

## **SOUTH BUCKS DISTRICT COUNCIL**

### **COMMENTS ON THE EXAMINING AUTHORITY'S SECOND WRITTEN QUESTIONS**

#### **HIGHWAYS ENGLAND'S RESPONSE**

*The following table identifies questions from the ExA's second written questions. Where relevant we have provided a response to each of the relevant questions. If you have any queries or would like further information on any of our responses below then please feel free to contact us.*

#### *Glossary:*

*SBDC = South Bucks District Council*

*BCC = Buckinghamshire District Council*

*HE = Highways England*

*ExA = Examining Authority*

*WRLtH = Western Rail Link to Heathrow*

*HS2 = High Speed 2*

*HEX = Heathrow Express*

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<p><b>4.2.3</b></p> <p>The potential for off-site planting to replace planting lost as a result of the scheme and to provide enhanced environmental mitigation was discussed at the issue specific hearing dealing with matters relating to the environment, and London Borough of Hillingdon (LBHill) has identified locations with the potential for off-site planting to provide improvements to visual amenities EV-015 &amp; EV-021. Highways England (HE) indicated that this could be dealt with by means of s253 agreements with land owners. However, there is no means by which such agreements could be secured through the draft Development Consent Order (dDCO), and therefore the Secretary of State (SoS) could not be satisfied that any off-site planting would be achieved.</p> <p><b>Could a requirement be added to the dDCO for a scheme of off-site planting to be agreed with the relevant local planning authorities before the M4 Smart Motorway (M4SM) is brought into operation, with an appropriate implementation clause included, or is this a matter which could be secured through a Development Consent Obligation?</b></p>	<p><i>SBDC is in support of this</i></p>	<p>Highways England provided a full response to the Examining Authority's written question at Deadline V.</p>
<p><b>4.2.7</b></p> <p><b>What enhancements could be provided to mitigate the visual impacts on the Amerden Caravan Park EV-025 both during the</b></p>	<p><i>To minimise construction issues SBDC expects acoustic screening to be provided for Amerden Caravan Park. Over the long term an area of replanting similar to that already present</i></p>	<p>Highways England provided a full response to the Examining Authority's written question at Deadline V.</p> <p>At paragraph 4 of Highways England's</p>

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<p><b>construction phase and once the M4SM is in operation?</b></p>	<p><i>should be provided whilst minimising the land-take from the caravan park itself.</i></p>	<p>response, Highways England confirmed that this section of the M4 Junctions 3 to 12 Smart Motorway scheme (the “Scheme”) is included in the Enhanced Noise Mitigation Study Report (Ref 514451-MUH-00-ZZRP-EN-400158) (REP5-002) submitted as Deadline V.</p> <p>Highways England proposes to provide a new 3.0m high noise barrier (EM17) at the back of the realigned verge on top of the embankment, which would help to screen most of the traffic on the motorway in views from the Amerden Caravan Park.</p> <p>With the smart motorway in operation, and with this noise barrier in place, noise levels across Amerden Caravan Park would be reduced by 4 to 7 dB, depending on location. Daytime noise levels would range between 58 and 66 dB and night-time noise levels between 54 and 63 dB, depending on location.</p> <p>At paragraph 3 of Highways England's response, Highways England noted that it is discussing with the owners of Amerden Caravan Park the provision of a regraded slope (as opposed to steepened earthworks), which would allow tree and shrub planting on the slope itself rather than at the foot of the slope. It is anticipated that this would help to integrate the new earthworks into the landscape and help to screen the traffic on the Scheme over a shorter period of time.</p> <p>Highways England considers that planting a regraded embankment would cover a similar</p>

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		<p>area to the existing vegetation and that, over time, taking into consideration the present limited species range, the introduction of taller tree species as well as some evergreen species would result in a stronger and taller visual screen.</p>
<p><b>4.3</b> <b>Flooding</b></p>	<p><i>Flooding in the South Bucks District is dealt with by BCC who is the Lead Local Flood Authority. The use of Sustainable Urban Drainage Systems is supported by SBDC with Core Policy 13 of the adopted Core Strategy (Environmental and Resource Management) seeking for the promotion of best practice in sustainable design and construction.</i></p>	<p>Highways England confirms that it has been meeting with Buckinghamshire County Council in respect of its role as Lead Local Flood Authority.</p> <p>Highways England confirms that the drainage strategy for the Scheme uses underground SUDS features such as soakaways, oversized pipes and chambers as explained in the Drainage Strategy Report submitted at Deadline V. These SUDS can be accommodated within the Order limits and will attenuate flows from the additional impermeable areas created by localised carriageway widening and the provision of Emergency Refuge Areas to existing discharge rates and volumes. The drainage strategy also seeks to retain existing outfalls.</p> <p>Highways England has assessed the feasibility of incorporating above ground SUDS features, such as ponds, swales and reed beds put forward by Buckinghamshire County Council, and it was noted that these types of SUDS are preferred by the Lead Local Flood Authority. However, the results of the assessment, which are reported in Section 3.1 .6 to 3.1.20 of the Drainage Strategy Report submitted at Deadline</p>

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		V (REP5-002) conclude that for several reasons, linked to land ownership, topographical constraints, access, health and safety and existing land cover, accommodation of above ground SUDS on the land offered by Buckinghamshire County Council is not feasible. However, as noted in Section 3.1.21 of the Drainage Strategy Report, above ground SUDS measures are not necessary to ensure no impact on surface water flood risk, as the measures proposed by the Scheme will achieve this.
<p><b>4.6.1 – 4.6.3</b></p> <p>Definition of significance and reliability of the HE assessment.</p>	<p><i>SBDC would welcome any clarification over the modelling assumptions.</i></p>	<p>Highways England provided further clarification of the modeling assumptions underlying the assessments in response to the Examining Authority's written questions at Deadline V.</p>
<p><b>4.6.5</b></p> <p>Implications for future AQMAs. Evidence is submitted by LBHill<sup>REP2-060</sup> and Slough BC<sup>REP2-047</sup> of receptors which are forecast to experience levels of NO<sub>2</sub> very close to or above the annual mean UK air quality objective (the EU limit of 40 µg/m<sup>3</sup>). No forecast can be assumed to be entirely secure, and with the current doubt as to the reliability of Euro 6/VI vehicles, the ExA is concerned that the future pollution climate along the M4, which passes through existing AQMAs, is uncertain. An uncertainty of 10%, as suggested by Ricardo<sup>REP4-034</sup>, could for example lead to increase of 4 µg/m<sup>3</sup> of NO<sub>2</sub> in locations which are at the EU</p>	<p><i>SBDC are especially interested in knowing the assurances that will be provided for this as our AQMA on the M4 and M25 is affected.</i></p>	<p>Highways England provided a full response to the Examining Authority's written question at Deadline V.</p>

