in close proximity to the current airport boundary - Oaks Road being 230m south of the current airport boundary, but within the DCO scheme boundary; and Hatton Cross approximately 130m south east of the current airport boundary, respectively. So there are no existing continuous monitoring stations providing coverage in the southern third of the core assessment area (including the communities of Staines, Ashford, Egham, Bedfont, Feltham and Hanworth), and no roadside continuous monitoring stations to the south of the airport at all.

Given the southerly shift of surface access to the airport and the bias in new airport related development to the south of the airport, it is reasonable to anticipate that the southern half of the core assessment area will see the largest negative impacts on air quality with the DCO scheme. Therefore it is contended that further baseline monitoring data should be collected from this area, particularly to inform the baseline air quality health assessment.

Diffusion tube monitoring data collected by Local Authorities will not be used to assess the baseline air quality picture, only in model verification. In the absence of existing continuous monitoring stations to the south of the airport diffusion tube data is critical to the understanding of baseline air quality levels.

In Table 5.8 (Likely Significant AQ & Odour Effects, Volume 1, p127) the construction phase makes no mention of demolition of displaced uses. This will include large building volumes, with demolition activities at height and is likely to include on-site crushing and screening, so has the potential to have a large dust emission magnitude that could be significant for sensitive receptors. And yet this is scoped in within paragraph 5.9.13 (Volume 1. p133).

There is also no inclusion/ consideration of increased emissions from existing traffic flows due to delays and diversions caused by construction activities. This is absent from Table 4.6 and the text of Chapter 5, the air quality topic chapter. This could see increased queue times at key junctions, have implications for junction capacity and increased congestion, leading to higher emissions from existing flows. Due to the scale of the construction, the delays and disruption to the highway network would be ongoing for an extended length of time and therefore could be significant and not a brief, fleeting temporary effect. The traffic and transport chapter of the scoping report (chapter 17) sets out that this assessment will assess highway network delay (as referenced at paragraphs 17.1.16 and 17.9.15 and Table 17.3). With the delay impacts being modelled for traffic impacts, then the dataset will be available for inclusion in the air quality modelling, and therefore it should be scoped in for both the construction and operational phases of the air quality assessment.

The operational phase of Table 5.8 refers to impacts from aircraft movements on the new runways and taxiways, but does not refer to impacts from changes to existing runways and taxiways (which is also not referred to in Table 5.9 of scoped out impacts). The DCO scheme is to include a proposal for an immediate increase in flights of up to 25,000 ATMs per year off the two existing runways. In addition, though not explicitly detailed it would seem probable that the infrastructure to implement the end of the Cranford Agreement would be enacted in advance of the third runway. This change would impact on how the runway alternation is done under easterlies, with an increase in take offs from the northern runway, which a commensurate increase in landings on the southern runway. This could bring both positive and negative AQ benefits for different geographical areas. This should be considered and likely significance discussed.

The operational phase of Table 5.8 does not include any account of emissions from on-site generation of heat and electricity to power the airport. The airport has recently made improvements to reduce these emissions but they still account for about 4% of ground-based NOx emissions from existing operations at the airport. Expansion of the airport will require additional energy plant (as per Table 3.7). The EIA scoping report has not included this within the air quality chapter as neither a likely significant impact nor an impact to be scoped out.

Land based activities in the operational phase (Table 5.8) should also include emissions from airside vehicle movements.

The operational phase of Table 5.8 includes vehicular traffic associated with the Airport. However the effect is restricted to emissions from vehicles on public highways – this should include vehicle emissions from all landside roads at the airport (and within the AQ core assessment area). The existing Western, Northern and Southern Perimeter Roads together with roads into the Central Terminal Area and other terminal accesses are not public highways. Whilst some of these road links will be lost under the DCO scheme some will remain and other may be provided.

The existing EIA regulations is viewed as a minimum, hence, the assessments need to go beyond A3044 new alignment or Stanwell Moor junction to encompass local roads which are currently under-represented (which in all probability will become rat runs across Spelthorne). Equally, areas effected by road options need to be fully encompassed.

### Noise

#### **Methodology for identifying significant effects**

In paragraph 16.10.77 reference is made to Table 16.7 which defines values for the Significant Observed Adverse Effect Level (SOAEL) for different noise sources. It also defines values for the Lowest Observed Adverse Effect Level (LOAEL). However, no reference is made to UAEL (Unacceptable Adverse Effect Level), which is also defined in government policy and is an important concept in that noise effects on people at this level are to be prevented from occurring.

The UAEL is actually defined in Table 16.6 of the Scoping Report. However, the table does not attempt to distinguish the actions that should be taken to prevent this level of effect from occurring from those that should be taken to avoid the significant adverse effects from occurring.

In paragraph 16.10.81 it is stated that significant effects on health and quality of life are identified in line with government noise policy. However, no attempt is made to define the UAEL nor identify actions required to prevent this from occurring.

Reference is made in paragraph 16.10.91 to an evidence review that has been undertaken to determine appropriate values for LOAEL and SOAEL for the various noise sources to be assessed. Notwithstanding the lack of reference to UAEL, which should be included, it is not clear why the publication of the review has to be delayed to accompany the PEIR (Preliminary Environmental Information Report).

Setting appropriate values for these measures of impact is a cornerstone of the noise assessment and matter of high importance to the majority of stakeholders. The sooner justification for the proposed values is provided and debated, the better.

#### **Residential receptors: Direct and indirect effects**

Paragraph 16.10.99 and Table 16.7 sets out LOAEL and SOAEL values proposed to be used for this assessment. Note:

- Values are not provided for UAEL;
- Aircraft noise and aircraft ground noise are lumped together in the same category and assigned the same values for LOAEL and SOAEL. This is an unusual approach given the starkly different character of air noise (a series of high level, transient noise events) compared to ground noise (underlying steady state noise with a small degree of fluctuation). It differs from the approach used to assess noise at other UK airports (e.g. London City, Luton, and Stansted).
- For aircraft noise,  $L_{Amax}$  is identified as metric with an associated value of LOAEL and SOAEL, yet no values are proposed (unlike for railway noise).

As noted above, the values finally used in the assessment are of high importance and likely to be of interest among all affected LPAs and other stakeholders. Early dissemination of the rationale behind the numbers proposed is important so that debate is promoted and agreement on suitable values reached as soon as possible.

Spelthorne has a number of concerns about Figure 16.3:

- Does not refer to UAEL;
- Under primary factors refers only to a comparison of the primary noise metrics against the LOAEL. Comparison against the SOAEL (and UAEL) is not explicitly stated;
- Under additional factors, it is proposed to assess the change in overall ambient noise level (as opposed to change in noise exposure from a particular source). How will the results of this comparison be assessed or rated?

Within paragraph 16.10.106, primary factors #1, #2 and #3 are to be considered in combination, the seeming implication is that they are considered in that order. There is an argument for promoting 'change in noise exposure' to #1 (from #2), as this assessment is primarily about changes to the noise climate around Heathrow arising from a new third runway.

With regard to identifying significant effects at noise levels between LOAEL and SOAEL, it is not clear exactly what is meant under point c)<sup>1</sup>.

It is unclear in paragraph 16.10.116 how the change in ambient noise levels, whether quantitative or qualitative, will be assessed. What standards, guidance or evaluation criteria are proposed to be used? Information must be provided on this.

At paragraph 16.10.113, similarly for 'additional noise metrics', it is unclear how the change in ambient noise levels, whether quantitative or qualitative, will be assessed. The intentions appear laudable, but without clear assessment standards against which to rate any changes, it is not clear how these will materially inform the Environmental Statement.

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<sup>1</sup> c) The relative scale of population and magnitude of noise change considered 'small' or 'large' are at their largest when the calculated noise exposure is just above the relevant LOAEL and are at their smallest when the exposure approaches the relevant SOAEL.

***Question 3. Those effects not likely to be significant that do not need to be considered further***

Table 3.7 (Relevant environmental topics to airport supporting facilities, Volume 1, p48) does not distinguish between whether it relates to the construction or operational phases of the DCO scheme or both combined. Air quality has only been considered relevant to the topic of new cargo floorspace, noise and vibration as relevant to energy generation plant, and traffic & transport as relevant to car parking. No justification has been provided as to why air quality, noise & vibration and traffic & transport are not all relevant topics to new cargo floorspace; MRO floorspace; car parking; energy generation plant; and waste & recycling facilities.

Furthermore for the construction phase air quality, noise & vibration, and traffic & transport is seen by Spelthorne to be relevant to construction of all the airport supporting facilities. Economics & employment is inexplicably absent from MRO floorspace, and could be considered relevant in other facilities too.

Table 3.7 (Relevant environmental topics to airport supporting facilities) has not included air quality against new energy generation plant required in airport supporting facilities. No detail has been provided about what type of energy plant would be provided and whether this will generate on-site emissions or be from renewable sources – no justification has been provided for why air quality has been scoped out.

Paragraph 12.9.20 (Volume 1, p374) outlines that flooding will be scoped out of the health assessment as consent will not be granted until the Regulator (the Environment Agency) is satisfied that the design adequately manages the risk of flooding. This section of the EIA should recognise the health risks that can be associated with the fear of flooding. The Lower Thames catchment was subject to serious flooding in 2014. Stress and anxiety is high in the local population about when such flooding could reoccur, and public perception about flooding risks may not match those concluded within a flood risk assessment.

## ***Question 4. The approach to setting the study areas for each topic***

### *Air Quality*

Paragraph 5.9.32 (Volume 1, p138) outlines the role of the Air Quality Expert Review Group - to provide a technical check and challenge of their approach to the AQ assessment. The purpose of the group is to provide an independent and expert perspective. Spelthorne welcomes the use of independent industry experts by HAL, but whilst 5.9.32 sets out how many meetings have been held and the topics discussed at them, it still remains unknown what the outputs of the AQERG were in relation to those topics and whether HAL is following their recommendations. There is currently no commitment to share the outputs of the AQERG or demonstrate how the AQ assessment has been tailored by their review. Without transparency there is no assurance value to the AQERG.

The traffic and transport study area is much wider than the 12 x 11km air quality core assessment area. Paragraph 17.4.5 (Volume 1, p592) sets out that the geographical extents to the two traffic modelled areas shown in Figure 17.1 were set on the basis of including highway links on which a third runway scenario without additional demand management leads to a 5% increase in vehicular trips. The 5% threshold was chosen as guidance from the Institution of Highways and Transportation assumes that significant impacts to highway capacity may occur if peak hour traffic flow increase by more than 5% where the network is sensitive. This indicates that there will be locations within the highway study area which will experience a greater than 5% change in traffic flow, and so a wider area than the air quality core assessment area could have significant traffic and transport effects. Impacts such as increased movements causing journey delay, congestion, and affecting highway capacity is likely in turn result in significant air quality impacts.

Therefore it is our view that the spatial extent of the air quality core assessment area is insufficient. The study area is so restricted that there are a number of significant omissions:

- It does not encompass all of the Additional Development areas illustrated in Figure 3.1;
- It only extends about 1500m west of the proposed third runway;
- It excludes Iver in the north where a new air quality management area (AQMA) is being consulted on by South Bucks district Council and there are concerns about additional construction traffic and cumulative impacts with other committed schemes;
- It does not encompass all of the Brands Hill AQMA to the west and a proposed new AQMA in Langley by Slough Borough Council;
- It does not encompass foreseeable diversionary alternative road routes from the south and west avoiding the M25 at peak time via the M3 and through Spelthorne's AQMA and particularly the air quality hotspot at Sunbury Cross, M3 Junction 1.

Paragraphs 5.4.15 and 5.4.16 (Volume 1, p113) set out the study area criteria for construction dust. For human receptors this is given as within 350m of any boundary



relevant to the DCO scheme and 50m of route(s) used by construction vehicles on the public highway or haul routes. This needs to explicitly include all Heathrow controlled roads as well, not just public highway. The same should apply with respect to ecological receptors (para 5.4.16, bullet 2).

### Noise

Contrary to what was articulated in the report at paragraph 3.3.37 and Table 4.5, the location of a number of components, such as the energy from waste plant is absolutely dependent on the precise suitability of the location.

### **Construction noise**

We agree with the principle at paragraph 16.4.4 that study areas must, as a minimum, encompass all areas within which construction noise is likely be above the LOAEL.

The proposed study area, discussed at paragraph 16.4.2, extends to 300m from any construction activity; this is likely to be on the low side in instances where, for example, substantial night time works or piling works are envisaged and some areas outside this may be subject to adverse effect. This will need to be checked and verified against the overall objective of including any location likely to experience an adverse effect from noise.

With regard to vibration, 100m has been identified as the greatest distance over which vibration from construction activities will need to be assessed. Although this statement seems redundant given that construction vibration is scoped out of the study later in the document (Section 16.9); this needs to be clarified.

### **Operational noise**

Paragraph 16.4.6 discusses the study area for operational noise. Again, we agree with the principle that study areas should, as a minimum, encompass all areas within which operational noise is likely be above the LOAEL. In the case of airborne aircraft noise, however, further information must be provided on how the noise study will respond to the requirements in Air Navigation Guidance 2017 that noise should be considered at levels of exposure below LOAEL and up to an altitude of 7,000 ft.

For airborne aircraft noise (paragraph 16.4.5) a study area of 40 nm x 20 nm (east west by north south) would appear to be suitable. In context the draft NAP (2019 – 2023) includes  $L_{Aeq,16h}$  contours for Heathrow Expansion Scoping Report 2016 that are plotted on maps covering an area of 23 nm x 17 nm (east west by north south). At first glance the proposed study area of 40 nm x 20 nm (east west by north south) would appear sufficient, although the following factors must be taken into account in determining the full extent of the airborne aircraft noise study area:

- Noise contours will need to be plotted down to at least the LOAEL, which for the  $L_{Aeq,16h}$  index is 51 dB. This will cover a substantially greater area than the 54 dB contour presented in the draft NAP;
- Contours of supplementary noise metrics, including N65 daytime, may cover an even greater area depending on the lower limit of values selected for the study;

- Results of preliminary noise modelling of the proposed north west runway expansion indicates a greater degree of change in the north south orientation than east west;
- According to the ANG 2017, noise should be considered at levels of exposure below LOAEL.

For aircraft ground and airfield activity noise, extending the study area to 1 km from any ground based operations appears to be a reasonable figure.

For changes in road or rail traffic noise, the proposed 600 m study area is consistent with advice in DMRB in relation to routes affected by new or altered highways.

For operational vibration, the indicated 85 m from any activity appears reasonable. The scoping report must, however, confirm that this is an adequate extent to cover ground borne noise which can often lead to perceptible effects in certain environments at energy levels below which the associated vibration is perceptible. Put another way, ground borne noise effects may be adverse over a greater distance from the source than feelable vibration, and the extent of the study area needs to reflect this.

The indicated study area applies to train vibration (and ground borne noise) only, as vibration from road traffic is scoped out of the study later in the document (Section 16.9).

The preceding paragraphs to 16.10.133 describe the situation whereby noise levels due to aircraft departing and arriving the airport, typically > 51 dB  $L_{Aeq,16h}$ , are less affected by the final Airspace Design than those further out. In effect, the airport has a 'funnelling effect' on aircraft routes with aircraft being more positionally constrained the closer they are to the airport. Airspace Design changes after submission of the DCO are more likely to affect aircraft locations, and therefore noise levels, at greater distances.

At these greater distances, aircraft noise levels in the community will be lower, with the primary assessment metrics ( $L_{Aeq,16h}$  and  $L_{Aeq,8h}$ ) likely to be below the LOAEL value. At greater distances and lower noise levels, aircraft noise modelling tends to become less precise. ERCD have, for example, previously expressed concern about the accuracy of ANCON 2.3 when predicting which geographical areas are exposed to noise levels below 50 dB  $L_{Aeq,16h}$ .

T uncertainty should be reflected in the assessment of likely significant effects beyond the LOAEL boundary which we believe to be 'the area of common exposure'.

We also refer to our previous comments under 16.4.5 regarding the extent of the noise study area.

The uncertainty (paragraph 16.10.134) needs to be reflected in the WebTAG monetisation analysis, which we understand requires the number of properties exposed to daytime noise levels above 45 dB  $L_{Aeq,16h}$  to be determined.



**Question 5. The data that has been gathered (and will be gathered)**

General

Pursuant to Regulation 15(9) of the EIA Regulations 2017, notwithstanding the details listed above, the Council reserves the right to request additional information in connection with any Environmental Statement submitted, as appropriate.

Biodiversity

The Climate Change Act 2008 and Environmental Protection Act 1990 should be included in the list of legislations within Table 6.1 (Policy and legislation relevant to biodiversity assessment, Volume 1 pp149-152) relevant to biodiversity.

Air Quality

Para 5.9.6 [Volume 1, p131] states “Monitoring of baseline PM, dust deposition and odour levels will be undertaken in advance of commencement of the construction programme. Odour complaints data will also be collated and reviewed”. No details are provided here or referred to about where this baseline monitoring would be carried out (how many locations and where on-site and off-site of these locations), when, over what period nor the methodology. Subsequent paragraphs are somewhat contradictory on this issue. At paragraph 5.9.17 it refers to the Institute of Air Quality Management (IAQM) best practice guidance and outlines that assessment tools include monitoring of ambient air and via complaints analysis. In paragraphs 5.6.20 and 5.6.21 it is indicated that there will be baseline odour surveys – this suggests something very different, perhaps sniff tests, field olfactometry, compound analysis or community surveys for example, to just reviewing past complaints, which is ultimately proposed in paragraphs 5.9.30 & 5.9.31.

Table 4.3.1 [Guidance and Best Practice Documents, Volume 3, p 434-443] refers to the IAQM, 2014, Guidance on the Assessment of Odour for Planning. This guidance states that an odour assessment tool that takes account of FIDOL [frequency, intensity, duration, offensiveness and location] factors should be used, that the choice of tool should be justified as to why it/ they are suitable for the assessment and that the methodology should also justify that the approach used is of a depth and rigour consistent with the likely risk of adverse effects. More justification is required about the appropriateness of the odour assessment methodology.

Similarly there is no methodology set out for the dust deposition baseline monitoring, nor assessment strategy. Best practice guidance is often for such surveys to ideally be over a full year, and certainly spanning both some of the winter and summer months. Surveys of short duration are unlikely to provide sufficiently representative data. No indication has been provided as to what technique(s) would be used for both the baseline PM and dust deposition monitoring. There are a number of methods for both and all have advantages and disadvantages, and the key differences between them have implications for recommending compliance values, designing dust management and monitoring schemes and evaluating data. It is not clear whether PM baseline monitoring would just be via the existing network of AQ

continuous monitoring stations or additional sites, via optical analysers for example. No details have been provided about how the baseline dust deposition data would be assessed – would this be via custom and yardstick measures for deposited dust (e.g. 200 mg/m<sup>2</sup>/day averaged over a 4 week period) or would the methodology seek best practice through a bespoke site-specific value, which would definitely require at least 12 months of local baseline monitoring data to be available.

Best practice guidance from the IAQM, 2014, Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites, is not referred to in Chapter 5 or Table 4.3.1 (Guidance and Best Practice Documents, Volume 3 pp 434-443). As per out comments in relation to the traffic & transport and air quality assessment criteria under Question 6, the IAQM (2017) Land-Use Planning & Development Control: Planning for Air Quality best practice guidance should be followed, and therefore should also be listed in Volume 3's Table 4.3.1.

Paragraph 5.6.20 states that “current dust levels in the areas potentially affected by the DCO Project are expected to be well below annoyance levels due to the nature of land uses in the area and lack of likely emission sources”. However in northern Spelthorne the landscape is characterised by aggregate processing recycling facilities, restoration of historic landfill sites and waste management facilities.

Figure 17.3 Existing Road Infrastructure does not extend to cover the whole of the air quality core assessment area yet alone the highway study area. Nor does it reflect the role and nature of more minor roads not depicted in the figure. Paragraph 17.6.3 (Volume 1, p595) states that “many of the roads around Heathrow are congested” including “key routes such as the M25, M4, A40, A30 as well as many of the minor roads surrounding the airport”.

#### Land Quality

Para 14.6.42 (Volume 1, p431) details that Slough BC have identified an area used for unauthorised storage of scrap vehicles which has the potential to be contaminated. Within its responses to HSPG work requests, Spelthorne identified two sites within the DCO Project land used for motor salvage operations at Greenacre Farm and Crane Road by the same operator with oil contamination noted on planning appeal documentation for the former site and with a prosecution at the second site.

Spelthorne have provided information on historic landfills to HAL via two HSPG work requests, yet Figure 14.9 Landfill sites and Infilled ponds is still not showing correct locations/ boundaries for landfills at Stanwell Moor, Willow Farm, St David's (Welsh Girls) School Tip, Land South of Horton Road and Yeoveney Landfill at M25 Junction 13.

The group of Figures 14.10 to 14.17 on potential contamination sources only cover the original zones for which information was requested from HSPG, and not all the baseline information that has been provided. The Envirocheck data does not encompass all historic land uses with land contamination potential for sites within Spelthorne.

Noise

In paragraph 16.2.2, Table 16.1 refers to the Civil Aviation Act 1982. Further Civil Aviation Acts came into force in 2006 and 2012 which widened and modernised the powers available to the government to control noise at airports and also permitted airport operators to impose differential charges based on aircraft noise emission.

Some relevant UK legislation and planning guidance is not referred to in Table 16.1:

- *Airports Act 1986*: giving powers to the Secretary of State to regulate runway utilisation, allocate airport capacity and limit the number of occasions on which aircraft may land or take off.
- *Aeroplane Noise Regulations 1999*: dealing with noise certification for aircraft, referencing the noise limits issued by ICAO and restricting operations to properly certified aircraft.
- *Professional Practice Guidance on Planning and Noise (Pro PG)*: published jointly by the ANC, IOA and CIEH<sup>2</sup>, this document is guidance for acoustic practitioners, planners and developers with the aim of protecting home dwellers from excessive levels of noise through good design. This has relevance for new development in areas around Heathrow airport that are affected by aircraft noise.

With respect to the approach to gathering baseline data, set out from paragraph 16.6.26, Round 2 of the baseline data gathering exercise must include and identify any Round 1 data that is more 2 years old. Where such data sets are crucial to the definition of the baseline conditions, proposals for updating the data to ensure they reflect current baseline conditions must be made.

Round 1 baseline data referred to in Table 16.3 that is more than 2 years old include:

- 3rd Runway Noise Assessment (Amec and Environment & Infrastructure Ltd.): June 2014 – 4 years old;
- Strategic Mapping (Defra): 2012 – 6 years old;
- EIA (Crossrail/RPS): July 2003 to October 2004 – 14 years old.

It is noted that baseline data resulting from Stages 1 and 2 of the baseline noise gathering exercise will be presented in the PEIR which will be the subject of consultation (identified as Consultation 2). This will give LPAs, including Spelthorne, the opportunity to consider whether further or more detailed baseline noise data, or a modified data collection methodology is required in order to properly characterise the existing noise environment.

A further check of the Stage 1 and 2 baseline noise data will also be performed by the Noise Expert Review Group (NERG) (Paragraph 16.6.26).

These are positive proposals which should ensure that the Stage 3 noise data gathering exercise results in a comprehensive dataset that fulfils the requirements of all key stakeholders.

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<sup>2</sup> Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and Chartered Institute of Environmental health (CIEH)

Due to the fact that airspace designs will not be finalised in time for inclusion within the EIA, the assessment will rely on indicative airspace designs comprising indicative flight paths as set out at paragraph 16.7.6. It needs to be confirmed that these indicative flight paths will include proper consideration of Performance Based Navigation (PBN) flight paths.

Adoption of PBN enhances navigational accuracy and allows aircraft, particularly on departure, to fly on tracks that incorporate a much smaller degree of dispersion. This results in a greater degree of control over which areas are overflown and which are avoided and therefore has the potential to reduce the number of people affected by aircraft noise. PBN also offers increased options for the establishment of noise respite/relief routes. On the other hand, concentrating flights over specific areas is likely to lead to a greater noise impact in those areas and may influence the extent and nature of the mitigation or compensation to be provided.

## **Question 6. The assessment methods that will be used to determine likely significant effects**

### Biodiversity

Paragraph 6.5.9 sets out that twenty-four method statements have been produced for existing (2017) field surveys to collect baseline data, and that these have all been formally agreed with Natural England. Spelthorne welcomes that wider technical discussions are being undertaken with local and regional wildlife and nature groups. .

