



# Heathrow and Richmond Park

A Friends of Richmond Park<sup>i</sup> report

## Summary

Richmond Park is the quietest place in London and the capital's largest National Nature Reserve: a unique natural and historical environment of international significance.

As part of its 3<sup>rd</sup> runway plan, and even if that doesn't go ahead, Heathrow proposes new flight paths, low and loud, directly over Richmond Park.

These flight paths will destroy the tranquility of Richmond Park, severely harm the delicate ecosystems, and change the Park forever particularly for the 5.5 m visitors from all over London and beyond.

Heathrow's environmental assessment of the impacts on Richmond Park is a shambles: it's left out in places where it should be covered, in other places it gets passing reference and in many cases the material presented is inadequate.

This report sets out why Richmond Park should be preserved, what Heathrow propose, the process they are following, and why The Friends of Richmond Park are objecting.

This report includes only those aspects of Heathrow's plans relevant to Richmond Park

The source of many points, including the data and analysis, is given in the footnotes at the end

## 1. Why is Richmond Park so important?

Richmond Park is London's largest Royal Park and the largest enclosed urban park in Europe, covering 2,500 acres. It is a National Nature Reserve, a Site of Special Scientific Interest, and a European Special Area of Conservation. It is of both national and international importance for wildlife conservation.

Richmond Park is the quietest place (with background noise of less than 30dB(A), equivalent to a rural area), and at night the darkest place, in London. People come to Richmond Park from all over London to enjoy its peace and tranquillity, as a respite from the bustle and noise of the city.

It is also a Grade 1 Registered Historic Park and Garden of 'high historical significance'<sup>ii</sup>: established in its present form by King Charles I in 1637 and preserved carefully ever since.

Richmond Park is world famous. It is visited by over 5.5 million people per year (similar in popularity to the British Museum at 5.8 million).

It is also a haven for wildlife, a home to thousands of species of birds, bats, butterflies, beetles, bees and wasps, other invertebrates and fungi (many of them rare and protected) and 600 red and fallow deer. It has over 1200 veteran trees, up to 750 years old, and is the largest area of lowland acid grassland in London, with its accompanying grasses and wildflowers.

It's a magical space, loved by hundreds of thousands of Londoners.

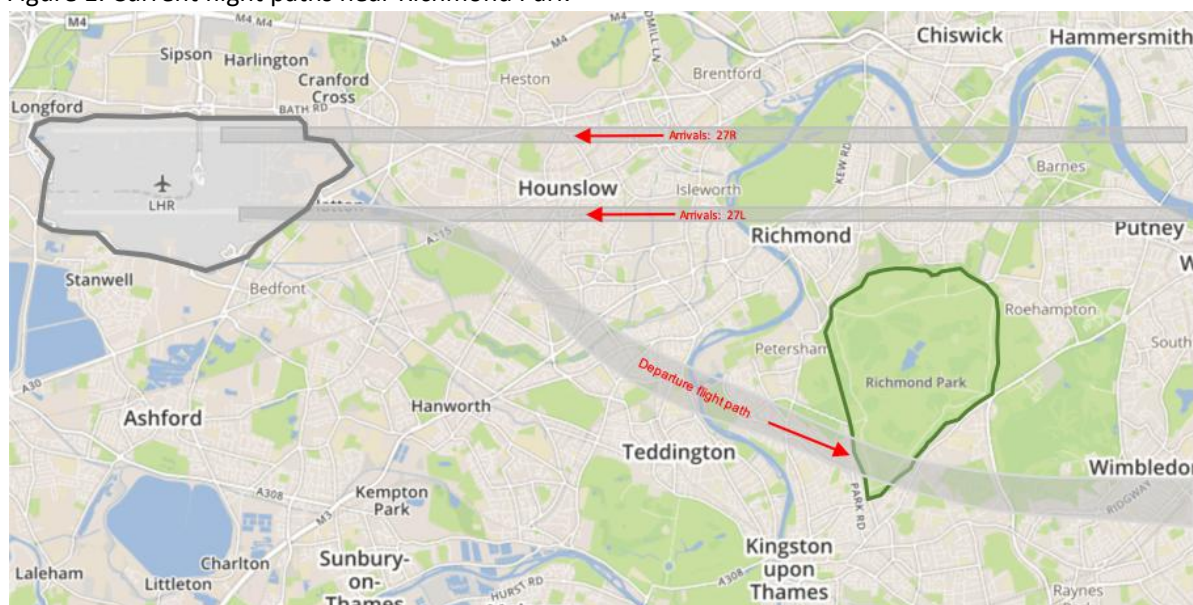
## 2. Do aircraft fly over Richmond Park now?

