

## **THE PLANNING ACT 2008**

### **M4 (JUNCTIONS 3 TO 12) (SMART MOTORWAY) DEVELOPMENT CONSENT ORDER APPLICATION**

**PINS REFERENCE NO: TR010019**

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#### **Night-time Lighting Verification of Assessment Deadline III - 5 November 2015**

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#### **Introduction**

1. Further to Highways England's response to QE4.2.7 of the ExA's First Written Questions, the purpose of this document is to review and confirm the main night-time effects arising from the night-time lighting of the proposed construction compounds. Chapter 8 of the Environmental Statement ("ES") (Application Document Reference 6-1) assessed the effects of the construction work and construction compounds on the landscape character and visual amenity of the study area. However, in relation to the night-time visual effects, two issues are discussed in this document, these being;
  - 1.1 The particular effects of light pollution i.e. obtrusive light resulting in one of glare, light trespass or skyglow; and
  - 1.2 The visual effects, which in most instances are those already reported in Chapter 8 of the ES i.e. where views are affected by the elements of the construction compounds which are visible as a consequence of external night-time lighting such as background urban lighting and street lighting along with the lighting within the construction compound itself.
2. In each case, this document relates particularly to the night time construction effects of the Scheme.

#### **Night-time Lighting of Construction Compounds**

3. This document takes into consideration Highways England's response to QCA9.2 of the ExA's First Written Questions.

4. All construction compounds will require lighting for safety purposes. The typical night-time lighting at each of the construction compounds will comprise low level lighting which reduces visual intrusion. This will be directional, cut off lighting to illuminate the site entrance and main access routes within the construction compounds and will be mounted on 4 to 5m high columns. Elsewhere, there will be 3m high lighting around the office buildings and walkway areas.
5. There will be the need for 24 hour operation at Construction Compounds 2, 4, 5, 9 and 11. This will be for the 24 hour vehicle recovery service and traffic management maintenance crews. However, again the lighting will be low level as described above. It is likely that all construction compounds will need the facility to operate at night on occasions and will need to floodlight some operations on a task by task basis. The flood lights will provide directional downward light onto the work area and will be no higher than 6m.
6. Construction Compounds 2, 5 and 11 are also likely to require a concrete batching plant comprising up to three 15m high cement silos, a conveyor belt and 11m high aggregate store. Night-time lighting will be required for safe operation.
7. The effects of the lighting associated with night-time operations at the construction compounds will be controlled to avoid light pollution and reduce night-time visual intrusion on nearby receptors (paragraphs 4.10.7 and 4.10.8 of the Outline Construction Environmental Management Plan) (Appendix 4.2A of the ES) (Application Document Reference 6-3). The 2m high solid perimeter hoarding and/or stripped topsoil bund around the perimeter of the construction compounds will further limit the spill of light beyond the perimeter of the construction compound.
8. The night-time landscape and visual implications associated with each of the nine construction compounds are considered below.

### Construction Compound 2

9. With reference to paragraph 8.5.9 of the ES (Application Document Reference 6-1), Construction Compound 2 is located within the Institution of Lighting Professional (“ILP”) environmental zone 3 Medium district brightness area. Lighting at this location is heavily influenced by night-time lighting from the adjacent urban area, the A4 and M4 junction 12.
10. There will be 24 hour operation at Construction Compound 2 for vehicle recovery services and traffic management maintenance crews. There will be the occasional floodlighting which will provide localised greater illumination within part of the construction compound. When

operational, there will also be night-time lighting from the concrete batching plant, provisionally located on the west side of the construction compound in the vicinity of the A4 Bath Road and Dorking Way.

11. The existing background street lighting along the A4 Bath Road and Dorking Way will help to mask the low level lighting within the construction compound during normal night-time operations. The night-time lighting for the proposed concrete batching plant, which will only be required intermittently, will be visible over the perimeter fence, but will be set in the context of the adjacent street lighting along the A4 Bath Road and Dorking Way. Lighting will be controlled to avoid light pollution on adjacent receptors (paragraphs 4.10.7 and 4.10.8 of the Outline CEMP). The existing street lighting and urban night-time context in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil storage bunds and the existing retained hedgerow vegetation will avoid light pollution on to the adjacent residential properties.
12. There is a cluster of visual receptors (ref. 1.1.3, 1. 1.4, 1.1.5, 1.1.6, 1.2.4, 1.2.5, 1.3.4 and 1.3.5) with views to Construction Compound 2 shown on Drawing 8.2 of the ES, Sheet 1 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). It is anticipated that in some night-time views, the occasional lights and illumination of the taller equipment and the flood lighting providing localised illumination within part of the construction compound will be perceptible, but would be seen against the backdrop of the street lighting along the A4 Bath Road beyond.
13. It is considered that the night-time landscape and visual effects of Construction Compound 2 will be the same as those already reported in paragraphs 8.5.22 and 8.5.28 of the ES (Application Document Reference 6-1) i.e. short term moderate adverse.