### Air Quality

Paragraph 5.4.13 states that nitrogen dioxide concentrations will be considered at key PCM assessment locations within the air quality core assessment area (as per Figure 5.2), and further that additional PCM road links between the airport and Central London where the compliance status of the Greater London Agglomeration could be impacted. Assessment should not be blinkered toward central London as there are road links to the south and west of the airport, including in Spelthorne, that are also within the Greater London Agglomeration, where changes in airport-related traffic may affect the compliance status.

The PCM model does not include road links on motorways, including the M25 and the M4, nor the perimeter roads around the airport that are airport-controlled. Therefore compliance with air quality objectives should not be solely focuses on compliance on PCM links. The air quality assessment in the environmental statement must model all main roads across the wider area (all around the airport) and local roads in the immediate vicinity of the scheme. The PCM model baseline projections significantly underestimates nitrogen dioxide levels in comparison to local monitoring. The assessment must therefore take account of air quality monitoring data from the local authority networks across the Heathrow area, and not just the HAL continuous monitoring stations.

It is proposed to use the DMRB screening criteria as the assessment criteria for identifying road links that will be considered to be potentially affected by the DCO Project (paragraph 5.4.9). This Highways England Guidance was intended for use on Strategic Road Network schemes and not for land development in congested urban areas. Spelthorne consider that more appropriate guidance is that contained within the IAQM (2017) Land-Use Planning & Development Control: Planning for Air Quality, where criteria reflect urban settings for which smaller changes in local air quality have implications for achieving compliance with EU limit values. The IAQM guidance sets traffic flow thresholds for both land within (or adjacent to) an AQMA and elsewhere, whilst also recognising that the less stringent criteria may be appropriate in whole Borough AQMAs taking into account local monitoring results. Given the context of the DCO scheme in relation to AQMAs around Heathrow (as shown in Figure 5.3) and the additional areas being consulted on by Slough Borough Council and South Bucks District Council, the IAQM guidance is more applicable.

Paragraph 5.6.6 should reference AQMA along road links, throughout the detailed modelling area and the fully modelled areas of the traffic & transport assessment



(Figure 17.1) which may be affected by additional traffic flows as a consequence of the DCO scheme.

The traffic and transport assessment (paragraph 17.4.8) proposes to consider only areas with changes in flows of 30% or 10% HGV flows in sensitive areas. There could be significant air quality impacts within existing or proposed AQMAs below the thresholds for traffic assessment. As outlined above, the IAQM guidance thresholds, setting numerical criterion on LDV and HDV flows are more appropriate.

Appendix 5.1 (Volume 3, pp 444-458) sets out the methodology for dispersion modelling. It is customary for air quality dispersion modelling of airport schemes to include the whole aircraft landing and take-off cycle, including operations on the ground and in the air up to 3,000ft (~1,000 metres) above ground level. It is commonly accepted that in reality emissions above about 1,000 ft make a negligible contribution to local air quality levels on the ground. In consultation 1, The Approach to Air Quality document referred to research that concluded negligible effects on ground level air quality once aircraft are above 350-650ft (100-200m) on departure and 160-350ft (50-100) on arrival. However the past inventory approach has been to tabulate both total emissions to 1,000m and also just ground level emissions. Spelthorne is pleased that consistency of approach is to be maintained so that future modelling can be compared to past inventories. The dispersion modelling will in any event ensure that emissions at different heights are properly weighted in their contribution to ground level concentrations. Once the air quality modelling is undertaken it will be helpful to demonstrate the limited effect of airborne aircraft emissions on local pollutant concentrations by mapping just airport-related contribution to annual mean concentrations of pollutants, with a plot showing just the airborne aircraft emissions contribution. This approach has been taken in the past in the 2013 Air Quality Assessment for example.

Appendix 5.1 though appears to only consider the operational phase sources. Detailed modelling should also be undertaken for the construction phase, given the length of time and expected numbers of additional construction movements (Both HGVs and workers), construction plant and Non-road mobile machinery (NRMM).

### Health

Paragraph 12.9.7 (Volume 1, p383) Health – Assessment Years should mirror the assessment years of the traffic and transport and air quality assessments. Mirroring of air quality, noise and transport topics is referred to in paragraph 12.9.9, but the assessment years set out at 12.9.7 does not reflect those topics. The Health Assessment years should include release of early ATMs and the end of the Cranford Agreement.

Table 12.5 (Health Effects subject to quantitative analysis, pp376 – 377) includes changes to mortality and morbidity from changes to emissions to air from aircraft and road traffic vehicles. This is welcomed as changes to exposure, even below legal limits, will bring health impacts to local communities. However the data should be presented both spatially (as detailed dispersion modelling is available from the air quality assessment) and tabulated by geographical area at ward level (to match baseline health morbidity and mortality data). Note: baseline health data is likely to

be available on a ward basis, the areas for which may not match the community boundaries depicted in Figure 9.1 (Volume 3, p49).

In paragraph 12.9.1 (Volume 1, p380) on significance of health effects, location is not considered – i.e. is one community going to be particularly affected, and also significance is being judged for each singular potential health effect. Where receptors are impacted by changes in sound exposure, emissions to air and road traffic, the combination of these health effects could change the significance of impacts. Cumulative effects must be considered in the Health Assessment.

Table 12.7 (Example guide questions framing the professional judgement on health significance, Volume 1, p381) sets out the example criteria that will be taken into account by assessors in making a professional judgement on health significance. One of the criteria is whether there are regulatory or statutory limit values set for the relevant context. For air quality and nitrogen dioxide weighting should also be applied as to how close predicted concentrations are to those levels. For particulate matter there is no threshold level below which there are no health effects. Consequently under the local air quality management regime there is emphasis on minimising exposure, even where levels are well below the limit values, and this must be borne into judgements.

#### Land Quality

Appendix 14.1 (Land quality Approach to Human Health and Controlled Waters Risk Assessment, Volume 3, pp1235-1268) was consulted on with HSPG members via a work request prior to the EIA Scoping Report consultation. The document has been amended to reflect the comments of the Environment Agency and Local Authority Land Quality Officers.

#### Noise

##### **Construction assessment methodology**

With reference to paragraph 16.10.19 and construction noise levels being determined at noise sensitive receptors for a worst case typical month ( $L_{Aeq,T}$ , where  $T = 1$  month), Spelthorne has two comments:

- The same value of  $L_{Aeq,T}$  at two receptors may mask quite different noise experiences if one is subject to relatively steady state noise and the other is exposed to a time varying series of transient or impulsive noise events.
- Assessing the noise effects aggregated over a 1-month period does not necessarily distinguish between receptors exposed to noise for 1 month versus those exposed to the same level of noise for 1 year.

It is recognised that currently there is little or no information available on the timescales and nature of the construction activity to be undertaken, but it is not entirely reasonable to discount the necessity or advisability of assessing construction noise using additional shorter term, metrics such as  $L_{Aeq,1h}$  or  $L_{Amax}$ . When further information on the construction methodology is available, this issue must be revisited and a more comprehensive approach to assessing noise effects is adopted if necessary to quantify the full range of effects likely to occur and the types of mitigation best suited to dealing with them.

### Operational assessment methodology

For operational assessment on aircraft noise, paragraph 16.1.47, Spelthorne concur with the suite of metrics proposed for analysis, together with the categorisation into primary and additional outputs. Clarification is sought on two points:

- Is it proposed to use the  $L_{max}$  outputs only to assess potential sleep disturbance during the night time period? Daytime  $L_{max}$  values are also instructive when considering the full range of impacts on noise sensitive receptors such as schools.
- Will the 'busy summer day' operating schedules be used to identify the variation in aircraft operations and noise levels throughout the daytime and/or night-time period? While the aggregate 16-hour daytime and 8-hour night-time metrics are recognised as correlating most closely with overall community response, it is also necessary to determine whether there are particular periods during which noise effects might be particularly acute. This is especially important if respite from noise is proposed to be provided in communities for parts of the day and over particular times.

With respect to aircraft ground noise, clarification is needed as to whether this does include engines being run, sometimes at high power, for test purposes and against what standards would this particular source be assessed? The Scoping Report is not clear on this issue.

In paragraph 16.10.51 it is described how ground noise levels for aircraft will be established. Clarification is sought on two points:

- Distinction will need to be made between noise generated by main engines and noise generated by APUs. Not only will these have different noise characteristics but they are sources at different heights above ground level, which affects propagation.
- For new generation aircraft not yet in operation, how will noise levels from main engines at low power (sufficient only to manoeuvre the aircraft around the airfield) be determined as compared to those generated by existing, noisier variants? This is a very important issue with regard to air noise, particularly on departure when engines are operating close to maximum power, but it can also be expected to materially affect ground noise calculations.

Table 16.10 (paragraph 16.10.139) sets out screening criteria for non-residential receptors. Hospitals and hotels are rightly assigned night-time screening criteria, but given the risk of individual flyovers generating  $L_{Amax}$  values high enough to interfere with sleep, there should also be a screening standard set for this metric.

The reference numbers (31, 34) set for hospitals and hotels are confusing and appear to be errors. Similarly for schools, colleges and libraries (34).

The commentary in paragraph 16.10.141 and following paragraphs (to 16.10.152) pertains to primary and additional assessment factors for non residential receptors.

Comments made in relation to residential receptors (16.10.106 to 16.10.113 above) apply here also.

With regard to vibration impacts for non-residential receptors (direct, indirect and secondary effects) Table 16.13 (paragraph 16.10.162) sets out ground borne noise screening criteria for non-residential receptors. We understand the desire to provide boundaries for categories of use that include specialised 'acoustic' facilities such as concert halls, theatres, auditoria and studios. However, sensitivity is not always related to size or a broad definition of category. Rather, we suggest that an audit of all potential such receptors within the study area is undertaken. Each facility should then be assessed on its own merits.

At paragraph 16.7.8 (Future aircraft type performance) full details of the assumptions made with regard to noise benefits emerging from new generation aircraft must be presented.

A sensitivity analysis of possible noise outcomes that depend on the noise benefit assumptions made for future aircraft types is an important part of the study (paragraph 16.7.9). The study must include variations in the rate of uptake of new generation, low noise aircraft, including a worst case position that current generation, noisier aircraft remain a substantial part of the overall mix for all future study years. It must also allow for variations in the actual noise benefits for future variants of current generation aircraft, noting that actual operating procedures adopted at Heathrow airport may lead to differential variations from the noise certification standards for departures and arrivals.

### **Likely significant effects requiring assessment**

With likely significant effects requiring assessment (Paragraph 16.8.2) will the impacts of noise on health be quantified within the ES Noise chapter or will they be included within Chapter 12 Health? It is unclear if a separate Health Impact Assessment form part of the application?

It should be noted that that if the Environmental Statement is to include an assessment of alternative airspace design options, even if only at draft stage pending subsequent detailed analysis by the CAA, the Air Navigation Guidance 2017 document requires that a WebTAG analysis is undertaken to value and compare the noise impact of these options. This is referenced in Chapter 12 of the EIA Scoping Report.

### **Assessment years**

It is proposed that the 'current' baseline (paragraph 16.10.11) will reflect conditions at the point of the DCO submission. It is proposed that this be 2018, as the majority of baseline data will be collected at this point. However, following and based on the results of Consultation 2 and input to the PEIR, and from the NERG, Stage 3 baseline data may need to be gathered. As this is not expected to occur during 2018, baseline data will reflect conditions over a period extending at least into 2019.

This is not considered to be a material issue, but any modelling of noise sources that generates baseline data will need to reflect appropriate operation conditions for the

source(s) in question, particularly if those conditions change over the extended baseline period.

In paragraph 16.10.11, bullet point 4 mentions the release of first phase capacity; the EIA Scoping Report states a desire to increase the number of aircraft operating from the existing two runways than currently permitted by Terminal 5 planning condition A4 (480,000 ATMs per year) by some 25,000 ATMs per year. No information has been provided about how this will increase the noise environment or what the impacts will be on residents. Until information has been made available also with proposals to fully mitigate the noise impacts this must not be permitted.

At paragraph 16.11.10, bullet point 8 provides that the year of the predicted maximum environmental effects occurs will depend on the rate of uptake of new generation, low noise aircraft, replacing older, noisier variants. This rate of uptake will be determined by the aircraft operators and not by HAL and is therefore ultimately outside HAL's direct control. This is an important reason for ensuring that appropriate sensitivity checks based on varying rates of new generation aircraft uptake are carried out.

It is to be anticipated that since one of the controls required by the Airports Commission is the setting of an appropriate noise envelope, that envelope will vary over the assessment period and suitable values will need to be agreed for both the year of predicted maximum impact and the year of maximum operating capacity. The latter will be smaller, unless the two scenarios occur in the same year.

***Question 7. The approach to determining the environmental measures that could be incorporated into the DCO Project to avoid, prevent, reduce or, if necessary, offset significant effects.***

General

Paragraph 12.10.5 Mitigation Proposals – this includes the use of Compulsory Purchase Zones (CPZs) and Wider Property Offer Zones (WPOZs), but the geographical extent of the WPOZ is currently too small. Spelthorne is firmly of the view that the current boundary of the WPOZ does not go anywhere near far enough. Two of our most impacted communities, Stanwell Moor and Stanwell, are currently both excluded from the WPOZ.

Paragraph 5.10.22 (Volume 1, p143) sets out an intention to optimise aircraft taxiways and efficient airfield design, but the current Masterplan Assembly Options being consulted on with local stakeholders include two (out of four) options with no northern terminal capacity, and where planes landing on the new northernmost runway would taxi to the western or central terminal area to discharge passengers at a terminal, then have to taxi back up to alongside the runway to an aircraft stand, back to a terminal again to collect passengers for its next flight and then back again to the runway for take-off.

In Chapter 12 more detail is need about what mitigation measures could be incorporated to avoid, reduce or compensate negative effects on health for air quality, noise, odour, landscape and traffic.

Air Quality

The impacts of air quality emissions from the DCO scheme should be fully quantified through the use of emission

Paragraph 5.10.11 (Volume 1, p141) discusses the potential use of zero/ low emission zones in mitigation of traffic & transport impacts. Use of any such zones and or parking charges (paragraph 5.10.32) should not push dirtier vehicles out from terminals into the community, with the parkways in close proximity to local communities or unauthorised street parking.

Mitigation measures for construction dust should reference guidance by the Greater London Authority (GLA) and IAQM. There should be a commitment to vehicle standards for NRMM, following GLA guidance and Supplementary Planning Guidelines.

Commitments should also be made to best practice environmental performance of HGVs and LDVs during construction, setting a requirement for Euro VI/6 emission standards or better for all road going construction vehicles.

Achieving successful air quality mitigation is dependent on the contents and implementation of surface access proposals. As per our Consultation 1 comments this should include investment in sustainable public transport servicing both

Heathrow and the surrounding communities; a broader expansion of electric vehicle charging infrastructure not just at the airport but into the surrounding areas; and ring-fencing of funds from emission-based access/ car parking revenues to support low emission and sustainable transport projects within the local area.

### Traffic & Transport

It is important to point out that existing public transport improvements such as Crossrail, Western Rail Access and the Piccadilly line upgrade are there to deal with existing demand under a two runway airport - not to cater for expansion. These schemes should not be considered as the only mitigation for the DCO scheme for surface access and traffic impacts.

Mitigation of traffic and transport impacts needs to include a sustainable improvement to public transport that will meet the needs of an expanded airport, particularly to the south. It is not plausible that 'no more traffic on the road' can be delivered without improving rail access from the south which (not coincidentally) is the geographic area with the highest mode share for private cars. There is a key link between where those employed by HAL or 'in airport'-related businesses live and areas with better access. More workers living south of the airport drive to work. HAL needs to consider where the future workforce will be secured from and encourage a greater spread of employees with an equitable choice of transport modes around the whole airport region.

Paragraph 5.10.3 (Volume 1, p140) on the draft Code of Construction Practice (CoCP) refers to active workforce management/ worker transport scheme. The peak construction workforce is estimated at between 10-15,000 workers. CON1 stated that there would be no sustainable transport targets or parking restrictions for construction workers to ensure Heathrow was an attractive place to work. With reference to the Consultation 1 materials (Table 2.4 of the Our Approach to Developing a Surface Access Strategy), this could represent a potential uplift in Heathrow related vehicle movements of up to 20%, and is likely to be equivalent to more than all the bus, coach and commercial goods vehicles travelling to or from Heathrow on an average day in 2016. Consequently it is our view that it was unacceptable that there would be no targets or measures proposed to minimise traffic and air quality impacts from this, and thus we welcome the proposed mitigation measures.

Paragraph 5.10.14 (Volume 1, p142) talks about putting Heathrow at the heart of the rail network. The surface access strategy consulted on as part of Consultation 1 assumes new rail infrastructure connecting the Heathrow West terminal area (i.e. T5/T6) to the Windsor Lines and has included a four trains per hour service in their core assessment. This is no mention in the EIA Scoping Report about the role a Southern Rail Access (heavy or light rail) could play in mitigating traffic and transport, air quality and noise impacts.

Paragraph 5.10.25 (Volume 1, p144) discusses the option for a Southern Access Road Tunnel. The potential for rat running through the airport (via the Southern Access Road Tunnel into the CTA and out to the M4 Spur via the existing CTA Tunnel) should be recognised and assessed.

Consultation 1 included an option for a direct link from the off-airport 'cargo city' to the south of the airport and the on-airport cargo facilities to minimise unnecessary HGV movements on the public highways and perimeter roads. This is not referred to at all in the EIA Scoping Report as a mitigation option. This is a serious concern given that Masterplan Assembly Options all seek to expand the cargo facilities in this location. Consultation 1 documentation indicates that moving goods to and from off-airport warehousing represents a third of all Heathrow cargo related trips, so there is very real potential for significant air quality benefits if such a low emission link was taken forward.

### Noise

Bullet point 6 of paragraph 16.11.9 identifies the development of a Noise Envelope as a framework for the control of noise effects and to provide certainty about how noise will be managed.

- What metric is to be used and at what level of noise exposure will the envelope apply?
- Over what time periods will the noise envelope apply: presumably daytime 16 hours, but potentially other, shorter time periods and also possibly covering the night-time period?

Additionally, it would be appropriate to set different envelopes for different operating years. One can envisage a set of noise envelopes covering the 'year of maximum exposure' and a set of smaller noise envelopes covering the 'year of maximum operations'. The airport must commit to reducing envelope areas thereafter in order to share the benefits of technological improvements with the affected communities as aircraft continue to become quieter.

Furthermore, information must be provided on the steps that will be taken by the airport to manage its operations within the envelope. In particular, if actual operating conditions differ from those forecast for any given year and a breach of the envelope appears likely, what measures to restrict or control those operations will be taken?

With particular regard to access to quiet open green space, how does HAL propose to mitigate the impacts of a higher frequency of take-off/landings for residents close to the Heathrow Airport boundary and runway in the Stanwell and Stanwell Moor areas?

In paragraph 16.10.119, Heathrow Airport proposed new noise insulation package has been well publicised, along with the associated cost, and is a step change and significant improvement over what is currently on offer. However, we retain the view that it is potentially inequitable in that the same provisions will be made to people/dwellings regardless of how often they are overflown. Residences to the west of the airport will be overflown for at least twice as many days as those living to the east. This factor was established in SoNA 2104:aircraft<sup>3</sup> as being significant in determining the community reaction to aircraft noise.

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<sup>3</sup> CAP 1506, Survey of noise attitudes 2014: aircraft



In line with all airport sound insulation grant schemes, mitigation can only be provided inside dwellings (paragraph 16.10.122), and external amenity spaces will remain unprotected. The same comments apply to paragraph 16.10.123.

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Our Ref: EIA Case 018-017



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19 June 2018

Dear Sir or Madam,

**Response to Consultation under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017**

**Application by Heathrow Airport Limited for an Order Granting Development Consent for the expansion of Heathrow Airport (Third Runway)**

**PINS Reference: TR020003**

1. We write in response to your letter dated 22 May 2018, seeking the views of Surrey County Council on the information to be included in the Environmental Statement (ES) that will be submitted by Heathrow Airport Limited as part of the application for a Development Consent Order (DCO) for the proposed expansion of Heathrow Airport, to involve the construction and use of a third runway. The County Council has reviewed the information presented in the prospective applicant's environmental scoping report, and has a number of recommendations to make in respect of the proposed scope of the Environmental Impact Assessment (EIA) for the scheme.
2. The County Council has focussed its detailed comments on those topics which impact most directly on its areas of regulatory responsibility in respect of planning for the supply of minerals and for the management of waste (covered by Chapter 4 (Section 4.4) and Chapter 14 of Volume 1 of the Scoping Report), in respect of the management of the highways network (covered by Chapter 17 of Volume 1 of the Scoping Report), and in respect of the management of flood risk from surface waters and groundwaters (covered by Chapter 18 of Volume 1 of the Scoping Report). The County Council has also reviewed and made comments in respect of those other topics covered by the Scoping Report in which it has particular expertise (e.g. ecology, archaeology and heritage), or for which it has particular concerns (e.g. air quality, noise).

**Part A: ‘Introduction’ Chapter 1 (pp.1.1-1.) of Volume 1 (Main Report) of the Scoping Report**

3. Paragraphs 1.9.19 to 1.9.23 (pp.1.15 to 1.17), and Table 1.2 (pp.1.16 to 1.17) of Chapter 1 of the Scoping Report (Volume 1) identify and discuss the local planning policy context applicable to the area within which the DCO project would be situated. At paragraph 1.9.21 (p.1.15) reference is made to the operational land occupied by the airport being situated within the London Borough of Hillingdon, but also being close to land that falls within the jurisdiction of eight other local planning authorities (LPA). The County Council is concerned that the Scoping Report does not appear to take account of its role as County Planning Authority for the whole of Surrey, nor that of Buckinghamshire County Council in respect of the county of Buckinghamshire.
  
4. That oversight is reflected in Table 1.2 (pp.1.16 to 1.17), where the Surrey Minerals Plan, the Surrey Waste Plan, and the Joint Aggregates Recycling Development Plan Document (DPD) are listed as adopted plans of Spelthorne Borough Council and Runnymede Borough Council. Whilst it is correct that the policies set out in those three adopted Plan documents apply across all the districts and boroughs located within the county of Surrey, responsibility for the preparation, adoption, implementation and monitoring of those Plan documents, and of all development arising from them, falls to Surrey County Council, and not to the district and borough LPAs. It is also noted that Table 1.2 fails to make reference to the emerging Surrey Waste Local Plan, which is currently being prepared to replace the existing Plan. A similar conflation of roles is made in respect of the county of Buckinghamshire, where the County Council’s minerals and wastes plans are listed as adopted plans of South Bucks District Council.
  
5. The County Council recommends that paragraph 1.9.21 (p.1.15) of the Scoping Report be amended to make reference to ‘ten’ planning authorities, and that Table 1.2 (pp.1.16 to 1.17) be amended as follows.

Planning Authority	Adopted DPDs	Emerging DPDs
<i>...details for LB Hillingdon, LB Hounslow, LB Ealing, LB Richmond upon Thames, Royal Borough of Windsor &amp; Maidenhead, Slough BC, &amp; South Bucks DC omitted...</i>		
Spelthorne Borough Council	Saved Policies of Local Plan (2001) Core Strategy & Policies (2009) Spelthorne Allocations DPD (2009)	Spelthorne Local Plan 2020 to 2035: Issues & Options (May 2018)
Runnymede Borough Council	Saved Policies of Local Plan (2001)	Emerging 2030 Local Plan
Surrey County Council	<b>Surrey Waste Plan 2008</b> <b>Surrey Minerals Plan 2011 (Core Strategy DPD 2011 &amp; Primary Aggregates DPD 2011)</b> <b>Joint Aggregates Recycling DPD 2013</b>	<b>Surrey Waste Local Plan (Regulation 18 Consultation Version, October 2017)</b>

Planning Authority	Adopted DPDs	Emerging DPDs
South Bucks District Council	Saved Policies Adopted Local Plan (1999)	Emerging Chiltern & South Bucks Local Plan (2014-2036), & Green Belt preferred options (2016)
Buckinghamshire County Council	Buckinghamshire Minerals & Waste Local Plan 2004-2016 Buckinghamshire Minerals & Waste Core Strategy 2012	Buckinghamshire Minerals & Waste Local Plan 2016-2036 (Proposed Submission version, March 2018)

### Part B: ‘Existing Site & Surroundings’ Chapter 2 (pp.2.1-2.8) of the Scoping Report

6. Paragraph 2.1.3 (p.2.3) of Chapter 2 of the Scoping Report (Volume 1) makes reference to the presence of a number of major drinking water supply reservoirs in the area to the south and west of the airport. No mention is made of the status of a number of those reservoirs (Wraysbury, King George VI, Staines North, and Staines South) as component parts of the South West London Waterbodies Special Protection Area (SPA) and of the South West London Waterbodies Ramsar Site. In comparison, reference is made to the status of Staines Moor as a Site of Special Scientific Interest (SSSI) in paragraph 2.1.5 (p.2.3), and it is therefore suggested that a more consistent approach be adopted, particularly where sites of international or European importance are concerned.