There are no arriving aircraft but some departures.

Ever since it was established in 1946, Heathrow's arrivals flight paths have avoided Richmond Park - passing to the north when the airport is on westerly operations (i.e. the aircraft are arriving from the east and flying westwards to land on the southern runway (27L), which is 70% of the time<sup>iii</sup>).

When Heathrow is on easterly operations (30% of the time), some of the departing aircraft (e.g. those heading for Asia) take flight paths that pass over the southern end of Richmond Park. This amounts to 8% of departures.<sup>iv</sup>

Figure 1. Current flight paths near Richmond Park<sup>v</sup>



### 3. What do Heathrow propose?

Heathrow propose to build a 3rd runway by 2026, and then start ramping-up flights from close to its current cap of 480,000 per year, to 740,000 per year by 2035, a 60% increase<sup>vi</sup>. The expansion was approved by Parliament in mid-2018 and will go to a planning inquiry in mid-2020.

At the same time, Heathrow with the CAA<sup>vii</sup>, are planning a complete revision of flight paths in the south-east, which have been the same for the last 50 years. The flight paths will use new satellite-based navigation technology rather than the existing ground-based radar technology. The new flight paths are likely to be there for the next 50 years or so.

Heathrow want to start operating the new flight paths, including those over Richmond Park, from 2022<sup>viii</sup> (i.e. four years before the 3<sup>rd</sup> runway would be ready). The new flight paths will remain in use even if Heathrow fail to get planning approval for their 3<sup>rd</sup> runway.

### 4. Do these new flight paths go over Richmond Park?

So far, Heathrow have refused to disclose their planned flight paths. Instead they have set out 18 flight path “envelopes”<sup>ix</sup> – each is likely to contain several new flight paths – which will then be turned into “indicative” flight paths for the planning inquiry next year.

