RICHARD MAWDSLEY

WRITTEN REPRESENTATION

HIGHWAYS ENGLAND'S RESPONSE

M4 JUNCTION 3 TO 12 EXPANSION OBJECTION

1. USE OF AMERDEN LANE FOR CONSTRUCTION TRAFFIC

1.1 Land Plan Sheet 19 indicates that Amerden Lane will be used to access a new road for construction traffic which will impact on the residents and surrounding fields and wildlife. I believe that the use of Amerden Lane is ill considered. Amerden Lane (and before it, Old Marsh Lane) is a small single track road with few passing areas. Construction traffic may, just about, pass down the lane however, there will be no ability for local traffic to pass large construction vehicles, even at passing areas which are tight. This will inevitably lead to residents suffering significant disruption and upheaval as the current plan stands. No details of the extent of the works, dates of work or scale of traffic have been disseminated. Works must not start until provisions to reduce local disruption and discomfort are agreed.

Highways England Comment

1.1.1 There is no alternative access to using Amerden Lane as the width off the exiting motorway at this location provides inadequate space to access from the motorway safely. As such, a temporary access via Amerden Lane is required to be constructed alongside the motorway. Once the temporary access has been constructed, access can then be via the motorway.

1.1.2 Local residents will not be subjected to significant disruption or upheaval. The main construction access to the north east side of Thames Bray underbridge will be gained from the motorway by tracking down the embankment and not via Amerden Lane. Initial access for light construction equipment to assist in creation of the main access will be via Marsh Lane and a short stretch of Amerden Lane as no alternative routes are available, as explained above (see paragraph 7.5.33 of the Engineering and Design Report - Application Document Reference 7-3). However, use of this access will be kept to a minimum and will only be for a temporary period of between 2-3 months whilst the motorway access is established (and later removed).

1.1.3 Construction traffic using Amerden Lane during this initial access period will be small scale (rigid body) and restricted to that needed to create and subsequently remove the temporary access - for example to install fencing and to put down / take up trackway – and that associated with preparation of the site to accept the main access – for example removing vegetation.

1.1.4 Traffic control measures, for example *stop / go boards*, will be used for any construction traffic that cannot easily be passed by residents' vehicles along the short stretch of Amerden Lane between Marsh Lane and the temporary access (approximately 300m in total). Close liaison will be maintained with residents to minimise disruption, as set out in section 4 of the Construction Environmental Management Plan ("CEMP") (Annex 4-2A of the Environmental Statement ("ES"), Application Document Reference 6-3) with advance notice of any unavoidable significant loads. Disruption to residents will therefore be minimal and for a limited period of 2-3 months.

1.1.5 In terms of surrounding fields and wildlife, Paragraph 9.8.22 of the ES concludes that the residual effect of construction on habitats and plants in this area (junction 8/9 to junction 7) is neutral. The effects on fauna in this area are assessed as either slight adverse or neutral (ES paragraphs 9.8.26 to 9.8.46). In terms of the effect on landscape, the construction activity associated with the realigned A330, Ascot Road overbridge, construction compound 5 and Marsh Lane overbridge along with the site clearance works will have a short term moderate adverse effect (ES paragraph 8.8.12). This demonstrates that there will be no significant impact on the fields and wildlife in this area.

2. CURRENT PLANS FOR THE EXPANSION OF THE M4 ARE INSUFFICIENTLY SYMPATHETIC TO ENVIRONMENTAL CONCERNS IN VICINITY OF AMERDEN LANE

2.1 Removal of trees: To facilitate the new Thames bridge at Bray, the TPO protected trees and vegetation will be removed. These trees serve as a vital habitat for wildlife but also protect residents. The trees have many virtues in protecting residents from the effects of the motorway. Firstly, they are a direct barrier to sound and light pollution. Secondly, trees provide a filtering effect on some of the carbon gases released in car fumes. Other air pollutants also need consideration, particularly following recent research into diesel emissions. The following academic paper produced by the environment agency and county

council highway departments details the effects of pollution close to the edge of the motorway (http://core.ac.uk/download/pdf/62011.pdf). The reduction in space between the edge of the motorway, and the local houses as well as the river should be of greater concern and should receive more consideration than is currently the case.