### Part C: ‘The DCO Project’ Chapter 3 (pp.3.1-3.28) of the Scoping Report

7. Section 3.3 (Principal components of the DCO project) (pp.3.7-3.21) of the Scoping Report (Volume 1) provides an account of the main components of the development, in terms of the physical infrastructure that would be constructed. For the majority of the identified components of the development the relevance of the environmental topics covered by the EIA process has been evaluated with reference to both the construction and operational phases of the development. For the airport supporting facilities component of the scheme (paragraphs 3.3.34 to 3.3.36, pp.3.15-3.17) it is unclear whether the evaluation of the relevance of environmental topics reported in Table 3.7 (p.3.17) covers the construction or operational phase of the development, or both. It is therefore not clear, where topics have been scoped out of consideration for a given element of the airport supporting facilities (e.g. waste and recycling facilities), whether that decision is appropriate.
8. Section 3.3 (Principal components of the DCO project) (pp.3.7-3.21) includes a discussion of a number of established developments and existing land-uses that would be displaced as a result of the DCO project (paragraph 3.3.37, pp.3.17-3.19, and shown in Figure 3.16 in Volume 2 of the Scoping Report). That discussion is focussed solely on the area of land that would be affected by the construction of the proposed third runway, and consequently does not address any of the established land uses that would be displaced as a result of the development within the county of Surrey. From the perspective of the County Council, in

its capacity as Minerals and Waste Planning Authority for Surrey, there are a number of existing waste management facilities and/or existing minerals sites (see below for details) that coincide with land that has been identified as being considered for infrastructure works, airport supporting facilities, airport related development, or construction sites as part of the DCO project (Figure 3.1, Volume 2 of the Scoping Report). The County Council would expect the description of the development provided as part of the ES to include a full account of all the areas of land surrounding the airport, including those within Surrey, at which the established or existing land-uses would, or could, be displaced as a consequence of the DCO project.

- 8.1 Hithermoor Quarry, Leylands Lane, Stanwell Moor, Surrey TW19 6BG – the area of land identified as being considered for use as part of, or in association with, the DCO project (see Figures 3.1 and 3.17 in Volume 2 of the scoping report) is comprised of a closed landfill that forms the southern part of the 73 hectare site known as Hithermoor Quarry. On 29 March 2011, planning permission (ref. SP10/0657) was granted subject to conditions for the construction of an engineered clay cap to the closed landfill at Hithermoor Quarry (southern part of the land within the 73 hectare site), utilising suitable imported clays, with landscaping including the provision of a final soil layer. The permission was subject to the completion of a variation to the Section 278 Agreement dated 21 October 2009 entered into in connection with the planning permission (ref. SP03/1212), relating to highway works at the site access off Leylands Lane and the Leylands Lane and Horton Road junction. On 14 September 2015, planning permission (ref. SP12/0487) was granted to continue the clay capping without complying with conditions 2 (duration), 6 (highway works required for option 2) and 7 (daily upper limit of HGVs (over 20 tonnes), and to remove/delete condition 5 (implementation of highway works required for option 1) of planning permission (ref. SP10/0657) to enable the clay capping to be completed with clay from sources other than the Terminal 2 redevelopment project and for retention and use of the Temporary Works at the junction of Horton Road and Leylands Lane in connection with the clay capping. The clay capping is to be completed and restored by 13 April 2023 in line with the permission for the mineral working and recycling areas granted under planning permission (ref. SP03/1212). The northern part of the Hithermoor Quarry site, which currently hosts an aggregate recycling facility and a soil remediation facility, is also identified as the preferred location for the processing of sand and gravel should extraction commence from the King George VI reservoir, which is identified as Preferred Area K (estimated reserve of 3.24 million tonnes) in the adopted Surrey Minerals Plan (Primary Aggregates DPD).
- 8.2 Stanwell Quarry, Stanwell Moor Road, Stanwell, Surrey TW19 6AB – the area of land identified as being considered for use as part of, or in association with, the DCO project (see Figures 3.1, 3.15 and 3.17 in Volume 2 of the scoping report) is comprised of a former mineral working (32.3 hectares) that is being restored to a predominantly agricultural end use by means of infilling with

inert waste. The former quarry site also hosts a temporary aggregate recycling facility. On 18 May 2018, planning permission (ref. SP17/00118/SCC) was granted, subject to conditions, for operations to continue at the site without compliance with conditions 1 and 2 of planning permission ref: SP10/0594 dated 26 October 2011 in order to extend the time taken for restoration until 26 October 2027 and to change the restoration and phasing plans previously approved. On 21 July 2017, planning permission (ref. SP17/00113/SCC) was granted, subject to conditions, for the retention of an existing recycling operation on a site of some 5.3 hectares for the processing of construction and demolition waste for the production of restoration materials for use in the former Stanwell Quarry and recycled aggregates for export for a period of 10 years with restoration of the recycling site to agriculture.

- 8.3 Homers Farm, London Road, Staines-upon-Thames – the area of land identified as being considered for use as part of, or in association with, the DCO project (see Figure 3.1 in Volume 2 of the scoping report) is comprised of a permitted mineral working (10.5 hectares), from which extraction of sand and gravel has yet to commence. Planning permission (ref: SP/13/00141/SCC) was granted on 12 January 2015 for the extraction of sand and gravel from land at Homers Farm together with the construction and operation of an associated wheelwash, site office, cabin for a generator and car parking, the provision of a new access from Short Lane, and restoration to agriculture involving the importation and deposit of inert materials. Permission was granted subject to 46 conditions and a unilateral legal agreement concerning the routing of lorry vehicles. Works have yet to commence on site, as a number of conditions require discharge prior to the start of development. Sand and gravel extracted from Homers Farm would be transported along the A30 by HGV to an existing processing facility at Hengrove Farm.

#### **Part D: ‘Approach to EIA Scoping’ Chapter 4 (pp.4.1-4.41) of the Scoping Report**

9. Section 4.3 (pp.4.9 to 4.11) of Chapter 4 of the Scoping Report (Volume 1) explains how the spatial and temporal scopes of the assessment have, or will be, determined. For the spatial scope SCC is broadly content with the approach set out in paragraphs 4.3.1 to 4.3.4 (p.4.9) which report that the spatial scope of the assessment will vary by topic (i.e. that the spatial scope for the biodiversity assessment will differ to that for the historic environment), and advise that further details are given in each of the technical chapters. For the temporal scope of the assessment, the County Council is broadly content with the approach set out in paragraph 4.3.5, which identifies a current baseline, a future baseline (to be based on a two runway scenario), and a number of different assessment years, including the year in which the number of air traffic movements generated by the airport first increases (prior to the construction of the new runways).

10. Section 4.4 (Waste & Resources) of Chapter 4 of the Scoping Report (Volume 1) states that the topic of waste will not be addressed by a dedicated chapter in the ES, although the topic is to be covered through a waste impact assessment, a resource management plan, and a code of construction practice. The waste impact assessment methodology is set out in Appendix 4.1 to the Scoping Report (Volume 3), and explains how the construction and operational phase waste impacts of the scheme would be identified and assessed.
  
11. The County Council is broadly content with the proposed approach to the assessment of waste impacts, but is concerned that the topic has been excluded from the ES, given the scale of the scheme and the potential for significant waste arising during both the construction and operational phases of the development, and the potential effects of the development on established waste management capacity in Surrey and further afield. For the construction phase, Appendix 4.1 to the Scoping Report states that the strategy will be to reuse excavated materials within the scheme, where practicable, as close to the point of origin as possible (paragraph 1.4.2, p.10, Appendix 4.1), an approach that is welcomed by the County Council, although it is noted that some export of waste materials is likely to be necessary, which could have implications for existing and future waste management capacity in Surrey and the wider area. Paragraph 1.4.13 (p.11, Appendix 4.1) reports that there are a number of historic landfills situated within the boundary of the DCO project that would be affected by the scheme, and indicates that the preference for disposal of that excavated waste would be for disposal within the DCO boundary in a purpose built landfill. That approach is welcomed by the County Council, as it would reduce the potential for the scheme to give rise to significant adverse impacts on existing non-inert landfill capacity within Surrey.
  
12. Section 4.6 (Cumulative Effects Assessment) of Chapter 4 of the Scoping Report (Volume 1), provides an account of the way in which the assessment of cumulative and in-combination impacts would be addressed. A more detailed account of the proposed approach is provided in Appendix 4.2 to the Scoping Report (Volume 3), which comprises a report on which the County Council has previously provided detailed comments (in April 2018). As the report submitted in Appendix 4.2 to the Scoping Report does not appear to have been altered in response to our earlier comments, a copy of those comments is appended to this letter (Appendix A). Our principal concern with respect to the cumulative effects assessment was that the criteria by which projects were to be identified as potential sources of in-combination impacts did not adequately reflect or capture minerals or waste related development within the county of Surrey. We made a number of recommendations in our earlier consultation response (see Appendix A to this letter) that could address the weaknesses identified in the cumulative effects assessment methodology, and we would expect to see that advice taken into account in the EIA process.

## **Part E: 'Air Quality & Odour' Chapter 5 (pp.5.1-5.46) of the Scoping Report**

13. The County Council is broadly content with the proposed scope of the assessment, in terms of the matters to be covered and those to be excluded, with the approach to baseline data collection, and with the approach to the assessment of construction and operational phase impacts. It is noted that assessment of the impacts of changes in air quality on sensitive ecological receptors is to be covered in the biodiversity chapter of the ES (paragraph 5.7.2, p.5.26 of the Scoping Report, Volume 1).
14. The extent of the proposed core air quality assessment area (see Figure 5.3, Volume 2 of the Scoping Report) is smaller than that covered by the detailed traffic modelling (see Figure 17.1, Volume 2 of the Scoping Report). Paragraph 5.4.8 (p.5.11, Volume 1 of the Scoping Report) indicates that the air quality assessment will also cover areas outside the core area, where traffic modelling indicates that road links could be impacted upon by the DCO project with reference to the criteria set out in paragraph 5.4.9 (p.5.12). The criteria listed under paragraph 5.4.9 (p.5.12) reflect guidance set out in the *Design Manual for Roads & Bridges* (DMRB) (Volume 11, Section 3, Part 1, HA207/07, Air Quality, 2007). The County Council would recommend that account also be taken of the criteria listed in section 6 of the guidance for planning authorities (*Land-Use Planning & Development Control: Planning for Air Quality*, January 2017) issued by the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK) when determining whether road links outside the core air quality assessment area should be subject to detailed assessment.

## **Part F: 'Biodiversity' Chapter 6 (pp.6.1-6.) of the Scoping Report**

15. The County Council is broadly content with the proposed scope of the assessment in respect of biodiversity as set out in Chapter 6 of the Scoping Report (Volume 1), which appears to be comprehensive. The baseline assessments appear to be relatively accurate, and can be subjected to more rigorous checking at the Preliminary Environmental Information Report (PEIR) stage of the DCO process. The methodologies and data gathering all seem to be following accepted guidance and standards, in terms of general approach and species or habitat specific studies.
16. On the extent of the study area, as set out in section 6.4 (p.6.13) of the Scoping Report (Volume 1), the County Council would query whether for bats account should be taken of the 30 kilometre distance cited in the DMRB (Vol.11, Section 4, Part 1, HD 44/09, Chapter 4, paragraph 4.10, p.4/3) for Special Areas of Conservation (SACs) where bats are a qualifying feature. Given that the DCO project includes the construction of a new motorway link, as a consequence of the westward migration of a section of the M25 motorway, and taking account of the extent of the area to be covered by the transport modelling, and therefore potentially affected by traffic generated by the DCO project, it is suggested that the 30 kilometre criteria should be applied in respect of bat supporting SACs.



17. With reference to the assessment of impacts on Sites of Nature Conservation Importance (SNCI), the County Council is concerned that the provision of airport supporting facilities and a temporary construction site (see Figures 3.15 and 3.17, Volume 2 of the Scoping Report) could result in the permanent loss the northern part of the Stanwell II SNCI. The affected SNCI is situated within an area of land that is currently under restoration from past mineral working (Planning Permission ref. SP17/00118/SCC), which lies immediately to the south of the airport's Southern Perimeter Road. Whilst the majority of the SNCI lies outside the indicative boundary for the potential remote car park shown in Figure 3.15, the northern part of the SNCI comprises of some 1.0 hectares of wetland habitat that supports marginal vegetation including fen. The County Council would expect the assessment to identify how appropriate compensation for the loss of part of the SNCI would be achieved, within the county of Surrey, as part of the proposed biodiversity off-setting approach.

**Part G: 'Carbon & Other Greenhouse Gases' Chapter 7 (pp.7.1-7.27) & 'Climate Change' Chapter 8 (pp.8.1-8.31) of the Scoping Report**

18. The County Council welcomes the inclusion of chapters in the Scoping Report (Volume 1) that address the question of emissions of carbon and other greenhouse gases (Chapter 7, pp.7.1-7.27, Scoping Report, Volume 1), and the question of the project's contribution to in-combination climate change impacts, and its resilience to the likely effects of climate change (Chapter 8, pp.8.1-8.31, Scoping Report, Volume 1).
- 18.1 With reference to the question of carbon and other greenhouse gas emissions, the County Council is broadly content with the proposed scope of the assessment set out in Chapter 7 of the Scoping Report (Volume 1), which covers both the construction and operational phases of the project, and takes into account all major sources of greenhouse gas emissions. The County Council welcomes the decision to not scope out from the assessment any class of impacts with respect to carbon or greenhouse gas emissions.
- 18.2 With reference to the question of the project's contribution to in-combination climate change impacts, and its resilience to the effects of climate change, the County Council is broadly content with the proposed scope of the assessment set out in Chapter 8 of the Scoping Report (Volume 1). It is recognised that such assessments are a developing area of practice, and that consequently the methodology cited in the scoping report may be subject to alteration as the DCO process progresses. The County Council welcomes the decision to not scope out from the assessment any class of impacts with respect to in-combination climate change impacts, or climate change resilience.

**Part H: ‘Community’ Chapter 9 (pp.9.1-9.39) & ‘Economics & Employment’ Chapter 10 (pp.10.1-10.29) of the Scoping Report**

19. The County Council welcomes the inclusion of chapters in the Scoping Report (Volume 1) that address the question of impacts on communities (Chapter 9, pp.9.1-9.39), and the question of the impacts of the development on the local and wider economy, and on employment opportunities (Chapter 10, pp.10.1-10.29).
- 19.1 With reference to the question of the impacts of the development on communities, the County Council is broadly content with the proposed scope of the assessment set out in Chapter 9 of the Scoping Report (Volume 1), which covers both the construction and operational phases of the project, and takes into account the principal mechanisms by which communities could be impacted by the DCO project. The County Council is particularly concerned that potential direct and in-direct impacts on key elements of community infrastructure, including schools, libraries, and health and social care facilities, are considered as part of the assessment.
- 19.2 With reference to the question of the impacts of the development on the local and wider economy, and on access to employment, the County Council is broadly content with the proposed scope of the assessment set out in Chapter 10 of the Scoping Report (Volume 1), which covers both the construction and operational phases of the project. With reference to the displacement, loss or change of established land uses or businesses identified as an impact to be assessed in Table 10.6 (pp.10.20-10.21), the County Council would expect to see the potential loss of existing construction, demolition and excavation waste management capacity (i.e. at Stanwell Quarry) addressed within the assessment.

**Part I: ‘Historic Environment’ Chapter 11 (pp.11.1-11.26) of the Scoping Report**

20. Chapter 11 (Historic Environment) of Volume 1 of the Scoping Report reports on the main consultations undertaken to date, the baseline data collected, and provides a broad evaluation of the surrounding heritage resources, and identifies likely key impacts. The County Council is broadly content with the baseline surveys, significance evaluation methodology, and approach mitigation set out in the report, and with the information presented and the proposals for future assessment and investigation. Throughout the document, Historic England are listed as the lead with regards to the heritage assessment and mitigation, which is correct as the majority of impacts will affect areas where they are the leading advisory body. Those direct impacts likely to occur within areas covered by the County Council would appear to be comparatively limited, based on the information currently available about the details of the DCO project.

21. A supporting three-tiered Historic Landscape Characterisation (HLC) assessment approach based on a fairly high level landscape characterisation of a pre-defined area around Heathrow Airport is proposed in Appendix 11.1 to the Scoping Report (Volume 3). The initial (level 1) assessment would be followed by either a second level (level 2) Historic Area Assessment, or a more detailed third level (level 3) assessment that would focus on selected high impact or high importance areas. The methodology for the suggested scheme of assessment again is broadly sound, and the evidence base(s) that proposed are satisfactory. Within the proposed methodology the County Council is somewhat concerned that archaeological sites and features might be under-represented, but the County Council recognises that archaeology is a difficult resource to assess in this way and it is noted that the HLC will aim to capture time depth as well as the contemporary landscape, and that approach is welcomed.
22. The County Council is concerned that Registered Parks & Gardens have been omitted from the tabulated list of Designated Heritage Assets set out in Appendix 11.2 to the Scoping Report, on the grounds of no such assets being situated within the defined study area. The County Council would highlight the presence of a Grade I Registered Park (Windsor Forest & Great Park, which lies primarily outside Surrey and within the Royal Borough of Windsor & Maidenhead) just outside the western extent of the boundary of the search area, in the form of the Windsor Great Park, and of a Grade II Registered Park (Ditton Park, which lies outside Surrey and within Slough Borough Council's area).
23. The County Council does have some reservations about the focus of the assessment and the HLC on a fairly nucleated geographical area, which although a standard approach to development proposals that in most circumstances is sufficient, is perhaps not appropriate to the major expansion of an airport, particularly in respect of indirect effects. Due to the nature and scale of the scheme there are some areas of wider concern that the County Council would wish to see considered, as for a development of the kind proposed there are possible implications for heritage in a much wider context that might usefully be investigated. Such considerations could include (but are not limited to):
- 23.1 Additional congestion on the surrounding road network that could impact on the numbers of visitors attending at heritage sites in the area, with consequent impacts on the longer-term sustainability of regional heritage assets.
- 23.2 Additional visitors to regional heritage sites as a consequence of increased connectivity, resulting in higher rates of tourist trips (potentially a positive effects on the county's heritage sites in terms of viability and financial sustainability), but with increased risk of attrition caused by greater footfall and erosion, or other forms of physical damage.
- 23.3 Increased incidence or redistribution of pollutants caused by additional or new areas of traffic congestion could also be detrimental to the fabric of certain heritage structures, to veteran trees and/or to Ancient Woodland, particularly along the principal arterial routes, of which Surrey has a number.

- 23.4 There is also potential for impacts on the setting of wider region sites and monuments (including noise impacts), and nearby and regional views and vistas that might be affected by the airport development and other future development related to the expansion. Paragraph 11.8 of the scoping report limits the assessment of impacts on historic environment assets in the wider area to perceptual changes of noise and vibration during the operational phase, but the County Council recommends extending the assessment to include the consideration of longer-term operational issues and collateral considerations beyond noise and vibration. A high level strategic appraisal of the regional historic (and potentially natural) environmental implications of the proposals situated outside the immediate environs of the airport and the geographical search/development impact areas would be welcome.

#### **Part J: Health – Chapter 12 (pp.12.1-12.36) of the Scoping Report**

24. The County Council is broadly content with the proposed scope of the assessment set out in Chapter 12 of the Scoping Report (Volume 1), in terms of the matters to be covered and those to be excluded, with the approach to baseline data collection, and with the approach to the assessment of construction and operational phase impacts. It is noted that assessment will draw on information from other parts of the EIA, including the assessments for air quality (Chapter 5), community (Chapter 9), economics and employment (Chapter 10), landscape and visual amenity (Chapter 13), and noise and vibration (Chapter 16) (paragraph 12.4.5, pp.12.13-12.14 of the Scoping Report, Volume 1).
25. The County Council notes that paragraphs 12.8.1 to 12.8.4 (pp.12.17-12.19) and Table 12.4 (p.12.18) of the Scoping Report (Volume 1) recognise the potential for health and wellbeing to be adversely affected by changes to the climate, by exposure to contaminated soils or hazardous materials, by man-made or natural disasters, and by exposure to poor quality water or flood risk, and in each case provide the prospective applicants reasons for excluding consideration of those matters from the health component of the EIA. It is also noted that the prospective applicant has given a commitment (paragraph 12.8.2, pp.12.17-12.18 of the Scoping Report, Volume 1), in the event of the assessments for each of those excluded topics identifying significant effects on a determinant of health as a likely outcome, for the scope of the health assessment to be broadened to include those potential impacts.

#### **Part K: Landscape & Visual Amenity – Chapter 13 (pp.13.1-13.25) of the Scoping Report**

26. The County Council is broadly content with the proposed scope of the assessment in respect of landscape character and visual amenity as set out in Chapter 13 of the Scoping Report (Volume 1). The County Council notes that the proposed study area extends to some 5 kilometres beyond the full extent of the land being considered for development as part of the DCO project (paragraph 13.4.3, p.13.7), and that a preliminary Zone of Theoretical Visibility (ZTV) has been mapped (paragraph 13.5.2, p.13.8), both of which may be subject to change as the scheme develops.

27. The County Council notes that the Landscape Character Assessment for the county of Surrey, which was published in 2015, has been listed as a source of baseline information that will be drawn by the assessment. The County Council would expect the baseline to also take account of all relevant borough level character assessments, where such have been prepared, and of all relevant published Conservation Area management plans, as these may offer insight into the townscape character of potentially affected communities.
28. The County Council is concerned that too few representative viewpoints have been identified in the area adjacent to the existing Stanwell Quarry, and in the area surrounding the land at Stanwell Moor to the west of the A3044 and the north of Horton Road, that may be temporarily or permanently affected by the DCO project. For Stanwell Quarry, the single identified viewpoint (no.10, Table 13.4, pp.13.13-13.17, Scoping Report, Volume 1, and Figure 13.1, Scoping Report, Volume 2) offers a north-westward view across the affected land, which the County Council would wish to see matched with a northwards or north eastwards view from a point further to the west along Park Road, or from within the Stanwell Conservation Area.
29. The County Council is concerned that the question of the impact of the DCO project on relative tranquillity does not appear to be reflected in the proposed scope of the assessment. That is inconsistent with paragraph 16.1.4 (p.16.5) of Chapter 16 (Noise & Vibration) of the Scoping Report (Volume 1), which states that the potential impacts of noise and vibration on the landscape and visual amenity will be covered in Chapter 13 of the ES. Whilst it is recognised that background tranquillity in the wider area in which the DCO site is situated is already limited, the effect of the development on relative tranquillity, particularly with respect to receptors such as Windsor Forest & Great Park (Grade I Registered Park & Garden, Site of Special Scientific Interest, and Special Area of Conservation), Great Fosters (Grade II\* Registered Park & Garden), and Staines Moor (SSSI), where there may be a greater expectation of tranquillity than in other areas surrounding the airport.

**Part L: Land Quality – Chapter 14 (pp.14.1-14.41) of the Scoping Report**

30. The County Council is broadly content with the proposed scope of the assessment as set out in Chapter 14 of the Scoping Report (Volume 1), in terms of the matters to be covered and those to be excluded, with the approach to baseline data collection, and with the approach to the assessment of construction and operational phase impacts. The proposal to provide discrete assessments that address specific sub-topics is welcomed, as the County Council principal interest is with the assessment of impact on mineral safeguarding areas (paragraph 14.7.5, p.14.25, and Table 14.6, pp.14.26-14.27, Scoping Report, Volume 1).
31. The County Council has a number of specific comments to make in respect of the baseline information presented in the Scoping Report with reference to mineral safeguarding areas, and to allocated and permitted mineral sites in Surrey. The information presented in Figure 14.7 (Scoping Report, Volume 2) focuses on five areas that were identified as preferred

areas for the extraction of concreting aggregate in the adopted Surrey Minerals Plan (Primary Aggregates Development Plan Document), but in a number of cases circumstances have changed, with four of those five sites having been granted planning permission for mineral working.