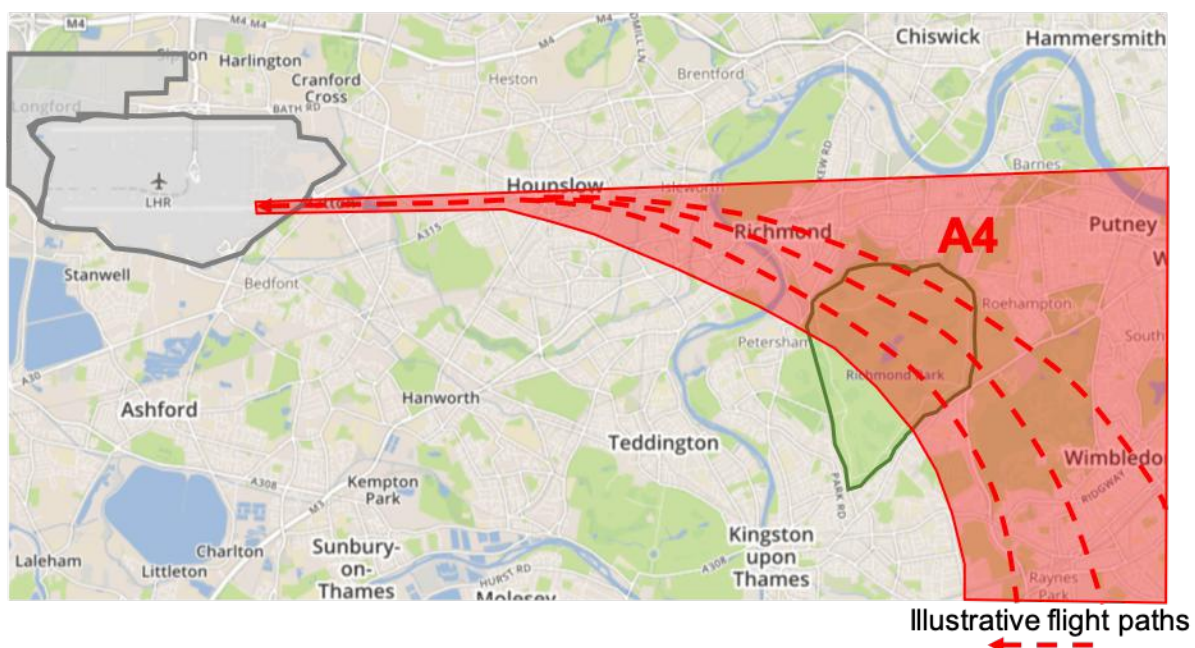
The final proposed flight paths will be published in 2021, i.e. **after the planning inquiry**, although many people think the Planning Inspectorate will need them to make a truly informed decision. Heathrow anticipate substantial opposition to both the 3<sup>rd</sup> runway proposals and the new flight paths and it seems they want to deal with them separately to avoid fighting on two fronts at the same time.

Three of the proposed envelopes set the scene for flight paths directly over Richmond Park.

#### ***Envelope A4: proposed new arrival flight paths over Richmond Park***

Envelope A4 (Figure 2 below) for arrivals on the southern runway is expected to contain multiple flight paths<sup>x</sup>, with up to 47 flights/hour<sup>xi</sup>. When these flights paths are passing over Richmond Park, they will be as low as 1,500ft above the ground<sup>xii</sup>. Heathrow predict peak noise intensity at 68-76dB(A) for these flights over Richmond Park<sup>xiii</sup> – over ten times the current background noise.

