

# Riverside Energy Park

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## Applicant's response to the Local Impact Report by London Borough of Havering

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# 1 Applicant's response to the Local Impact Report by the London Borough of Havering

## 1.1 Introduction

1.1.1 The London Borough of Havering (LBH) has submitted a Local Impact Report (LIR) at Deadline 2 of the Examination (**REP2-083**).

1.1.2 LBH has raised 2 areas of note within their Local Impact Report. These relate to:

- Air Quality Impacts; and
- Impact on Future Development Sites & Urban Renewal.

1.1.3 The Applicant's response (this document) covers each of these issues in turn below.

1.1.4 It should be noted that in Section 1 of the LIR, the LBH states that the Proposed Development was designated under section 35 of the Planning Act 2008 as development for which development consent is required. This is factually incorrect. The Proposed Development is automatically a Nationally Significant Infrastructure Project ("NSIP"), being a generating station in England that will have a capacity of 50MW or more. Accordingly, the Proposed Development is an NSIP under sections 14 and 15 of the Planning Act 2008 and did not require a "Direction" from the Secretary of State.

## 1.2 The Scheme and Description of the Site

1.2.1 The LIR notes that "...the Council does not consider that the area covered by the DCO can extend beyond the red line drawn by Cory". As a matter of clarification, the 'red line' referred to throughout the Development Consent Order (DCO) Application as either the 'Order Limits' or 'Application Boundary' is secured through the **draft Development Consent Order (3.1, Rev 2, submitted at Deadline 3)**. Article 3 of the draft Order would grant development consent for the Proposed Development within the Order Limits, which are shown on the **Works Plans (2.2, REP2-004)** and which are certified documents under Article 40 of the draft Order.

1.2.2 Since the time of submission, the Order Limits ('red line') have been refined following further engineering investigations. At Deadline 2 the Applicant submitted the following documents which provide an update on the refinements which have been made since the time of the DCO Application submission, and reflect the revised extent (reduced) of the Order Limits:

- Works Plans (**2.2, REP2-004**);
- Land Plans (**2.1, REP2-003**);

- Access and Public Rights of Way Plans (**2.3, REP2-005**);
- Draft 'Riverside Energy Park Development Consent Order' (**3.1, REP2-006**) (**Rev 2** is submitted at Deadline 3);
- Statement of Reasons (**4.1, REP2-008**);
- Book of Reference (**4.3, REP2-010**); and
- Electrical Connection Progress Report (**8.02.07, REP2-058**).

1.2.3 Should consent be granted, the Proposed Development will have to be constructed and operated within the limits set by the Order Limits and relevant parts of the final DCO.

1.2.4 The Applicant notes that LBH is not a section 42(d) party under the definition provided in the Planning Act 2008 as it does not have an interest in land within the Order Limits. The Applicant acknowledges the confirmation within the LIR that LBH has no direct interest in the case for Compulsory Acquisition.

1.2.5 The Applicant notes the observations made under Section 3.0 of LBH's LIR (Description of the Site) with respect to the Rainham and Beam Park Housing Zone, north of the River Thames.

### 1.3 Planning Policy Context

#### Havering Local Implementation Plan

1.3.1 The Applicant notes the Planning Policy Context overview provided in Section 4.0 of the LIR. The relevant planning policy has been considered in the **Planning Statement (7.1, APP-102)** and the **Environmental Statement (ES), (6.1, APP-038 – APP-101)**, as updated at Deadline 2) submitted with the DCO Application.

1.3.2 The Applicant notes that the Havering Local Plan is currently under Examination in Public (EiP) and as such is currently not adopted. The **Planning Statement (7.1, APP-102)** considers the relevant policies from the London Borough of Havering (LBH) Core Strategy and Development Control Policies Development Plan Document (2008) as appropriate.

1.3.3 The Applicant notes the reference to the London Riverside Opportunity Area and The London Riverside Opportunity Area Planning Framework (OAPF) (2015) which is acknowledged as policy of relevance to the Proposed Development in **Table 4.1** and **Paragraph 4.5.4** of the **Planning Statement (7.1, APP-102)**.

### Havering Air Quality Action Plan

- 1.3.4 The Applicant notes that Havering is a designated Air Quality Management Area (AQMA) and as such has a Havering Air Quality Action Plan (AQAP). The relevant AQMAs and AQAPs have been considered in the assessment of air quality effects for REP as detailed in **Paragraphs 7.2.18 to 7.2.21** and **Table 7.4 and 7.5 of Chapter 7, Air Quality of the ES (6.1, REP2-019)**.

### Rainham and Beam Park Planning Framework

- 1.3.5 The Applicant notes the comments made with regards to the Rainham and Beam Park Masterplan and Planning Framework. Where developments in the Rainham and Beam Park area and the London Riverside OAPF are being progressed, these have been considered in the Environmental Impact Assessment (EIA) through the assessment of potential cumulative effects. **Appendix A.4, Cumulative Assessment - Matrix of the ES (6.3, APP-065)** lists the projects considered for potential cumulative effects and includes any relevant committed developments in the Rainham and Beam Park area. Potential cumulative effects have been considered on a topic by topic basis as described in **Section 4.10 of Chapter 4, ES Assessment Methodology of the ES (6.1, APP-041)**. **Appendix A** of this response includes figures demonstrating potential air quality impacts in relation to opportunity areas and allocated sites.