- 31.1 Home Farm Quarry Extension, Shepperton Road, Shepperton – Identified as Preferred Area F in the Primary Aggregates DPD. Planning permission (SP09/0720) for mineral working was granted on 22 August 2012.
  - 31.2 Queen Mary Reservoir & Queen May Quarry, Ashford Road, Laleham – Identified as Preferred Area K in the Primary Aggregates DPD. Planning Permission (SP07/1269) was originally granted on 16 January 2009 for mineral working from the central breakwater baffle of the reservoir.
  - 31.3 Homers Farm, London Road, Staines-upon-Thames – Identified as Preferred Area G in the Primary Aggregates DPD. Planning Permission (SP/13/00141/SCC) for mineral working was granted on 12 January 2015.
  - 31.4 Manor Farm, Ashford Road, Laleham – Identified as Preferred Area J in the Primary Aggregates DPD. Planning Permission (SP/2012/01132) for mineral working was granted on 23 October 2015.
  - 31.5 King George VI Reservoir, Stanwell Moor – Identified as Preferred Area H in the Primary Aggregates DPD. To date no application has been made in respect of this preferred area.
32. There are a number of other identified preferred areas that are situated within the boroughs of Spelthorne and Runnymede that are not reflected in Figure 14.7 of the Scoping Report (Volume 2) that the County Council would expect to see covered in the baseline description, in the interests of completeness and accuracy.
- 32.1 Milton Park Farm, Stroude Road, Egham – Identified as Preferred Area D in the Primary Aggregates DPD. A planning application (RU09/0299) for mineral working is currently being considered by the County Planning Authority
  - 32.2 Watersplash Farm, Gaston Bridge Road, Shepperton – Identified as Preferred Area L in the Primary Aggregates DPD. A planning application (SP12/01487) for mineral working is currently being considered by the County Planning Authority
  - 32.3 Whitehall Farm, Stroude Road, Egham – Identified as Preferred Area E in the Primary Aggregates DPD. The site is programmed to follow on from the working of the Milton Park Farm site (Preferred Area D).

## **Part M: Major Accidents & Disasters – Chapter 15 (pp.15.1-15.44) of the Scoping Report**

33. The County Council is broadly content with the proposed scope of the assessment as set out in Chapter 15 of the Scoping Report (Volume 1), in terms of the matters to be covered and those to be excluded, with the approach to baseline data collection, and with the approach to the assessment of construction and operational phase impacts. The County Council welcomes the inclusion of both human receptors (including residents and local businesses, and users of the local transport networks) and environmental receptors (including sensitive ecological sites, habitats and species, and water and soil resources) within the scope of the assessment.

## **Part N: Noise & Vibration – Chapter 16 (pp.16.1-16.84) of the Scoping Report**

34. The County Council is broadly content with the proposed approach to the assessment of noise and vibration impacts, however concern remains about the timing of the DCO submission relative to the Airspace Change Process (ACP). The approach set out in paragraphs 16.7.2 to 16.7.7 (pp.16.31-16.32) of the Scoping Report (Volume 1) is welcomed. The proposed approach is for the assessment to be based on a range of indicative airspace designs, which will be subject to ongoing review and revision throughout the EIA process. The County Council would expect those indicative airspace designs to include worst case scenarios for each of the communities potentially affected by the further development of the airport and by changes to the existing airspace design. The County Council welcomes the proposal to review and, if necessary, extend the area covered by the initial noise assessments (paragraph 16.4.6, p.16.22).
35. The County Council notes and welcomes the proposal to assess the significance of noise impacts of air traffic movements arising from the expanded airport against the thresholds for lowest observed adverse effects level (LOAEL) (51dB LAeq16hr for day, and 45dB LAeq8hr for night) set in the published Air Navigation Guidance (October 2017) for the Civil Aviation Authority (CAA). The County Council is concerned however, that in Table 16.7 (p.16.61) for the operational phase in respect of aircraft noise and aircraft ground noise that no maximum noise level for night-time noise has been specified.
36. For road traffic noise arising from additional vehicle movements generated by the extended airport, the County Council welcomes the proposed use of a threshold of a change in daytime or night-time noise of 1dB LAeq,T (paragraph 16.4.5, sub-paragraph 4, pp.16.21-16.22), as the trigger for detailed assessment for any given road link.
37. The County Council notes that paragraph 16.1.4 (p.16.5) states that the potential impacts of noise and vibration on receptors other than human communities will be covered in other chapters of the ES. For the natural environment, Table 6.10 (pp.6.37-6.44) indicates that assessment of the effects of noise and vibration on birds, mammals and designated sites would be undertaken for the construction and operational phases of the scheme. For the historic environment, Table 11.5 (pp.11.15-11-17) indicates that assessment of the effects of noise and vibration on the context and setting of heritage assets would be

undertaken for the operational phases of the scheme, and that for the construction phase the assessment would cover the potential for direct impacts on heritage assets in addition to effects on context and setting. For the landscape and visual amenity, the relevant chapter (13) of the Scoping Report does not appear to provide any details of the way in which impacts on tranquillity would be assessed.

#### **Part O: Traffic & Transport – Chapter 17 (pp.17.1-17.29) of the Scoping Report**

38. The County Council is broadly content with the proposed scope of the assessment as set out in Chapter 17 of the Scoping Report (Volume 1), in terms of the matters to be covered and those to be excluded, with the approach to baseline data collection, and with the approach to the assessment of construction and operational phase impacts on the highways network, on traffic levels and on other modes of transport.
39. The DCO project includes options for alterations to parts of the strategic road network (M25 motorway, Figure 3.6, Scoping Report Volume 2) and the local road network (A3044 and A3113 junction at Stanwell Moor, Figure 3.9, Scoping Report, Volume 2) that are situated within, or adjacent to, the county of Surrey, and the County Council would therefore expect the assessment presented in the ES to cover each of those options and their associated impacts for both the construction and operational phases of the scheme. The County Council would also expect the assessment to cover the likely effects on the capacity and condition of the local road network of the redevelopment of the Stanwell Quarry site as a remote parkway car park (Figure 3.15, Scoping Report, Volume 2), and as a temporary construction site (Figure 3.17, Scoping Report, Volume 2), and of the potential temporary development of land at the Hithermoor Quarry site and at Stanwell Moor to the north of Horton Road and the west of the A3044 as construction sites.
40. The County Council recommends that the baseline data for the EIA include information relating to the different modes of transport by which current staff and passengers access the airport, as defined by the main mode of travel used. Such data would enable the EIA process to support and inform the development of the surface access strategy (SAS), as proposed in paragraphs 17.10.6 to 17.10.12 (pp.17.26-17.28, Scoping Report, Volume 1), which is proposed as the principal means of mitigating the highways and public transport impacts of the proposed expansion.
41. The County Council is concerned that DCO project could lead to an increase in on-street parking by waiting taxis in the Stanwell and Stanwell Moor areas, particularly given the proposals for improved access to the Central Terminal Area from the south. The County Council would recommend that the EIA include consideration of the contribution that waiting vehicles can make to delay on the highway network.



## **Part P: Water Environment – Chapter 18 (pp.18.1-18.44) of the Scoping Report**

42. The County Council is broadly content with the proposed scope of the assessment, in terms of the matters to be covered (section 18.7, pp.18.25-18.31, Scoping Report, Volume 1) and those to be excluded (section 18.8, p.18.31, Scoping Report, Volume), with the approach to baseline data collection, and with the approach to the assessment of construction and operational phase impacts on the water environment and flood risk. It is noted that assessment relating to aquatic ecology, water dependent designated sites, and fish is to be documented in Chapter 6 (Biodiversity) of the ES, and that assessment relating to the mobilisation of contaminants into surface or groundwaters is to be documented in Chapter 14 (Land quality) of the ES (paragraph 18.7.5, p.18.27, Scoping Report, Volume 1).
43. The County Council welcomes the prospective applicant's commitment to avoid any increase in flood risk as a consequence of the DCO project (paragraph 18.10.2, p.18.42), but notes that the potential additional flood storage sites identified in the Scoping Report (Figure 3.12, Volume 2) are all situated to the north the airport. Whilst it is recognised that additional flood storage capacity upstream of the airport within the Colne catchment should help to reduce the risk of flooding, particularly during periods of intense rainfall, it is not clear what additional flood attenuation capacity would be provided within the expanded airport complex (or to the south) to manage the risk of surface water flooding on-site and downstream. The County Council would expect to see all the options for surface water management explored as part of the flood risk assessment component of the submitted ES.

## **Part Q: Final Comments**

44. We hope that the above comments are of value to the process of defining the scope of the EIA for the proposed scheme, and would welcome the opportunity to engage further with the applicant as the development of the scheme and the associated assessment progresses. Should you require any further information, or wish to seek clarification of any of the comments that we have made please do not hesitate to contact us (Dr Jessica Salder, Principal Environmental Assessment Officer, [jessica.salder@surreycc.gov.uk](mailto:jessica.salder@surreycc.gov.uk)).

Yours sincerely



Dominic Forbes  
**Planning Group Manager**

## Appendix A to the SCC Scoping Opinion Consultation Response

### Heathrow Expansion

#### Response from Surrey County Council (Planning Development Management) to Work Request CE2A (Cumulative Effects Assessment)

4 April 2018

#### A. Comments on the Proposed Approach

1. In principal, the County Planning Authority's (CPA) officers are broadly content with the approach to cumulative effects assessment for the Heathrow Expansion project set out in the consultation report. However, there are a number of matters that require attention, for which officers have suggested ways in which their concerns could be addressed.
2. Officers are concerned at the exclusion of minerals and waste plans from the lists of development plans that have been reviewed as part of the search for cumulative developments. In particular, the majority of the concreting aggregate sites allocated in the adopted Surrey Minerals Plan are situated within the identified Zone of Influence for the Heathrow Expansion project. Given that mineral working, and the subsequent restoration of the affected land, is likely to give rise to a range of impacts (e.g. traffic, emissions to air, noise, etc.) that could cumulate with those arising from the construction and operation of the proposed third runway, and associated development, the CPA would expect to see all allocated sites covered by the assessment.
3. Officers are concerned that the inclusion/exclusion criteria that have been proposed for 'tier 1' developments (those under construction, for which permission has been granted, or for which an application has been submitted) are structured around a combination of the Mayor of London's call-in criteria, and the screening thresholds set out in Schedule 2 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations 2017).
  - 3.1 The CPA would highlight the fact that the Mayor of London has no jurisdiction outside the area covered by the Greater London Authority (GLA), and that therefore the call-in criteria utilised by the holder of that office are irrelevant within the context of the shire county of Surrey. For Surrey, and for other areas outside the GLA's administrative area, it would be more appropriate to refer to the criteria that would apply to applications called-in by the Secretary of State under section 77 of the Town & Country Planning Act 1990.
  - 3.2 The CPA would recommend that, with reference to the screening criteria set out in Schedule 2 of the EIA Regulations 2017, that reference also be made to Schedule 1 of those Regulations, which cover development projects for which EIA is a mandatory requirement. The CPA would highlight that a number of the

major concreting aggregate sites that have been overlooked in the lists of cumulative development are Schedule 1 development, by virtue of their physical scale and extent.

4. Officers would query the apparent omission of the Environment Agency led River Thames Scheme, a major programme of proposed flood alleviation and associated works across the Royal Borough of Windsor & Maidenhead, and the boroughs of Runnymede, Spelthorne and Elmbridge in Surrey. The RBWM component of the proposed scheme falls within the identified Zone of Influence for the Heathrow Expansion project, and it is likely that were the scheme to proceed, its construction phase would coincide with the Heathrow Expansion project.
5. Officers would also query the apparent omission of Esso’s Southampton to London Pipeline project. That project is planned to install a replacement aviation fuel pipeline, linking the Fawley refinery in Southampton to the West London Terminal storage facility in Hounslow. The northern part of the proposed pipeline route will fall within the identified Zone of Influence for the Heathrow Expansion project, and it is likely that were the scheme to proceed, its construction phase would coincide with the Heathrow Expansion project.

**B. Comments on Table 3.2.1 ‘Summary of Tier 1 Criteria’ (Appendix 3.2)**

6. The third column of Table 3.2.1 in Appendix 3.2 (Relevant Development Criteria) to the *Approach to Assessing Cumulative Effects* report is based on Schedule 2 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No.571). Officers have noted that there appear to be a number of transcription errors in respect of the way in which information has been derived from the Regulations, which has resulted in the criteria in Table 3.2.1 lacking clarity. It is also noted that no reference is made to development of the types listed in Schedule 1 of the EIA Regulations 2017, for which EIA is mandatory, needing to be considered as part of the cumulative effects assessment.
7. In the interests of clarity, and for the avoidance of doubt, we would recommend that Table 3.2.1 be split into two parts, with the first part addressing the call-in criteria applied by the Mayor of London in respect of planning applications that fall within the jurisdiction of the GLA, and the second part replicating the screening criteria set out in Schedule 2 of the T&CP (EIA) Regulations 2017. A suggested alternative version is set out below.

Topic	Mayor of London Call-In Criteria
A Residential development	<ul style="list-style-type: none"> <li>• &gt;150 dwellings.</li> </ul>
B Non-residential development	<ul style="list-style-type: none"> <li>• &gt;15,000 sq m.</li> </ul>
C Building heights	<ul style="list-style-type: none"> <li>• &gt;25m high adjacent to River Thames; or</li> <li>• 30m high; or</li> <li>• Height increased by &gt;15m &amp; completed building &gt;25m if adjacent to River Thames or &gt;30m high elsewhere.</li> </ul>

Topic	Mayor of London Call-In Criteria
D Mining	<ul style="list-style-type: none"> <li>• Development occupies &gt;10 ha.</li> </ul>
E Waste	<ul style="list-style-type: none"> <li>• Capacity for &gt;5,000 tpa hazardous waste, or &gt;50,000 tpa waste; or</li> <li>• Development occupies &gt;1 ha; or</li> <li>• Development does not accord with at least 1 provision of the development plan, &amp;: <ul style="list-style-type: none"> <li>– Occupies &gt;0.5 ha; or</li> <li>– Provides capacity for &gt;2,000 tpa hazardous waste; or</li> <li>– Provides capacity for &gt;20,000 tpa waste.</li> </ul> </li> </ul>
F Transport	<ul style="list-style-type: none"> <li>• Tram station.</li> <li>• Tramway, an underground, surface or elevated railway, or a cable car.</li> <li>• Installation of Class B8 use where development occupies &gt;4ha.</li> <li>• A crossing over or under the River Thames.</li> <li>• A passenger pier on the River Thames.</li> <li>• A railway station.</li> </ul>
G Airport	<ul style="list-style-type: none"> <li>• Development to increase air passenger terminal capacity by &gt;500,000 passengers p/a.</li> </ul>
H Buses & coaches	<ul style="list-style-type: none"> <li>• Development for &gt;70 buses &amp;/or coaches to be stored; or</li> <li>• Proposed bus/coach store occupies &gt;0.7 ha.</li> </ul>
I Green Belt	<ul style="list-style-type: none"> <li>• Major development in the Green Belt</li> </ul>

Development Category as listed in Schedule 2 of T&CP (EIA) Regulations 2017	Screening Criteria as listed in Schedule 2 of T&CP (EIA) Regulations 2017
<b>1. Agriculture, Silviculture &amp; Aquaculture</b> 1(a) Projects for the use of uncultivated land or semi-natural areas for intensive agricultural purposes; 1(b) Water management projects for agriculture, including irrigation & land drainage projects; 1(c) Intensive livestock installations (projects not included in Schedule 1); 1(d) Intensive fish farming; 1(e) Reclamation of land from the sea.	The area of the development exceeds 0.5 ha.  The area of the works exceeds 1.0 ha.  The area of new floorspace exceeds 500 sq m.  The installation is designed to produce >10 tonnes of dead weight fish per year  All development
<b>2. Extractive Industry</b> 2(a) Quarries, open-cast mining & peat extraction (projects not included in Schedule 1); 2(b) Underground mining; 2(c) Extraction of minerals by marine or fluvial dredging; 2(d) Deep drillings, in particular: (i) Geothermal drilling; (ii) Drilling for the storage of nuclear waste material; (iii) Drilling for water supplies; With the exception of drillings for investigating the stability of the soil.	All development, except the construction of buildings or other ancillary structures where the new floorspace does not exceed 1,000 sq m.  All development.  (i) In relation to any type of drilling, the area of the works exceeds 1 ha; or (ii) In relation to geothermal drilling & drilling for the storage of nuclear waste material, the drilling is within 100 m of any controlled waters.

Development Category as listed in Schedule 2 of T&CP (EIA) Regulations 2017	Screening Criteria as listed in Schedule 2 of T&CP (EIA) Regulations 2017
<p><b>2. Extractive Industry</b></p> <p>2(e) Surface industrial installations for the extraction of coal, petroleum, natural gas &amp; ores, as well as bituminous shale.</p>	<p>The area of the development exceeds 0.5 ha.</p>
<p><b>3. Energy Industry</b></p> <p>3(a) Industrial installations for the production of electricity, steam &amp; hot water (projects not included in Schedule 1);</p> <p>3(b) Industrial installations for carrying gas, steam &amp; hot water (projects not included in Schedule 1);</p> <p>3(c) Surface storage of natural gas;</p> <p>3(d) Underground storage of combustible gases;</p> <p>3(e) Surface storage of fossil fuels;</p> <p>3(f) Industrial briquetting of coal &amp; lignite;</p> <p>3(g) Installations for the processing &amp; storage of radioactive waste (unless included in Schedule 1);</p>	<p>The area of the development exceeds 0.5 ha.</p> <p>The area of the works exceeds 1 ha.</p> <p>(i) The area of any new building, deposit or structure exceeds 500 sq m; or (ii) A new building, deposit or structure is to be sited within 100 m of any controlled waters.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>(i) The area of new floorspace exceeds 1,000 sq m; or (ii) The installation will require an Environmental Permit under the Environmental Permitting (E&amp;W) Regulations 2016 in relation to a radioactive substances activity described in paragraphs 11(2)(b), (2)(c) or (4) of Part 2 of Schedule 23 of those Regulations, or the variation of such a permit.</p>
<p><b>3. Energy Industry</b></p> <p>3(h) Installations for hydroelectric energy production;</p> <p>3(i) Installations for the harnessing of wind power for energy production (wind farms).</p> <p>3(j) Installations for the capture of carbon dioxide streams for the purposes of geological storage pursuant to directive 2009/31/EC from installations not covered by Schedule 1.</p>	<p>The installation is designed to produce more than 0.5 megawatts.</p> <p>(i) The development involves the installation of more than 2 turbines; or (ii) The hub height of any turbine or height of any other structure exceeds 15m.</p> <p>All development.</p>
<p><b>4. Production &amp; Processing of Metals</b></p> <p>4(a) Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting;</p> <p>4(b) Installations for the processing of ferrous metals: (i) hot-rolling mills; (ii) smitheries with hammers; (iii) application of protective fused metal coats.</p> <p>4(c) Ferrous metal foundries;</p>	<p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p>

Development Category as listed in Schedule 2 of T&CP (EIA) Regulations 2017	Screening Criteria as listed in Schedule 2 of T&CP (EIA) Regulations 2017
<p><b>4. Production &amp; Processing of Metals</b></p> <p>4(d) Installations for the smelting, including the alloyage, of non-ferrous metals, excluding precious metals, including recovered products (refining, foundry casting, etc.);</p> <p>4(e) Installations for the surface treatment of metals &amp; plastic materials using an electrolytic or chemical process;</p> <p>4(f) Manufacture &amp; assembly of motor vehicles &amp; manufacture of motor vehicle engines;</p> <p>4(g) Shipyards;</p> <p>4(h) Installations for the construction &amp; repair of aircraft;</p> <p>4(i) Manufacture of railway equipment;</p> <p>4(j) Swaging of explosives;</p> <p>4(k) Installations for the roasting &amp; sintering of metallic ores.</p>	<p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p>
<p><b>5. Mineral Industry</b></p> <p>5(a) Coke ovens (dry coal distillation);</p> <p>5(b) Installations for the manufacture of cement;</p> <p>5(c) Installations for the production of asbestos &amp; manufacture of asbestos-based products (projects not included in Schedule 1);</p> <p>5(d) Installations for the manufacture of glass, including glass fibre;</p> <p>5(e) Installations for smelting mineral substances including the production of mineral fibres;</p> <p>5(f) Manufacture of ceramic products by burning, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware &amp; porcelain.</p>	<p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p>
<p><b>6. Chemical Industry (projects not included in Schedule 1)</b></p> <p>6(a) Treatment of intermediate products &amp; production of chemicals;</p> <p>6(b) Production of pesticides &amp; pharmaceutical products, paint &amp; varnishes, elastomers &amp; peroxides;</p> <p>6(c) Storage facilities for petroleum, petrochemical &amp; chemical products.</p>	<p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>(i) The area of any new building or structure exceeds 0.05 ha; or (ii) More than 200 tonnes of petroleum, petrochemical or chemical products is to be stored at any one time.</p>

Development Category as listed in Schedule 2 of T&CP (EIA) Regulations 2017	Screening Criteria as listed in Schedule 2 of T&CP (EIA) Regulations 2017
<p><b>7. Food Industry</b></p> <p>7(a) Manufacture of vegetable &amp; animal oils &amp; fats;</p> <p>7(b) Packing &amp; canning of animal &amp; vegetable products;</p> <p>7(c) Manufacture of dairy products;</p> <p>7(d) Brewing &amp; malting;</p> <p>7(e) Confectionary &amp; syrup manufacture;</p> <p>7(f) Installations for the slaughter of animals;</p> <p>7(g) Industrial starch manufacturing installations;</p> <p>7(h) Fish-meal &amp; fish-oil factories;</p> <p>7(i) Sugar factories.</p>	<p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p>
<p><b>8. Textile, Leather, Wood &amp; Paper Industries</b></p> <p>8(a) Industrial plants for the production of paper &amp; board (projects not included in Schedule 1);</p> <p>8(b) Plants for the pre-treatment (operations such as washing, bleaching, mercerization) or dyeing of fibres or textiles;</p> <p>8(c) Plants for the tanning of hides &amp; skins;</p> <p>8(d) Cellulose-processing &amp; production installations.</p>	<p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p>
<p><b>9. Rubber Industry</b></p> <p>Manufacture &amp; treatment of elastomer-based products.</p>	<p>The area of new floorspace exceeds 1,000 sq m.</p>
<p><b>10. Infrastructure Projects</b></p> <p>10(a) Industrial estate development projects;</p> <p>10(b) Urban development projects, including the construction of shopping centres &amp; car parks;</p> <p>10(c) Construction of inter-modal trans-shipment facilities, &amp; of inter-modal terminals (unless included in Schedule 1);</p> <p>10(d) Construction of railways (unless included in Schedule 1);</p> <p>10(e) Construction of airfields (unless included in Schedule 1);</p> <p>10(f) Construction of roads, (unless included in Schedule 1);</p>	<p>The area of the development exceeds 0.5 ha.</p> <p>(i) Development includes &gt;1 ha of non-residential urban development; or (ii) Development include &gt;150 dwellings; (iii) Overall area of development &gt;5 ha.</p> <p>The area of the development exceeds 0.5 ha.</p> <p>The area of the works exceeds 1 ha.</p> <p>(i) The developments involves an extension to a runway; or (ii) The area of the works exceeds 1 ha.</p> <p>The area of the works exceeds 1 ha.</p>

Development Category as listed in Schedule 2 of T&CP (EIA) Regulations 2017	Screening Criteria as listed in Schedule 2 of T&CP (EIA) Regulations 2017
<p><b>10. Infrastructure Projects</b></p> <p>10(g) Construction of harbours &amp; port installations, including fishing harbours (unless included in Schedule 1);</p> <p>10(h) Inland-waterway construction not included in Schedule 1, canalisation &amp; flood-relief works;</p> <p>10(i) Dams &amp; other installations designed to hold water or store it on a long-term basis (unless included in Schedule 1);</p> <p>10(j) Tramways, elevated &amp; underground railways, suspended lines or similar lines of a particular type, used exclusively or mainly for passenger transport;</p> <p>10(k) Oil &amp; gas pipeline installations &amp; pipelines for the transport of CO<sub>2</sub> streams for the purposes of geological storage (unless included in Schedule 1);</p> <p>10(l) Installations of long-distance aqueducts;</p> <p>10(m) Coastal work to combat erosion &amp; maritime works capable of altering the coast through the construction, for example, of dykes, moles, jetties &amp; other sea defence works, excluding the maintenance &amp; reconstruction of such works;</p>	<p>The area of the works exceeds 1 ha.</p> <p>The area of the works exceeds 1 ha.</p> <p>The area of the works exceeds 1 ha.</p> <p>The area of the works exceeds 1 ha.</p> <p>(i) The area of the works exceeds 1 ha; or (ii) In the case of a gas pipeline, the installation has a design operating pressure exceeding 7 bar gauge.</p> <p>All development.</p>
<p>10(n) Groundwater abstraction &amp; artificial groundwater recharge schemes not included in Schedule 1;</p> <p>10(o) Works for the transfer of water resources between river basins not included in Schedule 1;</p> <p>10(p) Motorway service areas</p>	<p>The area of the works exceeds 1 ha.</p> <p>The area of the works exceeds 1 ha.</p> <p>The area of the development exceeds 0.5 ha.</p>
<p><b>11. Other Projects</b></p> <p>11(a) Permanent racing &amp; test tracks for motorised vehicles;</p> <p>11(b) Installations for the disposal of waste (unless included in Schedule 1);</p> <p>11(c) Waste-water treatment plants (unless included in Schedule 1);</p> <p>11(d) Sludge-deposition sites;</p> <p>11(e) Storage of scrap iron, including scrap vehicles;</p> <p>11(f) Test benches for engines, turbines or reactors;</p>	<p>The area of the development exceeds 1 ha.</p> <p>(i) The disposal is by incineration; or (ii) The area of the development exceeds 0.5 ha; or (iii) The installation is to be sited within 100 m of any controlled waters.</p> <p>The area of the development exceeds 1,000 sq m.</p> <p>(i) The area of deposit or storage exceeds 0.5 ha; or (ii) A deposit is to be made or scrap stored within 100 m of any controlled waters.</p> <p>The area of new floorspace exceeds 1,000 sq m.</p>



Development Category as listed in Schedule 2 of T&CP (EIA) Regulations 2017		Screening Criteria as listed in Schedule 2 of T&CP (EIA) Regulations 2017
<b>11. Other Projects</b>		
11(g)	Installations for the manufacture of artificial mineral fibres;	The area of new floorspace exceeds 1,000 sq m.
11(h)	Installations for the recovery or destruction of explosive substances;	The area of new floorspace exceeds 1,000 sq m.
11(i)	Knacker's yards.	The area of new floorspace exceeds 1,000 sq m.
<b>12. Tourism &amp; Leisure</b>		
12(a)	Ski-runs, ski-lifts & cable-cars & associated developments;	(i) The area of the works exceeds 1 ha; or (ii) The height of any building or other structure exceeds 15m.
12(b)	Marinas;	The area of the enclosed water surface exceeds 1,000 sq m.
12(c)	Holiday villages & hotel complexes outside urban areas & associated developments;	The area of the development exceeds 0.5 ha.
12(d)	Theme parks;	The area of the development exceeds 0.5 ha.
12(e)	Permanent camp sites & caravan sites;	The area of the development exceeds 1.0 ha.
12(f)	Golf courses & associated developments.	The area of the development exceeds 1.0 ha.

