

SITE SELECTION STATEMENT

Land Adjacent to Phoenix Park, Hurst

Prepared by Pro Vision on behalf of Ratesu Limited

June 2025

LAND ADJACENT TO PHOENIX PARK, HURST

SITE SELECTION STATEMENT

PROJECT NO. 51689

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JUNE 2025

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1.0 Introduction

- 1.1 This statement has been prepared on behalf of Ratesu Limited to explain the process adopted to identify a suitable and available location for the proposed development. It should be read alongside the supporting Planning Statement and Economic Statement¹.
- 1.2 Ratesu Limited is proposing a High Frequency (HF) intercontinental radio communication system consisting of two lattice receiver masts with antennae, ancillary cabins, ancillary works, landscaping and access.
- 1.3 The development is an innovative new form of advanced communications combining long established Shortwave technology with Raft's innovative proprietary systems, supporting international communications involved in the global financial markets. The system is required to communicate with the target data centre in Slough (LD4), which serves the London Stock Exchange (LSE).
- 1.4 Further information about the details of the proposed facility and the benefits to the UK economy of the HF radio communication system are provided elsewhere within the application documents.
- 1.5 This statement focuses solely on the justification for why the proposed site has been identified for this development. Covered in this statement is:
- A summary of the site selection requirements for this HF radio communication facility;
 - The methodology for site selection;
 - Results of site selection; and
 - The proposed site.
- 1.6 The statement concludes by identifying a site that is suitable and available.

¹ Economic Statement of Ratesu Limited on Business Operations within the UK Market

2.0 Site Location Requirements

2.1 For the HF intercontinental radio transmission system to work effectively, a series of specific requirements must be met, including in terms of location. These requirements strongly influence where such facilities will be viable and feasible.

2.2 The key requirements are as follows:

- Speed of communication; any delays to the relay of messages, measured in microseconds, compromises performance (1 microsecond is to one second, as one second is to approximately 11.5 days).
- HF messages require directional antenna to be pointing in the direction of their source. For example, if messages are to be received from New York, the antenna must be angled directly at New York.
- The antenna needs to be at least 30 metres above ground level to ensure it can pick up messages that are clear of 'ground noise' and interference.
- Receiver antenna must be located in an electrically 'quiet' (i.e. rural) location, not within a noisy suburban or urban area where disruption from machinery, generators, streetlights and magnetic devices can corrupt communications. The equipment must also be at least 5km to 10km away from any airports and emergency service stations (such as fire and police).
- Wind loading of a shared antenna is another factor which constrains the sharing of existing masts/mast clusters. The majority of masts for telecommunications equipment are not structurally sufficient to deal with wind loading through multiple antennae.
- The technology cannot normally be operated on a shared mast as the HF messages would pick up other communications. The use of other technology on a shared mast would also risk corrupting HF messages received.
- Received messages are forwarded onto a data centre using a microwave point-to-point link, comprising of a small dish antenna at the HF receiving station and a corresponding dish at the data centre. The microwave link needs to be within a 20km visible line of sight to the target data centre in Slough (LD4) to ensure it cannot be blocked or impinged upon by any buildings or objects. Without a direct line of sight, the technology is unable to function properly and would need a series of relay masts which would see more development and therefore likely result in greater landscape harm, as well as compromising performance in terms of speed of relay to the data centre.
- A stable power supply and connection to the power grid is essential.

- Suitable vehicle access from the public highway to facilitate operational maintenance and allow for emergency access.
- A site that has or can be made suitable secure to protect the equipment.
- Appropriate separation from neighbouring residential properties, to minimise signal interference and for safety and amenity.
- An available site i.e. with a willing landowner (i.e. not all land can be assumed to be available for hosting masts).

3.0 Methodology for Site Search

- 3.1 The methodology used to select an appropriate site for the proposed development was as follows:

Stage 1 – Define the area of search

- 3.2 A 20km buffer around the target data centre in Slough (LD4) was applied to define the area of search for suitable receiver station locations. Sites beyond this buffer were discounted on the basis that these would be unviable, likely needing multiple relay masts and compromising performance.
- 3.3 Please refer to drawing no. 51689-XX-E0-01 (Appendix A), which identifies the 20km area of search around the substation in relation to its surroundings.