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<p>limit. This increase could result from either an underestimate of traffic levels or the level of emissions, but for those receptors in areas already just below or just above the EU limit, there would be a harmful level of exposure to NO<sub>2</sub>.</p> <p>What assurance can HE provide that harmful increases in emission levels will not occur?</p>		
<p><b>4.6.8</b></p> <p>Future proofing the M4SM. The applicant's position is that there is no need for air quality mitigation measures, and in any event that there is little evidence of effective mitigation measures. However, Ricardo <sup>REP4-034</sup> provides evidence of barriers which have been tested and used for air quality mitigation. We note the argument that an increase in the height of barriers would cause visual amenity impacts, but there are examples of transparent barriers and the use of planting which would reduce such impacts. In any event, we consider that local authorities, on behalf of their local communities, should be given the opportunity to choose between air quality or visual impacts.</p> <p>HE in its Delivery Plan 2015-2020 <sup>REP4-005</sup> commits 'to invest in a range of projects to reduce pollution and ensure the air around the network is clean and healthy for our customers and neighbours.' This also states that it will 'develop an air quality action plan setting out our activities for the next five years.'</p> <p>Furthermore the NN NPS states at paragraph</p>	<p><i>SBDC support the assurance by HE to include a monitoring strategy on NO<sub>2</sub> in the final document that establishes ways of mitigation should the levels registered be higher than anticipated.</i></p>	<p><b><u>AQ Monitoring and Mitigation Request</u></b></p> <p>A number of consultees have asked the Examining Authority to include a requirement in the DCO that requires monitoring and applies a trigger level be placed on the Scheme whereby if the concentration is triggered in the monitoring, mitigation is required.</p> <p>As a first principle, it is important to note that the policy for the inclusion of air quality mitigation is not triggered under the NN NPS in respect of the Scheme. As seen for the A556 scheme, the Examining Authority accepted that an air quality 'trigger' was appropriate on that scheme as the scheme triggered a significant air quality impact and required mitigation. In this instance, the air quality assessment for the M4 Scheme concludes that the impact of the Scheme is not significant and does not affect compliance with the Air Quality Directive ("AQD").</p> <p>Consequently, the policies set out in the NN NPS around mitigation are not triggered, and there is no need to include mitigation as part of</p>

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<p>5.12 that the SoS must give air quality considerations substantial weight where a project would lead to deterioration in air quality in a zone/agglomeration- the NN NPS does not qualify that deterioration. In paragraphs 5.14 and 5.15 it goes on to state that the SoS should consider whether mitigation measures put forward by the applicant are acceptable and gives examples of mitigation measures including ‘physical means including barriers to trap or better disperse emissions and speed control’.</p> <p>Having regard to submissions on behalf of Slough BC and other IPs concerning the uncertainty of the modelled levels of air pollution from the scheme, we consider that provision should be made for the monitoring of air quality by HE along the route of the M4SM during the periods of pre-construction, construction and operation of the scheme. In the event that monitoring data indicates that the scheme is causing increases to levels of NO<sub>2</sub>, then an Air Quality Action Plan should be produced for implementation until such time as air quality levels are improved.</p> <p>We therefore invite the applicant to prepare, <b>in consultation with the relevant local planning authorities</b>, a requirement to be included within the dDCO which provides for the following:</p> <ol style="list-style-type: none"> <li>i. A monitoring strategy for NO<sub>2</sub> detailing monitoring points, methods of measurement and levels of</li> </ol>		<p>the Scheme or require air quality monitoring. To require Highways England to provide costly monitoring would be disproportionate in circumstances where no significant effect on air quality is anticipated as a result of the Scheme and where the Scheme does not affect the UK’s reported ability to comply with the AQD.</p> <p>Environment Impact Assessment ("EIA") concerns the assessment of likely impacts. In this case the assessment is based on assumptions at the time of the preparation of the EIA with respect to guidance and assumptions assumed in the traffic modelling (the basis of the air quality assessment) assembled in accordance with published standards. As the assessment has been completed in accordance with the current guidance in relation to air quality and traffic modeling, it can properly be concluded that the outcomes of the assessment are based on the most reasonable, reliable and robust information available at the time of assessment.</p> <p>It would be unreasonable to place burdens upon a Scheme which had been assessed, in accordance with national guidance, as not requiring the provision of such measures. To do so would be to undermine the promulgated guidance upon which Highways England, the devolved administrations and other highways authorities rely.</p> <p>This is particularly the case for a scheme located on the strategic road network ("SRN")</p>