Highways England Comment

2.1.1 The vegetation clearance and associated mitigation proposals for the River Thames location at Bray are provided in the Engineering and Design Report, Annex A2, Vegetation Clearance Drawing Sheet 19 (Application Document Reference 7-4) and Annex A1, Environmental Masterplan Drawing Sheet 19. It is also recognised in paragraph 8.8.14 of the ES (Application Document Reference 6-1) that some trees covered by a TPO will be affected. Whilst vegetation clearance will be required, extensive replacement planting is proposed. As set out in Table 8.2 of the ES (Application Document Reference 6-1), the landscape and visual effects during and immediately following construction are assessed to be moderate adverse, reducing to slight adverse by the Design Year (15 years after construction) due to the establishment of planting. With regard to trees protected by TPO, in the event that such trees are affected, measures will be adopted to agree the replacement planting and or tree work of any affected trees with the local planning authority, as stated in paragraph 8.6.2 of the CEMP. The vegetation clearance required to widen Thames Bray bridge includes semi-natural broadleaf woodland, plantation broadleaf woodland, and dense/continuous scrub. These habitat types and their value are described in paragraphs 4.1.1 to 4.1.4 in Appendix 9.1 to the ES (Application Document Reference 6-3) and their location is shown in Drawing 9.2 Sheet 41 (Application Document Reference 6-2). Ancient semi-natural broadleaf woodland or semi-natural broadleaf woodland on the site of ancient woodland is considered to be of likely intrinsic biodiversity value at the national level. However, the broadleaf woodland near Thames Bray bridge is not included on the Ancient Woodland Inventory published by Natural England. Stands of semi-natural woodland that are not ancient semi-natural woodland or replanted ancient woodland, plantation woodland and scrub are considered to be of local biodiversity value.

2.1.2 The trees within these habitats will support a range of wildlife, including birds, small mammals and insects. However, the loss of individual trees will not significantly affect biodiversity in the area. Furthermore, the areas to be cleared

of vegetation for temporary construction use will be replanted, including linear belts of trees and shrubs, as shown on the Vegetation Clearance and Environmental Masterplan drawings Sheet 19 in the Engineering and Design Report (Application Document Reference 7-4). Overall, the significance of effect of vegetation removal on wildlife is considered to be neutral.

2.1.3 The representation suggests that the vegetation to be removed provides a sound barrier. However, the removal of trees in this location is not likely to result in a material change in the noise climate to this area. A substantial band of trees is required to provide any significant noise attenuation. Removal of a thin band of trees, such as that proposed for the construction of the Scheme in this location, is unlikely to affect the propagation of noise from the motorway, which in any event is expected to reduce in this location, as explained below in the response to paragraph 2.2.

2.1.4 The representation also suggests that the vegetation to be removed provides a barrier to light pollution. . Highways England does not agree with this representation for the following reasons.

2.1.5 The Institution of Lighting Professionals ("ILP") identifies light pollution as obtrusive light and comes in three forms. These are:

2.1.5.1 Glare - the uncomfortable brightness of a light source when viewed against a dark background;

2.1.5.2 Light trespass - the spilling of light beyond the boundary of the property or area being lit; and

2.1.5.3 Skyglow - the brightening of the night sky above our towns, cities and countryside.

2.1.6 The existing vegetation on the motorway embankment to be removed does not presently act as a barrier to the existing M4 street lighting due to its lower height in relation to the lighting columns. It is recognised that the trees protected by TPO are more mature and taller and therefore in some views do help to act as a filter to the existing M4 lighting. It is also recognised that the existing vegetation presently helps to screen/filter views to the M4 traffic, particularly during the summer months, and its removal will make the existing night time traffic on the

motorway more noticeable, similar to daylight hours. Despite this, it is not considered that the illuminated traffic would result in obtrusive light due to the presence of the existing M4 lighting, resulting in no additional glare, the fact that there would be limited light encroachment on to the unlit areas of the view and the urban context of the night sky would have no change in skyglow. .

