

Symmetry Park, Merseyside RM3 - Review of Light Spill from Vehicle Headlights

GIA have been instructed to undertake a review of the proposed RM3 application for Unit 03, Symmetry Park, Merseyside (ref: 24/00145/REM), specifically in relation to the potential for light-spill from vehicle headlights to be emitted across the site boundary, potentially impacting nearby residential properties. This is to specifically address a query raised by Knowsley Council planning officers:

"Given the issue with headlights currently causing lighting impacts on neighbour amenity to the north of the access road and the fact that this REM application will increase activity leading up to the access road, as well as introducing more headlights running along the side of the building along the road accessing the car park, I consider that an analysis of headlight impact is required to assess the impact of this development on neighbour amenity from headlights from lorries, cars etc. These impacts will originate from the road around the building, access to the unit and from use of the car park."

This review relates specifically to light emitted from vehicles within the boundary of RM3, those that could reasonably be mitigated as part of RM3. Whilst some additional vehicle movements along the main access may occur, the main access road has been approved in detail and any remediation measure explored would sit separately from RM3.

The below image shows the extents of RM3 (within the red line boundary) and the location of neighbouring residential properties (orange) and the elevations of these properties that have windows that could be impacted by light spill (teal).



Figure 1: Site Plan showing RM3 and identifying proximity to neighbouring residential properties

A desktop review has been undertaken, based on the submitted drawings, topographical information and regulations restricting maximum headlight heights to determine if it is geometrically possible for headlights within the RM3 site to impact the neighbouring residential properties.

The Road Vehicles Lighting Regulations 1989 Schedule 4 states that the maximum vertical height above ground that headlights can be located is 1200mm, therefore, any vehicles using the RM3 Unit 3 car parks and the road connecting the two car parks would have their headlights located at a height no greater than 1200mm above the ground.

It is assumed that when using the roadways within the site, the car headlights would be on low-beam where upwards light-spill is minimal.

The levels of the two proposed car parks and road connecting them is c. 37m AOD throughout with only marginal level changes, therefore, all headlight beams would be predominantly parallel to the ground, with the greatest intensity focused in a downwards direction.

There is a large embankment of c. 5m between the car parks and road connecting them, and the ground level of the neighbouring properties (c. 43m AOD), therefore, any light from headlights would likely intersect with the embankment and would not be able to reach the residential windows located over 4.1m above the maximum vertical elevation of the headlights. This is demonstrated visually on the following page. It is therefore not considered likely, geometrically, for light-spill from vehicle headlights within the RM3 site to be able to reach the neighbouring residential windows.

Furthermore, there is a large bank of trees within the land of neighbouring properties, shielding the eastern boundary of Unit 03 from the residential properties as shown in the image below.

Therefore, in consideration of the factors identified, it is unlikely that light emitted from vehicle headlights within the RM3 site boundary could reach the neighbouring residential windows and vehicular headlight spill from RM3 is not considered to be of concern for neighbouring residential properties. In our professional opinion, based on the geometric factors identified, we do not consider further analysis to be required.

Yours sincerely

For and on behalf of GIA

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Figure 2: Aerial Imagery showing tree coverage within neighbouring residential properties

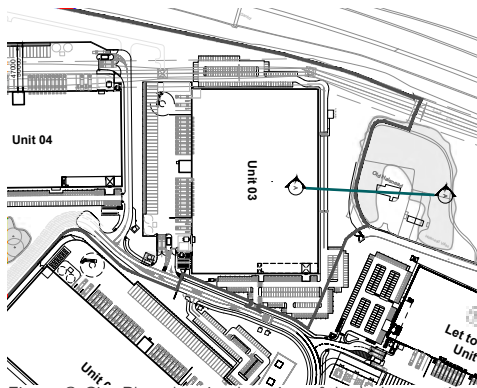


Figure 3: Site Plan showing location of the below section (Figure 4)