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<p>concentration which would trigger action, to be approved by the SoS2 and implemented at least 6 months prior to the commencement of development.</p> <p>ii. In the event that the trigger levels are exceeded, a scheme for the management of the M4SM which could include restriction of traffic speeds, restricting traffic flow from feeder junctions, restricting access to the route for specific classes of vehicle, or other measures to be submitted to the SoS for approval and implemented within 3 months of such approval.</p> <p>iii. In the event that the management measures are not sufficient to reduce the air quality levels below the trigger value, a scheme for retrofitting physical measures such as air quality barriers should be submitted to the SoS for approval and implemented within 6 months of approval. The measures to be included in this scheme should be in accordance with Best Practicable Environmental Options (BPEO) to ensure future proofing of the scheme.</p> <p>The requirement should provide for the applicant to prepare each scheme or plan set out above in consultation with the relevant local planning authorities and other appropriate interested parties.</p>		<p>where developments other than the Scheme can affect the flow of traffic, and therefore air quality, on the SRN from a large geographical area over which Highways England has no control or authority. In effect, if a trigger for the implementation of mitigation was included as a requirement in the DCO, Highways England would be potentially liable to find and fund mitigation measures to mitigate the air quality effects of other schemes by third party developers that impact on the M4 over which Highways England has no control. This an unreasonable and disproportionate requirement to place on a body funded by tax payers' money.</p> <p>It should be noted that policy is supported where a distinction can be made between cases where migration is required by policy and where it is not, thus where Highways England have assessed schemes as having a significant impact on air quality, for example the A556 scheme, then air quality monitoring is being installed to provide evidence as to when mitigation measures can be removed and the preferred operation regime can commence. However, absolute trigger levels have not been proposed in these circumstances. Rather, results would be used as part of assessing when the schemes' impacts are unlikely to be significant.</p> <p>The Examining Authority and others have sought the use of trigger levels for the application of mitigation. This is not appropriate</p>



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		<p>because:</p> <ol style="list-style-type: none"> <li>1. the basis for applying mitigation is not clear. No significant effects are predicted (unlike for the A556), and the assessment of compliance with the AQD is assessed on a level higher than locally;</li> <li>2. the A556 approach is not applicable since that scheme was assessed to result in a significant impact in air quality, thereby resulting in a need for mitigation. No significant impact has been assessed for the M4 Scheme;</li> <li>3. there are no mechanisms by which a mitigation measure can be applied from time-to-time as opposed to consistently. Further, no effect to be mitigated is identified and no policy requirement applies; and</li> <li>4. there is no mechanism to identify non-scheme-related effects so that any duty of mitigation falls legitimately on those causing effects.</li> </ol> <p><b><u>Certainty of assessment</u></b></p> <p>The air quality assessment for the Scheme followed published best practice guidance and datasets when calculating NO2 concentrations at receptor locations. The methodology for model verification, which compares measured values with modelled values, demonstrates that the model is performing within acceptable</p>

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		<p>bounds.</p> <p>Recognising the uncertainty associated with calculation of NO2 concentrations in the future, the calculation of opening year concentrations also followed published best practice guidance set out in IAN170/12. This method uses measured trends in roadside air quality, and conservative assumptions in relation to Euro 6/VI performance, to uplift future year predictions produced by the Defra toolkit. The purpose of this is to ensure that the air quality model outputs used to determine the potential significance of local air quality impacts due to the Scheme are precautionary and take account of anticipated uncertainty. Consequently, there is no need to account for any further uncertainty since the assessment already provides for it.</p> <p>The acceptability of the general approach described above is demonstrated when considering the evidence from Slough BC and Mr Hamilton, who request that to account for uncertainty, locations with modelled concentrations of 36 µg/m<sup>3</sup> should be interpreted as exceedences of the NO2 annual air quality objective (40 µg/m<sup>3</sup>). It is noted that this would be inconsistent with Ricardo's own recommendations to Slough BC when identifying whether to declare an AQMA. For example, in their 2013 Detailed and Further Assessment Report, a measured concentration of 37.8 µg/m<sup>3</sup> at a property (corrected for distance) was not deemed sufficient to necessitate declaration of an AQMA because it</p>

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		was not in exceedance of the objective ( <a href="http://www.slough.gov.uk/downloads/air-quality-detailed-further-assessment-2011.pdf">http://www.slough.gov.uk/downloads/air-quality-detailed-further-assessment-2011.pdf</a> ).
<p><b>4.7.1</b></p> <p>Hours of Working and Construction Activity. Re question 4 in the noise and vibration hearing (EV-008), which asked if the local authorities were satisfied with the mechanism proposed by the applicant to control hours of working and construction activities, LBHill REP4-033/038 raised a number of points, including the mechanism for ensuring adequate consultation with local authorities on the CEMP prior to the applicant's proposed approval by the SoS, the need to ensure that the final CEMP is in place before work commences on site, and the need for clarification on working hours at weekends.</p> <p><b>With the SoS as the approval authority proposed by the applicant for the dDCO requirement on the CEMP (and other requirements), how will the applicant secure an appropriate level of consultation with the local authorities in the dDCO?</b></p> <p><b>To what extent does the applicant accept LBHill's proposals with regard to working hours at weekends, and how will these proposals be secured in the dDCO by means of the CEMP?</b></p>	<p><i>SBDC require this information to be provided.</i></p>	<p>Highways England provided a full response to the Examining Authority's written question at Deadline V.</p> <p>In the response, Highways England confirmed that it would be required under requirement 8 in the DCO to consult with the relevant planning authorities prior to submitting the Construction Environmental Management Plan ("CEMP") to the Secretary of State for approval.</p> <p>As outlined in Section 4.3 of the outline CEMP, a strategy for regular engagement with key stakeholders will also be developed and included within the CEMP prior to construction. This will include liaison with local communities, and their representatives, to be undertaken prior to nighttime / weekend operations in order to raise awareness and reduce the impact of the construction activities</p> <p>Section 12.4 of the outline CEMP provides that, prior to construction, Highways England will seek consent from SBDC under Section 61 of the Control of Pollution Act 1974 prior to the commencement of construction works. Background noise readings will be undertaken and noise prediction levels will be calculated for key night time activities. These readings will form part of the application for consent under Section 61 of the Control of Pollution Act 1974 the CEMP will be revised to reflect this, and</p>