2.1.7 Finally the representation suggests that the vegetation provides a filtering effect on some carbon gases released in car fumes. The effects of vegetation on local air quality is an area of ongoing research which suggests that in some situations, concentrations of particulate matter may be reduced by vegetation. However, the effects on nitrogen dioxide, the principal gas emitted from vehicles, are less well established. The trees currently located between these properties and the M4 are therefore expected to have minimal effect on the concentrations of atmospheric pollution experienced at these properties, such that their removal will have no or little effect on the air quality of these receptors.

2.1.8 The air quality assessment of potential effects of the Scheme has included the assessment of the reduced distance between sensitive receptors and the edge of the motorway carriageway within the detailed modelling, and has been given due consideration in the assessment of the Scheme. Consequently, the predicted impacts presented in Chapter 6 of the ES (Application Document Reference 6-1), include the potential effect of the reduced distance between properties and the motorway. The assessment (Chapter 6 of the ES) identifies that all sensitive receptors north of the M4 in the Amerden Lane area are predicted to experience annual mean concentrations below the objective value (40 µg/m3) both with and without the Scheme in the Opening Year (2022). The location of these receptors is presented on Figures 6.10 and 6.10a of the ES (Application Document Reference 6-2).

2.1.9 The academic paper concerning *Grassed and Planted Areas by Motorways* provided has been reviewed and in particular Chapter 10 *Pollution and Litter*. The paper dates from 1976 and it is noted that the key air pollutant discussed in relation to potential adverse effects on vegetation in the paper is lead. Lead is no longer a key pollutant of concern in roadside locations since the introduction of unleaded petrol in the UK. Other key air quality pollutants, i.e. nitrogen dioxide and particulates, have been assessed as described in paragraph 2.1.8 above. The other matters discussed in the paper relate to dust, oil, salt and litter and their

effects on vegetation. Mitigation measures in this regard are included in the CEMP at paragraphs 5.7.4 and 6.3.4.

2.1.10 Furthermore, with regards to the Scheme's impact on the river (and therefore on the water quality therein), as stated in paragraphs 1.3.16 and 3.1.19 of the Drainage Strategy Report (Application Document Reference 7-5) the Scheme will include measures that maintain existing water quality by augmenting or replacing existing drainage systems where required, such that rivers in close proximity to the Scheme will not be detrimentally impacted.

2.2 *Noise pollutions: The current, high level of noise from the M4 is likely to get significantly worse following the expansion. There will be more traffic on the motorway and the motorway will be closer to the residents after the expansion (as well as the effect of not replacing vegetation as mentioned above). The plans have only mentioned noise reducing road surface as a mitigating measure. This is insuifficient. Having lived near autobahn with a noise reducing surface in Germany, I can inform you that the effect is minimal. This minimal effect is further reduced when inevitable later works are conducted on the motorway and the surface, which relies on being uninterrupted for its noise reducing properties, then becomes as noisy as any other surface. The noise of cars on rumble strips or crossing cats eyes is not reduced by a noise reducing surface. Neither does a noise reducing surface cancel out engine noise (motorbikes are particularly loud) or aerodynamic noise (most of the noise from lorries does not come from their contact with the road)*

Highways England Comment

2.2.1 It is not correct that the level of noise from the M4 is likely to get significantly worse following the implementation of the Scheme. The noise assessment for the Scheme concludes that there will be a slight beneficial effect on the noise environment in the short term and a neutral effect in the long term from the operation of the Scheme, with the vast majority of the Scheme corridor experiencing negligible or minor reductions in noise levels with the Scheme in operation (see paragraph 12.4.110 of the ES). The noise reductions expected in this location as a result of the Scheme are shown on Sheet 10 of Figure 12.4 and 12.5 (Application Document Reference 6-2), which show that negligible/minor reductions in noise are expected in the vicinity of Amerden Lane.

2.2.2 The effects of traffic being slightly closer to residents following completion of the Scheme, as the hard shoulder will be converted to a running lane, have been

taken into account in the noise assessment. The changes in traffic flows on each section of the motorway due to the operation of the Scheme have also been taken into account in the noise assessment. As stated above, accounting for these effects, negligible/minor reductions in noise are expected in the vicinity of Amerden Lane with the Scheme. .