Stage 2 – Constraints and opportunities

- 3.4 On defining the 20km area of search, constraints in this area were added so that unsuitable receiver station sites could be excluded from further detailed consideration. This exercise identified all areas that would be unsuitable, including environmental designations, residential areas, airport safeguarding zones and areas that could not offer a theoretical line of sight from a mast of up to 50 metres in height.
- 3.5 Line of sight was tested using a combination of desktop studies, professional consultation and on-the-ground surveys. Topographical information, data on anticipated noise levels (interference) from satellite imagery, and drone surveys were used to assess the initial feasibility of sites.

Stage 3 – Residual opportunities within the area of search outside the Green Belt and National Landscapes

- 3.6 The next stage was to focus on identifying any opportunities outside the Green Belt and any designated National Landscape.
- 3.7 Within the Green Belt development is, in most circumstances, considered inappropriate unless there are very special circumstances². A typical consideration for Green Belt locations is whether or not there are available alternatives outside of the designated area which would avoid harming the openness of the designated area. Within National Landscapes, great weight

² NPPF para. 153

is given to conserving landscape and scenic beauty, and major development should be refused other than in exceptional circumstances³.

- 3.8 Drawing 51689-XX-E0-03 (Appendix C) identifies the areas within the 20km search area within the London Green Belt and Chilterns National Landscape (formerly AONB).

Stage 4 – Site availability within a residual area

- 3.9 A further key factor is that the proposed receiver station site is available for development, i.e. there is a willing landowner or owners. Once the constraints within the search area were analysed, a residual area of opportunity was identified. This formed the focus for identifying available land.
- 3.10 Finally, the feasibility of the available sites was assessed on-site with the permission of the landlord. This could confirm if an actual line of sight could be achieved, using a cherry picker to take readings from an elevated position.

³ NPPF paras. 189 and 190

4.0 Results of Site Search

- 4.1 This section provides an analysis of the potential locations identified from the site search explained in the previous section and discusses each constraint in turn.

Physical Constraints

- 4.2 The built-up area of west London covers a significant proportion of the search area to the east. This is identified on drawing no. 51689-XX-E0-01 (Appendix A).
- 4.3 Other large settlements within the search area include Slough, Maidenhead, Windsor, Bracknell, Wokingham, Henley-on-Thames, Marlow, High Wycombe, Amersham, Beaconsfield and Gerrards Cross.
- 4.4 All areas covered by surface water, such as rivers, lakes and reservoirs, are also identified on drawing no. 51689-XX-E0-01 (Appendix A). Locating masts within water bodies is not normally a viable option for both practical and cost implications and environmental and/or amenity harm.
- 4.5 Several lakes and reservoirs are found within the south-eastern segment of the search area, in the vicinity of Heathrow Airport and Staines-upon-Thames. In the north-east, a band of lakes extends north-south between Uxbridge and Rickmansworth. There are also large bodies of surface water in the west of the search area, east of Reading, and in the vicinity of the River Thames which runs from west to east through the search area.

Heritage

- 4.6 The search area contains several designated heritage assets such as Conservation Areas and Scheduled Monuments, which should normally be avoided to prevent harm. These are shown on drawing no. 51689-XX-E0-02 (Appendix B).

Ecology Designations

- 4.7 The search area contains several areas covered by statutory and non-statutory ecological designations, which should normally be avoided to prevent harm. Special Areas of Conservation (SAC), National Nature Reserves (NNR) and Local Nature Reserves (LNR) are shown on drawing no. 51689-XX-E0-03 (Appendix C).
- 4.8 Windsor Forest and Great Park SAC, Burnham Beeches SAC, Chiltern Beechwoods SAC, and Thursley, Ash, Pirbright and Chobham SAC were all found within the 20km search area.

- 4.9 Three NNRs were located within the search area including Ruislip Woods, Burnham Beeches and Chobham Common, as well as multiple LNRs.
- 4.10 The search area also contains several Sites of Special Scientific Interest (SSSI) which are sensitive to development. The SSSIs and their Impact Risk Zones are shown on drawing no. 51689-XX-E0-04 (Appendix D).
- 4.11 The southern half of the search area contains SSSIs including Windsor Forest and Great Park, Staines Moor, Broadmoor to Bagshot Woods and Heaths, and Chobham Common. The northern half contains, but is not limited to, Burnham Beeches, Bisham Woods, Naphill Common, Hodgemoor Wood, Stoke Common, Mid Colne Valley and Ruislip Woods.

