Overshadowing Statement

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1. Introduction

After considering the development proposals the response of the Canals and Rivers Trust advised that planning permission should not be granted for the following reason:

- The proposed development due to its overall size, height and proximity to the waterway would result in a level of overshadowing that would adversely impact on the ecological value of this section of the canal and no assessment of this or mitigation measures are proposed to address this. The proposals would therefore be contrary to Policy SI 17 of the London Plan, 2021, Policy EM7 of the Hillingdon Local Plan: Part 1 - Strategic Policies (2012) and Policies DMEI 8 & DMHB 11 of the London Borough of Hillingdon Local Plan Part 2:Development Management Policies(2020) and the advice and guidance contained within the NPPF.

The response considered that Impact on the biodiversity of the waterway:

- due to the height, massing, and proximity of the buildings to the canal there would be significant overshadowing of the waterspace as a result of the proposals. This level of shading would be detrimental to the biodiversity and aquatic ecosystems.
- without a shading study it is difficult to assess the impact of shading on the canal corridor, potential effects on biodiversity or how well the proposed planting would establish given the area would likely be shaded by the proposed buildings.
- No information has been provided to demonstrate that there would be no adverse shading to the canal and that an effective landscaping buffer could be created. This detail should be provided for consideration prior to determination.

This statement provides an assessment of the overshadowing impact of the development on the canal, bankside scrub and proposed landscaping and determines if this impact is likely to be significant.

The statement has been produced by Paul Hudson MCIEEM.

2. Ecological Value of the Grand Union Canal

The site lies directly to the south of the Grand union Canal. The canal is designated as a Site of Metropolitan Importance for nature conservation as the entire London canal network is designated in this way. The canals support a wide range of aquatic flora, fish, invertebrates (including dragon/damselflies) and breeding waterfowl. Certain species found are indicative of the good quality of the water.

The London Biodiversity partnership website[1] states that London canals are designates as a result of its intrinsic value for wildlife and because it provides public access to nature; the latter is particularly important where canals pass through inner city boroughs.

Most of the canal network does not support extensive areas of vegetation, but a wide variety of wetland plants occur where conditions are suitable. These include the following: spiked water-milfoil *Myriophylum spicatum*, rigid hornwort *Ceratophyllum demersum*, hemlock water dropwort *Oenanthe crocata*, yellow iris *Iris pseudacorus* and, in the more rural stretches of the system, arrowhead *Sagittaria sagittifolia*, yellow water-lily *Nuphar lutea* and stands of common reed *Phragmites australis*.

The canals also support a wide range of wetland invertebrates. Where there are larger stands of marginal vegetation along canals in outer London boroughs, the emerald damselfly may be present. Less demanding species of dragonfly, such as the emperor and blue-tailed damselfly, occur throughout the canal system.

Sand martins have taken to nesting in old pipes alongside canals and kingfishers are frequently present, although less likely to find suitable nest-sites. Grey herons are virtually ubiquitous.

A diverse range of fish is present in the canals, some being populations of fish which have entered the canal network from the main rivers which supply the system, others being deliberate introductions by anglers. Roach, bream, gudgeon, carp and tench are typical species. Eels are also present.

Canalside buildings and infrastructure (e.g. buildings and tunnels) may provide roost sites for bats. Water voles are still present in a few locations.

In addition to the wetland communities present in and alongside the canal, stretches of grassland, scrub and woodland can be found adjacent to the towpath.