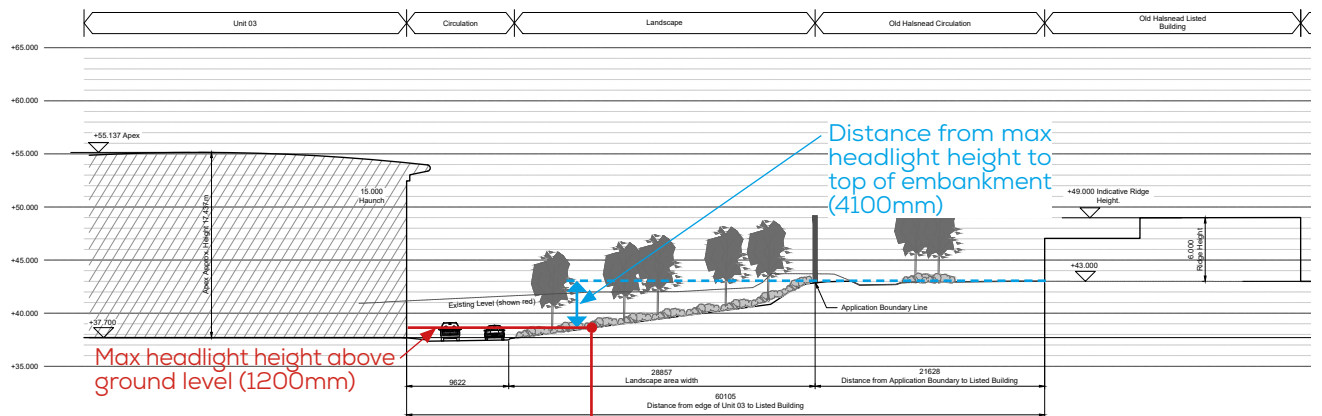


Figure 4: Site section showing maximum headlights elevation and embankment in relation to the height of the neighbouring residential properties.

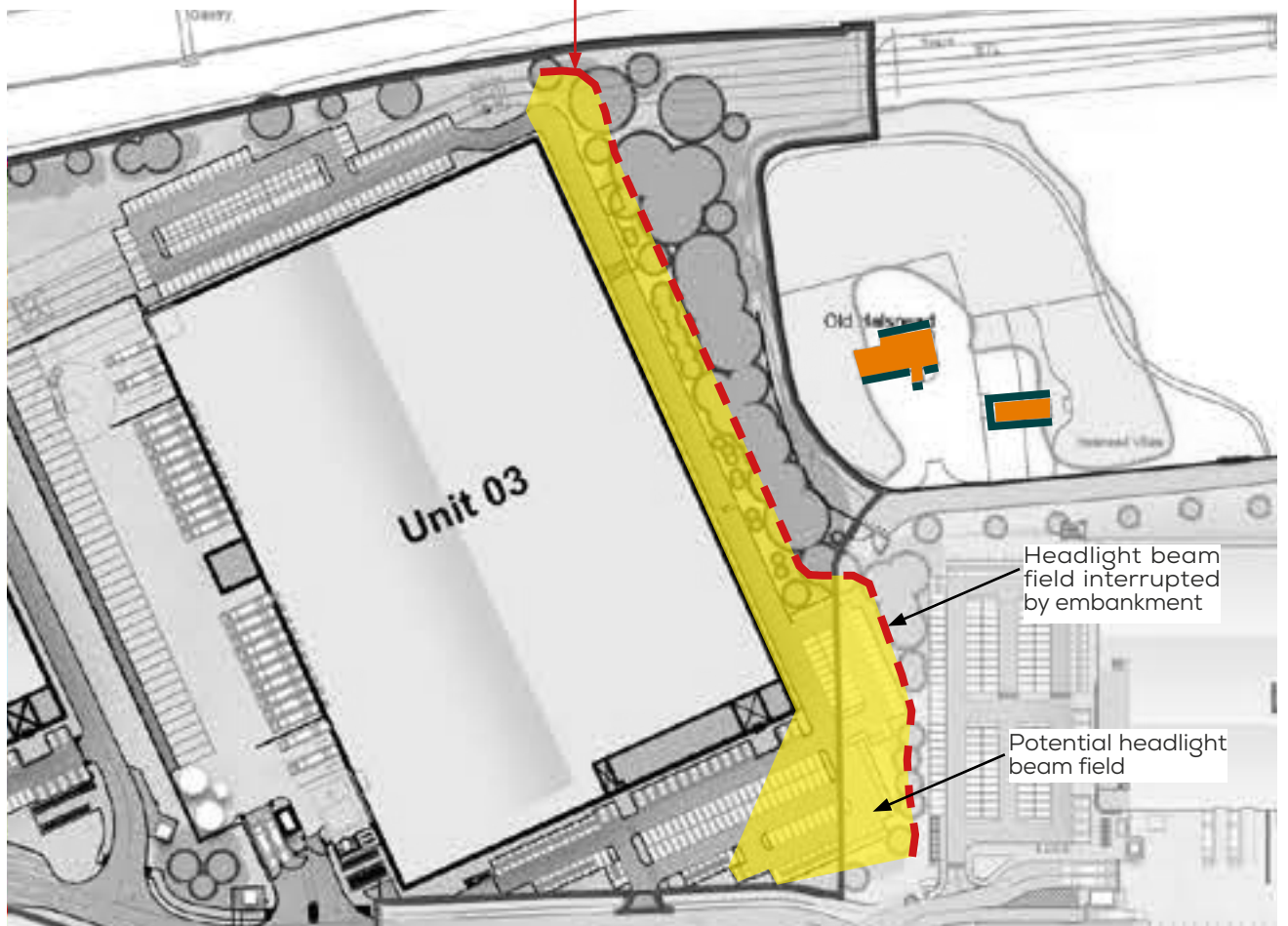


Figure 5: Plan portraying the headlight beams being interrupted by the embankment