### C. Comments on Table 3.3.1 'Local Planning Authority Development Plan Documents (excluding Minerals & Waste Plans, & Neighbourhood Plans)

8. It appears that no account has been taken in Table 3.3.1 to the cumulative effects assessment report of the development sites that have been identified and allocated by the adopted Surrey Minerals Plan (July 2011), or the adopted Surrey Waste Plan (May 2008, amended by order of the High Court in March 2009). Given that much of Surrey's identified reserves of concreting aggregate (sharp sand and gravel) are situated in the floodplains of the River Thames, the majority of the future sand and gravel quarries allocated in the adopted Minerals Plan are situated within the specified Zone of Influence of the Heathrow Expansion project. There are also two allocated Waste Plan sites situated within the specified Zone of Influence.
9. The following sites have been allocated for future mineral working under Policy MA2 (Preferred Areas for Concreting Aggregate) of the Primary Aggregates DPD, with applications submitted in respect of the majority, and permission granted for a total of four sites.

Surrey Minerals Plan – Preferred Area		Site Area	NGR	Estimated Reserve (million tonnes)	Relevant Applications & Refs in Tables 3.4.2 & 3.4.3
D	Milton Park Farm, Stroude Road, Egham	57 ha	501000 169940	2.38	RU09/0299 – decision pending. No reference in Tables 3.4.2 or 3.4.3
E	Whitehall Farm, Stroude Road, Egham	47 ha	505000 169540	1.40	No applications or references
F	Home Farm Quarry Extension, Shepperton Road, Shepperton	7.9 ha	506510 168340	0.54	SP09/0720 – granted 22/08/12 No reference in Tables 3.4.2 or 3.4.3
G	Homers Farm, Staines Road/London Road, Bedfont	11 ha	507090 173190	0.76	SP/13/00141/SCC – granted 12/01/15 References at 112 in Table 3.4.2, & at 1287 & 1296 in Table 3.4.3
H	King George VI Reservoir, Stanwell Moor Road, Stanwell	178 ha	504520 173250	3.24	No applications or references
J	Manor Farm, Ashford Road, Laleham	30 ha	505190 169700	1.30	SP/2012/01132 – granted 23/10/15 No reference in Tables 3.4.2 or 3.4.3
K	Queen Mary Reservoir, Ashford Road, Laleham	284 ha	507240 169760	1.25	SP07/1269 – granted 16/01/09 SP13/01236/SCC – granted 06/01/15 SP16/01164/SCRVC – decision pending Reference at 122 in Table 3.4.2
L	Watersplash Farm, Gaston Bridge Road / Fordbridge Road, Halliford	30 ha	509340 167591	1.25	SP/12/01487 – decision pending

10. The following sites have been allocated for waste development under policies in the adopted Surrey Waste Plan, with applications submitted and granted in respect of both. The Oakleaf Farm site is also being proposed for allocation in the emerging replacement waste local plan for Surrey, which is currently at an early stage of development.

Surrey Waste Plan – Allocated Sites		Site Area	NGR	Relevant Applications & Refs in Tables 3.4.2 & 3.4.3
Land at Oakleaf Farm, Horton Road, Stanwell Moor		11.3 ha	504461 174374	SP18/00282/SCC – decision pending SP14/00304/SCC – granted 07/09/17 SP17/00438/SCC – granted 07/09/17 SP14/01125/SCC – granted 13/12/16 SP15/01184/SCC – granted 07/04/16 SP15/00929/SCC – granted 07/04/16 SP/14/01125/SCC – granted 13/03/15 SP08/0992 – granted 19/11/09 No reference in Tables 3.4.2 or 3.4.3 SP18/00016/SCRVC – granted 08/03/18 SP16/01220/SCC – granted 23/09/16 SP16/00616/SCC – granted 15/06/15
Land at Charlton Lane, Shepperton		5.35 ha	508496 168605	SP13/01553/AMD – granted 18/01/16 SP13/01553/SCC – granted 25/09/14 SP10/0883 – granted 15/03/12 SP10/0947 – granted 04/03/11 Reference at 113 in Table 3.4.2

11. The adopted Surrey Waste Plan and the adopted Surrey Minerals Plan both form part of the Development Plan for the county of Surrey, alongside national policy, and the pertinent Local Plans. The CPA would expect to see both Plans, and the sites that have been allocated for future minerals or waste development under policies in those Plans, reflected in the review of development plans set out in Appendix 3.3 to the cumulative effects assessment report.

**D. Comments on Table 3.4.2 ‘Tier 1 Local Developments that meet T&CP (EIA) Regulations 2017 Schedule 2 Screening Criteria’ (Appendix 3.2)**

12. It appears that no distinction has been drawn in Table 3.4.2, and overall in the process of identifying development to be considered as part of the cumulative effects assessment, between the different tiers of planning authorities that operate within Surrey.
13. The lists of ‘Tier 1’ local developments set out in Table 3.4.2 cover only three of the four relevant planning authorities within the county of Surrey, with applications for minerals, waste and county development, which are handled by Surrey County Council, incorporated into the lists that have been compiled for the three local planning authorities of Spelthorne Borough Council, Runnymede Borough Council, and Elmbridge Borough Council.
14. It is assumed that the information set out in Table 3.4.2 has been compiled from the on-line planning registers of the three Surrey borough councils whose administrative areas fall within the scheme’s identified Zone of Influence. No reference appears to have been made to the County Council’s on-line planning register, which has resulted in a number of significant proposed or permitted minerals and waste sites being omitted from the list, including a number that are ‘EIA development’ in their own right, and have significant environmental impacts associated with them. The coverage of county development applications is also inconsistent.
15. The list of ‘Tier 1’ developments identified in Table 3.4.2 appears to focus on proposals for which permission has been granted, and that have been placed on the planning register within a 5 year period (commencing in 2013). That focus has resulted in a number of major mineral applications that relate to areas of land located within Surrey having been omitted from the list. For minerals and waste development we would recommend that the period covered by the search be extended to 10 years, and that applications that have yet to be determined be included in addition to schemes for which permission has been granted.
16. To address the identified gaps in the information currently compiled in the cumulative effects assessment report, the CPA has compiled a summary (see Table 1) of all permitted and proposed minerals, waste and county development for land in Surrey that lies within the identified Zone of Influence of the Heathrow Expansion Scheme. We have included the

relevant cumulative threshold triggers as derived from screening thresholds set out in Schedule 2 of the T&CP (EIA) Regulations 2017, but have not applied the Mayor of London call-in criteria as they do not have any weight outside the area covered by the GLA's jurisdiction. We would highlight the fact that in a number of instances for mineral working in Surrey, the proposed or permitted development constitutes Schedule 1 development under the EIA Regulations 2017 (and relevant predecessor legislation).

**Table 1: Minerals, Waste & County Development proposed/permitted in Surrey within the Heathrow Expansion projects ZOI**

*Note: In the first column minerals or waste sites are denoted in **bold** type. Developments that have been referenced in Tables 3.4.2 or 3.4.3 of the Approach to Assessing Cumulative Effects report are highlighted in **bold** type and a shaded box in the last column.*

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
<b>Hithermoor Quarry, Leylands Lane, Stanwell Moor, Surrey TW19 6AZ</b>	SCC Ref.2017/0203 SP/18/00386/SCC	The siting / re-siting of buildings & infrastructure comprising: offices, welfare facilities, stores, fuel tank & two weighbridges, together with the widening of the internal access haul road & provision of a car parking area, replacing the existing site facilities. Development of the Hithermoor Quarry soil treatment facility without compliance with Conditions 1, 4, 5 & 6 of planning permission ref: SP15/01243/SCC dated 11 January 2016, to allow: a) A revised site layout comprising: a larger holding lagoon, a realignment of the access ramp & the location of the office & testing facilities b) The provision of a surface water management scheme, a remediation scheme & a drainage scheme. Construction & operation of a soil treatment facility for the processing & recycling of imported contaminated soils through bioremediation; including ancillary infrastructure & associated works on some 1.75ha	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development	None
	SCC Ref.2017/0022 SP/17/00246/SCC		Granted 26/03/2017	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	<b>1425</b>
	SCC Ref.2015/0190 SP/15/01243/SCC		Granted 11/01/2016	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	<b>1902</b>
	SCC Ref.2014/0068 BC Ref. SP/03/01212/SCD1	Prior approval of building, plant or equipment pursuant to Condition 6(a) of planning permission ref: SP03/1212 dated 28/11/08.	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development	None
	SCC Ref.2012/0030	Continuation of the construction of an engineered clay cap to the closed landfill at Hithermoor Quarry utilising suitable imported clays with landscaping including the provision of a final soil layer without compliance with Conditions 2, 6 & 7 & removal of Condition 5 of planning permission ref: SP10/0657 to enable the clay capping works to be completed with clay from sources other than the Heathrow Terminal 2 works & for retention & use of the temporary junction improvement works at the junction of Horton Road & Leylands Lane.	Granted 14/09/2015	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2010/0171 BC Ref. SP12/00483	Construction of a 6m high visual amenity bund in connection with the development permitted under planning permission ref: SP03/1212 dated 28 November 2008 using soils & soil forming inert materials, regrading of the bund & use of the materials in the restoration of the plant site permitted under SP03/1212 & restoration to woodland.	Granted 19/02/2013	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development	None
	SCC Ref.2010/0164 BC Ref. SP10/0657	The construction of an engineered clay cap to the closed landfill at Hithermoor Quarry utilising suitable imported clays with landscaping including the provision of a final soil layer.	Granted 29/03/2011	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Oakleaf Farm, Horton Road, Stanwell Moor, Surrey, TW19 6AP	SCC Ref.2018/0018 BC Ref.SP18/00282/SCC	Development of part of the Oakleaf Farm Waste Recycling Facility without compliance with Condition 3 of planning permission ref: SP17/00438/SCC dated 7 September 2017 in order to allow an increase in the number of heavy goods vehicles (HGV) from 24 to 55 with an increase in the total number of HGV vehicle movements from 48 to 110.	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2017/0023 BC Ref.SP14/00304/SCC	The redesign of part of the Oakleaf Farm Recycling facility layout to provide for increased recycling facilities comprising a baling operation for cardboard & coffee cups, including two storage bays & a glass collection bay; increased HGV parking; a site office, training room, welfare facilities & associated parking; diesel tanks; various plant & structures and perimeter fencing.	Granted 07/09/2017	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2017/0009 BC Ref.SP17/00438/SCC	The construction & use of a Recycling, Recovery & Processing Facility for C&D waste on a site of approximately 9.4 ha without compliance with Conditions 1 & 35 of planning permission ref: SP14/01125/SCDI to allow minor amendments to the design & layout of the development, & an amended Dust Action Plan	Granted 07/09/2017	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2015/0164 BC Ref.SP14/01125/SCC	The construction & use of a recycling, recovery & processing facility for C&D waste on a site of approximately 9.4 ha comprising: MRF building, site office & workshop; wheel wash & two weighbridges; lorry & car parking area; storage areas; site entrance & access road; & landscaping bunds without compliance with Condition 2 & 4 of planning permission ref: SP/14/01125/SCC dated 13/03/2015 to allow operational flexibility for the access & egress of vehicles based at the site.	Granted 13/12/2016	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2015/0146 BC Ref. SP15/01184/SCC	The installation & use of concrete crushing plant for the processing of C&D wastes to produce recycled aggregate	Granted 07/04/2016	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2015/0113 BC Ref. SP/15/00929/SCC	Construction & use of 2.47 ha of new concrete hardstanding to resurface the existing unmade compound area at Oak Leaf Farm waste recycling, recovery & processing facility	Granted 07/04/2016	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2014/0034 BC Ref. SP/14/01125/SCC	The construction & use of a recycling, recovery & processing facility for C&D waste on a site of approximately 9.4 ha comprising: MRF building, site office & workshop; wheel wash & two weighbridges; lorry & car parking areas; storage areas; site entrance & access road; & landscaping bunds without compliance with Condition 3 & Condition 21 of planning permission ref: SP08/0992 dated 19 November 2009 to allow operations to be carried out within the MRF building 24 hours per day, 7 days per week	Granted 13/03/2015	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2008/0147 BC Ref. SP08/0992	The construction & use of a recycling, recovery & processing facility for C&D waste on a site of approximately 9.4 ha comprising: MRF building, site office & workshop; wheel wash & two weighbridges; lorry & car parking areas; storage areas; site entrance & access road; & landscaped bunds	Granted 19/11/2009	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Stanwell Quarry, Stanwell Moor Road, Stanwell, Surrey TW19 6AB	SCC Ref. 2016/0207 BC Ref. SP17/00113/SCC	Retention of an existing recycling operation on a site of some 5.3 ha for the processing of C&D waste for the production of restoration materials for use in the former Stanwell Quarry & recycled aggregates for export for a period of 10 years with restoration of the recycling site to agriculture	Granted 21/07/2017	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	116
	SCC Ref. 2016/0206 BC Ref. SP17/00118/SCC	Non-compliance with Conditions 1 & 2 of planning permission ref: SP10/0594 dated 26 October 2011 in order to extend the time taken for restoration until 26 October 2027 & to change the restoration & phasing plans previously approved	Awaiting legal agreement	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	117
	SCC Ref. 2014/0005 BC Ref. SP14/00114/SCC	The continuation of landfilling & phased restoration of the whole site without compliance with planning permission ref: SP10/0594 dated 26 October 2011 to allow the replacement of the restoration filling phasing plan	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	115
	SCC Ref.2010/0108 BC Ref. SP10/0594	Amended details of restoration for Stanwell Quarry previously approved under planning permission SP87/208 dated 9 June 1987	Granted 26/10/2011	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
Homers Farm, London Road, Staines-upon- Thames, Surrey	SCC Ref.2007/0594 BC Ref. SP08/0337	The operation of a recycling plant on a site of some 2.9 ha for the processing of C&D waste for the production of restoration materials for use on site & recycled aggregates for export for a temporary period of 5 years with restoration to agriculture	Granted 26/10/2011	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2013/0009 BC Ref. SP/13/00141/SCC	Proposed extraction of sand & gravel from land at Homers Farm together with associated wheelwash, site office, cabin for generator & car parking, the provision of a new access from Short Lane, restoration involving the importation of inert restoration materials to agriculture, on a site of 10.5 ha	Granted 12/01/2015	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	112; 1287; 1296
Hengrove Farm & Hengrove Park, London Road, Staines-upon- Thames, Surrey TW15 4AJ	SCC Ref.2014/0042 BC Ref. SP/14/00570/SCC	The continued extraction of sand & gravel from a site of 3.7 ha, relocation of existing bund, creation of further bunds, refilling with inert waste & progressive restoration to agriculture & recreation & a temporary change of use of 0.9 ha at Hengrove Farm from agriculture to recreation; with the completion of site restoration by 30 September 2014, & the return of the temporary recreation area to agriculture by 30 September 2015; without compliance with Conditions 1, 7 & 32 of planning permission ref: SP12/1421 dated 18 December 2012, so as to allow the site to be restored in accordance with a revised restoration plan	Granted 02/07/2014	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref. 2013/0048 BC Ref. SP/13/00956/SCC	Importation of 'as raised' sand & gravel from Homers Farm on to land at Hengrove Farm & processing involving continued use of the existing processing plant & associated mineral infrastructure until 30 November 2018	Granted 16/12/2014	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	126
	SCC Ref. 2013/0045 BC Ref. SP/13/00958/SCC	Continued extraction of sand & gravel, refilling with inert waste & progressive restoration to agriculture without compliance with Condition 4 of planning permission ref SP12/01416 dated 18 December 2012 (as amended by planning permission ref SP/14/00570/SCC dated 2 July 2014) to allow extraction of mineral to cease by 30 September 2019 & restoration completed by 31 December 2020	Granted 16/12/2014	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	127

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
	SCC Ref. 2012/0178 BC Ref. SP/12/01416	Continued extraction of sand & gravel, refilling with inert waste & progressive restoration to agriculture without compliance with Condition 4 of planning permission ref: SP09/0190 dated 2 June 2009 to allow the extraction of mineral to cease by 31 December 2014 & restoration completed by 31 December 2015	Granted 18/12/2012	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref. 2012/0175 BC Ref. SP/12/01421	Continued extraction of sand & gravel from a site of 3.7 ha, relocation of existing bund, creation of further bunds, refilling with inert wastes & progressive restoration to agriculture & recreation & a temporary change of use of 0.9 ha at Hengrove Farm from agriculture to recreation; without compliance with Conditions 3, 4 & 5 of planning permission ref: SP11/0223 dated 21 December 2011 so as to allow the working of indigenous material to continue until 31 December 2013, the completion of site restoration by 30 September 2014, & the return of the temporary recreation area to agriculture by 30 September 2015	Granted 18/12/2012	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
<b>Hengrove Farm &amp; Hengrove Park, London Road, Staines-upon-Thames, Surrey TW15 4AJ</b>	SCC Ref. 2010/0228 BC Ref. SP11/0223	Continued extraction of sand & gravel from a site of 3.7 ha, relocation of existing bund, creation of further bunds, refilling with inert wastes & progressive restoration to agriculture & recreation; & a temporary change of use of 0.9 ha at Hengrove Farm from agriculture to recreation; without compliance with Conditions 3, 4 & 5 of planning permission ref: SP09/0102 dated 5 August 2009, so as to allow the working of indigenous material to continue until 31 December 2012	Granted 21/12/2011	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref. 2009/0044 BC Ref. SP09/0190	Continued extraction of sand & gravel, refilling with inert waste & progressive restoration to agriculture without compliance with Condition 4 of planning permission SP08/0606 dated 29 September 2008 so as to allow the extraction of minerals to cease by 31 December 2012 & restoration to be completed by 30 June 2013	Granted 02/06/2009	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref. 2009/0002 BC Ref. SP09/0102	Extraction of sand & gravel from a site of some 3.7 ha, relocation of existing bund, creation of further bunds, refilling with inert wastes & progressive restoration to agriculture & recreation; & a temporary change of use of some 0.9 ha at Hengrove Farm from agriculture to recreation	Granted 05/08/2009	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref. 2008/0094 BC Ref. SP08/0606	Continued extraction of sand & gravel, refilling with inert waste & progressive restoration to agriculture without compliance with Condition 4 of planning permission ref: SP05/0635 until 30 June 2010	Granted 29/09/2008	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
<b>Land at Watersplash Farm, Gaston Bridge Road &amp; Fordbridge Road, Shepperton, Surrey, TW16 6AU</b>	SCC Ref. 2012/0173 BC Ref. SP12/01487	Proposed extraction of concreting aggregate from land at Watersplash Farm together with the erection of processing plant & associated mineral infrastructure, the provision of a new access from the Gaston Bridge Road/Green Lane roundabout, restoration involving the importation of inert restoration materials to agriculture, flood meadows, lake & reed beds with public access, on a site of 28 ha, & temporary diversion of public footpath 53 for the duration of operations	Undetermined	Spelthorne	EIA Regs 2017 – Sch 1, para 19 EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None



Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Charlton Lane Waste Management Facility & 'Eco Park', Charlton Lane, Shepperton, Surrey TW17 8QA	SCC Ref. 2017/0202 BC Ref. SP18/00016/SCRVC	Development of the Charlton Lane Waste Management Facility without compliance with Condition 2 of planning permission Ref: SP16/00616/SCC dated 15 June 2016 in order to allow the access, loading & exit of vehicles with waste for export from the existing recycling bulking facility between the hours of 6pm & 8pm Monday to Saturday until 31 December 2018	Granted 08/03/2018	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2016/0139 BC Ref. SP16/01220/SCC	Development of the Charlton Lane Eco Park without compliance with Condition 6 of planning permission ref: SP13/01553/AMD dated 18 January 2016 in order to extend the working period for external construction work by one additional hour at the end of each working day until 18.30 hours Monday to Friday & until 14.30 hours on Saturday, & to allow construction activities within enclosed buildings to take place on a 24 hour basis Monday to Sunday	Granted 23/09/2016	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2016/0046 BC Ref. SP16/00616/SCC	The access, loading & exit of vehicles with waste for export from the existing recyclables bulking facility between the hours of 6pm & 8pm Monday to Saturday until 31 December 2017	Granted 15/06/2015	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2015/0176 BC Ref. SP13/01553/AMD	Changes to the planning conditions attached to the Charlton Lane Eco Park planning permission (ref: SP13/01553/SCC dated 25 September 2014) in order to incorporate minor material amendments to the surface water drainage & containment design associated with the tank area located to the north of the recyclables bulking facility & anaerobic digestion facility buildings	Granted 18/01/2016	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2013/0178 BC Ref. SP13/01553/SCC	Changes to planning conditions attached to planning permission (Ref: SP10/0947, dated 15 March 2012) to incorporate minor material amendments to the approved scheme comprising a revised gasification technology, 3 new sub stations, other minor material amendments to the layout, buildings, structures & ancillary elements of the scheme, & a minor reduction in the tonnage of waste that would be managed at the site	Granted 25/09/2014	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2010/0203 BC Ref. SP10/0883	Permanent retention of the existing waste management facility, comprising a community recycling centre, materials recycling facility with bulking bays, a waste transfer station with associated infrastructure, an improved access onto Charlton Lane & an acoustic fence adjacent to Ivydene Cottage	Granted 15/03/2012	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2010/0202 BC Ref. SP10/0947	Development of a Waste Management Eco Park, comprising: a gasification facility; anaerobic digestion facility; community recycling facility; recyclables bulking facility; education / visitor centre & offices; other associated infrastructure including infiltration basin & landscaping; & the diversion of Public Footpath 70	Granted 04/03/2011	Spelthorne	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2016/0201 BC Ref. SP17/00388/SCC	Retention of an oil stores building (retrospective) until 31 December 2033	Granted 21/04/2017	Spelthorne	Site 0.003ha – does not exceed EIA screening thresholds for Sch 2, para 2(a) or para 11(b)	None
	SCC Ref. 2016/0200 BC Ref. SP17/00387/SCC	Retention of a night watchman's caravan (retrospective) until 31 December 2033	Granted 21/04/2017	Spelthorne	Site 0.005ha – does not exceed EIA screening thresholds for Sch 2, para 2(a) or para 11(b)	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Queen Mary Reservoir & land west of Queen Mary Reservoir, Ashford Road, Laleham, Surrey TW18 1QF	SCC Ref. 2016/0078 BC Ref. SP16/01195/SCRVC	To continue of the use of land for the importation of C&D waste & siting of recycling facility, involving placement of mobile plant to enable the recovery of alternative aggregates for sale & the production of materials for restoration on land west of Queen Mary Reservoir without compliance with Condition 22 of planning permission ref: SP13/01238/SCC dated 6 January 2015 & to extend the time period for siting of the facility on land west of the Queen Mary Reservoir until completion of operations on Manor Farm permitted by planning permission ref: SP2012/01132 dated 23 October 2015 & thereafter to site the facility until 31 December 2033 within the existing plant site, details of which are to be provided prior to relocation	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref.2016/0077 BC Ref.SP16/01196/SCRVC	To continue importation of as raised sand & gravel on to land west of Queen Mary Reservoir & processing without compliance with Conditions 21 & 22 of planning permission ref: SP13/01239/SCC dated 6 January 2015 to enable use of the existing processing plant until the completion of operations at Manor Farm as permitted by planning permission ref: SP/2012/01132 dated 23 October 2015 &, thereafter, siting & utilising of a mobile plant until 31 December 2033 within the existing plant site, details of which are to be provided prior to relocation	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref.2016/0075 BC Ref. SP16/01164/SCRVC	To continue the removal of part of the breakwater baffle in Queen Mary Reservoir, the dredging of the underlying sand & gravel, landing of mineral & processing involving the retention of the existing access, haul route & processing plant located on land west of the reservoir without compliance with Conditions 3 & 24 of planning permission ref: SP13/01236/SCC dated 6 January 2015 until 22 October 2018	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development	None
	SCC Ref.2013/0073 BC Ref. SP13/01239/SCC	Continued importation of 'as raised' sand & gravel on to land west of Queen Mary Reservoir & processing without compliance with Conditions 2 & 22 of planning permission ref: SP07/0275 to enable use of the existing processing plant until 31 December 2016 & siting & utilising of a mobile plant until 31 December 2033 within the existing plant site, details of which are to be provided prior to relocation	Granted 06/01/2015	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	124
	SCC Ref.2013/0072 BC Ref. SP13/01238/SCC	Continuation of the use of land for the importation of C&D waste & siting of recycling facility, involving placement of mobile plant to enable the recovery of alternative aggregates for sale & the production of materials for restoration on land west of Queen Mary Reservoir without compliance with Condition 2 & Condition 22 of planning permission ref: SP07/1273 dated 16 January 2009 to extend the time period for siting of the facility on land west of Queen Mary Reservoir until 31 December 2016 & thereafter to be sited until 31 December 2033 within the existing plant site, details of which are to be provided prior to relocation	Granted 06/01/2015	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	123

