APPENDIX 11.4 – ASSESSMENT OF LIGHTING EFFECTS

Table A11.4.1: Assessment of lighting effects during construction

Refer to Table 11.2 (reproduced below as Table A11.4.3) for definitions of receptor types and lighting effects.
This assessment assumes the Construction Environmental Management Plan is implemented.

Receptor	Distance from construction lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Milton Malsor – residential properties at east and southeast fringe with full or partial direct views of the Site (B)	500m	High	Medium/ Small	Moderate/ Minor Adverse	(4) will increase until the northwest bunding is formed, when it will fall back to pre-construction levels. (5) will marginally increase.
Milton Malsor – other residential properties (B)	500m +	Medium	Negligible	Negligible	(4) will be unchanged. There will be a barely noticeable increase in (5), which is already present in the direction of the Site.
Lodge Farm and nearby properties along Barn Lane, Milton Malsor (B)	150m +	High	Medium/ Small	Moderate/ Minor Adverse	(4) will increase significantly for Lodge Farm and less so for other properties, until the intervening bunding is formed, when it will fall back to pre-construction levels. (5) will marginally increase.
63 Collingtree Road (Manor Farm Bungalow) (B)	200m	High	Medium/ Small	Moderate/ Minor Adverse	(4) will increase until the northwest bunding is formed, when it will fall back to pre-construction levels. (5) will marginally increase.

Receptor	Distance from construction lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Blisworth – residential properties at northeast fringe with full or partial direct views towards the Site (B)	1200m	High	Small	Minor Adverse	Views are distant and the Main Site is in a depression. It will be seen against the existing backdrop of lighting associated with the Northampton conurbation, Grange Park and the M1 motorway junctions. Changes to (4) and (5) will therefore be small.
Blisworth – other residential properties (B)	1200m +	Medium	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to screening by intervening properties and distance.
Courteenhall village (B)	1200m	High	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to existing screening and distance.
Courteenhall parkland (C)	400m +	High	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to existing screening and distance.
Collingtree (A,B)	75m +	Medium	Negligible	Negligible	Effects (1), (2) and (3) will be nil. Changes to (4) and (5) will be imperceptible due to existing screening.
Roade – Hyde Farm, Blisworth Road (A)	30m (to bypass construction lighting)	High	Negligible (1,2,3) Small (4) Negligible (5)	Negligible (1,2,3) Minor Adverse (4) Negligible (5)	This property lies on an unlit road. However, views in the direction of construction lighting on the proposed Roade Bypass already contain more distant lighting. The CEMP will ensure that effects (1), (2) and (3) will be nil and that the change in (4) is limited to small. Changes to (5) will be negligible.

Receptor	Distance from construction lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Roade – Properties on north-west side of Dovecote Road, numbers 24-54 (A)	40m + (to bypass construction lighting)	High	Negligible (1,2,3) Small (4) Negligible (5)	Negligible (1,2,3) Minor Adverse (4) Negligible (5)	These properties lie on a lit residential road. However, views to rear of the properties are currently dark and little, if any, lighting is visible. The CEMP will ensure that effects (1), (2) and (3) will be nil and that the change in (4) is limited to small. Changes to (5) will be negligible.
Roade – White House Farm, Northampton Road (A)	30m (to bypass construction lighting)	High	Negligible (1,2,3) Small (4) Negligible (5)	Negligible (1,2,3) Minor Adverse (4) Negligible (5)	This property is at the northern edge of Roade and thus experiences lighting effects in some views. Views to the north and north-west, however, are currently dark and little, if any, lighting is visible. The CEMP will ensure that effects (1), (2) and (3) will be nil and that the change in (4) is limited to small. Changes to (5) will be negligible.
Roade – other residential properties close to proposed bypass (B)	100m + (to bypass construction lighting)	Medium	Small	Minor Adverse	Changes to (4) will be small and to (5) will be negligible.
Road users on the M1 motorway, A508 and M1/A508/A45 junction (D)	Adjacent	Medium	Negligible	Negligible	There will be no (7) and (8) effects.

Receptor	Distance from construction lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Railways (D)	Adjacent	High	Negligible	Negligible	There will be no (7) and (8) effects.
Grand Union Canal (C)	2000m +	High	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to topography, existing screening and distance.
Night sky views from dark locations (E)	—	—	Negligible	Negligible	Changes to (6) will be imperceptible.
Ecology – woodland, hedgerows and water margins (F)	—	—	—	—	(9) and (10) are fully preventable. Refer to Chapter 6 (Ecology and Nature Conservation).

Table A11.4.2: Assessment of lighting effects during operation

Refer to Table 11.2 (reproduced below as Table A11.4.3) for definitions of receptor types and lighting effects.
This assessment assumes the Lighting Strategy (Appendix 11.3) is implemented.

Receptor	Distance from new lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Milton Malsor – residential properties at east and southeast fringe with full or partial direct views of the Site (B)	500m	High	Small	Minor Adverse	A few properties may glimpse some of the new lighting and therefore there will be a small increase in (4). Should high mast lighting be used at the remodelled junction 15 this is nevertheless very unlikely to be seen from these locations due to the intervening topography and the formation of bunding. There will be a small but noticeable increase in (5).
Milton Malsor – other residential properties (B)	500m +	Medium	Negligible	Negligible	(4) will be unchanged. There will be a barely noticeable increase in (5), which is already present in the direction of the Site.
Lodge Farm and nearby properties along Barn Lane, Milton Malsor (B)	150m +	High	Small	Minor Adverse	There is very unlikely to be any increase in (4). However, there will be a noticeable increase in (5).
63 Collingtree Road (Manor Farm Bungalow) (B)	200m	High	Small	Minor Adverse	There will be no change to (4) but there will be a small but noticeable increase in (5).