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		<p>any conditions imposed on the consent will be defined in the works information.</p> <p>In the response, Highways England noted that it was unable to agree to the London Borough of Hillingdon's proposals for working hours at the weekend. However, the work will be planned and coordinated so that the impact of operations are minimised on the surrounding areas.</p>
<p><b>4.7.2</b></p> <p>Noise Limits During Construction. Re question 5 in the noise and vibration hearing <sup>EV-008</sup>, which asked local authorities whether they were satisfied that adequate protection would be afforded to sensitive receptors by the approach proposed by the applicant of using the noise limits adopted for the M3 J2 to 4a scheme, the applicant <sup>REP4-001</sup> noted that Slough BC, South Bucks District Council (SBDC) and LBHill had reservations regarding night-time working and the restriction of certain activities and would be entering into dialogue with the applicant. LBHill <sup>REP4-033/038</sup> stated that: ‘There are concerns with regard to the suggested approach on noise limits’, in that ‘the proposed noise limits stated ... differ from the methodology proposed in table 12.1 of the ES’. LBHill details its concerns and states that ‘HE and its contractor should identify through measurements and predictions at least 6 months before work commences those properties that are likely to qualify for noise insulation and or</p>	<p><i>SBDC is in support of this.</i></p>	<p>Highways England provided a full response to the Examining Authority's written question at Deadline V.</p>

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<p>temporary rehousing'. LBHill also states that the form of respite for exceeded vibration levels is not given and should form part of a revised CEMP. With regard to the CEMP procedure for managing noise and vibration, the council states that it would only be satisfied with the suggested approach if its comments were addressed and an appropriate mechanism was developed for adequate consultation with local authorities with regard to discharge of obligations (see question 4.7.1 above with regard to consultation on the CEMP).</p>		
<p><b>4.7.3 (X)</b></p> <p>Enhanced Noise Mitigation Strategy. Re question 6 in the noise and vibration hearing EV-008, which asked the extent to which the enhanced noise mitigation strategy would affect the noise environment of sensitive receptors, the applicant stated REP4-001 that work was ongoing to provide a quantitative assessment of the enhanced mitigation strategy outlined in Appendix 12.5 of the Environmental Statement APP-351, and consequently, it was 'not possible to be definitive on the number of beneficiaries and the estimated noise decreases at this stage'.</p> <p>Re question 9 in the hearing, which asked the local authorities and interested parties if they were satisfied with the applicant's amended schedule of noise barriers, submissions expressing issues were received from LBHill REP4-033/038 and Hayes Community Development</p>	<p><i>SBDC is in support of this. Additionally, as suggested in the last submission by SBDC, a map showing the affected houses and businesses along the route of the M4 Smart Motorway proposal within the District of South Bucks is attached to this response as an Appendix. This equates to a total of 137 properties and includes those impacted by the daily operation and construction.</i></p>	<p>A combination of mitigation measures, such as the provision of low noise surfacing to all carriageways, the provision of additional noise barriers and the replacement of existing noise barriers, means that the magnitude of impact for the Scheme on noise levels has been assessed as minor beneficial in the short term and negligible in the long term, with the vast majority of the Scheme corridor experiencing negligible or minor reductions in noise levels with the Scheme in operation; this is reported in Chapter 12 of the ES (Application Document Reference 6-1, APP-152).</p> <p>It is noted that the Plan at 1.1 in the Appendix to this representation shows the Dorney area, which includes receptors such as Dorney School Village Hall and Play Area, Amerden Caravan Park, the Animal Sanctuary on Lake End Road and the public footpath adjacent to Trumper's Field. Sheet 10 of Drawing 12.4 (Application</p>

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<p>FORUM REP4-030.</p> <p><b>What is the applicant's response to the specific issues raised by the following affected and interested parties:</b></p> <p><b>i. LBHill REP4-033/038, which called for clarification and tightening of the wording of Requirement 22 (Acoustic Barriers – addressed in the dDCO section of questions). The Council also requested that the height of the barriers should be increased along the northern boundary of the M4 where the Scheme abuts a substantial number of residential properties<sup>3</sup>, and questioned whether the heights of the fencing along the Cranford Park boundary (south of the M4) were accurate and wished to see enhanced mitigation implemented in this location. Having regard to the location of listed buildings which are on the 'at risk' register in Cranford Park, what measures could be put in place to improve the noise environment of these buildings<sup>4</sup>? Can the applicant confirm that, where enhanced noise mitigation measures have been applied elsewhere (e.g. M1, M6, M25), at least these levels of noise mitigation will be applied to the M4 at all comparable locations?</b></p>		<p>Document Reference 6-2, APP-266) shows noise impacts across this area resulting from the operation of the Scheme on opening, whilst Sheet 10 of Drawing 12.5 (Application Document Reference 6-2, APP-270) shows the noise impacts resulting from the operation of the Scheme in the long term.</p> <p>In the short term, these areas will experience negligible (&lt; 1 dB) or minor (1 to 3 dB) noise decreases with the Scheme in operation (i.e. on Scheme opening). In the long term, these areas will experience negligible noise decreases (negligible being defined as a 0 to 3 dB change in the long term).</p> <p>The Plan provided at 1.2 in the Appendix to this representation shows the Richings Park and Old Slade Lane area. The short term noise impacts of the Scheme on opening for Richings Park and Old Slade Lane are presented on Sheet 13 of Drawing 12.4 (Application Document Reference 6-2, APP-266), whilst the long term impacts are captured on Sheet 13 of Drawing 12.5 (Application Document Reference 6-2, APP-270).</p> <p>In the short term, these areas will experience negligible (&lt; 1 dB) or minor (1 to 3 dB) noise decreases with the Scheme in operation (i.e. on Scheme opening). In the long term, these areas will experience negligible noise decreases (negligible being defined as a 0 to 3 dB change in the long term).</p> <p>In addition, as noted in paragraph 12.4.112 of</p>