### Construction Compound 3

14. With reference to paragraph 8.5.9 of the ES (Application Document Reference 6-1), Construction Compound 3 will be located within ILP environmental zone 2 Low district brightness area. Although the construction compound lies away from the settlement edge, the lighting at the construction compound is influenced by the street lighting along the adjacent A33.
15. The construction compound will not have 24 hour operation. The existing background lighting, particularly from the A33, will help mask the low level lighting. The occasional floodlighting will provide localised greater illumination within part of the construction compound.

16. There are two visual receptors (ref. 3.2.1 and 3.2.2) with views to the construction compound site shown on Drawing 8.2 of the ES, Sheet 3 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). Where there is a night-time view, it is anticipated the lights and illumination within the construction compound in combination with the street lighting, the perimeter solid hoarding or stripped topsoil storage bunds will be barely perceptible. The existing street lighting in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil earth bunds will avoid light pollution onto the adjacent receptors.
17. It is considered that the night-time landscape and visual effects of Construction Compound 3 will be the same as those already reported in paragraphs 8.5.23 and 8.5.29 of the ES (Application Document Reference 6-1) i.e. short term slight adverse.

#### Construction Compound 4

18. With reference to paragraph 8.6.3 of the ES (Application Document Reference 6-1), Construction Compound 4 will be located within ILP environmental zone 3 Medium district brightness area. This construction compound lies within the M4 highway estate and the confines of junction 10. The lighting at this location is heavily influenced by the lighting along the M4, the A328 (M) and the slip roads at the junction.
19. Construction Compound 4 will have 24 hour operation for vehicle recovery services and traffic management maintenance crews.
20. There are no visual receptors with a view to the construction compound site, as shown on Drawing 8.2, Sheet 5 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). The night-time lighting associated with Construction Compound 4 will be masked by the surrounding motorway lighting and screened from most views by the pockets of vegetation within the junction, although the occasional floodlighting will provide localised greater illumination within part of the construction compound, this will not result in light pollution.
21. It is considered that the night-time landscape and visual effects of Construction Compound 4 will be neutral.

#### Construction Compound 5

22. With reference to paragraph 8.8.3 of the ES (Application Document Reference 6-1), Construction Compound 5 will be located within ILP environmental zone 2 Low district brightness area. Although the construction compound is slightly offset from the settlement

edge, it is influenced by the street lighting along the adjacent A330 and the urban lighting beyond. The local landscape to the south, north and west is also influenced by the street lighting along the A308 (M) to the north, the M4 to the south and the M4 J8/9 to the west and adjacent urban lighting to the east.

23. Construction Compound 5 will have 24 hour operation for vehicle recovery services and traffic management maintenance crews. The existing background lighting will help mask the low level lighting within this construction compound. There will be occasional floodlighting which will provide localised greater illumination within part of the construction compound as well as night-time lighting for the proposed concrete batching plant, provisionally located on the south side of the construction compound in the vicinity of the M4. The night-time lighting operation will be visible to passing travellers on the M4, but will be set in the context of the foreground illuminated M4 and A308 (M) street lighting beyond.
24. There is a cluster of visual receptors (ref. 9.1.9, 9. 1.9 and 9.1.10) with views to Construction Compound 5 shown on Drawing 8.2, Sheet 9 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). It is anticipated that the lighting associated with the concrete batching plant will be screened from views from the residential receptors on the A330 by the intervening vegetation along the east side of the construction compound and the retained earthworks associated with the approach to the Ascot Road overbridge. The existing street lighting and urban night-time context in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil storage bunds and the existing retained vegetation along the A330 will avoid light pollution on to the adjacent residential properties.
25. It is considered that the night-time landscape and visual effects of Construction Compound 5 will be the same as those already reported in paragraph 8.8.12 of the ES (Application Document Reference 6-1) and in Appendix 8.3 of the ES (Application Document Reference 6-3) i.e. short term moderate adverse and large adverse respectively.

#### Construction Compound 6

26. With reference to paragraph 8.8.3 of the ES (Application Document Reference 6-1), Construction Compound 6 will be located within ILP environmental zone 3 Low district brightness area. The construction compound falls within the M4 highway estate and the confines of the M4 Junction 7. Lighting in this location is heavily influenced by the lighting along both the M4 and the link roads at the junction.
27. The construction compound will not have 24 hour operation. The existing background

lighting will help mask the low level lighting and any floodlighting within this construction compound.

28. There is one visual receptor (ref. 10.3.15) with a view to the construction compound shown on Drawing 8.2, Sheet 10 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). The existing street lighting and urban night-time context in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil storage bunds will avoid light pollution on to the adjacent receptor.
29. It is considered that the night-time landscape and visual effects of Construction Compound 6 will be neutral. .