## 1.4 Air Quality Impacts

### Assessment Methodology and Operational Phase: Transport Emissions

- 1.4.1 The references to 2016 monitoring data in **Paragraphs 7.4.9, 7.5.29 and 7.6.3** have been corrected to 2017 in the updated **Chapter 7, Air Quality of the ES (6.1, REP2-019)**. The assessment undertaken in **Chapter 7, Air Quality of the ES (6.1, APP-044)** was based on data from 2017, however referred to 2016 in error.
- 1.4.2 Whilst it is preferable, where possible, to use more than one monitoring point for model verification, it is not essential. Any additional uncertainty introduced into the model assessment process must be judged in relation to the model verification factor obtained, and the degree to which the predicted modelling results approach assessment levels. Reducing the level of uncertainty where the predicted concentrations approach or exceed the relevant assessment level is important, but where the predicted concentrations are significantly lower than the objectives, an increased level of uncertainty is acceptable.
- 1.4.3 The model verification for 2017 used only one monitoring point as this was the only local monitoring point available that was suitable. The data capture for HAV50 in 2017 was only 50% and so it was excluded from the model verification process. If it was included, the verification factor would have been slightly lower than 2.8781 used in the modelling exercise. In terms of the other monitoring

sites that could have been used, and based on data contained in the LBH Annual Status Report for 2017<sup>1</sup> these are as follows:

- HAV3 is a background site and therefore is not suitable for the verification of roadside pollutant concentrations;
- HAV49 is a roadside site but close to a quiet residential road and so not suitable for verification (and it only had 42% data capture);
- HAV56 is located next to a busy bus stop and only had 25% data capture and was therefore not suitable; and
- HAV46 had 33% data capture.

1.4.4 Whilst annualised data could have been used for model verification this would have added an additional degree of uncertainty to the results which cannot be quantified. It should also be recognised that the model verification factor (2.8781) is relatively high, this means that the relative contribution of road traffic emissions is magnified compared to the background concentrations. (For the PEIR, the model verification factor obtained with 2 monitoring points was 2.3). With a lower verification factor, the development traffic contribution would be lower and the level of significance of the predicted impacts potentially lower.

1.4.5 As noted above, reducing the level of uncertainty when the predicted concentrations approach or exceed the objective level is important. In terms of the predicted annual mean NO<sub>2</sub> concentrations with the Proposed Development in place, the highest predicted concentration is 32.9µg/m<sup>3</sup> at R21 (**Table C.1.6.2 of Appendix C.2, Stack Modelling of the ES (6.3, REP2-038)**) with the development contribution at this location being 0.01µg/m<sup>3</sup>. The highest predicted development contribution to annual mean NO<sub>2</sub> concentrations is 0.19µg/m<sup>3</sup> at R19A (**Table C.1.6.2 of Appendix C.2, Stack Modelling of the ES (6.3, REP2-038)**) which is a negligible impact. The total predicted concentration at R19A is 25.6µg/m<sup>3</sup> which is only 64% of the assessment level. The model verification would therefore have to be significantly higher than that used in order to obtain impacts that could potentially be significant. In this scenario, such a model verification factor would be too high to be representative of good model performance, and the model set-up would need to be reviewed and further refined in order to obtain an acceptable model performance (as represented by a lower verification factor). The degree of uncertainty in the assessment of road traffic impacts as represented in the model verification factor is therefore considered acceptable.

1.4.6 In accordance with the data provided in Havering's Annual Status Report (ASR), the HAV46 diffusion tube is located at grid reference 552441 182337 and it is specified as a kerbside monitoring site. The tube is located on a lamp-post less than 2m from the kerb of the road. Being a kerbside site, it is not a location of relevant exposure where the annual mean air quality strategy objectives apply, such as schools or residential properties (**Paragraph 7.2.20 of Chapter 7, Air**

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<sup>1</sup> Havering Air Quality Annual Status Report for 2017, published May 2018

**Quality** of the **ES (6.1, REP2-019)**). The ASR quotes the monitored annual mean NO<sub>2</sub> data at HAV46 being 34.5µg/m<sup>3</sup> in 2016 and 33µg/m<sup>3</sup> in 2017. Receptor location R22 is the closest receptor to the monitoring location approximately 40m from the monitoring location, being located on the façade of the building of Rainham Village Children's Centre at grid reference 552403 182326. The receptor is approximately 0.5m further from the road than the monitoring location. The predicted annual mean NO<sub>2</sub> concentration in the baseline 2017 scenario for R22 is 29.3µg/m<sup>3</sup> which is lower than at HAV46 which is reflective of the additional separation distance to the road. It is therefore considered that the predicted concentrations from the road traffic modelling are consistent with the monitored data.

- 1.4.7 For the reasons set out above, it is considered that the model verification does not require to be repeated.