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Queen Mary Reservoir & land west of Queen Mary Reservoir, Ashford Road, Laleham, Surrey TW18 1QF	SCC Ref. 2013/0066 BC Ref. SP13/01236/SCC	Removal of part of the breakwater baffle at Queen Mary Reservoir, the dredging of the underlying sand & gravel, landing of mineral & processing involving the retention of the existing access, haul route & processing plant located on land west of the reservoir without compliance with Conditions 4 & 24 of planning permission ref: SP07/1269 dated 16 January 2009 to extend the time period for completion of extraction by 3 years & retention & use of the existing access, haul route & processing plant until 31 December 2016	Granted 06/01/2015	Spelthorne	EIA Regs 2017 – Sch 1, para 19	122
	SCC Ref. 2013/0059 BC Ref. SP13/01003/SCC	The siting & use of a conveyor to transport mineral extracted from Manor Farm to the mineral processing plant at Queen Mary Quarry as an alternative to the conveyor proposed in planning application ref: SP12/01132	Granted 23/10/2015	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development	None
	SCC Ref. 2012/0061 BC Ref. SP12/01132	Extraction of sand & gravel & restoration to landscaped lakes for nature conservation afteruse at Manor Farm, Laleham & provision of a dedicated area on land at Manor Farm adjacent to Buckland School for nature conservation study; processing of the sand & gravel in the existing Queen Mary Quarry (QMQ) processing plant & retention of the processing plant for the duration of operations; erection of a concrete batching plant & an aggregate bagging plant within the existing QMQ aggregate processing & stockpiling areas; installation of a field conveyor for the transportation of mineral & use for the transportation of a mineral from Manor Farm to the QMQ processing plant; & construction of a tunnel beneath the Ashford Road to accommodate a conveyor link between Manor Farm & QMQ for the transportation of mineral.	Granted 23/10/2015	Spelthorne	EIA Regs 2017 – Sch 1, para 19 EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2007/0591 BC Ref. SP07/1273	Change of use to enable the importation of C&D waste & siting of recycling facility, involving placement of mobile plant to enable the recovery of alternative aggregates for sale & the production of materials for restoration on land west of the Queen Mary Reservoir until 31/12/2013 & thereafter to be sited until 31/12/2033 within existing plant site details of which are to be provided prior to relocation	Granted 16/01/2009	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref. 2007/0590 BC Ref. SP07/1275	Importation of 'as raised' sand & gravel on to land West of Queen Mary Reservoir & processing involving continued use of the existing processing plant until 31/12/2013 & siting & utilising of a mobile plant until 31/12/2033 within the existing plant site details of which are to be provided prior to relocation	Granted 16/01/2009	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None
	SCC Ref. 2007/0589 BC Ref. SP07/1269	Removal of part of the breakwater baffle at Queen Mary Reservoir, the dredging of the underlying sand & gravel, landing of mineral & processing involving the retention of the existing access, haul route & processing plant located on land west of the reservoir, to be retained until 31st December 2013	Granted 16/01/2009	Spelthorne	EIA Regs 2017 – Sch 1, para 19	None
	SCC Ref. 2009/0158 BC Ref. SP09/0720	Extraction of sand & gravel; importation of inert fill materials; temporary use of land as outdoor film sets including backlot filming facility; use of the conveyor link to transport sand & gravel to the processing plant & use of the processing plant & concrete batching plant at Shepperton Quarry, Littleton Lane; use of the existing Home Farm access to the B376; & restoration back to nursery use & use of land permitted under planning permission ref PA/98/0078 dated 13 February 2001	Granted 22/08/2012	Spelthorne	EIA Regs 2017, Sch 2, para 2(a) – any development; para 11(b) – >0.5ha	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Land at Manor Farm, Ashford Road & Worple Road, Laleham, Surrey	SCC Ref. 2012/0061 BC Ref. SP/2012/01132	Extraction of sand & gravel & restoration to landscaped lakes for nature conservation after use at Manor Farm, Laleham & provision of a dedicated area on land at Manor Farm adjacent to Buckland School for nature conservation study; processing of the sand & gravel in the existing Queen Mary Quarry (QMQ) processing plant & retention of the processing plant for the duration of operations; erection of a concrete batching plant & an aggregate bagging plant within the existing QMQ aggregate processing & stockpiling areas; installation of a field conveyor for the transportation of mineral & use for the transportation of mineral from Manor Farm to the QMQ processing plant; & construction of a tunnel beneath the Ashford Road to accommodate a conveyor link between Manor Farm & QMQ for the transportation of mineral.	Granted 23/10/2015	Spelthorne	EIA Regs 2017 – Sch 1, para 19 EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
Ivydene Cottage, Charlton Lane, Shepperton, Surrey	SCC Ref. 2018/0022 BC Ref. SP18/00328/SCC	Change of use of the dwelling, kennels, store, garage & outbuildings at Ivydene Cottage to a waste re-use facility including receipt, sales, storage, repair & testing of waste materials & ancillary office & welfare facilities	Undetermined	Spelthorne	Site <0.5ha – does not exceed EIA screening threshold for Sch 2, para 11(b)	None
Land at Stanwell Youth Centre, Hadrian Way, Stanwell	SCC Ref.2009/0140 BC Ref. SP09/0543	New single storey building to provide children's centre facilities & new pedestrian access from Hadrian Way	Granted 26/10/2009	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Land at Town Farm Primary School, St Marys Crescent, Stanwell, TW19 7HU	SCC Ref.2013/0069 BC Ref.SP13/00723/SCC	Installation of single storey modular building to accommodate nursery & associated hard surfaced areas & fencing for a temporary period of 7 years.	Granted 24/07/2013	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	1517
	SCC Ref.2011/0120 BC Ref. SP11/0659	Erection of canopy along south elevation of classrooms & construction of extension to hard play area	Granted 02/11/2011	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2011/0019 BC Ref. SP11/0122	Construction of a single storey extension to provide additional medical & toilet facilities	Granted 23/06/2011	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Hawkedale County First School, Stratton Road, Sunbury on Thames, Surrey TW16 6PG	SCC Ref.2010/0126 BC Ref.SP10/0495	Construction of extension to hard play area & canopies to classrooms	Granted 19/08/2010	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2009/0139 BC Ref.SP09/0560	New single storey building to provide childcare component of proposed Children's Centre	Granted 27/10/2009	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2016/0110 BC Ref.SP16/01100/SCC	Single storey extension to existing school to provide four classrooms & staff accommodation; additional hard play area, parking, fencing & associated external works; and new pedestrian access to Croysdale Avenue to facilitate change from 1FE Infant to 1FE Primary School	Granted 22/09/2016	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Springfield Primary School, Nursery Road, Sunbury on Thames, Surrey TW16 6LY	SCC Ref.2016/0164 BC Ref. SP16/01718/SCC	Permanent retention of 2 existing double modular classroom units each comprising 2 classrooms, WCs & storage in order to facilitate a permanent expansion at the school; previously permitted under temporary permission refs: SP/11/0275 & SP/14/00871	Granted 13/06/2017	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref. 2014/0097 BC Ref. SP/14/00871/SCC	Installation of demountable classroom unit comprising 2 classrooms for a temporary period of 7 years & associated external works	Granted 29/07/2014	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref. 2011/0051 BC Ref. SP11/0275	Installation of demountable unit comprising 2 classrooms for a temporary period of 5 years	Granted 04/07/2011	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Sunbury Manor School, 48 Nursery Road, Sunbury on Thames, Surrey TW16 6LF	SCC Ref. 2018/0016 BC Ref. SP18/00269/SCC	Erection of new 2 storey building comprising dining hall, kitchen, staff room, 5 no. general classrooms, store rooms & plant room, with associated landscaping & car park realignment to provide an increase of 5 parking bays, & the installation of a 54 bike sheltered cycle rack & new cycle access gate from Nursery Road	Undetermined	Spelthorne	EIA Regs 2017, Sch 2, para 10(b) – non-residential development of >1 ha (site 1.11ha)	None
Grazing land opposite Ford Close, Kingston Road, Ashford, Surrey TW15 3SL	SCC Ref. 2016/0199 BC Ref.SP16/01956/SCC	Construction of new single storey fire station & associated works without compliance with Conditions 2, 3, 4, 5, 6, 7, 8, 9 & 27 of planning permission ref: SP15/01590/SCC to allow changes to the access arrangements, including omission of the Thames Water access road previously required for an on-call crew which is no longer proposed; & to vary restrictions on use of car cutting equipment	Granted 13/03/2017	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Land at Riverbridge Primary School, Park Avenue, Staines TW18 2EF	SCC Ref.2015/0243 BC Ref.SP15/01590/SCC	Construction of new single storey fire station with access from A308 Staines Road West, incorporating 2 double appliance bays, dormitories with ancillary facilities, office accommodation, operational areas & store rooms; drill tower & smoke house; proposed hard standing for training, car parking & refuelling point for appliances; associated generator & oil storage tank; retention of existing rail timber fencing on north & eastern boundary of the site & the erection of 3m high acoustic fencing on the south, west & part of the northern boundaries	Granted 31/08/2016	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2014/0026 BC Ref.SP/14/00412/SCC	Erection of single storey modular classroom building comprising 3 classrooms & WCs	Granted 09/06/2014	Spelthorne	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
<b>Coldharbour Lane Landfill &amp; land North of Norlands Lane, Thorpe, Egham, Surrey</b>	SCC Ref. 2012/0125 BC Ref.RU.12/0872	Continued back filling with inert material & restoration of land to agriculture until December 2015	Granted 23/10/2013	Runnymede	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Norlands Lane Landfill Site, Norlands Lane, Thorpe, Surrey, TW20 8SS	SCC Ref.2017/0187 BC Ref.RU.18/0081	Temporary retention of an area of existing concrete hardstanding at the entrance to Norlands Lane Landfill Site	Undetermined	Runnymede	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref. 2017/0050 BC Ref.RU.17/0632	Installation and operation of a Short Term Operating Reserve (STOR) facility until 31 December 2030 comprising 2 no energy generating units, 2 no transformers & a gas kiosk	Granted 16/06/2017	Runnymede	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2016/0009 BC Ref.RU.16/0280	Retention of existing landfill gas compound including a gas processing plant, 2 gas electric generators, 2 lubrication oil storage tanks, 2 transfer & ringman units, an environmental control facility, a substation, waste & lubrication oil tanks, a workshop container including store room & electric meter housing, a workshop & a compressor; access road & associated landscaping until 31 December 2030; & the infill of the existing leachate pond	Granted 28/04/2016	Runnymede	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	305
	SCC Ref.2015/0145 BC Ref.RU.15/1367	The installation & use of a leachate aeration tank & the erection of a 1.8 metre high fence	Granted 21/10/2015	Runnymede	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2015/0127 BC Ref. RU.15/1368	Infill of haul road with inert waste with restoration to agriculture	Granted 20/10/2015	Runnymede	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	305
Land at Milton Park Farm, Stroude Road, Egham, Surrey	SCC Ref.2012/0126 BC Ref.RU.12/0870	Retention of office, weighbridge, wheel wash, switch room & concrete apron until 31 December 2015 & use of them in connection with the backfilling with inert material & restoration to agriculture on the land north of Coldharbour Lane	Granted 23/10/2013	Runnymede	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2009/0015 BC Ref.RU09/0299	Mineral extraction together with the erection of processing plant & associated ancillary infrastructure, mineral processing & concrete production, the provision of a new roundabout access into Stroude Road & the restoration of the site to open grazed parkland & grassland through the importation of inert materials on a site of some 57 ha	Undetermined	Runnymede	EIA Regs 2017 – Sch 1, para 19 EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
	SCC Ref.2013/0116 BC Ref.RU.13/1068	The erection of a chain link fence 1.8m high at the toe of an existing embankment	Granted 14/11/2013	Runnymede	Site <0.5ha – does not exceed EIA screening threshold for Sch 2, para 11(b)	None
Penton Hook Pit, Chertsey Lane, Staines on Thames, Surrey TW18 3NG	SCC Ref.2016/0229 BC Ref.RU.17/0049	The erection of a single storey building to provide 6 classrooms & associated works including the creation of a raised link canopy, external access steps & ramp & new pedestrian access from the north west of the site, in order to facilitate Phase 2 of the expansion from a 1FE to a 2FE Primary School	Granted 10/08/2017	Runnymede	EIA Regs 2017, Sch 2, para 10(b) – non-residential development of >1 ha (site 1.11ha)	None
	SCC Ref.2015/0030 BC Ref.RU.15/0913	Construction of hard play area incorporating netball court with 3m high welded mesh ball catch fence along one side	Granted 20/08/2015	Runnymede	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2014/0161 BC Ref.RU.14/1427	Phase 1 of expansion from a 1FE (210 place) to a 2FE (420 place) primary school, the development comprising a 2 classroom extension with ramped access & installation of adjacent hardstanding	Granted 07/05/2015	Runnymede	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Land at Thorpe C of E Infant School, The Bence, Thorpe, Surrey TW20 8QD	SCC Ref.2012/0089 BC Ref.RU.12/0575	Erection of new single storey hall & front entrance extensions & new classroom block to expand school from 1 form of entry infants (90 places) to 1 form of entry primary (210 places); associated external works including laying out of 16 new parking spaces	Granted 27/07/2012	Runnymede	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Land at Englefield Green Infant School & Nursery, Barley Mow Road, Englefield Green, Egham, Surrey TW20 0NP	SCC Ref.2012/0062 BC Ref.RU.12/0552	Re-landscaping of existing grassed play area comprising new play equipment & new decked, paved synthetic grass & soft play surfaces	Granted	Runnymede	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Land at Molesey Reservoirs, Hurst Road, West Molesey, Surrey KT8 1QT	SCC Ref.2010/0015 BC Ref.EL10/0646	Continued extraction of minerals until 1 February 2012 with the importation & deposit of inert material until 1 February 2014 & the restoration to an enhanced nature conservation area by 1 February 2015 without compliance with Condition 4 of planning permission ref: EL97/1445 dated 2 September 1998	Granted 03/06/2010	Elmbridge	EIA Regs 2017, Sch 2, para 2(a) – any development	None
Weylands Treatment Works, Lyon Road, Walton on Thames, Surrey KT12 3PU	SCC Ref.2013/0036 BC Ref.EL/2013/1251	Development of a Waste Recycling & Recovery Park on a site of 10.74 ha, with a new access to Lyon Road (closing the Molesey Road access), comprising: (detailed/full application) a 5,300m <sup>2</sup> 6MWwe Autoclave & Anaerobic Digestion (AD) Facility incorporating offices, staff welfare & an education centre, with a 25m Stack, 4no. AD Tanks, a 4m Stack, 16 no. parking spaces, other associated infrastructure, & a 3.33 ha Restoration Area; & (outline application with all matters reserved excluding access & scale) a 1.76 ha Materials Recycling Facility, a 0.93 ha C&D Waste Recycling Area, a 0.61 ha Skip Hire Facility, & a 0.57 ha Storage/Distribution (B8) & Light Industry (B1C) area, with associated infrastructure	Refused 03/04/2014	Elmbridge	EIA Regs 2017, Sch 2, para 11(b) – >0.5ha	None
Land at former John Nightingale School, Hurst Road, West Molesey, Surrey KT8 1QS	SCC Ref.2015/0037 BC Ref.EL/2015/1240	Construction of new primary school without complying with Condition 2 of planning permission reference EL2014/0356 to allow revised plans of layout of external areas & hard & soft landscaping as a minor material amendment	Undetermined	Elmbridge	EIA Regs 2017, Sch 2, para 10(b) – non-residential development of >1 ha (site 1.11ha)	None
Land at Hurst Park Primary School, Hurst Road, West Molesey, Surrey KT8 1QW	SCC Ref.2013/0221 BC Ref.EL/2014/0356	Erection of new single, one & half & two storey Hurst Park Primary School (420 places) & nursery (30 places) together with provision of 26 parking spaces, & cycle & scooter parking; access off Hurst Road; laying out of outdoor learning & play areas & sports pitches; landscape planting & ecological habitats	Granted 27/08/2014	Elmbridge	EIA Regs 2017, Sch 2, para 10(b) – non-residential development of >1 ha (site 1.11ha)	None
	SCC Ref.2014/0099 BC Ref.EL/2014/2046	Installation of demountable classroom unit comprising two classrooms, for a temporary period of 3 years	Granted 04/08/2014	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2012/0095 BC Ref.EL/2012/2057	Installation of demountable unit comprising two 2 for a temporary period of 7 years; modifying tarmac path & gates & construction of new fence to allow access by emergency vehicles; installation of new sheds	Granted 24/07/2012	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None

Site	App. Ref	Description of Development	Status / Date	Borough Area	Cumulative Threshold Trigger	Refs. in Tables 3.4.2/3.4.3
Land at Hinchley Wood Primary School, Claygate Lane, Esher, Surrey KT10 0AQ	SCC Ref.2015/0046 BC Ref.EL/2015/1217	Construction of 2 single storey extensions comprising 5 classrooms, small hall, kitchen, reception area lobby & ancillary facilities; additional hard standing to provide play area & parking	Granted 15/06/2015	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2013/0070 BC Ref.EL/2013/2166	Installation of single storey modular building comprising 2 classrooms & WCs, & external surfaces, astroturf & fencing works, for a temporary period of 5 years	Granted 11/07/2013	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Land at Thames Ditton Jnr School, Mercer Close, Thames Ditton, Surrey KT7 0BS	SCC Ref.2015/0045 BC Ref.EL/2015/1184	Retention of demountable classroom unit installed under permitted development rights for the duration of maintenance works being carried out on the school buildings for a further temporary period, to enable the school to accommodate a bulge class for the academic year 2015/16	Granted 09/06/2015	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2013/0185 BC Ref.EL/2013/4366	Laying out of car park to provide 15 spaces for residents of Arran Way with associated landscaping to replace those spaces lost as a result of the proposed development for a replacement primary school on land at The Drive, Esher reference EL2013/1469	Granted 04/06/2014	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Land adjoining Arran Way, Esher; land at Grove Farm, Arran Way & Cranmere Primary School, The Drive, Esher	SCC Ref.2013/0035 BC Ref.EL/2013/1469	Erection of new single storey Primary School (630 places) & Nursery (26 places) together with provision of parking for staff (37 spaces), cycle & scooter parking with access off Arran Way; layout of outdoor play areas & sports pitches & landscaping; demolition of existing Cranmere School buildings (other than caretaker's bungalow) & removal of handstanding at The Drive; alterations to Arran Way associated with provision of dedicated footpaths for proposed school	Granted 04/06/2014	Elmbridge	EIA Regs 2017, Sch 2, para 10(b) – non-residential development of >1 ha (site 5.8ha)	None
	SCC Ref.2017/0083 BC Ref.EL/2017/1610	Installation of a new double modular unit comprising 2 classrooms, WCs, store & lobby, together with provision of 1 shelter to hold 8 bicycles & 1 shelter to hold 25 scooters, all for a temporary period of 7 years	Granted 01/08/2017	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
Land at Grovelands School, Terrace Road, Walton on Thames, Surrey KT12 2EB	SCC Ref.2012/0069 BC Ref.EL/2012/1683	Extensions & external hard & soft landscaping works to expand existing school from 3 forms of entry infant (270 places) to 2 forms of entry primary school (420 places), including single storey admin space, new classroom at first floor level, link canopies between existing buildings, new bin store & new artificial surface playing pitch with fencing surrounds	Granted 28/06/2012	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None
	SCC Ref.2014/0114 BC Ref.EL/2014/2424	Construction of a 2 storey, 8 classroom detached teaching block with associated hard standing, following demolition of existing double demountable building; provision of PV panels on south facing area of existing small teaching block; alterations to internal fencing; widened access for emergency vehicles; provision of external canopy to south east of existing main building; increase in cycle/scooter parking	Granted 29/09/2014	Elmbridge	Site <1.0ha – does not exceed EIA screening threshold for Sch 2, para 10(b)	None





Our ref: 18/2065  
Your ref: TR020003

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19 June 2018

Dear Sir or Madam

**Application by Heathrow Airport Limited (the Applicant) for an Order granting Development Consent for the Expansion of Heathrow Airport (Third Runway) (the Proposed Development): Scoping Opinion**

Thank you for including TfL in the Planning Inspectorate's Scoping consultation under the Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11.

*Please note that this response represents the views of Transport for London officers and is made on a “without prejudice” basis. The comments given should not be taken to represent an indication of any subsequent Mayoral decision in relation to the Proposed Development nor on any planning application based thereon.*

We have assessed the submission against National Planning Policy and current and draft London Plan policies having regard to the DCO requirements.

TfL has been delegated by the Mayor of London to advise on aviation policy and respond to matters in this domain including Heathrow expansion. TfL has produced the Mayor's Transport Strategy (April 2018) and has led on the preparation of the Transport chapters of both the current London Plan (March 2016 – consolidated with alterations since 2011) and the consultation draft London Plan (December 2017), which cover such policies as air quality, transport network capacity and car parking, as well as aviation. TfL has also worked closely with the GLA in preparing other chapters including those relating to growth, planning obligations, design and environment. The full response attached to this explanatory letter also covers housing and employment growth

due to the impact of aviation on the growth of London and its ability to meet Mayoral and Government targets for the delivery of homes and jobs.

Forward engagement is fundamental to the DCO process and in this regard we have to date been frustrated by the Applicant. TfL has participated in several meetings with the Applicant with regard to its proposals but its lack of willingness to adequately share data rendered these meetings largely meaningless. The Applicant earlier this year proposed seven parallel regular meeting workstreams. However, given the Applicant's track record as well as the considerable resource implications for TfL, we proposed clear parameters for engagement, with the aim of ensuring a constructive dialogue. It has taken several months for the Applicant to respond positively to our suggestions but we are now hopeful that the Applicant will change its approach going forward. The first such meeting is now expected to take place in the coming weeks.