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<p>ii. <b>Beverley Hunt (The Myrke resident)</b> REP4-011, who called for an extension to the proposed noise barrier in the vicinity of the Myrke properties;</p> <p>iii. <b>Wokingham Liberal Democrats (Clive Jones)</b> REP4-025, who commented on current proposals for noise mitigation measures between junctions 10 and 11, and made proposals for enhanced noise mitigation measures;</p> <p>iv. <b>Wokingham Borough Council</b> REP4-025, which tabled a noise measurement map for the Lower Earley vicinity;</p> <p>v. <b>Dr Cocks (resident of Lower Earley)</b> REP4-022, who referenced noise map recommendations from Defra and the World Health Organisation with their implications for health, and requested ‘any possible method to mitigate the noise problem’;</p> <p>vi. <b>Dr Jorgensen and Mr Holton (residents of Earley)</b> REP4-014/015/016 who submitted collated lists of properties particularly affected by noise. For stretches along the north side of the M4 where the houses are at a higher level than the Motorway, for example Lower Earley and Savoy and Cleave Avenues, can higher acoustic fencing be included in the scheme to provide</p>		<p>the ES (Application Document Reference 6-1, APP-152), Highways England has identified potential to improve further the noise climate within the Scheme corridor. A qualitative appraisal of an enhanced noise mitigation study to achieve this is provided in Appendix 12.5 of the ES (Application Document Reference 6-3, APP-351). This enhanced noise mitigation study comprises the possible provision of additional noise barriers and the possible replacement of some existing noise barriers with higher noise barriers.</p> <p>The results of the enhanced noise mitigation study were provided at Deadline V (REP5-002). The proposed noise barrier provision is detailed within Appendix E of the Enhanced Noise Mitigation Study Report (Ref 514451-MUH-00-ZZ-RP-EN-400158). Sheets 10 and 13 are relevant to South Bucks District Council.</p> <p>With respect to construction impacts, the contractor will seek a consent from SBDC under Section 61 of the Control of Pollution Act 1974. The contractor will provide all required data and information (including estimated noise levels for the various phases of the work and proposals for any required mitigation) for the proposed construction activities as part of the submission to South Bucks District Council for that consent.</p>

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<p><b>improvements to mitigation?</b></p> <p><b>vii. Mr Green (resident) REP4-009, who made observations on the current noise strategy, and proposed engineering the scheme to mitigate extensive traffic noise;</b></p> <p><b>viii. Hayes Community Development Forum (Robin Brown) REP4-030, who made reference to the NN NPS to consider opportunities ‘to deliver environmental benefits’ and enhance the motorway ‘to a standard equivalent to a contemporary motorway’, and also called for the rectification of the extent and nature of noise barriers in its locality;</b></p> <p><b>ix. Reading Friends of the Earth (John Booth) REP4-018, who raised concerns about acceptable noise levels for public health and the possibility of speed limits as a mitigation measure;</b></p> <p><b>x. SBDC (Peter Beckford) REP4-021, who raised concerns over the noise impact on a number of locations and properties (identified by SBDC) around the scheme?</b></p>		
<p><b>4.7.5</b></p> <p>Low Noise Surfacing. Re question 8 in the noise and vibration hearing EV-008, which considered low noise surfacing, the applicant</p>	<p><i>SBDC is keen to know the answer to this.</i></p>	<p>The full response to this question has been provided in the Responses to the Examining Authority’s Second Written Questions submitted at Deadline V.</p>



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<p>stated REP4-001 that: ‘The initial benefit of the Scheme of between 4 and 6 dB falls to between 1 and 3 dB after 10 years ... The -3.5 dB correction for a low noise surface, as prescribed in Design Manual for Roads and Bridges (DMRB), is a reasonable average over the life of the surface for calculation and assessment purposes’. LBHill commented: ‘At the hearing the ExA panel suggested amendments to the Draft DCO requirement to review the need for adequate maintenance and replacement of the low noise surfacing; this is supported by the council.’</p> <p><b>Would the applicant please state how the benefits of using low noise surfacing will be secured over the lifetime of the scheme when those benefits are lost as the surface ages?</b></p>		
<p><b>4.9.1</b></p> <p>Cumulative Impact. The ExA notes HE’s submissions REP4-001 concerning the need to adopt a baseline date for the assessment of cumulative impacts. However ExA considers that a cumulative impact assessment should remain open to review over the period in which an application is proceeding through the consenting process. In this case, High Speed 2 (HS2) and the relocation of the Heathrow Express depot (HEX) are projects which are within the final stages of the Hybrid Bill process. HS2 has cross-party support, and HEX is necessary for HS2 to proceed. Royal Assent</p>	<p><i>SBDC is happy with the ExA’s decision that cumulative impacts need to be included in the design of this scheme. However it would be important to also include the WRLtH proposal in this forecast which is set to start in 2019 therefore the construction will be an additional impact along with the HS2, HEX and M4 proposals.</i></p>	<p>The full response to this question has been provided in the Responses to Examining Authority’s Second Written Questions submitted at Deadline V.</p> <p>With regards to the Western Rail Link to Heathrow (“WRLtH”), it is noted that WRLtH is currently at pre-application stage, with an application to the Planning Inspectorate (“PINS”) not expected until spring 2016. The applicant’s Scoping Report confirms that WRLtH will undertake a cumulative assessment on the basis that the Scheme is ‘reasonably foreseeable’ and, as such, it will be included in the cumulative assessment for that project. The</p>

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<p>may well be gained in time for the start of construction in 2017-18.</p> <p>Furthermore, the ES was prepared and available for consultation in 2013 – 2014. Even at HE’s baseline date of February 2014, there was information available to HE for the project to be taken into account.</p> <p>In the applicant’s submissions at Deadline IV REP4-001 and Appendix A, the applicant states: ‘In line with the TAG guidance, all developments considered to be ‘near certain’ or ‘more than likely’ were taken forward for inclusion in the core scenario of the traffic model. Those developments considered to be ‘reasonably foreseeable’ or ‘hypothetical’ were excluded from the core scenario’. The ExA believes that HS2 and HEX are ‘more than likely’ and should therefore be taken into account.</p> <p>The construction period for HS2 would be from 2017 – 2025, and HEX would require relocation at an early stage in the construction timetable. BCC REP4-032 identified at the hearing the potential for construction overlaps in 2020. In particular, issues were raised concerning impacts on the A412, the A4007 and the M25.</p> <p>Since the primary potential for cumulative impact lies within the construction phase of the projects, the ExA considers that provision is required through the CEMP for any cumulative construction impacts that would arise as a result of works on HS2 and HEX during the same</p>		<p>Scoping Opinion for WRLtH confirms this requirement at paragraph 2.59 as follows: “<i>The applicant should continue to engage with Highways England and the local highways authorities regarding the effects of potential construction haulage and access routes.</i>”</p> <p>Accordingly, it is WRLtH that is required to take account of the Scheme.</p>