Figure 1: Extent of the London Canal SINC

[1] https://www.lbp.org.uk/hacanals.htm

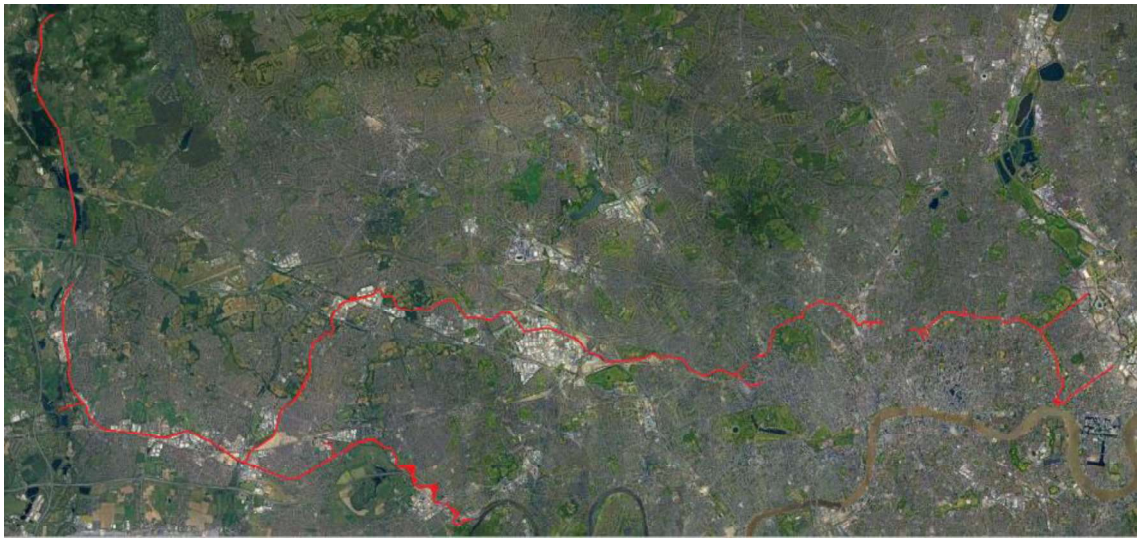
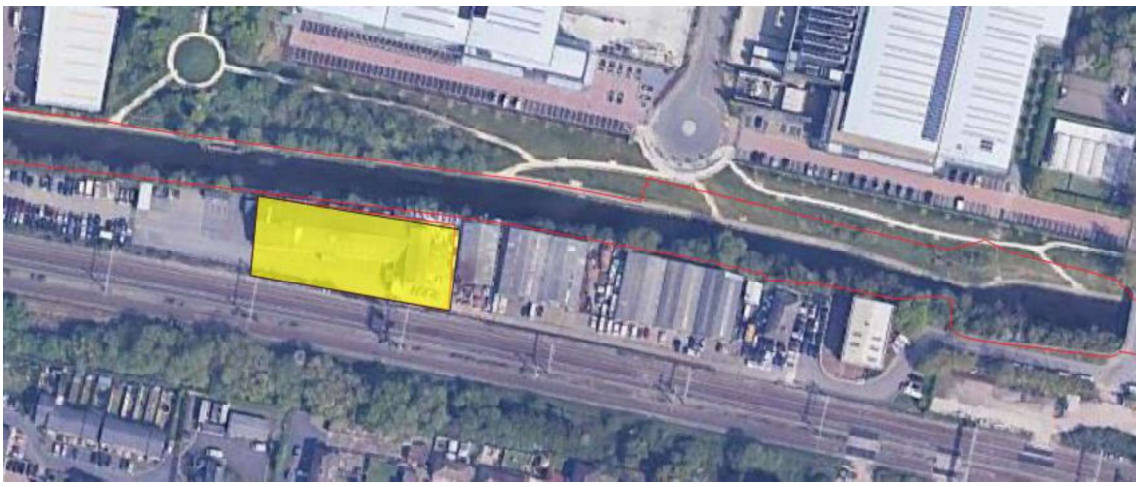


Figure 2: London Canal SINC Adjacent to Site



3. Shading Impact Study

A shading study has been undertaken by AFA Architects following guidance within the Site Layout Planning For Daylight And Sunlight: A Guide To Good Practice' Second Edition (2011) ('The Report') with shading measurements taken at different times of the day at the spring equinox (20th March), summer solstice (21st June), autumn equinox (23rd September) and winter solstice (22nd December).