This does, however, mean that we have not had prior access to the material relevant to this scoping consultation in the way that we would normally have expected with a development of this nature. We have endeavoured to review the material and respond in the time available but inevitably this is less comprehensive than we would otherwise have wished. TfL will continue to seek opportunities to provide input to the Applicant on these matters, though this will be dependent on its willingness to genuinely engage.

A fundamental tenet in the assessment of Heathrow's expansion is the need to agree with TfL and other stakeholders the future baseline of transport data, as well as the 'area of transport influence' associated with the development and the airport, including the proposed development. The Applicant should be using TfL's projections. The future baseline scenarios will then include all planned changes within this 'area of influence'. Agreement of this baseline data will provide common ground for subsequent consideration by the various interested parties and stakeholders of the surface transport impacts of the proposed expansion together with assessment of proposed mitigation measures.

More generally, the future baseline should be a credible reflection of likely future measures before opening and should not exclude future measures unrelated to expansion which are being incorporated into the expansion scenarios. Indeed, the Applicant should not rely upon future measures unrelated to the expansion to mitigate the impacts of the proposed development.

TfL is also concerned about construction impacts, including direct impacts on its existing infrastructure and operations, utility works, supporting infrastructure, movement of material and people during construction. TfL expects the Applicant to demonstrate compliance with current TfL guidance on construction logistics and requirements in respect of such matters as infrastructure protection.

Furthermore TfL is concerned that post-construction, flight routings associated with the airport will place constraints on development, in particular in growth and opportunity areas where a significant share of London's new homes and jobs will be focused but which will rely upon tall buildings for delivery. We are in addition concerned that noise and air quality impacts from aircraft and as a result of the associated surface access will impede growth in these areas, as well as affecting existing residents and other noise sensitive uses.

Uncertainties in the modelling of traffic data should be considered, accounted for and mitigated to ensure the worst case scenario for the expansion is assessed. In addition, the impacts of any mitigation measures required for the scheme must be assessed on the same basis as the construction and operation of the third runway itself.

Please do not hesitate to contact Shamal Ratnayaka (Aviation) on 020 3054 7137 or Rachel Yorke (Planning) on 020 3054 7030, or myself, if you have any queries.

Yours sincerely



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Copy to: Val Beale, Hillingdon Council  
Mark Frost, Hounslow Council

**Application by Heathrow Airport Limited (the Applicant) for an Order granting  
Development Consent for the Expansion of Heathrow Airport (Third Runway) (the  
Proposed Development): Scoping Opinion**

## **Transport for London's Consultation Response**

**June 2018**

# PART 1

## Overview

TfL is the strategic transport authority for London and prepares and reviews the Mayor's Transport Strategy, the most recent version of which was published earlier this year and is one of the strategies the Mayor is required by statute to produce.

Working closely with GLA officers TfL is also responsible for preparing the transport section of the London Plan and is closely involved in the development of other related policies and supplementary guidance. The current London Plan was published in 2016. Following a complete review, the draft London Plan has recently been consulted upon and an Examination in Public expected later this year. Whilst the draft already has material weight, once it has been through all necessary statutory processes, it will replace the current London Plan as part of the statutory development plan for the determination of planning applications for sites in London and against which local plans will be assessed for conformity.

It is therefore disappointing how little regard has been had in this scoping opinion request for this statutory planning and strategy framework. Furthermore despite TfL's lead role in modelling London's highway and public transport networks, the Applicant has decided instead to develop and use their own strategic highway model which in TfL's opinion covers far too small an area and relies upon assumptions which TfL considers to be insufficiently robust.

The EIA for the Heathrow Expansion should explicitly set out which works, measures and schemes are *indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects*. This includes measures (for example, highway improvements or surface access schemes) which are relied upon to deliver the scheme. Without this clarification and elaboration then any assessment will in our opinion inevitably be partial and confusing

Furthermore the scope of specific chapters of the EIA set out in the scoping submission would generally appear to be neither broad enough nor detailed enough to enable full assessment and understanding of the impacts of the Applicant's proposals and necessary mitigation thereof. It should also take proper account of both indirect and induced impacts (negative as well as positive) and of the fact that many are inextricably linked. Thus for example commitments, failure to meet commitments, or subsequent revisions to, the proposed arrangements for surface access, as put forward at this stage, could fundamentally affect the actual air quality outcomes.

TfL as the strategic transport body for London is keen to work meaningfully with the Applicant to address these issues. Despite our continued efforts, we have not yet been able to secure constructive engagement with the Applicant underpinned by an open sharing of their material in the run up to a DCO. We are hopeful that this will commence shortly, so that the DCO submission can be properly and comprehensively assessed as part of the DCO process and the ultimate decision be founded on robust consideration of the full picture.

## **PART 2**

### **Baseline and Policy**

#### **Baseline**

Across the study areas, it is essential that the appropriate current and future baselines are set, on the best available information, erring on the side of caution and agreed in consultation with stakeholders including TfL.

The future baseline should be a credible reflection of likely future measures in the interim between today and year of opening. Such future measures unrelated to expansion should be incorporated into the future baseline and not limited to the scenarios which include expansion. Indeed, the Applicant should not assume these are mitigation for the impacts of the proposed development. GLA forecasts of population and employment growth should be utilised.

#### **Policy**

The main treatment of Policy in the submission comes at section 1.9 in Volume 1, the Main report. There is too little regard and detail in the treatment of London-wide i.e. city-region policies despite these being part of the Development Plan for the purposes of planning decisions. This in contrast to the greater reference to national and local policy. Given the city-wide impacts scoped, Mayoral policy must be more embedded in the scoping. Both the current London Plan (March 2016 – consolidated with alterations since 2011) and the draft London Plan (December 2017), are barely more than name-checked in section 1.9. Furthermore, the focus is on aviation policy. The Applicant has excluded reference and consideration of a large swathe of other draft London Plan policies, including Housing/Social Infrastructure/Economy policy and Transport policies on assessing and mitigating transport impacts; modal policies and funding transport infrastructure.

## **PART 3**

### ***The Approach to the EIA scoping & Exclusions***

TfL is concerned that the Applicant has narrowed down the scope before the technical assessment has been consulted upon, nor has the exclusion of matters outlined below from the scope been fully justified. It is sub-optimal that substantial de-scoping has been undertaken without engagement over technical matters. Prior to progression of the expansion proposals and their assessment, it is essential that TfL is engaged on these issues.

## **PART 4**

### **Assessment by topic, relating to the submission's relevant technical topic chapters**

*Please note topic headings are prefaced by a reference to the chapter heading in the submission and paragraph references refer to Volume 3 contents.*

#### **Chapter 5 : Air Quality**

It remains to be demonstrated that the proposals can be achieved without worsening overall air quality. Previous vague assertions to this effect need to be rigorously demonstrated at the earliest possible opportunity, taking into account the full expected impact of the proposals and including full details of specific, committed, mitigation where this is necessary. Given the efforts being made by both national and London government to improve air quality to bring the earliest possible public health benefits, it would not be acceptable for the proposals to effectively 'consume' these benefits in order that they themselves can be achieved without endangering projected compliance with air quality limit values.

The comments on air quality need to be read in conjunction with the comments on the surface access aspects of the proposals. The assessment process for both needs to be comprehensive and iterative, demonstrating appropriate responses to adverse indicated impacts and stakeholder representations. Where mitigations are relied upon to meet acceptability criteria, these need to be clearly specified, quantified, and committed to, with appropriate remediation and/or sanctions specified to guard against later default.

TfL has the following concerns about the assessment approach that is being proposed.

##### **Regard to London policy on air quality**

Given the likely substantial air quality impacts of the proposals in Greater London, the proposals need to demonstrate specific regard to GLA policy documents relating to transport and air quality. Specifically, these are the Mayor's Transport Strategy and London Environment Strategies, as well as the London Plan and the policies and proposals contained therein.

They need to demonstrate how they would contribute to the overall aim, common to these documents, of improving air quality and public health in London, in part through promoting a modal shift away from the car, rather than abstract from it. This is commensurate with the stated objectives that the proposals should 'contribute to an improvement in air quality and health'.

##### **Best assessment practice**

The proposals need to demonstrate best professional assessment practice, cognisance of the best available tools and datasets available for air quality assessment in London, and appropriate professional engagement with TfL as subject matter experts.

The air quality impacts assessment should include all activities on the airport that give rise to emissions – not just aircraft movements. Furthermore, the assessment must recognise the role of the airport as a significant traffic generator, and require careful and justified enumeration by the Applicant of the surface access impacts of the proposals themselves, as well as take into account secondary (induced) traffic generation associated with the wider economic impacts of the expansion proposals. Where assertions are made, such as ‘no overall increase in traffic’, there needs to be a clear articulation of how this would be achieved. This should include details of assumptions and mitigation, with appropriate guarantees around implementation of the latter.

The assessment should consider all of: the amount of traffic, the traffic mix and the likely progress of technology on reducing emissions from individual vehicles, taking a conservative view of the latter. It should be extended, where appropriate, to capture impacts where relevant over a wider spatial area – ‘relevant’ being defined as any location outside the proposed study area where an increase attributable to the proposals, however small, could be significant in terms of the margin of compliance with limit values. It should consider the emissions/air quality impact of induced traffic likely to arise as a secondary effect of the proposals as an ‘attributable’ effect of the proposals.

The assessment needs to be iterative – identifying and responding to adverse effects – rather than a once-off statement of impact. This would help give assurance that the goal of minimising adverse effects was being taken seriously by the Applicant.

The assessment needs to be precautionary – recognising the particular uncertainties associated with future projections of emissions from vehicles, particularly in relation to current projections of emissions for the mid-2020s that suggest that compliance with limit values for NO<sub>2</sub> should be achieved around this time.

The assessment should be undertaken in the context of appropriate expert peer review, including relevant experts from TfL on surface access and air quality, to help ensure broad acceptance of the assessment and also to ensure that it is cognisant of wider developments relating to transport in London that will affect the feasibility and outcome of the proposals.

The assessment should be cognisant of the London Atmospheric Emissions Inventory (LAEI), as periodically updated, as the definitive quantification of emissions from all sources in Greater London. It may be necessary to go beyond the information and geographical resolution provided by the National Atmospheric Emissions Inventory (NAEI) to accurately quantify certain impacts and/or the specific impact in certain locations and/or receptors. The inventory is a public dataset, with specific advice and support available from TfL: <https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory-2013>.

The proposed ambient air quality monitoring should be cognisant of the wider ambient monitoring effort in London, currently mediated through the London Air Quality Network (LAQN: <https://www.londonair.org.uk/LondonAir/Default.aspx>). This is important as limit-value-critical effects might be expected on busy roads outside of the proposed study area.

### **Scale, scope and significance of air quality impacts**

A common thread running through the material so far made available is an assertion that the proposals are capable of being realised without having an impact on the ability of London to achieve compliance with air quality limit values. This assertion, which has not yet been



proven and remains to be so, relies on an expectation of action by others, notably the Government's National Air Quality Action Plan and related action by the Mayor of London to improve air quality. In addition, there are frequent though non-specific references to mitigation to be undertaken by the Applicant to minimise adverse air quality impacts – presumably additional or complementary to these more general initiatives and intended to (at least partly) offset the additional air pollution arising from the proposals.

It is for the Applicant, therefore, to take a view on what additional mitigation measures are required over and above assumed gains from action at the national and London level, to specify these clearly with guaranteed commitments and itemised expected air quality impacts, and to include these in any assessment that purports to confirm what would need to be the broadly positive impact of the proposals in the vicinity of the airport.

In terms of determining the significance of likely effects, account needs to be taken of the impact of key air pollutants on public health, and of the particular features of different pollutants in this regard. Achievement of limit values does not mean that there are no adverse health impacts at lower concentrations. This is particularly the case for particulate (PM<sub>10</sub> and, especially, PM<sub>2.5</sub>) where there is no 'safe' level and exposure at any level is dangerous. Any overall increase resulting from the proposals should therefore be considered to have a negative public health outcome. Any delay to the common aim of reducing levels of air pollution as quickly as possible will also have a negative public health outcome. Consuming the benefits of policies designed to improve air quality from National or London action is especially to be guarded against, since these improvements, and the costs associated with them, borne by Londoners, are made with the specific intention of improving public health, rather than facilitating – through the provision of 'headroom' to add to the overall pollutant load without breaching legal limits – the expansion of the airport.

In terms of determining the significance of the likely effects, account should be taken of the criticality of the changes in ambient concentration of key pollutants in relation to the prevailing concentrations and the relevant limit value, as well as the magnitude of the impacts.

TfL's view is therefore that the Applicant needs to definitively demonstrate that the proposals can be achieved without worsening net overall air quality in the vicinity of the airport, at any prevailing concentrations. In other words, overall exposure to air pollution should not increase. Furthermore, consuming and therefore negating benefits to the health of Londoners otherwise gained through action at Mayoral or Government level, are unacceptable.

### **Wider road traffic impacts of the proposals**

TfL's comments on the air quality aspects of the proposals need to be read in conjunction with our comments on the surface access proposals – the two are inextricably linked. It should be recognized that commitments, failure to meet commitments, or subsequent revisions to, the proposed arrangements for surface access, as put forward at this stage, could fundamentally affect the actual air quality outcomes. The possibility of inadequate achievement of surface access commitments, or default on commitments at a later date, must be explicitly guarded against.

Whilst it is accepted that there are limits to which the configuration of the proposals can be specified at this point, and that the assessment does not rely upon precise component location or detailed design information being available, it is important that this does not provide a degree of ambiguity through which vague commitments that 'sound good' at this stage are not, in the event, carried through. There is a need for the Applicant to specify, in more specific terms than currently, how its air quality commitments would be achieved, so that future compliance may be better judged.

The proposals are heavily justified on economic grounds; these benefits, through increased economic activity, extending beyond the airport itself to activities and businesses in the wider airport hinterland and further afield (e.g. hotels, off-airport engineering/catering, general business agglomeration in the vicinity of the expanded airport). This increased economic activity will generate (induce) road traffic that will contribute to air pollution across a wide area, yet it is not explicitly taken into account in the current proposals, meaning that they are likely to underestimate the total air quality impact of the proposals, perhaps significantly. The 'direct' air quality impacts of the scheme therefore need to be contextualised in terms of these 'wider' total attributable impacts, and assessments of the criticality of the impacts, for example on the ability to meet limit value thresholds at the earliest possible time, based on this wider total impact (i.e. indirect, secondary and cumulative effects).

### **Proposed study area**

Although the majority of the air quality impact of the proposals will be relatively close to Heathrow, it will likely be the case that those road links that are critical to the achievement of air quality limit values for NO<sub>2</sub> in the London agglomeration (zone) will be closer to inner/central London. This will include the major radial routes serving the airport area, the A4, M4 and A40, extending potentially to certain links around the edge of the current Congestion Charging Zone (e.g. Park Lane, Marylebone Road). Although the incremental change relating to additional traffic from the proposals at these points will be relatively small, it could be critical in determining compliance or otherwise at these locations, as they are expected to be among the last links within the London agglomeration to achieve compliance. The study area for air quality assessment should therefore be extended from the 12 x 11 kilometre area proposed to include an assessment of change on these and other heavily-trafficked links, taking a precautionary approach to the definition of this extended area.

## **Chapter 9: Community**

The scope of the Community study is neither detailed enough nor is it broad enough to properly assess the full impact Heathrow expansion is likely to have on communities across a wide area covering west London and areas to the west of London. For instance, the impact of housing tens of thousands of new employees working both on and off the airport site and their families is not being fully considered in terms of: community infrastructure and amenities, transport or availability of developable land. There is little description or scoping for studies to show how the Applicant will mitigate against any impact expansion will have on future communities. Furthermore, little consideration has been given to a thorough analysis of the loss of community in areas directly affected by expansion such as Harmondsworth.

### **Cycling and walking**

These important transport modes are not covered sufficiently in either this section or Chapter 17: Traffic and Transport. Recreational cycling and walking needs more detailed analysis than has been proposed and should be considered alongside, not separately, with cycling/walking as a mode for commuting and other activities not considered recreational (e.g. education or shopping trip purpose). The public health implications of any impact on future cycling/walking provision and level of demand needs detail analysis and monetising as should the impact of the expansion proposals directly and indirectly on the propensity for active travel including other environmental factors such as air quality and highway safety which have a bearing on pedestrians and cyclists.

Cycling (and walking) should be considered as a whole and not separated into sections on recreational and commuting.

### **Demographic change**

The Applicant claims that expansion will deliver tens of thousands of construction and permanent on-site airport jobs together with tens of thousands of induced, indirect and catalytic jobs in both the immediate locality and wider region surrounding Heathrow. This large employment and population growth is not accounted for in any local and strategic plans, including the MTS and London Plan. Furthermore, an assessment is required to agree with stakeholders mitigation measures that can counter any impacts on communities in the area in terms of public health, amenity, infrastructure, environment and transport.

Analysis of the impact of tens of thousands of new employees and their families moving to the area and the new housing, transport, utilities and community services and infrastructure required to accommodate them, has not been sufficiently accounted for in this EIA scoping report, nor has it for the Transport Assessment and Surface Access Strategy. For the EIA, there is a requirement for the Applicant to provide detailed analysis and proposals of how these new residents can be accommodated in west London and to the west of London, without impacting current plans to accommodate the growth in population and employment already being predicted for these areas without expansion.

For this Community section, the Applicant should clearly set out how it will demonstrate that current plans to accommodate the forecast population and employment growth and improve the quality and health of communities in west London and to the west of London will not be impacted by airport expansion. This analysis should be conducted in parallel with the Traffic & Transport and Economic & Employment sections of the scoping report. The Applicant should demonstrate that both the forecast population growth and the growth the Applicant is predicting can be accommodated in communities without affecting them negatively. The Applicant has to prove that the impact of expansion on communities is not significant and also show that Green Belt and other categories of land such as Strategic Industrial Land will not be required for housing and other changes of use (e.g. new communities' infrastructure and services and other employment sites to house the predicted indirect, induced and catalytic jobs). This not only applies to the GLA area but also to the towns and communities outside London.

The future baseline for demographic forecasts should be agreed with stakeholders; this is discussed further in the comments on Traffic and Transport.

## **Chapter 10: Economics and Employment**

Tens of thousands of new employees working both on and off the airport site and their families will move to a wide area surrounding Heathrow and have a large impact on the area's economy and employment. The scope of the Economics and Employment study is not specific enough in defining what it is assessing, how it will measure the full assessment of the impact of Heathrow expansion and how it will define mitigation measures. The scope talks about looking at the impact on current communities, not future communities, and does not link to the traffic and transport section, which it should. The scope does not define what possible mitigation measures will be assessed and also how they will be assessed.

The comments raised under Communities in relation to demographic change also apply to this section.

For this Economics and Employment section, the Applicant should clearly set out how it will demonstrate that current plans for the economy intended to improve the quality of amenities and health of communities in the area will not be impacted by airport expansion. This analysis should be conducted in parallel with the Community and Traffic & Transport sections of the scoping report. The Applicant should demonstrate that both the forecast population growth and the growth the Applicant is predicting can be accommodated in communities without affecting them negatively. The Applicant should explicitly explain how it will assess any potential congestion and crowding on the transport network or air quality and other environmental issues and how this affects the overall assessment of the scheme. The Applicant should show that Green Belt and other categories of land such as Strategic Industrial Land will not be required for additional employment purposes, housing and other changes of use. This not only applies to the GLA area but also to the towns and communities outside London such as Windsor and Slough.

The future baseline for demographic forecasts should be agreed with stakeholders; this is discussed further in the comments on Traffic and Transport.

A map should be presented to specify the study area. TfL should be included as a stakeholder and strong consideration of the London Plan should be made.

## **Chapter 16: Noise & Vibration**

TfL agrees that both construction and operational noise should be scoped into the environmental impact assessment. TfL comments below relate to the methodology for assessing aircraft noise.

Section 1 of the scoping report sets out the timeframes for the DCO process and the airspace change process. Graphic 1.1 shows that the airspace change application would not be submitted until a full two years after the DCO. Whilst in Section 16 paras 16.10.128 to 16.10.136 the approach to this limitation is set out, TfL is concerned that a worst case scenario assessment would not be carried out. The proposed approach to use indicative airspace designs which would not be publically consulted on, would result in a shortcoming of the assessment and thus an ineffective EIA.

## **Assessment and inputs**

TfL would expect to see comprehensive baseline monitoring (attended noise surveys and continuous) of existing noise environments where neighbourhoods are already overflowed and areas which will be newly overflowed. This should include residential areas and open spaces across the whole of London and to the west of the airport (outside London). Baseline noise monitoring should report all the noise metrics to be used within the ES assessment.

The proposed scope uses “averaging” metrics for the assessment ( $L_{Aeq, 16hr}$  and  $L_{Aeq, 8hr}$ ). TfL’s previous experience has shown that averaging noise masks the impact and effect of the event of a flyover and the frequency of events thus potentially giving a false representation of the actual impact. TfL therefore recommends a wide range of metrics, including but not limited to the additional metrics such as N65(16hr) and N60(8hr) noted in table 16.9 when assessing residential and other noise sensitive receptors.

In addition, the LOAEL and SOAEL levels to be used in the assessment set out in Table 16.7 should also include the  $L_{Amax}$ /number of events for daytime aircraft noise in addition to the night-time, which is currently proposed. This is required to understand the severity and frequency of events and contribute towards determination of annoyance impacts during the day to which mitigation measures can then be developed. As well as receptors above SOAEL, change in noise should also be reported for properties over LOAEL as this is the level at which health and quality of life will begin to be impacted.

Paragraphs 16.10.137 to 16.10.139 discuss the screening criteria for non residential receptors. Specifically Table 16.10 presents screening criteria to identify noise sensitive non-residential buildings that require specific assessment. The thresholds given in Table 16.10 are considered to be where “serious annoyance” begins as defined within the WHO Guidelines for Community Noise 1999. TfL considers that lowering the threshold for assessment to where the WHO state moderate annoyance begins is more appropriate to make sure that the assessment captures effects more accurately.

TfL would also like to note that given the type of aircraft the airport will operate is not secured for future baseline scenarios, the fleet mix assumptions for the assessment should be conservative and assume a worst case in terms of noise. The Scoping report outlines assessment years within section 16.10.11. TfL would like to see the assumptions the Applicant intends to use within the each of the future baseline scenarios.

TfL also expects that new technologies and operational measures which are unrelated to expansion (but which will be credibly delivered in the timeframe) should be included in both the do minimum and do something future baseline scenarios. This includes the flight routing optimisation which is unlocked by new performance based navigation technology.

## **Significance**

TfL is concerned about the thresholds set out in Table 16.8 to categorise the magnitude of change in noise levels. Table 16.8 classes a 3-4.9 dB change as a minor impact and a  $\geq 10.0$ dB change as a major impact, this is inconsistent with other projects of this nature. TfL would wish to see the significance of the impact revised in line with the noise level change used within the City Airport expansion Environmental Statement whereby  $>6$ dB change in noise constitutes a substantial significant impact.

Change in Level (dB)	Subjective Impression	Impact	Significance
≤ 2	Negligible	Negligible	None
2 to 3	Minor	Minor	Minor
3 to 6	Moderate	Moderate	Significant
6 to 9	Substantial	Substantial	Significant
>9	Very Substantial	Very Substantial	Significant

*City Airport Environmental Statement (2014) – Subjective importance of changes in noise level*

In addition, Table 16.6 of the scoping report puts emphasis on a significant adverse impact where a receptor is newly exposed to SOAEL. Receptors already exposed to SOAEL are already significantly affected and therefore any further exposure should be considered significant and should be included within the health/quality of life assessment.

### **Mitigation**

The Applicant argues the provision of noise insulation avoids significant impacts on health and quality of life. However, noise, and annoyance as a result, will not be contained to just within a dwelling or building. Outdoor space such as a private garden, local parks and anywhere a resident walks in their local neighbourhood will be affected by aircraft noise. Therefore to mitigate a home by providing insulation cannot fully mitigate the annoyance of a resident, the character of an area and lifestyle of that resident within their community. Without sight of the proposed indicative or indeed an agreed airspace change, it is unclear whether the mitigation set out in para 16.10.119 would continue to be effective once the airspace has been agreed.

If provision of noise insulation is to be relied upon as mitigation, there needs to be sufficient certainty of its deployment. Previous insulation schemes around Heathrow have been limited by the extent to which local residents have taken up such insulation, given requirements on residents to part fund any insulation and to source it from a single supplier specified by the airport. This compares poorly with schemes offered by other airports such as London City. Once operational, TfL would expect the Applicant to monitor the noise effects of the scheme to ensure compliance with the noise envelope set by the Environmental Statement.