### **Operational Phase: Stack Emissions**

#### Nickel and Chromium VI Emissions

- 1.4.8 The assessment of the significance of the overall effect has been undertaken in accordance with the referenced Institute of Air Quality Management (IAQM) guidance in **Paragraph 7.5.62 of Chapter 7, Air Quality** of the **ES (6.1, REP2-019)**, taking into account the different impacts at different receptor locations and the overall magnitude of the predicted environmental concentrations at the receptor locations. The answer to ExA Q2.10.1 (see the **Applicant Responses to ExA First Written Questions (8.02.04, REP2-055)**) provides information on how different levels of impacts at different receptors have been judged in relation to the overall effect.
- 1.4.9 The Applicant welcomes the LBH's agreement that the description of impacts is minor, but the Applicant disagrees with LBH in its interpretation that this minor impact is significant when taking into account the number of receptors that are impacted. The relevant section of paragraph 7.8 of the IAQM guidance in relation to the number of properties impacted states: *"An individual property exposed to a moderately adverse impact might not be considered a significant effect, but many hundreds of properties exposed to a slight adverse impact could be. Such judgements will need to be made taking into account multiple factors and this guidance avoids the use of prescriptive approaches"*. The multiple factors are those outlined in **Paragraph 7.5.62 of Chapter 7, Air Quality** of the **ES (6.1, REP2-019)**.
- 1.4.10 One of the factors outlined in **Paragraph 7.5.62 of Chapter 7, Air Quality** of the **ES (6.1, REP2-019)**, is the extent to which worst-case assumptions have been made and this applies to all of the predicted concentrations. The modelling assumes that the ERF operates at 100% capacity all year round and that the emissions are equivalent to the limits during all of this time. This is conservative in that the ERF will have periods of scheduled maintenance and therefore actual emissions will be below the limits and the limits will not be breached. In addition, the modelling results are presented from the maximum of the five years' worth of meteorological data modelled and utilise the maximum parameters for



assessment as outlined in **Section 3.4 of Chapter 3, Project and Site Description** of the **ES (6.1, REP2-013)**. As shown in **Table C.2.4 of Appendix C.2, Stack Modelling** of the **ES (6.3, REP2-038)**, the maximum predicted concentrations are lower with the stepped building configuration that has been applied for in the Environmental Permit application than with the Rochdale Envelope. The results of the modelling are therefore absolute worst-case predictions, and the actual concentrations from the ERF will be lower than predicted.

- 1.4.11 One of the other factors is whether or not an exceedance of an objective or limit value is predicted to arise in the operational study area where none existed before, or an exceedance area is increased. In the case of nickel, and as set out in **Paragraph 7.9.30 of Chapter 7, Air Quality** of the **ES (6.1, REP2-019)** none of the Predicted Environmental Concentrations (PECs) are above the assessment level for health effects. When taking account the baseline concentrations, the maximum Predicted Environmental Concentration (PEC) is 23.6% of the assessment level and this is at receptor locations within Rainham that is generally closest to the ERF in the prevailing downwind direction from the ERF. Residential areas further away (as illustrated by receptor R22) have negligible impacts which would be the majority of the exposed population in Rainham.
- 1.4.12 In the case of chromium VI, as set out in **Paragraph 7.9.28 of Chapter 7, Air Quality** of the **ES (6.1, REP2-019)**, the process contributions are all well below 0.5% of the assessment level and are therefore imperceptible in accordance with **Table 7.20 of Chapter 7, Air Quality** of the **ES (6.1, REP2-019)** and the impacts are negligible in accordance with **Table 7.21 of Chapter 7, Air Quality** of the **ES (6.1, REP2-019)**. The Applicant disagrees with LBH's assertion that these are minor impacts as in accordance with the assessment criteria they are negligible, at each receptor location. Even if one considered that a large number of negligible impacts could be equated to minor impacts, these would not correspond to a significant effect.
- 1.4.13 The Health Protection Agency (HPA), whose role has now been taken over by PHE, published a note RCE-13 "The Impact on Health of Emissions to Air from Municipal Waste Incinerators" in 2009<sup>2</sup>. The summary of this note is as follows:

*"The Health Protection Agency has reviewed research undertaken to examine the suggested links between emissions from municipal waste incinerators and effects on health. While it is not possible to rule out adverse health effects from modern, well regulated municipal waste incinerators with complete certainty, any potential damage to the health of those living close-by is likely to be very small, if detectable. This view is based on detailed assessments of the effects of air pollutants on health and on the fact that modern and well managed municipal waste incinerators make only a very small contribution to local concentrations of air pollutants. The Committee on Carcinogenicity of Chemicals in Food, Consumer Products and the Environment has reviewed recent data and has concluded that there is no need to change its previous*

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<sup>2</sup> <https://www.gov.uk/government/publications/municipal-waste-incinerators-emissions-impact-on-health>



*advice, namely that any potential risk of cancer due to residency near to municipal waste incinerators is exceedingly low and probably not measurable by the most modern techniques. Since any possible health effects are likely to be very small, if detectable, studies of public health around modern, well managed municipal waste incinerators are not recommended."*

### Terrestrial Biodiversity Receptors

1.4.14 The assessment criteria for considering potential impacts on terrestrial biodiversity receptors is set out in **Paragraphs 7.5.63 to 7.5.65 of Chapter 7, Air Quality of the ES (6.1, REP2-019)**. Where the thresholds set out in these paragraphs are exceeded, it is an indication that there is a *potential* for significant effects to occur, not that they have occurred. Further ecological assessment is therefore required, which is reported in **Chapter 11, Terrestrial Biodiversity of the ES (6.1, REP2-023)**.

1.4.15 The response to ExA Q2.11.1 (see the **Applicant Responses to ExA First Written Questions (8.02.04, REP2-055)**) provides information on the significance of the predicted increase in NO<sub>x</sub> concentrations on the Inner Thames Marshes/Rainham Marshes SSSI and Ingrebourne Marshes SSSI where it is confirmed that the effect is not significant.