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<p>period as works on the M4 scheme.</p> <p><b>Can the applicant include, in the outline CEMP, provision for the mitigation of cumulative impacts in the event that there is geographical and timescale overlap between the construction of HS2 and HEX with the M4 scheme? An amendment to R8 in the dDCO is put forward in the list of questions on the dDCO. To what extent would these changes meet the concerns of the local authorities?</b></p>		
<p><b>4.9.2 – 4.9.8</b></p> <p>Consistency of Modelling, DfT Concerns and Future-proofing, Independent Assessment and Verification, DfT Efficiency Improvements, Forecast Emissions, Uncertainty in Forecasting and Realism Tests.</p>	<p><i>Traffic forecasting in the South Bucks District is dealt with by BCC.</i></p>	
<p><b>4.9.9</b></p> <p>Distributional Effects on Local Roads Networks. Re question 19 in the traffic forecasting hearing EV-008, which asked interested and affected parties for their level of confidence in the high, core and low scenarios that had been modelled by the applicant, Reading Friends of the Earth (REP4-018) expressed its concerns and stated that it: ‘...could not see how higher-level models could be accurate in predicting flows or routes between ‘screen lines’ if they did not model junction delays with some accuracy’.</p>	<p><i>SBDC supports BCC’s concern over traffic displacement and additional construction traffic on local roads. This is of particular concern to SBDC along Uxbridge Road in Iver Heath where we already have air quality concerns and where there is also likely to be a significant cumulative impact from all the projects highlighted in 4.9.1.</i></p>	<p>The full response to this question has been provided in the Responses to the Examining Authority’s Second Written Questions submitted at Deadline V. In particular, Highways England's response addressed the concerns raised by Buckinghamshire County Council ("BCC") in respect of traffic displacement and additional construction traffic on local roads.</p> <p>A meeting was held between Highways England and BCC on the 25 November 2015 to demonstrate the forecast traffic flows on the A4, A355 and A412, which are routes in relation to which BCC had expressed particular concerns</p>

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<p>Re question 21 in the traffic forecasting hearing EV-008, which asked interested and affected parties, in particular local authorities, for their views on the stated distributional effects on local networks, Mr Dave Green (resident) REP4-009 challenged the applicant's assertion that 'The scheme is predicted to have a neutral effect on the local road network' and stated: 'As a professional who has worked in these fields locally for 27 years, who has an insight into the scale of local development pressures and who has been heavily involved with several of the current M4 junctions I find this conclusion totally unrealistic.'</p> <p>Mr Mike Knowles of RPS Group for the University of Reading REP4-024 stated that: '... the University of Reading is supportive of the Scheme but is seeking further clarification of the likely impacts on the wider local network'.</p> <p>Re question 22 in the traffic forecasting hearing EV-008, which asked the applicant to demonstrate that the study area used for traffic forecasting ensured that an accurate assessment was provided of changes to traffic flows in terms of the wider road network, the applicant REP4-001 referenced the Transport Analysis Guidance (TAG) and Design Manual for Roads and Bridges (DMRB), and explained that the model was validated on only a section of local roads as it was based on screen lines taken across a study</p>		<p>regarding any further traffic loadings.</p> <p>At the meeting, Highways England demonstrated the minimal effects which are anticipated, some of which were reductions in flow, during the initial construction phase (2017) and the opening year of operation (2022) of the Scheme.</p> <p>It was agreed with BCC that no further assessment was required for these years. However, for the year 2020, during the second construction phase for the Scheme, the assessments indicated some potential use of the A4, A355 and A412 by traffic diverting from the M4 during construction.</p> <p>BCC does not have traffic data for the majority of junctions on these routes with which to contradict the findings of Highways England's modelling and assessments. However, as a sensitivity test, it was agreed that Highways England would undertake traffic surveys during the first available neutral month for traffic flows, March 2016, to verify the modelling and assessment undertaken by Highways England.</p> <p>It is expected that the surveys will confirm that there is no requirement for further appraisal. However, if a need for further modelling is identified, a verification appraisal will be undertaken. This will be secured by a provision within the Construction Traffic Management Plan ("CTMP", REP5-002). Should any verification appraisal predict capacity problems at a particular junction, measures could be</p>

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<p>area.</p> <p>Re question 23 in the traffic forecasting hearing EV-008, which asked the applicant's response to BCC's assertion in its written representation at Deadline II REP2-039 that the ES submitted in support of the dDCO did not adequately assess the impact of the proposed smart motorway scheme on the local road network during construction or operations and that no mitigation measures have been proposed, BCC in two submissions at Deadline IV, referenced a technical note provided by the applicant, and stated that: 'The impact of the local road network has not been quantified in the documents submitted in support of the DCO'. At Deadline IV, BCC REP4-027 identified 17 locations/junctions that in its view required additional assessments, including the A4 corridor, the A335 corridor, the A412 corridor, and the A4007. The County Council went on to state that: 'Due to the time of year it will not be possible to undertake Manual Classified Counts (MCC) prior to the determination of the DCO. As such, the County Council and Highways England are considering how the assessment and mitigation can be secured through the DCO process.'</p> <p><b>i. Since the responses at Deadline IV indicated significant concerns among some interested and affected parties over distributional effects on the local</b></p>		<p>deployed by Highways England to mitigate any effect. These potential measures are outlined in the CTMP and the requirement provides similar provisions to undertake deemed mitigation elsewhere along the Scheme.</p>