### **Maps**

TfL is disappointed not to see any supporting figures for the noise scope. Maps should have been included within the Scoping Report to allow comment on this Volume 2 of the EIA scoping report. Maps need to be produced which should show the following information and should be shared with consultees:

- Proposed assessment boundaries
- Proposed airspace changes including flightpaths
- Updated noise contours
- Proposed monitoring stations
- Locations of sensitive receptors

### **PEIR**

To enable full transparency, TfL expects existing baseline and early modelled results of proposed aircraft noise to be published within the Preliminary Environmental Information Report (PEIR) to ensure meaningful consultation on noise impact is carried out ahead of the DCO submission.

## Chapter 17: Traffic and Transport

It is paramount that the Applicant agree the approach to the traffic and transport assessment for the EIA with TfL. Particular issues are identified below but it is recommended that these are discussed further with TfL.

The Applicant needs to provide an analysis of total surface access airport demand and forecast airport mode share before then delving into detail of individual modes. Heathrow's future surface access mode share and split is not mentioned and is a key assumption in estimating how much extra traffic and demand for other transport (public transport, active modes) Heathrow will generate. Furthermore, freight traffic is not mentioned in detail in this section and is also key to understanding the amount of additional traffic the airport will generate. Analysis should be based on a forecast for a busy airport day, not an average day.

The comments raised under Communities in relation to demographic change also apply to this section. For this Traffic and Transport section, the Applicant should clearly set out how it will demonstrate the additional travel demand generated by the new employment and housing (direct, indirect, induced and catalytic) will be accommodated and any additional congestion, crowding or air quality issues arising from the growth can be mitigated against. This analysis should be conducted in parallel with the Community and Economy and Employment sections of the scoping report. The scope of how to undertake this analysis should be described in detail in this section of the report.

Prior to looking at individual modes we need to understand changes in person trips associated with the airport. For passengers and staff, we need the EIA to assess timing, numbers, directions and modes. For goods and services we need the EIA to assess the types of material streams and time sensitivity and their divisibility/ ability to consolidate as well as numbers of vehicles and vehicle type – and how that changes with the proposed development.

There is a need to consider mobility-impaired users and other groups protected under the Equality Act for all modes of transport. The principle is that the airport should provide and be an inclusive part of London.

TfL publishes a Transport Assessment Best Practice Guidance, which is updated to reflect London Plan and national policy guidance. TfL would also expect the Transport Assessment to build upon TfL advice about Healthy Streets and promotion of active travel for both air passengers and airport workers and indeed all others directly or indirectly arising from the proposed development. This would be an important part of the transport input into the EIA. Furthermore, detailed assessments of transport modelling uncertainties should be undertaken with sensitivity tests carried out testing all key assumptions, e.g. airport size, staffing levels, mode share, average vs busy airport day, background transport demand etc.

Cycle and walking are key airport access modes and should be considered alongside all other transport modes in this section, whether 'off-road' or not. Specifically, the walking mode requires an integrated approach from highway to terminal building or place of work and similarly cycling needs to be assessed from the surrounding network leading to the

major Heathrow cycling parking points, to identify impacts (positive and negative) on cycling potential. Further comment on cycling and walking is provided under Chapter 9 above.

### **Wider assessment of transport**

The document should be clear that if it is only consulting on the EIA Scoping Report and not also consulting on the Transport Assessment, transport modelling and Surface Access Strategy, then that consultation will be at a later stage and through a separate exercise.

With regard to highway network delay, TfL would expect the Applicant to show no increase in bus journey time delay for all TfL bus routes (and those outside London run by other operators) within the study area during construction and operation of the scheme; if delay is forecast, mitigation should be proposed by the Applicant. No increase in stress to all road users, not just drivers, should be proven. There is a need to analyse pedestrian and cyclist delay at an appropriate spatial scale to be agreed with TfL and other stakeholders.

TfL Healthy Streets indicators should be used as a measure of amenity across the Study area. Pedestrian modelling will be required to assess impact on: rail/tube stations; bus interchanges; public transport; gate lines and terminal buildings. Elsewhere pedestrian comfort levels can be used instead. Cyclists' amenity needs to be assessed against criteria of road speed and traffic volume and level pedestrian numbers or pedestrian comfort levels if on shared surfaces as set out in the London Cycle Design Standards.

MTS defines severance as barriers to pedestrian and cyclists due to road and other infrastructure (e.g. waterways, railways). It can be exacerbated by increase in volume of traffic or road speeds and other factors such as lack of natural surveillance, poor lighting and personal safety as well as new or altered rail lines which impose new barriers or exacerbate existing ones. The airport itself is another barrier to pedestrian and cycle movement and the proposed enlargement of the site without mitigation will also exacerbate this active transport amenity issue. Furthermore the proposed development will impact upon the quality of public transport and appropriate mitigation will be required. MTS policy 13 states:

*“The Mayor, through TfL and the boroughs, and working with stakeholders, will seek to make the public transport network easier and more pleasant to use, enabling customers to enjoy comfortable, confident, safe and secure, informed and stress-free travel.”*

Vision Zero is part of the MTS. This aims to reduce roads death and serious injury to zero on London buses by 2030 and over all highways by 2040. The EIA should consider the safety impacts that the proposed development will have on safety in terms of surface access (as well as in the air) and put forward sufficient and suitable mitigation which would ensure that Vision Zero can still be achieved notwithstanding the proposed development.

Air quality should be mentioned in section 17.1.16 as the results from the traffic and transport assessment will be key to informing the air quality assessment. It will be important that the traffic and transport assessment forecasts the correct level and vehicle types (freight, buses, cars, taxis etc.) for the air quality assessment. It is therefore important to explain in this section how this will be accurately done.



With regard to Table 17.1, TfL is concerned at the exclusion of any reference to important documents including the London Plan, MTS, Inclusive London, Healthy Streets and other policies applicable within Greater London. Also, there should be a demonstration of compliance with Equality Act and Crime and Disorder Act as far as it relates to transport – and, indeed, other matters. Furthermore, the table does not mention any local planning policy and guidance produced by the London boroughs and authorities to the west of London. All these documents should be considered.

TfL would expect that in the future that all modes of transport serving the expanded airport would be step free and the Applicant will show how that approach to transport will continue through the Airport to and from the aircraft.

### **Highway Study Area**

TfL has previously given comment on the Applicant's proposed highway model and study area and has already raised strong concerns. TfL has made clear that the Applicant should not be developing its own separate strategic highway model (HHASAM) when TfL already have one is ready for it to use (LoHAM) . This is a model which is readily available for use in major transport assessments in London and can be expanded to incorporate areas outside of London if required. TfL has also told the Applicant that the highway model study area being proposed is too small and its method of determining the extent of the area not robust enough.

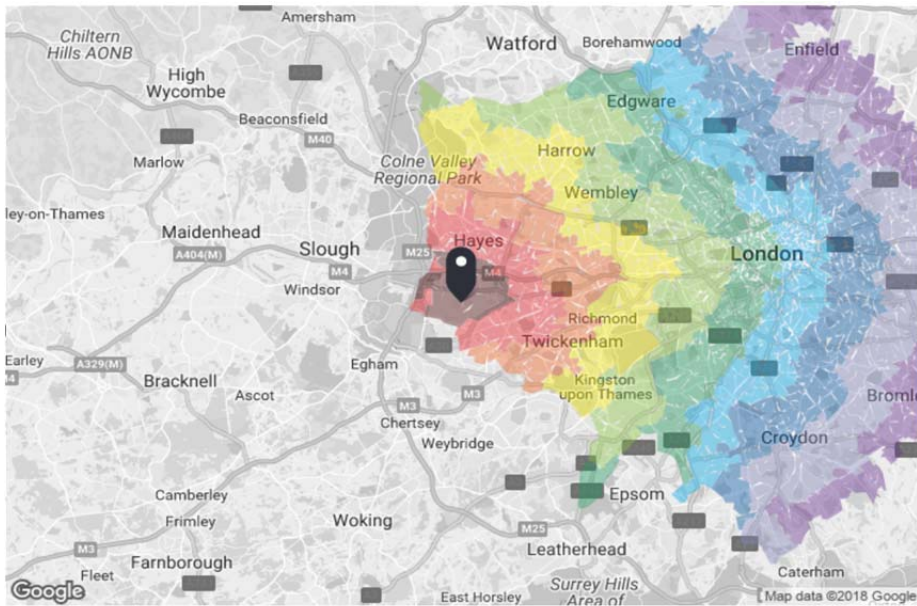
TfL would not agree that a 5% increase in trips is the appropriate threshold to determine the geographical extent of the highway model. This is based on guidance published in 1994. For parts of the network close to or over capacity, impacts of 2% could have a severe impact on congestion, and also air quality. Furthermore, TfL questions the transparency of the test performed to determine the study area. Therefore, before agreeing the scope of Transport Assessment and highway study area within EIA, TfL would need to see analysis of the sensitive network within London following the advice on the Future Baseline.

In addition to measuring direct and indirect/induced highway impacts of expansion such as congestion and air quality, the highway model also needs to be able to inform the Heathrow Airport Mode Share model (LASAM) with highway network travel time/cost changes. TfL has already given comment to the Applicant that their proposed study area is not large enough for this function either.

The bus network that serves the airport is sensitive to delay caused by changes in airport traffic as well as increase passenger demand due to expansion. This is best assessed holistically – assessing impact on whole route and segments based on TfL's iBus data, which provides real time journey information along all TfL bus routes.

Increased passenger numbers can increase crowding at airport stations and elsewhere on the network (interchanges) causing impact on the wider community who use the transport system such as commuters getting to work or school or other users. Causing delays to buses increases the cost of the operation of the bus network which must be considered and mitigated. The Applicant should also work with TfL to review bus services that would serve the airport with the proposed development.

There is scant description of the study area for cycling and walking. TfL suggests the study area for cyclists should be based on isochronal data, which it publishes.

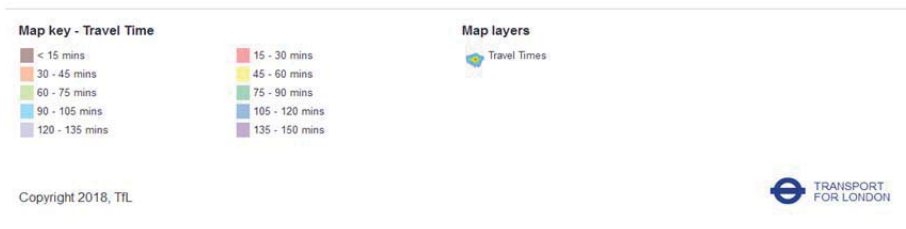


**TIM output for Base Year**

Scenario: Base Year Mode: Cycle only, Time of day: AM peak, Direction: From location

Central Terminal Area, Inner Ring W, Longford, Hounslow TW6 1BP, UK  
 Easting: 507464, Northing: 175753

Code: NWMA7001



TfL’s Cycling Network Model for London, Cynemon, should be used to assess how the scheme impacts on cycling.

**Public transport study area**

If Railplan is to be used to assess expansion, it will require greater detail and validation in the study area. TfL also recommends that the Railplan model is extended to the west of Heathrow, outside the GLA area. The exact study area should be agreed with TfL and other stakeholders.

Railplan includes the bus network in London. However, to understand the impact on bus journeys, use of TfL strategic London Highway Assignment Model (LoHAM) is required and use of iBus data to assess which routes to included in the baseline.

**Sources of data in scoping**

It is too large a task to list all the data required to be collected for the EIA, TA and SAS studies to be robust. TfL insists that all data obtained and used by the Applicant for these studies is made publically available. So far little data has been shared. This includes staff

surveys (for calculating such factors as the proportion of staff who report in each day), future estimated flight profiles, stated and revealed preference surveys of passengers and staff that inform the mode choice model (LASAM) and air quality data.

TfL can advise on types of baseline condition survey needed for cycling and walking. This includes Healthy Streets assessments and specific construction related assessments such as Construction Logistics and Community Safety (CLOCS), which are nationally recognised and TfL Construction Logistics Plan Guidance published by TfL but nationally recognised as used on the Thames Tideway Project and HS2.

### **Baseline**

There will be a requirement for the Applicant to agree with stakeholders the specific surface transport interventions required to support its planning proposal. For this, in accordance with DfT WebTAG guidance, the Applicant will need to agree with its stakeholders a view on what surface transport infrastructure and operations will be like in the future, without any airport expansion. The Applicant will then test its expansion proposal on top of this agreed 'without scheme' scenario and show how it will mitigate against any impacts revealed in the 'with scheme' test.

The agreed future 'without scheme' scenario is often called a 'Core Future Baseline'. This Core Baseline will form a view against which the surface transport implications of new airport capacity can be assessed. The Applicant should also agree with stakeholders the likely future years the Core Baseline will represent, for example project completion date (2026) and subsequent years of operation, e.g. 2031, 2041 and 2051.

The baselines should consist of existing infrastructure and services, combined with those enhancements whose delivery the Applicant and stakeholders consider to be committed within the forecast timescales. Therefore the core baseline will include the Elizabeth Line, but not include schemes that are currently in a planning stage and not funded such as Western Rail Access and Southern Rail Access. WebTAG states other aspects need careful consideration such as economic growth and trends in fuel prices and car ownership. Guidance for the Technical Project Manager and TAG Unit M4 sections of WebTAG describe in detail how to construct future baseline scenarios. It is, therefore, important that the Applicant sets out in detail what the core baseline includes and excludes with justifications for the latter.

Importantly, the Applicant's future baseline should include changes in both airport and non-airport, background travel demand forecasts for London and areas outside London. For London, the GLA provides forecasts of population and employment growth which TfL uses to forecast changes in travel demand and behaviour for highway and public transport services. The Applicant should be working with TfL to obtain the relevant forecasts of London's background travel demand to inform its future baseline scenario.

There is a possibility that a future scheme may undergo an advancement in development status during the course of the planning process. Where such an event occurs, the Applicant should seek to discuss the implications with stakeholders.

Linked to agreeing the future baseline with TfL and other stakeholders, the Applicant should also agree the airport's 'area of transport influence' prior to undertaking any transport assessment or modelling work. The airport has a large geographical staff and passenger catchment area and a change in road congestion or crowding on public transport in this area can have widespread implications as traffic and public transport passengers re-route. The future baseline scenarios will then include all planned changes within this 'area of influence'.

### **Baseline conditions**

The London road network includes the Transport for London Road Network (TLRN), which incorporates the A4 and A30, and covers over 600km of roads in London. TfL, through the Traffic Management Act 2004, also has oversight of another 600km of road known as the Strategic Road Network (SRN). TfL is also responsible for all traffic signals in London (circa 6,000) and most bus stops in London (over 8,000). TfL also regulates taxis and private hire vehicles and coaches that serve the airport. In addition there is highway for which the London boroughs and the counties and unitary authorities outside London or for which Highways England is responsible.

For rail, as well as use of Railplan, pedestrian modelling is likely to be required at the airport stations and key interchange stations that serve the airport. Therefore scope of impact is likely to include other rail lines that are not mentioned here.

As well as buses and coaches that serve the airport, the modelling will need to assess impact on routes that serve the wider community and induced growth. The Applicant needs to consider limits on coach capacity in central London.

Walking and cycling needs be considered as distinct. Taxi ranks should be considered separately from other drop-off and pick-ups, including by pre-booked private hire vehicles. Changes to taxi ranks within London including at Heathrow need TfL's approval.

### **Significant effects identified**

Issues which have not been identified in Table 17.3 which need to be considered include:

- Abnormal loads
- Collisions specifically between cyclists and HGV
- Air, light and noise pollution due to construction traffic
- Dazzle and glare increasing road danger
- Delays to buses which may increase social exclusion as well as operating costs and unreliability
- Increase severance during construction and subsequently causing community severance
- Air quality impact of construction

### **New tunnels**

Re-routing and lengthening the A4 and M25 needs detailed analysis. Road tunnels are a higher safety risk to road users in the event of an incident than at grade roads causing harm to users of the tunnel. The Applicant will be delivering 2 new tunnels: M25 and the A4. During their maintenance periods, there is typically more disruption to the wider network than with roadworks on at grade roads. Once open, traffic moves slower through tunnels,

therefore the impact on highway capacity of changing a section of the M25/A4 to a tunnel needs detailed review.

Construction, maintenance and operational costs of the M25 and new A4 tunnels for its lifecycle and how this is funded needs detail review.

Special consideration also needs to be given to the air quality around the tunnel portals.

Increased road capacity can induce demand and traffic re-assignment, that impacts on TfL highway and bus network and its users.

### **Operators of freight, logistics, bus and taxi services**

These are other uses that could be impacted by the scheme and need to be included in the scope. Mobility impaired people, who may rely on particular part of the transport system to gain access to jobs and services, are important receptors.

As well users of the network identified, the EIA should identify taxi users.

In terms of drivers, HGV and other goods and services vehicle drivers, bus drivers and taxi drivers should be identified – as they would be exposed to impacts on a more regular basis.

With regard to 17.9.3:

- Highway assessment around bus, pedestrian and cycle network will need to be refined to be acceptable to TfL
- Public transport – for TfL services this will need to be agreed with TfL.
- Taxis – baseline data should include qualitative assessment; as a time-sensitive mode, it is important that taxi drivers are encouraged to serve the airport in the longer term
- Non—motorised – future baseline, as the policy context is to increase cycling and walking

### **Assessment year and data collection strategy**

The Applicant needs to explain and agree with TfL the assessment years; it is not explained why 2016 has been chosen.

The Data collection strategy for Transport Assessment and Transport Chapter should be agreed with TfL including the use of TfL data, which is critical to understanding the transport impact on the environment.

### **Construction and operation assessment methodology**

The approach proposed here relies on outdated guidance, from the early 1990s. TfL has published more up to date guidance on transport assessment, traffic modelling, design for all road users, bus services and road safety. As point of principle, where considering the operation of TfL roads and services, TfL guidance should be followed. Guidance from other authorities maybe relevant, however, how that is applied should be discussed and agreed with TfL. TfL is the Technical Approval Authority for TfL roads.

Highway network delay can be considered through strategic models for the EIA, however, TfL advice on mitigation will also require junction and microsimulation area network models such as LINSIG, TRANSYT and VISSIM, in order to thoroughly assess mitigation.

It is for TfL, Highways England and others to advise if the strategic models are valid to be included in the EIA. TfL would require iteration between the strategic models and local highway models. For purpose of the EIA, TfL and other parties will require convergence.

A sensitive area for TfL are TfL bus services as these serve all parts of the community. Buses use the TLRN and SRN and other borough highways and as such congestion on these routes causes harm to the operation of London and to many Londoners – including businesses and residents – who need to travel or need goods delivered. At an initial guidance any junction that is on the TLRN, SRN or bus network that operates at more 90% capacity with the proposed development should be deemed sensitive.

### **Mitigation during construction**

TfL Construction Logistic Plan Guidance sets out how TfL expects construction to be assessed at the planning stages. TfL would need forecast construction traffic (workers, and materials) for the entire build programme, and will need to consider any overlaps with other major construction projects. TfL would also need to understand about lane usage and track possessions during construction of the scheme and the associated mitigation. TfL would require construction phase transport modelling for each phase of construction not just a single peak as suggested. The impacts of induced and indirect construction need also to be considered.

These should be brought together in an Outline Construction Logistics Plan. This is in accordance with advice TfL provides to developers across London and TfL's wish to identify construction impacts and mitigation as part of the early stages of planning.

### **Mitigation during operation**

TfL cannot say whether the targets outlined are appropriate until it sees the Transport Assessment and EIA.

The TfL target, applicable to both airport passengers and staff is 80 per cent of travel by sustainable modes.

The Applicant should clarify that its traffic commitment includes freight movements. TfL advice is that it should aim to reduce freight-related traffic on London roads and we would assume that other highway authorities would share this objective for their highways, leading to a net reduction overall.

Measures to encourage mode shift among passengers and staff is likely to require increased public transport capacity in the form of new rail infrastructure, bus services and bus priority as well as improved pedestrian cycle network.

### **Pedestrian and cyclists amenity and delay**

This metric for delay will need to be agreed with TfL. TfL sets maximum cycle times at signal junctions and TfL aims is to reduce pedestrian and cycle wait times at junctions.

The evidence base used for average journey times proposed is unclear and this needs justification.

TfL through its Healthy Streets approach has identified a set of criteria and methodologies to assess pedestrian and cyclist amenity. This should be applied to all roads assessed in London. The professional judgement is TfL's to make as lead experts on transport in London.

TfL recommends this approach for roads outside London as well. TfL provides training on the application of this approach.

### **Public transport amenity**

For TfL services, TfL sets a level of service criteria which should be applied. The professional judgement again is TfL's to make, based on TfL's expertise as an operator of London's public transport system.

### **Magnitude, Sensitivity and Significance**

TfL recommends using qualitative and quantitative assessment methods proposed by TfL and working with TfL to identify magnitude of effect.

### **Accident and safety data**

For the Mayor of London and TfL there is no acceptable level of death or serious casualties on our networks. Therefore, where changes are proposed to the London road network, the Applicant will need to show how it will reduce the risk of death and serious accidents to zero in accordance with Mayoral policy. The professional judgement is TfL's to make on our network.

From: [Rupy Sandhu](#)  
To: [Expansion of Heathrow Airport \(Third Runway\)](#)  
Subject: RE: TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation  
Date: 06 June 2018 15:10:17

---

Dear Sir/Madam,

I can confirm that West Sussex County Council have **No Comments** to make on this consultation.

Kind Regards,

Rupy

[Rupy Sandhu](#) | Senior Planner - Minerals and Waste Policy, Planning Services, Economy, Planning & Place Directorate, [West Sussex County Council](#)  
Location: Ground Floor, Northleigh, County Hall, Chichester, PO19 1RH  
Internal: 26454 | External: +44 (0)330 2226454 | E-mail: [rupy.sandhu@westsussex.gov.uk](mailto:rupy.sandhu@westsussex.gov.uk)

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**From:** Expansion of Heathrow Airport (Third Runway) [mailto:HeathrowAirport@pins.gsi.gov.uk]  
**Sent:** 22 May 2018 10:38  
**Subject:** TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation

Dear Sirs,

Please see attached correspondence on the proposed Expansion of Heathrow Airport (Third Runway).

Please note the deadline for consultation responses is 19 June 2018, and is a statutory requirement that cannot be extended.

Kind regards,

The Planning Inspectorate, Temple Quay House, Temple Quay, Bristol BS1 6PN  
Helpline: 0303 444 5000  
Web: [www.gov.uk/government/organisations/planning-inspectorate](http://www.gov.uk/government/organisations/planning-inspectorate) (The Planning Inspectorate)  
Twitter: @PINSgov

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**From:** [info](#)  
**To:** [Expansion of Heathrow Airport \(Third Runway\)](#)  
**Subject:** Scoping Report  
**Date:** 19 June 2018 15:10:49

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Dear Sirs,

I been requested by Wraysbury Parish Council to submit the following comments on the proposed expansion of Heathrow Airport.

- The environmental effects of the proposal have not been adequately addressed.
- Accurate costings for the associated infrastructure have not been provided.
- The expectation of use of the resulting hub airport is becoming increasingly questionable.

Kind Regards,  
Mrs J Clemance  
Wraysbury Parish Clerk

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**From:** [info](#)  
**To:** [Expansion of Heathrow Airport \(Third Runway\)](#)  
**Subject:** RE: TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation  
**Date:** 25 May 2018 18:40:35

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Dear Sirs,

I have been asked by Wraysbury Parish Council to make a formal complaint about the deadline for this consultation.

It is grossly unreasonable for interested parties to be allowed less than four weeks to comment on three documents which total about 2300 pages. The only reason we can see for this ridiculously short period of time is that you are hoping for fewer representations.

Regards

Mrs J Clemance

Wraysbury Parish Council

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**From:** Expansion of Heathrow Airport (Third Runway) [mailto:HeathrowAirport@pins.gsi.gov.uk]  
**Sent:** 22 May 2018 10:38  
**Subject:** TR020003 - Expansion of Heathrow Airport (Third Runway) - EIA Scoping Notification and Consultation

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The Planning Inspectorate, Temple Quay House, Temple Quay, Bristol BS1 6PN

Helpline: 0303 444 5000

Web: [www.gov.uk/government/organisations/planning-inspectorate](http://www.gov.uk/government/organisations/planning-inspectorate) (The Planning Inspectorate)

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