1.4.16 The Applicant submitted at Deadline 2, an agreed and signed Statement of Common Ground (SOCG) with Natural England (**8.01.05, REP2-051**) which confirms agreement to the conclusions of the Air Quality and Biodiversity assessments.

## 1.5 Impact on Future Development Sites & Urban Renewal

1.5.1 The Applicant notes that the LBH LIR cites the following development and regeneration schemes:

- Rainham and Beam Park Housing Zone;
- Beam Park Station;
- Beam Parkway Major Scheme; and
- Estate Regeneration Programme.

1.5.2 The Havering LIR asserts in the Executive Summary and the LIR Summary (presented in a separate document) that potential environmental effects will place the Proposed Development at odds with the LBH's "...local plans, local designations and future development sites and urban renewal programmes". It continues that a development for which there is extant planning permission for a 3,000 unit residential led mixed-use development at Rainham and Beam Park (the Beam Park Residential Development) "...will be affected by air pollution and acid deposition from the proposed scheme due to its proximity to the site".

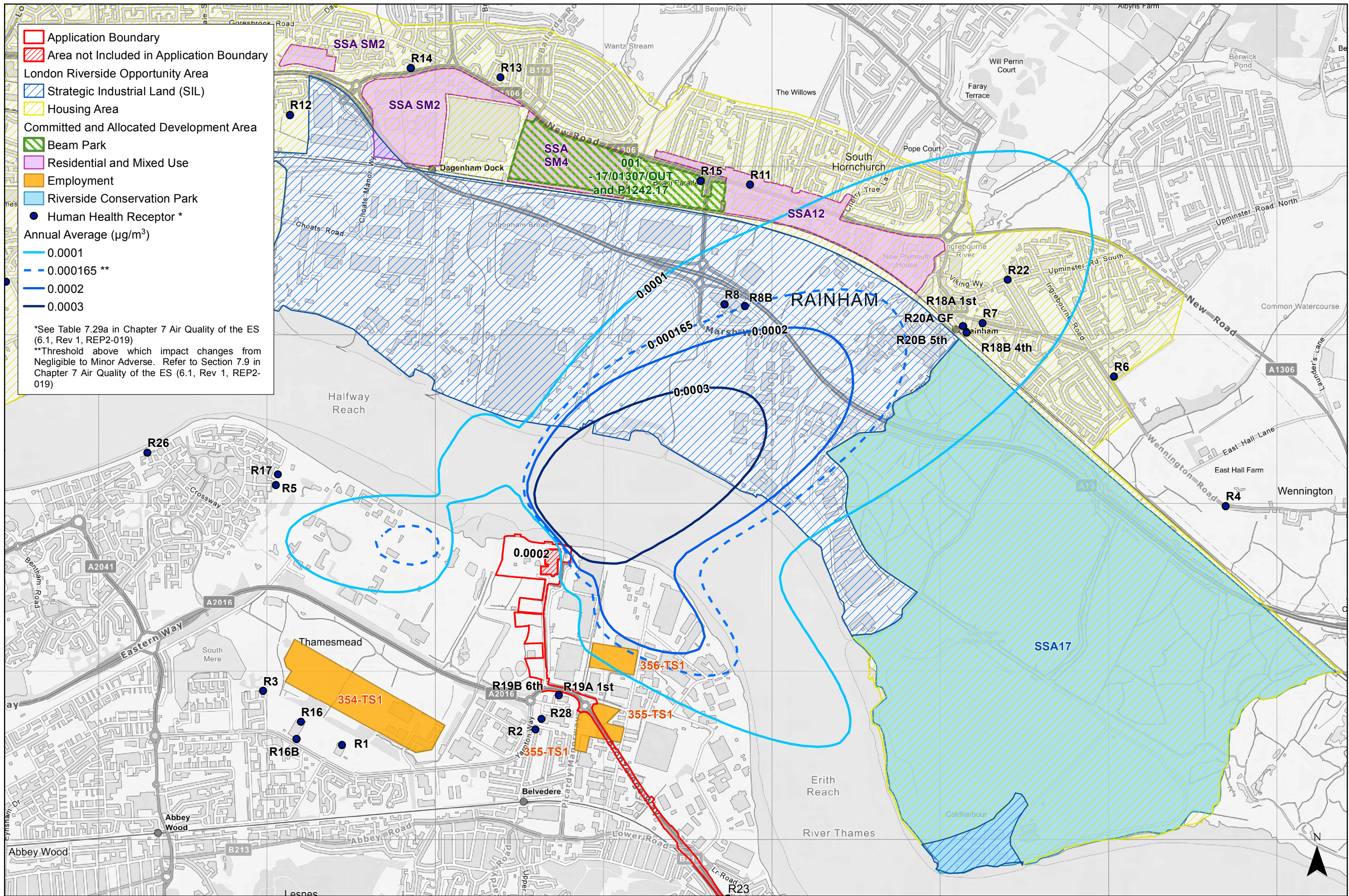
1.5.3 As set out in **Paragraph 1.3.5** above, the EIA and accompanying documents and the wider DCO Application have taken into consideration the relevant local

policy and guidance and have included any relevant emerging developments in the Rainham and Beam Park area, as appropriate, in the assessment of cumulative effects. The assessment includes consideration of the construction, operation and de-commissioning phases of the Proposed Development.