Figure 2: new arrival flight path envelope A4<sup>xiv</sup>

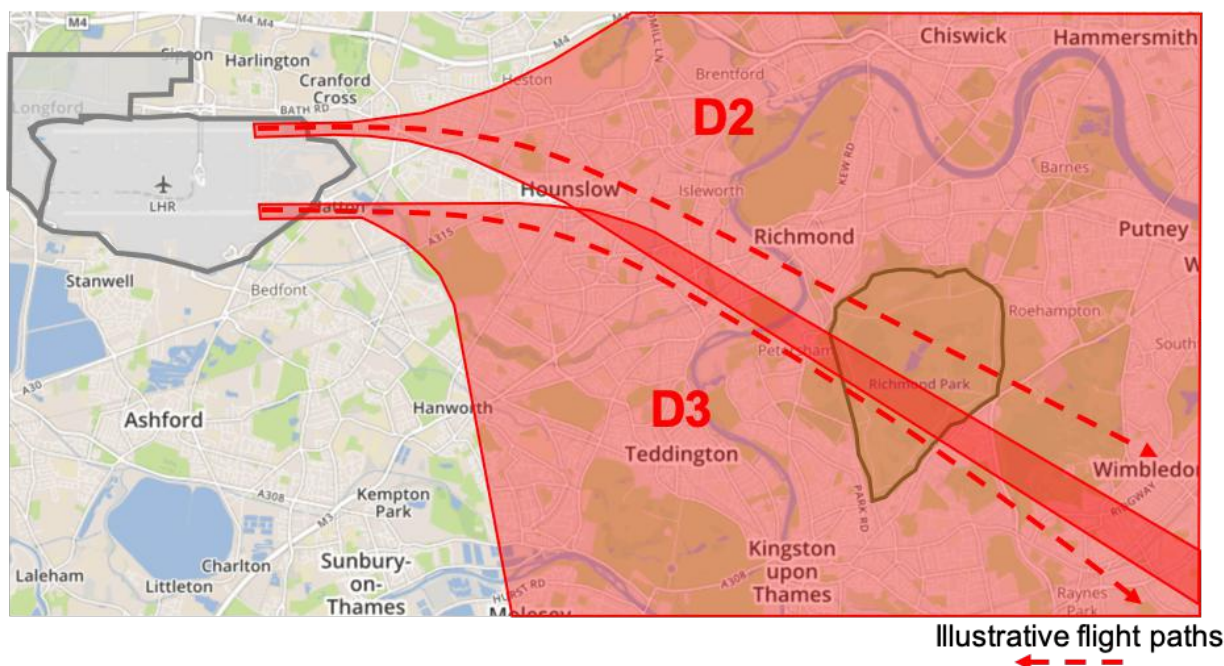




### ***Envelopes D2 and D3: proposed new departure flight paths over Richmond Park***

Envelopes D2 and D3 (Figure 3 below) are each expected to contain up to three flight paths<sup>xv</sup>, with up to 50 flights/hour in each envelope<sup>xvi</sup>. When these flight paths are passing over Richmond Park, they will be as low as 1,500ft above the ground<sup>xvii</sup>. Heathrow predict peak noise intensity at 76-86dB(A) for these flights over Richmond Park<sup>xviii</sup>.

Figure 3: new departure flight path envelopes D2 & D3<sup>xix</sup>



### **5. Why are there so many consultations?**

There has been a long history of proposals for Heathrow expansion. Previous successful ones added terminals 4 and 5 (and each of them was promised to be the last). But these are the first major proposals for runway expansion and the first to include a long overdue update to airspace and flight paths.

The 3<sup>rd</sup> runway proposals have themselves a long history, including alternative proposals by the Mayor of London for a new airport in the Thames Estuary and the two-year Davies Commission comparing the alternatives of Heathrow and Gatwick. In the end Parliament approved the 3<sup>rd</sup> runway in mid-2018

These two processes, airport & airspace, are deeply interlinked. But Heathrow wants to separate them to reduce opposition.

#### ***Airspace (flight paths)***

In early 2018 Heathrow had a consultation on airspace Principles to inform the design of new flight paths<sup>xx</sup>. It was subsequently approved by the CAA and so became official policy. Principle 6h, given low priority, was to prioritise routing flight paths over parks & open spaces (but avoiding National Parks and Areas of Outstanding Natural Beauty) to minimise overflying residential areas<sup>xxi</sup> and it opened the door to routing flight paths over Richmond Park. The consultation was deeply flawed: the 1,000 bodies consulted included 99 airlines, 35 airports, and 524 parish councils, but not a single body responsible for managing or protecting large open spaces like Richmond Park<sup>xxii</sup>; it was also poorly publicised and few people who would be affected were aware of it.

In Jan-March 2019 there was another consultation<sup>xxiii</sup>, focusing on flight envelopes. It was the first time FRP saw plans for flights over Richmond Park. FRP strongly objected, as did our members (with over 350 email responses sent to Heathrow), and the threat to Richmond Park

saw media attention<sup>xxiv</sup>. In June 2019 Heathrow issued their report on this consultation - recognising FRP's objections but making no changes<sup>xxv</sup>.

There may be an opportunity early next year to make comments on Heathrow's 'indicative flight paths' to the planning inquiry but the next (and final) consultation on flight paths will be in 2021, prior to Heathrow introducing them in 2022. However, the likelihood of Heathrow changing them reduces as time goes by.