2.2.3 It is correct that part of the proposed mitigation for the Scheme includes the provision of low noise surfacing across all lanes, along the complete extent of the Scheme. The effect of low noise surfacing in terms of noise reduction is not minimal, with noise reduction ranging between 4 - 6 decibels below tradition surface course, depending on the type of low noise surfacing provided. Further, low noise surfacing is not the only measure proposed as part of the Scheme to mitigate the effects of noise. A number of new noise barriers will also be provided. The heights and extents of the new barriers to mitigate the effects of noise from the Scheme are defined in Table A12.2.1 of Appendix 12.2 of the ES (Application Document Reference 6-3). Further, existing noise barriers will be retained or replaced like for like if in poor condition.

2.2.4 It is not agreed that a low noise surface becomes as noisy as any other surface following later resurfacing works which "interrupt" the surface. Interfaces between new repaired surfacing and old surfacing will not occur every few metres, but will occur at significantly greater separation distances. All road surface types degrade over time, with consequent increases in tyre/road noise. However, like any surfacing, low noise surfacing, is replaced periodically with the life expectancy determined by the specific constituents, quality of construction and amount of traffic and environmental conditions. The typical life expectancy is between 7 and 15 years (ref paragraph 6.22 of HD37/99 amendment 1). The pavement is regularly monitored following installation using a variety of tests (e.g. skid resistance) and will be maintained to a high standard and then replacement scheduled once its performance is no longer satisfactory, in accordance with Highways England's standard procedures. Therefore it is not agreed that the performance of a low noise surface will be significantly degraded with time.

2.2.5 The low noise surfacing only reduces noise generated at the road-tyre interface therefore it is agreed that it will have no effect on the noise generated by engines or on aerodynamic noise. The method used for the calculation of road traffic

noise levels is that provided in Calculation of Road Traffic Noise Levels ("CRTN") (http://www.noiseni.co.uk/calculation_of_road_traffic_noise.pdf). This method takes account of traffic flow, speed and percentage of heavy goods vehicles. The method is empirically based and accounts for the various components of traffic noise such as engine noise, tyre/road noise and aerodynamic noise. Consequently, the noise assessment for the Scheme, which has determined that there will be a negligible/minor reduction in noise, has already taken account of noise from these factors. Further, at higher speeds it is tyre/road noise which dominates, as is demonstrated by the noticeable reduction in noise levels resulting from the provision of a low noise surface, which is explained above. Contrary to the suggestion in the representation, aerodynamic noise is not significant at road traffic speeds.

2.2.6 It is acknowledged that the provision of a low noise surface does not reduce noise from cars crossing rumble strips or cats eyes. The CRTN method does not account for noise from these elements as it is impractical to provide a methodology for noise assessment which accounts for these relatively occasional events. However, it is considered that noise from these events will not significantly affect the noise level changes resulting from the operation of the Scheme employed in the assessment.

3. ANY CLOSURE OF THE RIVER THAMES HAS BEEN GIVEN INSUFFICIENT IMPORTANCE IN THIS APPLICATION

3.1 Whilst I am no engineer, I am going to make the bold prediction that the alterations and expansion of a motorway bridge over the River Thames are going to result in periodic, if not frequent, closures to traffic on the River Thames. As riverside residents, we make regular use of the river, which was a major factor when we selected where to live. If the river is to be denied to us, this should form a greater consideration to planning decision makers than is currently the case.

Highways England Comment

3.1.1 Temporary closures of the navigation channel in the area of the River Thames around Bray Bridge will be required for specific operations, for example the installation of temporary works and temporary protection structures and the installation of steel beams, etc. In accordance with paragraph 4.3.19 of the CEMP, these closures will be planned in advance and co-ordinated with the

relevant stakeholders. These closures will be limited to specific operations and therefore limited in duration. Reference to the nature of the proposed works is made in Para. 14.8.7 of the E S. The conclusion reached in Para. 14.8.34 of the ES states that *'Taking the above into account, it is considered that the construction works would have a slight adverse effect on recreational users in the area'*. As such, it is considered that these short-term, periodic closures will not have a significant effect on users of the River Thames.