- 1.5.4 The Beam Park Residential Development is included in the air quality assessment as receptor R15, as set out in **Table 7.29a** of **Chapter 7, Air Quality** of the **ES (6.1, REP2-019)**, as requested by LBH in its Scoping Opinion response (see **Table 7.9** of **Chapter 7, Air Quality** of the **ES (6.1, REP2-019)**). Other parts of the Rainham and Beam Park Housing Zone are further from the ERF in the downwind direction than either receptor R15 or the other modelled Receptor locations in Rainham and will therefore have lower impacts. As set out in **Appendix C.2, Stack Modelling** of **Chapter 7, Air Quality** of the **ES (6.3, REP2-038)** all of the predicted impacts at receptor R15 for all of the pollutants are negligible.
- 1.5.5 In terms of regeneration of existing housing estates, the potential impacts and effects would be same as those assessed and presented in the **Chapter 7, Air Quality** of the **ES (6.1, REP2-019)** for the location of the estate to be regenerated. The Applicant therefore considers that the Proposed Development is not at odds with LBH's plans and policies and that it will not preclude future development and regeneration in the Rainham and Beam Park area.
- 1.5.6 **Appendix A** of this response includes figures demonstrating potential air quality impacts in relation to opportunity areas and allocated sites.

**Appendix A Isopleth overlays with London Riverside Opportunity Area, Beam Park, London Borough of Havering Site Specific Allocations (2008), London Borough of Barking and Dagenham Site Specific Allocations (2010) and London Borough of Bexley Unitary Development Plan (2004)**





Application Boundary  
 Area not Included in Application Boundary  
 London Riverside Opportunity Area  
 Strategic Industrial Land (SIL)  
 Housing Area  
 Committed and Allocated Development Area  
 Beam Park  
 Residential and Mixed Use  
 Employment  
 Riverside Conservation Park  
● Human Health Receptor \*  
 Annual Average ( $\mu\text{g}/\text{m}^3$ )  
— 0.0001  
- - - 0.000165 \*\*  
— 0.0002  
— 0.0003  
 \*See Table 7.29a in Chapter 7 Air Quality of the ES (6.1, Rev 1, REP2-019)  
 \*\*Threshold above which impact changes from Negligible to Minor Adverse. Refer to Section 7.9 in Chapter 7 Air Quality of the ES (6.1, Rev 1, REP2-019)

RIVERSIDE ENERGY PARK

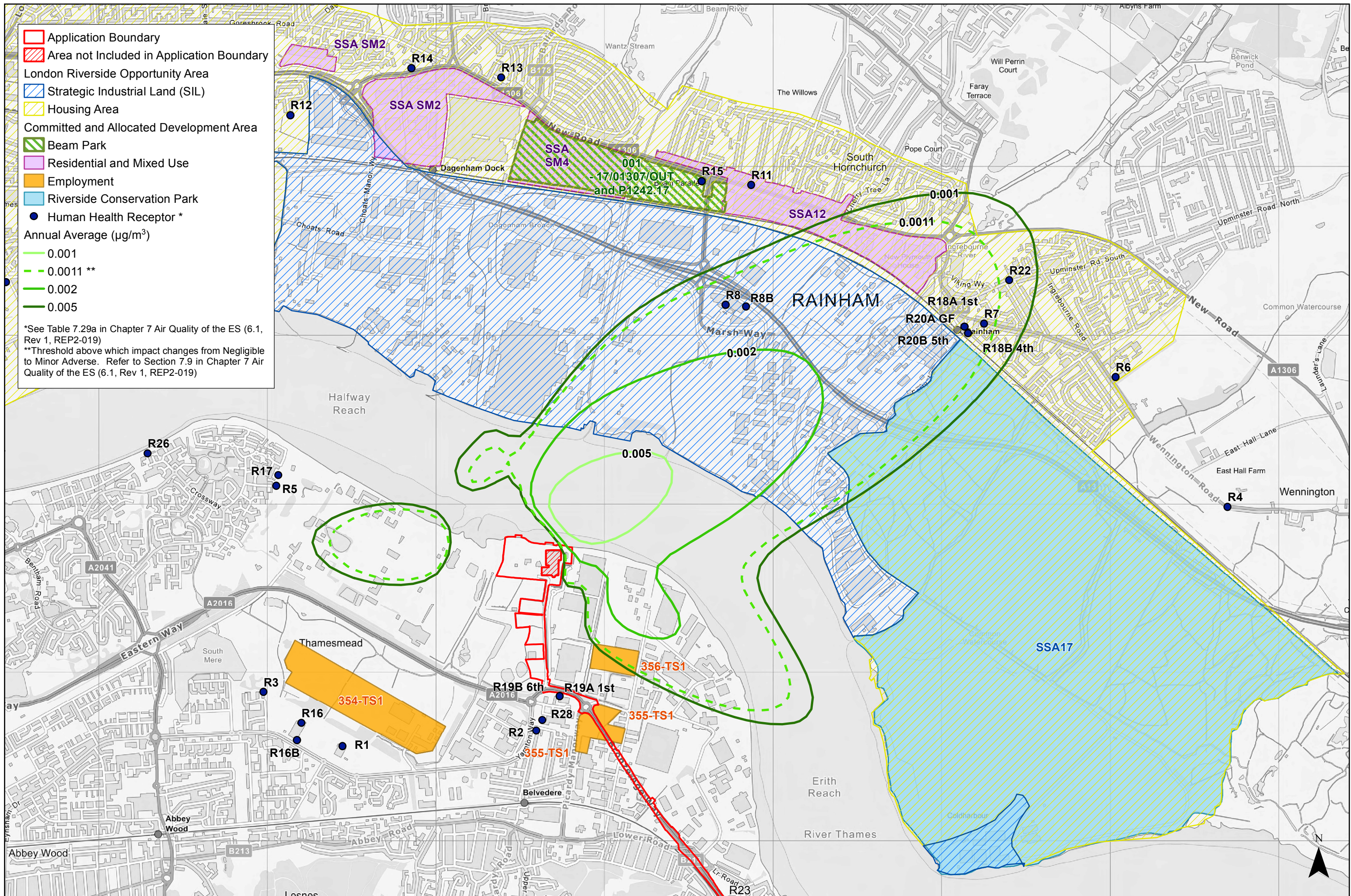
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 11/06/19  
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 Checked: RG