### **Airport (3<sup>rd</sup> runway)**

Early next year Heathrow will apply for planning consent<sup>xxvi</sup>, under the new fast-track procedures, for the 3<sup>rd</sup> runway project, excluding the flight paths. If that is approved, they can start construction - aiming for first flights in 2026. The planning application must include an Environmental Impact Assessment (EIA)<sup>xxvii</sup> which shows the impact of the expansion on communities, health, historic buildings and landscape, and the natural environment (water, land, air quality and biodiversity). The Planning Inspectorate will require that the expansion of Heathrow is delivered within agreed environmental limits, and to be sure of this he must have all material facts.

**The current (June-Sept 2019)** consultation is mainly about the construction and operation of the 3<sup>rd</sup> runway and associated terminal, other facilities and transport infrastructure and is intended to prove to the Planning Inspectorate that proper consultation has occurred<sup>xxviii</sup>. From Richmond Park's point of view the key part is a Preliminary Environmental Information Report (PEIR) – effectively a rehearsal for the (crucial) EIA. Heathrow are checking they have covered everything and meeting their legal obligations to consult. While the PEIR also focuses on the environmental impact of the construction and operation of 3<sup>rd</sup> runway on the area around the airport, Heathrow have been required to cover a wider area for some aspects, which can include Richmond Park.

## **6. What are FRP objecting to?**

Our comments are about the PEIR's contents as far as they affect the Park.

The consultation's treatment of Richmond Park is a mess. The Park is only partially covered; where it is covered some of results are just not credible; and the approach and methodology are biased against the Park and other large open spaces.

### **6.1 Coverage of Richmond Park**

The PEIR section of the consultation document is divided into subject chapters – Noise, Biodiversity, Health etc. In some chapters Richmond Park is referred to, in others it gets passing reference, in others it is not mentioned at all. In many cases the material presented is inadequate.

For example:

- For noise, while Richmond Park is included in the analysis it only shows the increase in average noise levels, with nothing on high/peak noise (67-86dB) which is critical for wildlife and people seeking tranquillity. Nor is there detail on what is being used for the current baseline noise level.
- For NOX emissions Richmond Park is only considered for the impact on stag beetles (legally protected under a European SAC) and not on the impact on veteran trees or acid grassland<sup>xxix</sup>
- It is not referred to in the Community (covering recreation/amenity) or Landscape and Visual Amenity chapters, although the proposals will directly affect Richmond Park in both aspects.

- There is no reference to light pollution, although planes will be flying over the darkest place in London and home to many breeding nocturnal species.

## 6.2 Credibility of analysis

Where Richmond Park is covered in the report, some of the results are just not credible.

For example:

- The noise increase from new flights over the Park is estimated to be less than 3 dB<sup>xxx</sup> (on the Park's 30dB ambient level). This is from 47 arriving aircraft/hour and a big increase in departing aircraft, all at a high noise level (67-86dB)<sup>xxxi</sup>. Somehow Heathrow have concluded that the impact of the flights will not be significant.
- Richmond Park is rated High for 'Heritage Significance' but as only Medium impact from the new flight paths<sup>xxxii</sup>, even though the key criteria is 'importance of noise (or lack of it) to heritage significance'
- For tranquillity, the Park is mentioned specifically as having 'relative tranquillity' but the impact of the proposals is expected to be negligible/slight<sup>xxxiii</sup> – strange when the proposals are for noisy flights over the quietest place in London

## 6.3 Approach and methodology

The report spends a lot of time on the approach and methodology they have used. Much of it is good but many aspects are prejudiced against large open spaces like Richmond Park. For example:

- The noise analysis uses average noise over a 16-hour period (i.e. excluding night time)<sup>xxxiv</sup>. This substantially dampens the impact of high/peak noise in the results. It also does not allow for the impact on people sensitive to noise, who are often those with mental health issues. And there is no evidence that this measure is right for wildlife, e.g. foraging owls and bats, singing skylarks and other songbirds or other fauna sensitive to high noise levels.
- A key in the analysis is the conclusion of a 2018 consultation that flights should be routed over open spaces rather than residential areas<sup>xxxv</sup>. However, the consultation was with 1000 bodies (including 524 parish councils!) none of which is responsible for managing/protecting large open spaces like Richmond Park<sup>xxxvi</sup>.
- ...in addition the analysis uses an Airports National Policy Statement that flights should avoid National Parks and AONBs<sup>xxxvii</sup>. Richmond Park, as a NNR, SSSI, European SAC and Grade 1 landscape, would seem to be an even more deserving case ; especially as it is the largest area within greater London providing leisure and tranquillity to millions of residents visiting the Park.
- The assessment methodology to establish 'likely significant effects' of noise is: *change in average noise level x exposure (for how long) x resident population affected*. The area of each community measured like this includes open spaces only within five minutes' walk<sup>xxxviii</sup>. This approach obviously disadvantages Richmond Park with few residents and over five minutes walk from the bulk of its regular visitors. As a result Richmond Park is not rated as having 'Adverse Likely Significant Effects' from increased noise, although it has a visitor population of 5.5 million people a year who will all be affected by the greater noise levels.
- For the impact of noise on mental health, the report cites evidence for regular noise over a sustained period of time, but does not consider the impact on people coming to the Park regularly or occasionally for the benefits of its tranquillity.

- The report ignores the World Health Organisation Community Noise Guidelines<sup>xxxix</sup> that existing large quiet outdoor areas should be preserved and the noise kept low.

At a number of places in the consultation documents, Heathrow says it will provide a full assessment of the impact of the new flight paths in a separate Airspace consultation in 2021, i.e. after the Planning Inspectorate have reached their decision about the 3<sup>rd</sup> runway project. Their aim is to avoid opposition to both the 3<sup>rd</sup> runway and the new flight paths at the same time.

However, it is a legal requirement that the Inspector is aware of all direct and indirect significant effects<sup>xi</sup> and FRP believes that the flight paths will clearly have a material effect on Richmond Park that should be included in Heathrow's submission to the Inspector (as an analogy: would you expect an Inspector to approve, say, a new port development on the south coast without considering the impact of the big-ship traffic on the nature reserve just up the coast?).

August 2019.

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<sup>i</sup> Founded in 1961, The Friends of Richmond Park (FRP) is a charity dedicated to "*the conservation and protection ...of Richmond Park and its peace and natural beauty for the benefit of the public and future generations*" and to "*advance public education about the Park*". <https://www.frp.org.uk>

<sup>ii</sup> PEIR Chapter 13 Historic Environment, Volume 1, Section 9 Overall baseline, para 13.9.184

<sup>iii</sup> The prevailing (i.e. normal) wind at Heathrow is from the west. Aircraft normally land into the wind. Therefore "westerly operations" account for 70% of the year on average. <https://www.heathrow.com/noise/heathrow-operations/wind-direction>

<sup>iv</sup> 30% of aircraft movements are on easterly operations. When on easterly operations, 50% of flights are departures, and 27% of these flights take this route (Direct communication HAL 8 May 2019)

<sup>v</sup> Departure flight path envelope shown: Heathrow handout based on actual tracks 6-Apr-19

<sup>vi</sup> Preliminary Environmental Impact Report – Non-Technical Summary June 2019 – Section 1.5 p10

<sup>vii</sup> UK Civil Aviation Authority, a public body under the Department for Transport (DfT)

<sup>viii</sup> "Early Expansion" using Independent Parallel Approaches (IPA) to enable 25,000 extra flights per year, particularly 25 per hour between 06:00-07:00: "Making Better Use of our Existing Runways – January 2019"

<sup>ix</sup> Heathrow's Airspace Design Envelopes for Expansion - January 2019

<sup>x</sup> Heathrow Airspace and Future operations Consultation Document January 2018, Section 4.2 p48

<sup>xi</sup> Heathrow's Airspace Design Envelopes for Expansion, January 2019, p8

<sup>xii</sup> 2,000ft AMSL (Above Mean Sea Level) at the Park's western escarpment. Corrected for elevation AGL (Above Ground Level)