#### Construction Compound 7

30. With reference to paragraph 8.10.3 of the ES (Application Document Reference 6-1), Construction Compound 7 will be located within the ILP environmental zone 2 Low district brightness area. Lighting at this location is heavily influenced by night-time lighting from the adjacent urban area, the M4, the M4 J7, A332 and A335.
31. The construction compound will not have 24 hour operation. The existing background lighting will help mask the low level lighting within this construction compound. Occasional floodlighting will provide localised greater illumination within part of the construction compound.
32. There is one visual receptor (ref. 11.3.12) with views to the construction compound shown on Drawing 8.2, Sheet 11 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). The existing street lighting and urban night-time context in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil storage bunds will avoid light pollution on to the adjacent receptor.
33. It is considered that the night-time landscape and visual effects of Construction Compound 7 will be the same as already reported in paragraph 8.10.13 of the ES (Application Document Reference 6-1) and Appendix 8.3 of the ES (Application Document Reference 6-3) i.e. neutral and a short term moderate adverse on the night-time landscape and views respectively.

#### Construction Compound 8

34. With reference to paragraph 8.10.3 of the ES (Application Document Reference 6-1), Construction Compound 8 will be located within the ILP environmental zone 2 Low district

brightness area. Lighting at this location is heavily influenced by night-time lighting from the existing M4, Datchet Road and the adjacent urban area.

35. The construction compound will not have 24 hour operation. The existing background lighting will help mask the low level lighting within this construction compound. Occasional floodlighting will provide localised greater illumination within part of the construction compound.
36. There are three visual receptors (ref. 12.2.1, 12.3.5 and 12.3.6) with views to the construction compound shown on Drawing 8.2, Sheet 12 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). The construction compound will be screened by the retained western earthworks on the approach to the Datchet Road overbridge and its associated vegetation from properties along the Myrke to the west. The existing street lighting and urban night-time context in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil storage bunds will avoid light pollution on to the adjacent receptors.
37. It is considered that the night-time landscape and visual effects of Construction Compound 8 will be the same as already reported in paragraph 8.10.14 of the ES (Application Document Reference 6-1) and Appendix 8.3 of the ES (Application Document Reference 6-3) i.e. short term moderate adverse.

#### Construction Compound 9

38. With reference to paragraph 8.10.3 of the ES (Application Document Reference 6-1), Construction Compound 9 will be located within the ILP environmental zone 2 Low district brightness area. Lighting at this location is influenced by night-time lighting from the adjacent urban area, the A4 and local road.
39. This construction compound will have 24 hour operation for vehicle recovery services and traffic management maintenance crews. The existing background lighting will help mask the low level lighting within this construction compound. Occasional floodlighting will provide localised greater illumination within part of the construction compound.
40. There are three visual receptors (ref. 13.1.14, 13.1.15 and 13.2.2) with views to the construction compound site shown on Drawing 8.2, Sheet 13 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). The existing street lighting and urban night-time context in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil storage bunds and retained hedgerow

vegetation, will avoid light pollution onto the adjacent receptors.

41. It is considered that the night-time landscape and visual effects of Construction Compound 9 will be the same as already reported in paragraph 8.11.14 and 8.11.18 a) of the ES (Application Document Reference 6-1) i.e. neutral and short term moderate adverse on the night-time landscape and night-time views respectively.

#### Construction Compound 11

42. With reference to paragraph 8.13.3 of the ES (Application Document Reference 6-1), Construction Compound 11 will be located within the ILP environmental zone 2 Low district brightness area. Lighting at this location is heavily influenced by night-time lighting from the adjacent urban area, the M4, M4 junction 4 and Stockley Road.
43. This construction compound will have 24 hour operation for vehicle recovery services and traffic management maintenance crews. The existing background lighting will help mask the low level lighting within this construction compound. There will be occasional floodlighting which will provide localised greater illumination in part of the construction compound and also localised night-time lighting from the concrete batching plant, provisionally located on the west side of the construction compound in the vicinity of the A408 Stockley Road.
44. There is one visual receptor (ref. 15.3.2) with views to the construction compound, shown on Drawing 8.2, Sheet 13 (Application Document Reference 6-2) and listed in Appendix 8.3 of the ES (Application Document Reference 6-3). The existing street lighting and urban night-time context in combination with the controls on lighting, the perimeter solid hoarding or stripped topsoil storage bunds will avoid light pollution on adjacent receptors.
45. It is considered that the night-time landscape and visual effects of Construction Compound 11 will be the same as already reported in paragraph 8.13.11 and 8.13.14 a) of the ES (Application Document Reference 6-1) i.e. a short-term slight adverse and moderate adverse effect on the night-time landscape and views respectively.

**DLA Piper UK LLP**

**On behalf of Highways England**

**5 November 2015**