Flood Risk

- 4.12 An assessment of flood risk from rivers was undertaken within the 20km search area radius, so that higher risk areas are avoided, for both operational reasons and to avoid increasing flood risk. This identified that the areas within Flood Zones 2 and 3 and most at risk from flooding within the search area are adjacent to the River Thames and its tributaries, including River Loddon in the west, and the River Colne and River Crane in the east.
- 4.13 The flood zones are shown on drawing no. 51689-XX-E0-05 (Appendix E).

Heathrow Safeguarding Zone

- 4.14 The search area contains Heathrow airport and a Safeguarding Zone to ensure the safety of aircraft flying in the vicinity. The Heathrow Safeguarding Zone is shown on drawing no. 51689-XX-E0-06 (Appendix F). This indicates areas to the south and east of LD4 are most likely to fall within the Heathrow Safeguarding Zone.

Theoretical Line of Sight

- 4.15 An exercise was carried out to determine which areas could offer a theoretical line of sight into the LD4 data centre in Slough from a mast of up to 50m in height. The results are shown on drawing no. 51689-XX-E0-09 (Appendix G). The northern half and central southern portion of the search area is generally shown to be more constrained in this respect.

Green Belt and National Landscapes

- 4.16 All land within the 20km search area designated as Green Belt or part of a National Landscape was then identified. Drawing no. 51689-XX-E0-03 (Appendix C) shows that parts of the London Green Belt and Chilterns National Landscape (formerly AONB) fall within the search area.

- 4.17 The London Green Belt begins at the edge of the built-up area of London and extends westwards across the search area. Areas not designated as Green Belt include built-up areas associated with the larger settlements identified previously (see drawing no. 51689-XX-E0-01 (Appendix A)).
- 4.18 The Chilterns National Landscape extends across the northwestern section of the search area, part of which is also designated Green Belt land.

Residual Search Area

- 4.19 Having analysed the constraints in this search area, a residual area of search was mapped.
- 4.20 Refer to drawing no. 51689-XX-E0-10 (Appendix H) which defines the residual area of search. This shows that potential locations in the search area are very limited and that land most preferable for the proposed development is concentrated in the southwestern portion of the search area.
- 4.21 An area, north of Wokingham and within the settlement gap between Wokingham and Bracknell, offers the highest potential for a suitable site. Beyond this only isolated pockets of suitable land exist. Drawing 51689-XX-E0-12 (Appendix I) focuses on the refined area of search in the vicinity of Wokingham and Bracknell.
- 4.22 The residual area was then more closely assessed to identify potential site locations.

Rights of way

- 4.23 Public rights of way, upon which the development could have a visual impact, were considered within the refined area of search. These are also mapped on drawing no. 51689-XX-E0-12 (Appendix I).
- 4.24 Land over which a public right of way traversed, or land bordered by a public right of way, was excluded from further consideration.

Other Site Considerations

- 4.25 An appropriate site needs to be separate from neighbouring vulnerable land uses or structures such as railways, roads and properties, taking account of the scale of the proposed masts and risks in the unlikely event that they topple over.

Land Meeting the Specific Site Location Requirements and Available for Development

- 4.26 Sites within the residual areas not ruled out by constraint were tested against the specific location requirements of a receiver station. Once sites were identified as suitable, landowners were then approached to see if any of the land would be available before final stage testing.
- 4.27 To demonstrate a basic overview of the results of these surveys, five equidistant zones (PVOL #1 to #5) through the refined residual area is drawn, each showing a pathway to the LD4 destination in Slough. Refer to Appendix J.
- 4.28 An example of the calculation to assess mast heights required to overcome topographic obstructions is attached at Appendix K.
- 4.29 A summary of the findings of the surveys:
- PVOL #1: Sites tested here were found to have high noise levels due to the surrounding commercial and residential activity. Further constraints included the presence of nearby public green spaces, and prevalence of small sites meaning there would not be enough space for the masts. No suitable sites were found in this area.
 - PVOL #2: A peak obstruction was identified in the middle of Binfield village. The minimum mast height to achieve line of sight was found to be 46m. No willing landlord was found in this area.
 - PVOL #3: The minimum mast height to achieve line of sight was found to be 45m and higher going further west. No willing landlord was found in this area.
 - PVOL #4: A peak obstruction was identified in the middle of a wooded area north-east of Billingbear Golf Course and the minimum mast height to achieve line of sight was found to be 42m. No willing landlord was found in this area.
 - PVOL #5: The minimum mast height to achieve line of sight was found to be 47m. Location is within the gardens of Grade II* listed 'Haineshill'⁴.