Predicted Annual Mean Arsenic Concentration





Application Boundary  
 Area not Included in Application Boundary  
 London Riverside Opportunity Area  
 Strategic Industrial Land (SIL)  
 Housing Area  
 Committed and Allocated Development Area  
 Beam Park  
 Residential and Mixed Use  
 Employment  
 Riverside Conservation Park  
● Human Health Receptor \*  
 Annual Average ( $\mu\text{g}/\text{m}^3$ )  
— 0.001  
- - - 0.0011 \*\*  
— 0.002  
— 0.005  
 \*See Table 7.29a in Chapter 7 Air Quality of the ES (6.1, Rev 1, REP2-019)  
 \*\*Threshold above which impact changes from Negligible to Minor Adverse. Refer to Section 7.9 in Chapter 7 Air Quality of the ES (6.1, Rev 1, REP2-019)

**RIVERSIDE ENERGY PARK**

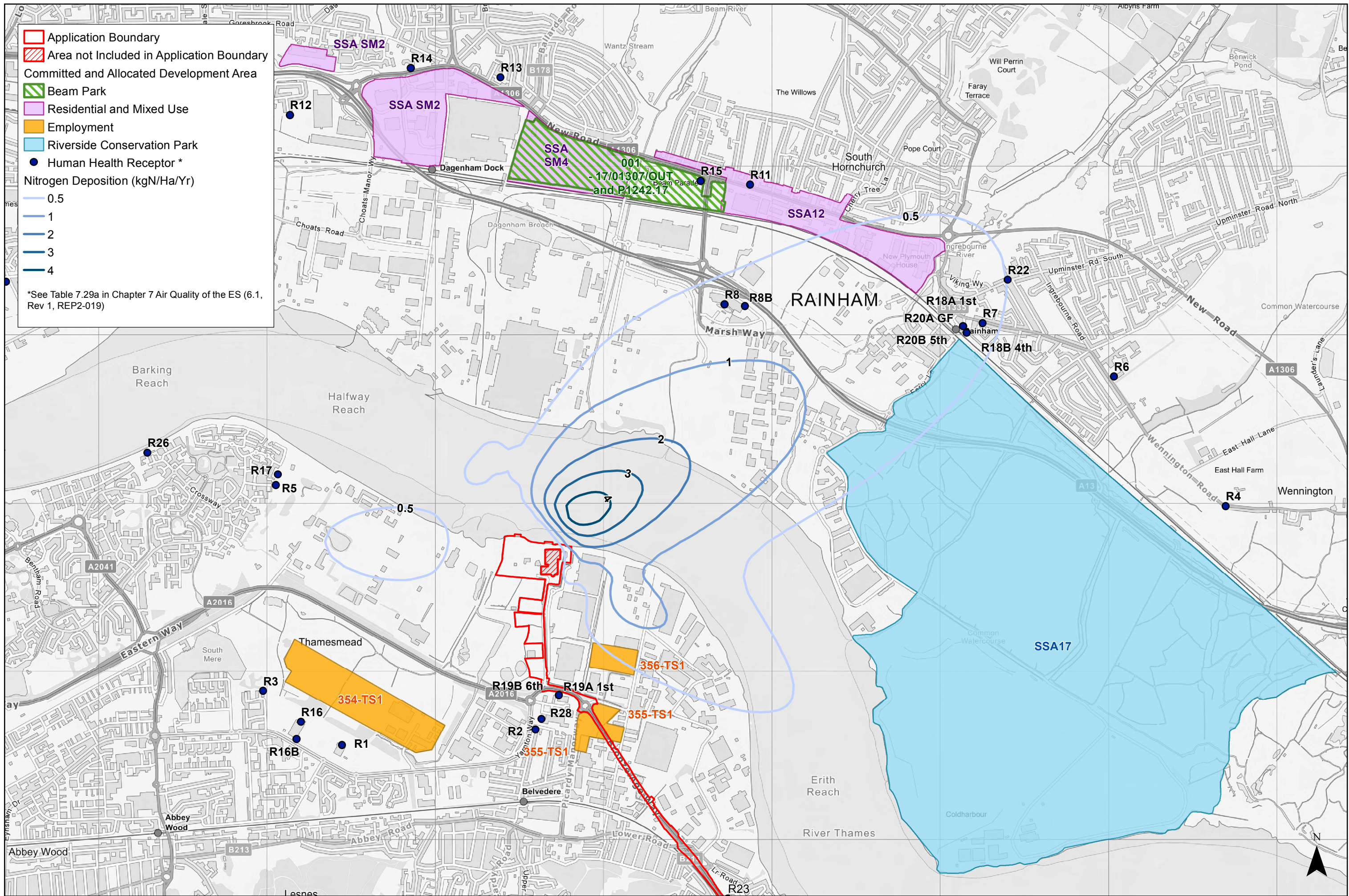
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**Predicted Annual Mean Nickel Concentration**

