

MALCOLM HUNT

WRITTEN REPRESENTATION

HIGHWAYS ENGLAND RESPONSE

Dear Sir

Proposed M4 Junctions 3 to 12 Smart Motorway:

Written Representation & Accompanied Site Inspection

As part of the examination of the application we would like to request that the ExA investigate the points outlined below, which we believe were overlooked (or ignored) during the application process.

1. THE PROPOSED SCHEME

1.1 The scheme does not appear to achieve the aims as laid out in the application (Statement of Community Consultation).

1.2 It aims to relieve congestion and smooth the flow of traffic as well as improve journey times and reliability. However, it is not clear who will experience the benefit of this as drivers' views, as stated in section 12.1.3 of the Non-Technical Summary, are not expected to be materially different following completion of the scheme. Therefore, this suggests that drivers are managing their own journey times and don't see any benefits of the scheme. As regular users of the motorway, we would concur with this view. In addition, London-bound traffic would still be reduced to two lanes after junction 3 and, as now, problems on the M25 would still cause knock-on congestion on the M4 starting at junction 4b.

Highways England Comment

1.3 The Scheme has been designed to meet each of the 5 strategic aims (detailed in paragraph 2.1.3 of the Statement of Reasons (Application Document Reference 4.1) and summarised in the Statement of Community Consultation, Appendix 20 of the Consultation Report (Application Document Reference 5-2), which are repeated and analysed as follows:

- a) reduce congestion, smooth the flow of traffic to improve journey times and make journeys more reliable;*

As detailed in paragraph 1.1.7 of the Engineering and Design Report (EDR) (Application Document Reference 7.3), *“improvement of the M4 to a smart motorway will help to relieve congestion by permanently converting the hard shoulder to a running lane and using technology to vary speed limits and manage traffic. Signs and signals will be used to inform drivers of conditions on the highway network, when and where variable speed limits are in place, and when lanes are closed”*.

The additional capacity and control will also improve journey times and smooth traffic flows increasing reliability (paragraph 9.1.1 of the EDR).

The overall appraisal of the Scheme is summarised in the Appraisal Summary Table (Appendix B of the Socio-Economic Report, Application Document Reference 7.2). This shows that in the opening year the extra capacity provided by the Scheme is expected to deliver a total saving of 56.7 million hours to business users and 82.0 million hours to commuting and other users, with expected journey time benefits of £536.5M over the 60 year appraisal period. In addition, the reliability benefits generated by the extra capacity and smart motorway technology provided by the Scheme are estimated to be a further £575.5M. The combination of the reduced congestion, improvement of journey times and increase in journey reliability are therefore expected to generate over £1.1 billion in economic benefits meeting this strategic aim.

- b) support and enhance the role of the M4 as a major national and inter-urban regional transport artery;

The provision of the Scheme provides both additional physical capacity and improved technology. The M4 is one of the first motorways to be subject of an application relating to conversion to a smart motorway. The Scheme confirms the M4 status as a major national and inter-urban transport artery, and the investment in the Scheme and capacity which that investment creates supports and enhances the status of the M4 compared to other routes.

- c) support the economy and facilitate economic growth within the regions by providing much-needed capacity on the motorway;

The increased capacity and enhanced control provided by the Scheme and the resulting journey time and reliability benefits detailed in section a) above makes a significant strategic improvement to local infrastructure. As detailed in paragraph 6.2.13 of the Socio-Economic Report, (Application Document Reference 7-2) the improvements provided by the Scheme are “*considered to have a moderate beneficial effect on the future economic growth of the sub-region*” meeting this strategic aim.

- d) continue to deliver a high level of safety performance of the network using smart motorway techniques; and

It is anticipated that the Scheme will deliver a high level of safety performance on the network using smart motorway techniques. The Hazard Log report, Annex E of the Engineering and Design Report (Application Document Reference 7.4), outlines the hazard analysis work undertaken and leads to the conclusion that, the All Lane Running design of the Scheme is likely to be no worse in terms of safety performance (than the baseline). Annex E concludes that the Scheme can expect “*A reduction in risk for 13 of the 17 highest scoring existing motorway hazards (i.e. those with a risk score of E08/S08 and above), due to a controlled environment being provided through a combination of regularly spaced [variable] mandatory speed signals, speed enforcement, and full CCTV coverage.*”

In addition the Hazard Log Report states that “*Calculations show that the total score for ‘after’ represents approximately a reduction of risk of 18% when compared with the safety baseline (no motorway incident detection and automatic signalling (MIDAS) queue protection).*” It is noted that when comparing the predicted reduction in risk with the actual M4 J3-12 motorway with MIDAS (10% safety benefit compared to the baseline) the Scheme would still expect to see a reduction in risk of approximately 8%.