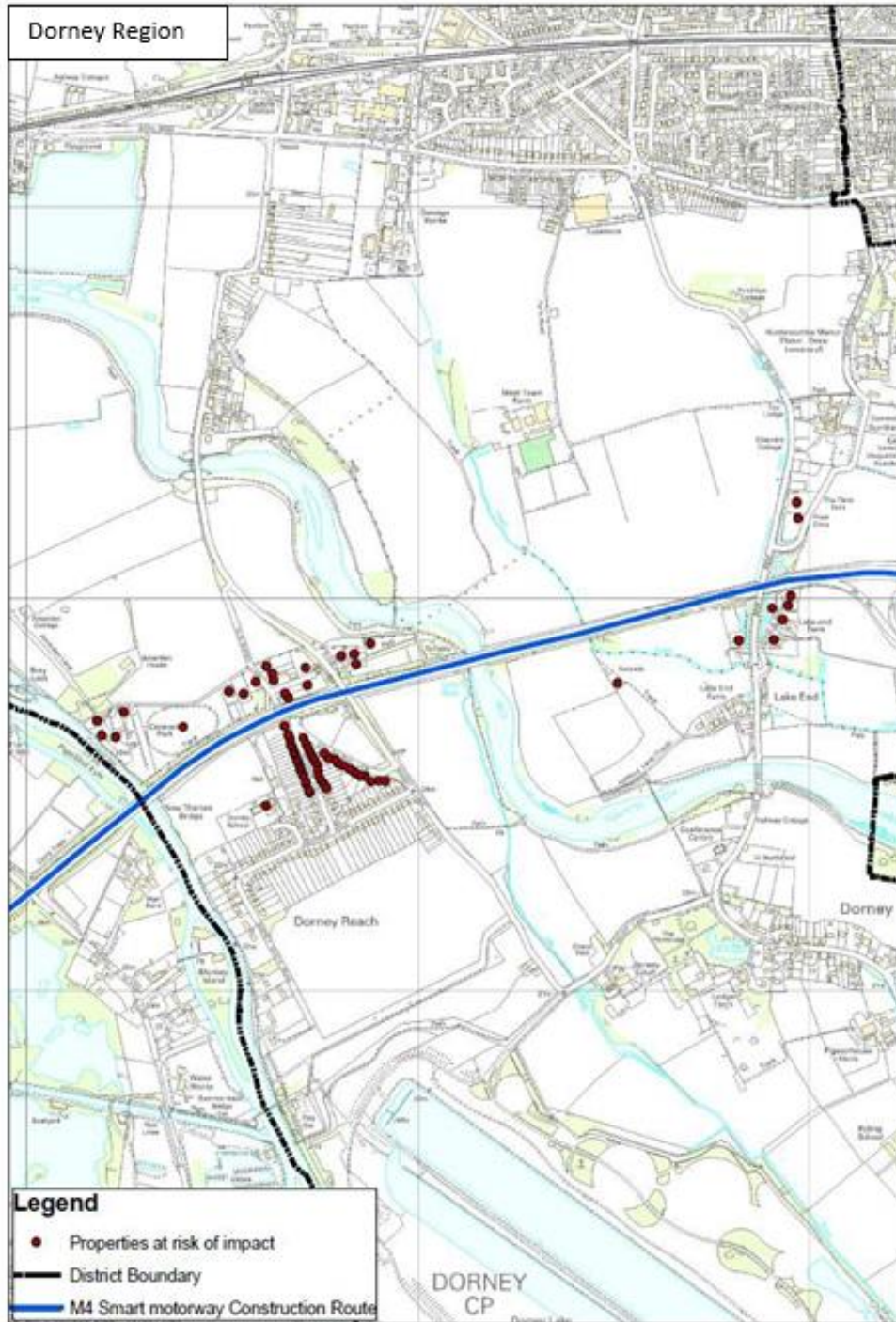
Question No	SBDC Comments	Highways England Comments
<p>networks, would the applicant please state its proposed response, the issues that remain unresolved, and measures for securing mitigation for impacts on the local road networks in the dDCO?</p> <p>ii. Are local authorities content that the applicant's approach to local modelling is valid for local roads? If not, what are their alternative proposals and how would they wish them to be secured?</p> <p>iii. What is the applicant's response to Reading Friends of the Earth's concerns with regard to the use of higher-level models to predict local flows between screen lines?</p> <p>iv. What is the applicant's response to Mr Green's points about traffic distribution over the local roads network and the burden that this will place on local authorities?</p> <p>v. What is the applicant's response to Mr Knowles's (for University of Reading) points on the likely impacts on the wider local network in the vicinity of the university?</p> <p>vi. What is the applicant's response to the BCC submissions? If it is not possible within the timeframe to do surveys, what proposals do the applicant and BCC have, and what</p>		

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<p><b>form of DCO requirement or Development Consent Obligation would secure the local road network both in the BCC locality and elsewhere along the scheme?</b></p>		
<p><b>Additional 1</b></p>	<p><i>SBDC wish to clarify that we are still planning on carrying out noise monitoring at Dorney School, Dorney to provide additional information on the impact of the M4 on the site.</i></p>	<p>At the open floor hearing on 20 November 2015, Interested Party 12 (Mr Graham Easton) noted that he intended to carry out continual noise monitoring at Dorney School.</p> <p>The Examining Authority asked Mr Easton to agree methodology and equipment with Highways England.</p> <p>Highways England will provide advice to Mr Easton, as required, to carry out noise monitoring at the school. As at 29 January 2016, Highways England has not been approached to discuss methodology or equipment.</p> <p>Highways England will review the results of any additional noise monitoring and provide the Examining Authority with a note comparing calculated noise levels (employed for the noise assessment as reported in the ES) and any measured noise levels.</p>
<p><b>Additional 2</b></p>	<p><i>SBDC is still concerned over the level of barrier protection along the M4 at Thames-Bray bridge in the South Bucks District. This area requires additional barrier upgrades to improve safety and mitigate the impact of the development.</i></p>	<p>The assessed magnitude of impact for the Scheme on noise levels is minor beneficial in the short term and negligible in the long term, with the vast majority of the Scheme corridor experiencing negligible or minor reductions in noise levels with the Scheme in operation. This includes the areas in the vicinity of Thames</p>