The shading study shows that there:

- is a minor increased level of shading between the current and proposed building southern bank on the 20th March at 9am and 12.00pm and a significant increase in shading at 4pm;
- is minimal difference in shading between the current and proposed building on 21st June;
- is a minimal difference in shading at 9am, a slightly increased level of shading at 12pm and a significant level of shading at 4pm on September 23rd
- on 23rd December there is no significant difference in shading with the majority of the canal in complete shade throughout the day.

4. Assessment of Impacts of Additional Shading on the Canal Ecological Receptors

The impact of the additional shading on the canal ecosystem on a variety of ecological receptors is discussed in the table below:

Ecological Receptor	**Notes**	**Anticipated Likely Significant Impact**
Aquatic and Submergent Vegetation of Grand Union Canal	The photograph in the Mathew Game PEA report suggest that	No significant effect.

	there that is little aquatic and submerged vegetation in this section of the canal.	
Emergent Vegetation of Grand Union Canal	The photograph in the Mathew Game PEA report show no emergent vegetation present on the southern bank of the canal adjacent to the site.	No significant effect.
Amphibians	Due to steep banks the canals is unlikely to be of particular importance to amphibians.	No significant effect.
Reptiles	The canal may be suitable for supporting grass snakes.	No significant effect due to mobile nature of grass snakes.
Roosting Bats	Photographs provided in the Mathew Game PEA report show the canal wall on the southern side to be well mortared with few deep cavities present.	No significant effect. Any impacts on shading on banks of canal is unlikely to be significant.
Commuting and Foraging bats		No significant effect.
Badger	No suitable habitat on site.	No significant effect.
Hazel dormouse	No suitable habitat on site.	No significant effect.
Hedgehog	No evidence of hedgehog being affected by reduced light levels.	No significant effect .
Otter	No evidence of otter being affected by reduced light levels.	No significant effect.
Water vole	This section of the canal is unsuitable for water voles due to lack of emergent vegetation	No significant effect due to mobile nature of otter.
Birds	There is no evidence of increased shading having any impact on birds.	No significant effect.
Fish	Increased shading can have an impact on dissolved oxygen levels. Shade can also effect fish schooling behaviour by reducing their polarization, number of interactions among individuals[2].	No significant effect
Invertebrates	There is no evidence of increased shading having any impact on invertebrates	No significant effect

[2] Valentin Ribeiro, Haroldo & Acre, Matthew & Faulkner, Jacob & Cunha, Leonardo & Lawson, Katelyn & Wamboldt, James & Brey, Marybeth & Woodley, Christa & Calfee, Robin. (2022). Effects of shady environments on fish collective behavior. Scientific Reports. 2022. 17873. 10.1038/s41598-022-22515-3.

5. Assessment of Impacts of Additional Shading on Mixed Scrub Habitat

The preliminary ecological appraisal undertaken for the site undertaken by Matthew Game detailed that the area of the site currently adjacent to the site supports mixed scrub habitats of low ecological value adjacent to the canal. The dominant species: hawthorn and bramble both grow in woodland conditions and are adapted to growing in shade. There will be no significant effect of the development on this habitat.

Mixed scrub	To the north of the buildings is a small area of mixed scrub. This consists of Perennial Ryegrass (D), also Bramble (F) and Hawthorn (O). This habitat offers low ecological value.	

6. Assessment of Impacts of Additional Shading on Proposed Landscaping

The species selected for the landscaping of the site are species tolerant of shade conditions. The additional shading as a result of the new building is considered unlikely to affect the growth of these species.

7. Conclusion

There is likely to be a no significant effect on either the biodiversity of the canal, the existing scrub habitat or the new proposed landscape planting as a result of the increased shading resulting from the construction of the new building. The shading impact is not likely to be serious enough to constitute a reason for refusal of planning permission, but it does increase the importance of maximising biodiversity provision within the development which are already included within the proposals.