The Proposed Site

- 4.30 A suitable and available site was identified in the residual area between PVOL #4 and PVOL #5 on land adjacent to Phoenix Park, Hurst. This site and its boundaries are identified on drawing no. 51689-XX-E0-14 (Appendix L).
- 4.31 Line of sight analysis at this location is included at Appendix M. This shows that a mast at Phoenix Park (PP) with antennae fixed at 48m would achieve a direct line of sight to the target

⁴ Historic England Listing ID 1117416

data centre in Slough (LD4). This would provide the required Fresnel Zone clearance, with consideration of the curvature of the Earth, from any obstruction including Shurlock Row Copse.

- 4.32 The proposed receiver station site comprises part of an agricultural field and adjoining yard space, immediately adjacent to a rural commercial business park.
- 4.33 Established hedging and trees follow the boundary edge. None of the vegetation bordering the site has any nature conservation or ecological designations. According to the Council's website, none of the trees within the proposed site boundary are identified as protected under a Tree Protection Order (TPO).
- 4.34 Access to the facility will be made by connection to an existing private road serving the commercial premises adjacent to the site. This would allow for maintenance and emergency vehicle access south onto Nelson's Lane.
- 4.35 The nearest residential buildings are on Nelson's Lane, approximately 100 metres south-east of the site, and approximately 100 metres to the north at its closest point. This is an adequate buffer to avoid interruption to telecommunications transmission, and to protect local amenity and public safety.
- 4.36 In respect of flood risk, the site is located within Flood Zone 1⁵, i.e. at a low level of risk from fluvial flooding. Only a small part of the site has a medium risk of surface water flooding (1 in 100-year event with climate change)⁶.
- 4.37 In relation to heritage, there are no listed buildings on the proposed site. The nearest listed building is the Grade II 'Heriots'⁷ approximately 300m to the west. Hurst Conservation Area is approximately 1km to the north-west, with the intervening Wokingham Road Area of Special Character approximately 500m away. The Local Historic Parks and Gardens of Haineshill, Hurst Lodge, Bill Hill Park and Billingbear are all between 1km and 2km from the proposed site. Given the distances and intervening built form and vegetation, there is no harm to the setting of these designated and locally listed heritage assets.
- 4.38 There are no public rights of way in the area which are likely to be affected by the proposals.

⁵ Environment Agency – Flood Map for Planning

⁶ Environment Agency – Risk of Flooding from Surface Water dataset

⁷ Historic England Listing ID 1117415

5.0 Conclusion

- 5.1 The proposed development has very specific location requirements to ensure its operational viability; it cannot be located just anywhere.
- 5.2 This report has summarised the process used by Ratesu Limited to identify a suitable and available location for the proposed receiver station.
- 5.3 An area of search extending to 20km around the relay location at the LD4 data centre in Slough was identified. Following consideration of the minimum requirements for the proposed receiver station and noting the constraints and designations which are present in the area, there is a very small residual area which became the focus identifying an available and accessible site.
- 5.4 An available site was found in the residual search area. The identified site on land adjacent to Phoenix Park, Hurst has potential for connection to the public highway utilising existing service roads, thereby providing the necessary access for maintenance and emergency vehicles. There is suitable separation distance from the existing residential areas, to protect local amenity and public safety.
- 5.5 An agreement has been reached with the landowner, a lease for the land has been arranged, and therefore a site meeting the minimum operational requirements for the proposed receiver station has been identified and secured.

Appendix A – Physical Constraints Plan

Appendix B – Statutory Designations Plan

Appendix C – Natural Environment Designations Plan

Appendix D – SSSI Impact Risk Plan

Appendix E – Flood Risk Plan

Appendix F – Heathrow Safeguarding Zone Plan

Appendix G – Line of Sight Plan

Appendix H – Residual Area of Search Plan

Appendix I – Refined Area of Search Plan

Appendix J – Refined Area of Search Assessment Plan (PVOL#1 to #5)

Appendix K – Assessment of Mast Heights

Appendix L – Refined Area of Search and Proposed Site Location Plan

Appendix M – Line of Sight Analysis for the Proposed Site