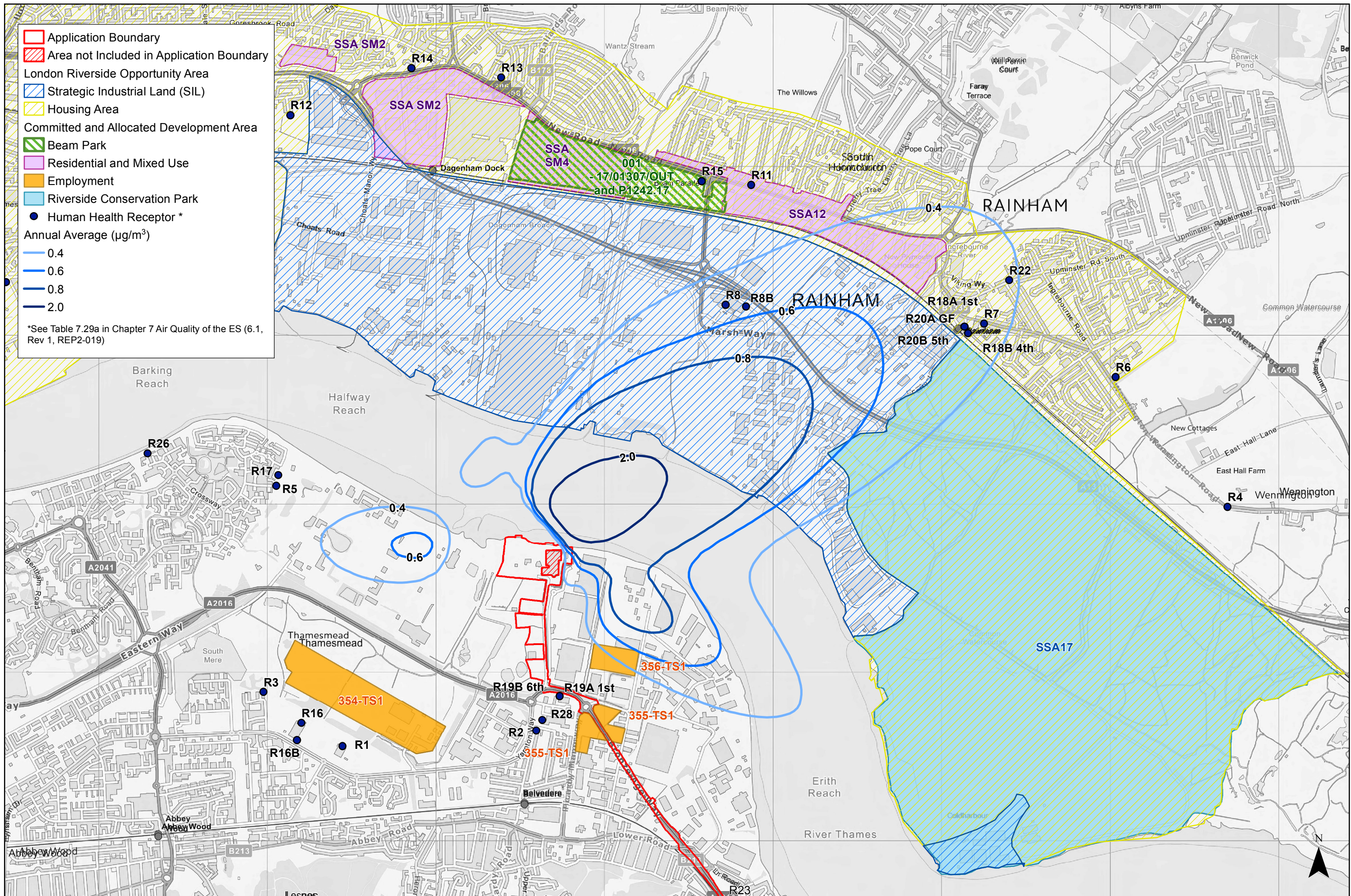




Application Boundary  
 Area not Included in Application Boundary  
 Committed and Allocated Development Area  
 Beam Park  
 Residential and Mixed Use  
 Employment  
 Riverside Conservation Park  
● Human Health Receptor \*  
 Nitrogen Deposition (kgN/Ha/Yr)  
— 0.5  
— 1  
— 2  
— 3  
— 4  
 \*See Table 7.29a in Chapter 7 Air Quality of the ES (6.1, Rev 1, REP2-019)

<p><b>RIVERSIDE ENERGY PARK</b></p> <p>0 0.5 1 km</p> <p><small>Contains Ordnance Survey data © Crown copyright and database right [2018] Based on Babcock/EDF plan - RRRL Cable Route Landowners - 2-01-2010 - Drawing NO. Cable Route Plan Contains public sector information licensed under the Open Government Licence v3.0. © London Borough of Havering, London Borough of Barking and Dagenham, 2019</small></p>			<p>Client</p> <p>1:20,000 @ A3 11/06/19 Drawn: HG Checked: RG</p>	<p><b>Predicted Annual Mean Nitrogen Deposition Concentration</b></p>
				<p>Figure 1d Rev 0</p>