<sup>xiii</sup> Heathrow K-3624 Understanding our Design Envelopes Table 1 (adjusted to AGL)

<sup>xiv</sup> A4 envelope: "Heathrow's Airspace Design Envelopes for Expansion - January 2019", p9

<sup>xv</sup> Heathrow's Airspace Design Envelopes for Expansion, January 2019, p20 & p22

<sup>xvi</sup> Heathrow's Airspace Design Envelopes for Expansion, January 2019, p20 & p22

<sup>xvii</sup> 2,000ft AMSL (Above Mean Sea Level) at the Park's western escarpment. Corrected for elevation AGL (Above Ground Level)

<sup>xviii</sup> Heathrow K-3624 Understanding our Design Envelopes Table 2 (adjusted to AGL)

<sup>xix</sup> D2 & D3 envelope: "Heathrow's Airspace Design Envelopes for Expansion - January 2019", p21 & p23

<sup>xx</sup> Heathrow's Airspace Design Principles Submission – 31-Aug-2018 v1.0

<sup>xxi</sup> Heathrow's Airspace Design Principles Submission – 31-Aug-2018 v1.0 Section 4.1.4. Table 3 row (h)

<sup>xxii</sup> Heathrow's Airspace Design Principles Submission, Appendix 1

<sup>xxiii</sup> Airspace and Future Operations Consultation Document, January 2019

<sup>xxiv</sup> Guardian 28-Feb-19: "Heathrow expansion plan involves planes over Richmond Park"

[https://www.theguardian.com/environment/2019/feb/28/heathrow-expansion-plan-involves-planes-over-richmond-park?CMP=share\\_btn\\_tw](https://www.theguardian.com/environment/2019/feb/28/heathrow-expansion-plan-involves-planes-over-richmond-park?CMP=share_btn_tw)

<sup>xxv</sup> Future Operations Consultation Feedback Report- June 2019, cover report plus 3 volumes

<sup>xxvi</sup> How do we obtain approval to expand Heathrow? June 2019

<sup>xxvii</sup> How do we obtain approval to expand Heathrow? June 2019 p3

<sup>xxviii</sup> How do we obtain approval to expand Heathrow? June 2019 p2 section 1

<sup>xxix</sup> PEIR Chapter 8 Biodiversity, Volume 3, Appendix 8.5

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- <sup>xxx</sup> PEIR Chapter 17 Noise, Volume 2, Figure 17.16 Daytime  $L_{Aeq, 16h}$  difference 3R 2035 740k – 2R 2013 480k aircraft noise test cases 1-4
- <sup>xxx</sup><sup>i</sup> Heathrow K-3624 Understanding our Design Envelopes Table 1 (adjusted to AGL)
- <sup>xxx</sup><sup>ii</sup> PEIR Chapter 13 Historic Environment, Volume 1, Section 10 Assessment of historic environment effects, para 13.10.197
- <sup>xxx</sup><sup>iii</sup> PEIR Chapter 15 Landscape and Visual Amenity, Volume 1, para 15.10.2, Table 15.19
- <sup>xxx</sup><sup>iv</sup> PEIR Chapter 17 Noise, Annex F LOAEL, SOAEL and UAEL Values, Section 4 Operational Values, para 8.1.2
- <sup>xxx</sup><sup>v</sup> Heathrow's Airspace Design Principles Submission – 31-Aug-2018 v1.0 Section 4.1.4. Table 3 row (h)
- <sup>xxx</sup><sup>vi</sup> Heathrow's Airspace Design Principles Submission, Appendix 1
- <sup>xxx</sup><sup>vii</sup> Air National Guidance, 2017
- <sup>xxx</sup><sup>viii</sup> PEIR Chapter 17 Noise, Volume 3, Table 3.68, p44, Annex A-44
- <sup>xxx</sup><sup>ix</sup> World Health Organisation – Guidelines for Community Noise - ref MNB-1Q DOC2
- <sup>xl</sup> Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, Section 5 Environmental Impact Assessment Process