Receptor	Distance from new lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Blisworth – residential properties at northeast fringe with full or partial direct views towards the Site (B)	1200m	High	Small	Minor Adverse	Views are distant and the Main Site is in a depression. It will be seen against the existing backdrop of lighting associated with the Northampton conurbation, Grange Park and the M1 motorway junctions. Should high mast lighting be used at the remodelled junction 15 this may be more noticeable than the existing junction lighting; however, in the context of the many other light sources visible on the horizon, this would not be significant. Changes to (4) and (5) will therefore be small.
Blisworth – other residential properties (B)	1200m +	Medium	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to screening by intervening properties and distance.
Courteenhall village (B)	1200m	High	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to existing screening and distance.
Courteenhall parkland (C)	400m +	High	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to existing screening and distance.
Collingtree (A,B)	75m +	Medium	Negligible	Negligible	Effects (1), (2) and (3) will be nil. Changes to (4) and (5) will be limited by existing screening for those properties with views south, and negligible for all other properties.

Receptor	Distance from new lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Roade – Hyde Farm, Blisworth Road (A)	30m (to bypass roundabout lighting)	High	Negligible (1,2,3) Medium (4) Small (5)	Negligible (1,2,3) Moderate Adverse (4) Minor Adverse (5)	This property lies on an unlit road. However, views in the direction of new lighting on the proposed Roade Bypass already contain more distant lighting. Lighting on the proposed Roade Bypass roundabouts and their approaches will comply with industry standards for highway lighting in rural locations. This will ensure that effects (1), (2) and (3) will be nil. However, new road lighting units will be visible from this property, where the change in (4) is assessed as medium. Changes to (5) will be noticeable but not as significant as (4).
Roade – Properties on north-west side of Dovecote Road, numbers 24-54 (A)	40m + (to bypass roundabout lighting)	High	Negligible (1,2,3) Medium (4) Small (5)	Negligible (1,2,3) Moderate Adverse (4) Minor Adverse (5)	These properties lie on a lit residential road. However, views to rear of the properties are currently dark and little, if any, lighting is visible. Lighting on the proposed Roade Bypass roundabouts and their approaches will comply with industry standards for highway lighting in rural locations. This will ensure that effects (1), (2) and (3) will be nil. However, road lighting units will be visible in views from the rear of the properties before new deciduous planting has matured and the change in (4) is assessed as medium. Changes to (5) will be noticeable but not nearly as significant as (4).

Receptor	Distance from new lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Roade – White House Farm, Northampton Road (A)	30m (to bypass roundabout lighting)	High	Negligible (1,2,3) Medium (4) Small (5)	Negligible (1,2,3) Moderate Adverse (4) Minor Adverse (5)	This property is at the northern edge of Roade and thus experiences lighting effects in some views. Views to the north and north-west, however, are currently dark and little, if any, lighting is visible. Lighting on the proposed Roade Bypass roundabouts and their approaches will comply with industry standards for highway lighting in rural locations. This will ensure that effects (1), (2) and (3) will be nil. However, road lighting units will be visible in views from the rear of this property before new deciduous planting has matured and the change in (4) is assessed as medium. Changes to (5) will be noticeable but not nearly as significant as (4).
Roade – other residential properties close to proposed bypass (B)	100m + (to bypass roundabout lighting)	Medium	Small	Minor Adverse	Changes to (4) and (5) will be small..
Road users on the M1 motorway, A508 and M1/A508/A45 junction (D)	Adjacent	Medium	Negligible	Negligible	There will be no (7) and (8) effects.
Railways (D)	Adjacent	High	Negligible	Negligible	There will be no (7) and (8) effects.
Grand Union Canal (C)	2000m +	High	Negligible	Negligible	Changes to (4) and (5) will be imperceptible due to topography, existing screening and distance.

Receptor	Distance from new lighting	Sensitivity	Magnitude of change	Significance of effect	Description
Night sky views from dark locations (E)	—	—	Negligible	Negligible	The lighting associated with the Development will not emit any upward light although a proportion will be reflected upwards from illuminated surfaces. However, the amount will be inconsequential in the context of the existing night time environment and therefore there will be negligible change to (6).
Ecology – woodland, hedgerows and water margins (F)	—	—	—	—	(9) and (10) are fully preventable. Refer to Chapter 6 (Ecology and Nature Conservation).

Table A11.4.3: Receptor types and lighting effects

Category of receptor	Potential lighting effects
(A) Residential properties within 100m of new lit development	(1) Nuisance: excessive illumination falling on bedroom windows (2) Nuisance: glare causing visual disability or discomfort (3) Loss of amenity: light spill onto property/gardens, changing their character after dark (4) Visual: light presence – light sources and other lit elements appearing in dark views (5) Visual: local sky glow appearing over new lit development
(B) Residential properties more than 100m away from new lit development	(4) Visual: light presence – light sources and other lit elements appearing in dark views (5) Visual: local sky glow appearing over new lit development
(C) Night time views from dark non-residential areas	(4) Visual: light presence – light sources and other lit elements appearing in dark views (5) Visual: local sky glow appearing over new lit development
(D) Transport (roads, railways, airports, navigation)	(7) Hazard: glare causing visual disability (8) Hazard: light sources affecting visibility and interpretation of signals, runway lights, etc.
(E) Night sky views	(6) Visual: general brightening of night sky, reducing visibility of stars and affecting astronomical observation
(F) Light-sensitive ecology close to new lit development	(9) Disturbance: light spill onto dark habitat, reducing its ecological value (esp. in relation to bats) (10) Disturbance: UV light emission, affecting airborne invertebrates