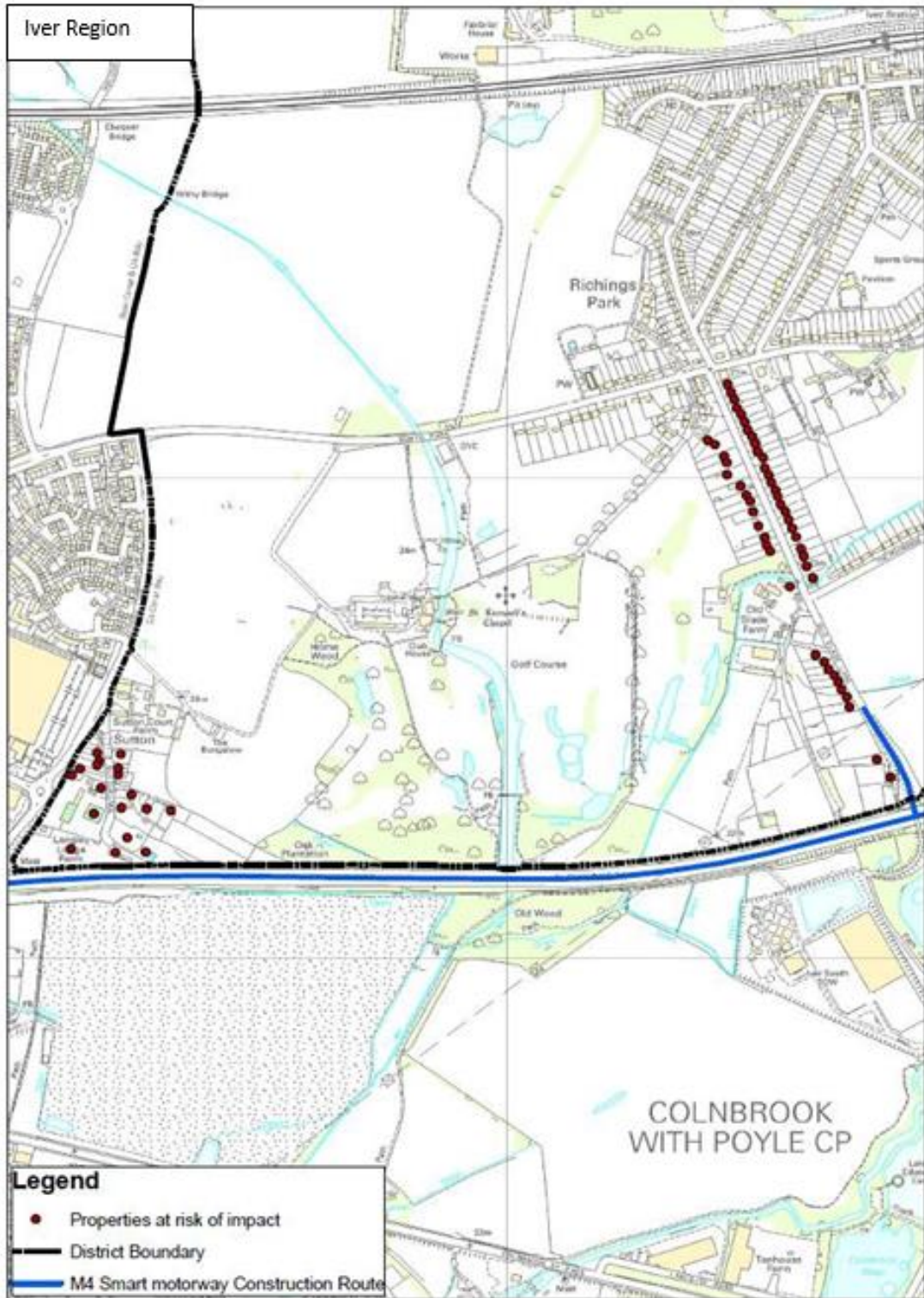
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		<p>Bray Bridge, as reported in Chapter 12 of the ES (Application Document Reference 6-1, APP-152).</p> <p>Notwithstanding this, an enhanced noise mitigation study has been completed and additional and replacement noise barriers have been recommended to improve the existing noise climate along the Scheme corridor.</p> <p>The results of the enhanced noise mitigation study were provided at Deadline V (REP5-002). The proposed noise barrier provision is detailed within Appendix E of the Enhanced Noise Mitigation Study Report (Ref 514451-MUH-00-ZZ-RP-EN-400158). Sheet 10 is relevant to this area.</p> <p>The proposal in the Enhanced Noise Mitigation Study is that existing noise barriers at Dorney to the eastbound and westbound carriageways will be replaced with taller noise barriers and new noise barriers will be provided to the eastbound and westbound carriageways between the replacement noise barriers and Thames Bray Bridge.</p>



**APPENDIX: LOCATION OF THE 137 PROPERTIES AND BUSINESSES AFFECTED BY THE CONSTRUCTION AND OPERATION OF THE M4 SMART MOTORWAY SCHEME**



1.1 *In Dorney the impact is anticipated to be on the properties close to bridge works, motorway lane expansion and where there is little screening from the M4 corridor.*



1.2 *In Iver the two areas of concern are along Little Sutton Lane and Old Slade Lane. The construction of Old Slade Lane Bridge will require the use of Old Slade Lane for construction traffic. The associated HGV traffic will have a negative impact on all the dwellings along this road from the junction with North Park Road.*

### Highways England Comment

- 1.2.1 The noise impacts to these identified receptors, arising from the operation of the Scheme, are discussed in the response to South Bucks District Council's comments to Question 4.7.3 above.
- 1.2.2 The mitigation measures to be implemented by the contractor in order to mitigate the environmental impacts arising from construction are secured through the outline CEMP. As described above in the response to South Bucks District Council's comments to Question 4.7.3, the contractor will seek consent under Section 61 of the Control of Pollution Act 1974 from South Bucks District Council to agree the noise levels for construction activities in order to minimise the impact on local residents.
- 1.2.3 Where practicable, access will be from the south side of the bridge to construct the temporary accesses required from the M4, although this depends on the outcome of Highways England's negotiations with landowners which are ongoing. Should access be required from the north (along Old Slade Lane) to enable construction of the temporary M4 accesses, a minimal number of HGV movements may be required for approximately two months prior to commencement of the main works. This will allow the establishment of the temporary access required from the M4 to enable demolition of the existing bridge and construction of the new bridge with access from the M4.