Application Boundary  
 Area not Included in Application Boundary  
 London Riverside Opportunity Area  
 Strategic Industrial Land (SIL)  
 Housing Area  
 Committed and Allocated Development Area  
 Beam Park  
 Residential and Mixed Use  
 Employment  
 Riverside Conservation Park  
● Human Health Receptor \*  
 Annual Average ( $\mu\text{g}/\text{m}^3$ )  
— 0.4  
— 0.6  
— 0.8  
— 2.0  
 \*See Table 7.29a in Chapter 7 Air Quality of the ES (6.1, Rev 1, REP2-019)

RIVERSIDE ENERGY PARK

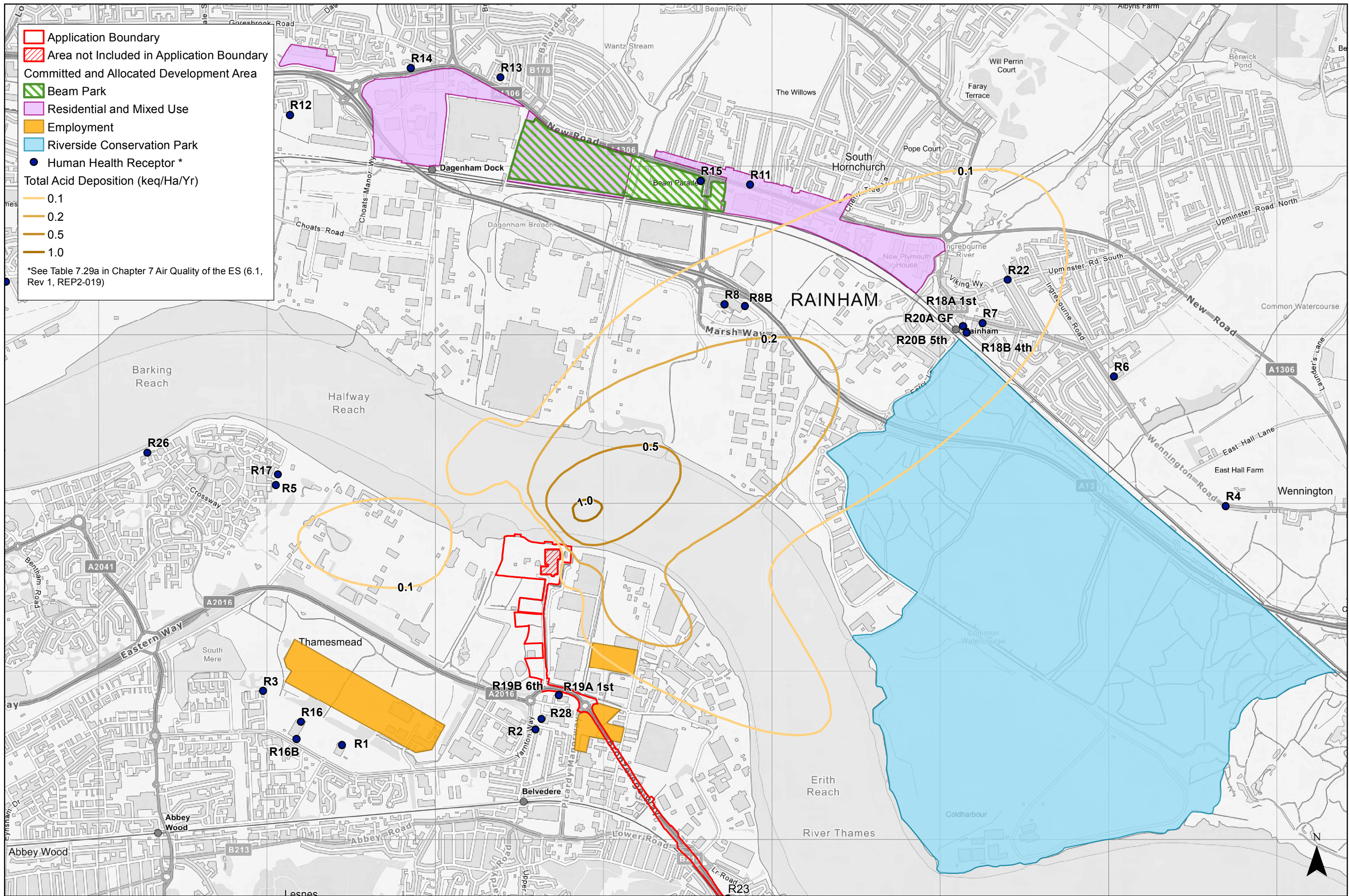
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Predicted Annual Mean Nitrogen Dioxide Concentration





Application Boundary  
 Area not Included in Application Boundary  
 Committed and Allocated Development Area  
 Beam Park  
 Residential and Mixed Use  
 Employment  
 Riverside Conservation Park  
● Human Health Receptor \*  
 Total Acid Deposition (keq/Ha/Yr)  
 0.1  
 0.2  
 0.5  
 1.0  
 \*See Table 7.29a in Chapter 7 Air Quality of the ES (6.1, Rev 1, REP2-019)

**RIVERSIDE ENERGY PARK**

0 0.5 1 km  
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Predicted Total Acid Deposition, Nitrogen Acid Deposition (NO<sub>2</sub> + NH<sub>3</sub>) and Sulphur Acid Deposition (SO<sub>2</sub> + HCl)  
 Figure 1e Rev 0