The smart motorway solution provided by the Scheme will result in a reduction in risk compared to both the safety baseline and the actual M4 meeting this strategic aim.

- e) deliver environmental improvements and mitigation where appropriate and required.

The environmental implications of the Scheme have been assessed as part of the Environmental Statement (ES) (Application Document Reference 6.1). The conclusions of the environmental impact assessment are set out in Chapter 17 to the ES. When an environmental impact is anticipated, the ES provides the necessary environmental protection measures to mitigate that environmental impact (as detailed in Appendix A of the Response to Examining Authority's First Written Question E4.1.3 submitted at Deadline II). These mitigation measures are incorporated into the Scheme and secured by the requirements attached to the draft DCO (Application Document Reference 3-1, Section 2). The Scheme also offers environmental improvements where appropriate (eg provision of a new low noise surfacing along the M4 which will provide an immediate benefits in terms of noise mitigation) meeting this strategic aim.

- 1.3.1 The reference to drivers views in section 12.1.3 of the Non-Technical Summary is a reference to the Effects on all travellers section of the Preliminary Environmental Information Report published in November 2014.
- 1.3.2 Paragraph 13.2.3 of the Environmental Statement (“ES”) (Application Document Reference 6.1) describes the approach to the assessment of drivers’ views, which are the views out from the carriageway which (in the case of high quality scenic landscapes) can provide interest and help alleviate driver stress. Paragraph 13.5 of the ES goes on to state *“As the M4 already exists and the Scheme provides only minor highway alignment modifications, together with additional driver information, reallocation of carriageway space and minor carriageway widening, it is considered that the view from the M4 will not change materially as a result of the Scheme. However, additional gantries that are necessary for the information signs will provide intermittent interruptions to the view, albeit ones that are consistent with typical motorway infrastructure.”*
- 1.3.3 The objectives of the M4 J3-12 Smart Motorway scheme (the "Scheme") identified above do not include provision of additional capacity beyond junction 3 for traffic into central London. The Scheme is designed to make more efficient use of the existing carriageway provision between junctions 3 and 12. With the additional message signing incorporated into the Scheme, drivers will be better

informed should incidents occur on other sections of motorway, such as the M25, and will be able to make appropriate decisions about their journey.

1.4 *The scheme also aims to support economic development and facilitate economic growth within the region. It seems the reality is that the proposed scheme is attempting to speed up the flow of traffic through the region and on to Heathrow and London; though the success of this is questionable for the reasons mentioned above. Investment within the region's communities and public transport links may be a better use of public funds.*

Highways England Comment

1.4.1 The assessment of the Scheme indicates that it will support economic development and facilitate economic growth within the local region, as well as smoothing the flow of traffic through the region. The two conclusions are not mutually exclusive. Paragraphs 6.2.7 to 6.2.13 of the Socio-Economic Report summarise the economic benefits the Scheme is expected to deliver. This section describes a range of economic-related benefits from time savings for business users to improvements in accessibility to five regeneration areas that are close to the Scheme. The Socio-Economic Report concludes in paragraph 6.2.13 that *“The Scheme may positively influence decision-making for businesses looking to locate to areas within the sub-region, as it makes a significant and strategic improvement to local infrastructure. The Scheme is thereby considered to have a moderate beneficial effect on the future economic growth of the sub-region.”*

1.4.2 The Scheme is a good use of public funds. Paragraph 2.1 of the National Policy Statement for National Networks recognises that for communities to thrive, they require investment in supporting networks, public transport as well as roads: *“The national road and rail networks that connect our cities, regions and international gateways play a significant part in supporting economic growth, as well as existing economic activity and productivity and in facilitating passenger, business and leisure journeys across the country. Well-connected and high-performing networks with sufficient capacity are vital to meet the country’s long-term needs and support a prosperous economy.”* Accordingly, roads, public transport and local community schemes are all complementary parts of an overall strategy, but each has an individual role that another may not be best suited to. Even with a range of rail schemes, including Crossrail, and local infrastructure

schemes built in to the forecasts, the Scheme has been shown to deliver its own net positive benefits to the community.

1.5 *The final aim is to minimise the effect on the environment but given the long list of adverse impacts outlined in the Public Consultation Brochure this appears to be a non-starter.*

Highways England Comment

1.5.1 The Public Consultation document on the Scheme dated November 2014 summarises in Section 4 the impacts of the Scheme on the environment and construction impacts, taking into account the proposed mitigation to avoid, reduce, remedy and offset the adverse environmental impacts. The section gives an overview of the effects by topic, including those where the effects have been assessed as not significant.

1.5.2 There are a number of issues raised in the section on construction impacts in the Public Consultation document however, these impacts are largely temporary in nature and capable of mitigation. Furthermore, it is not a foregone conclusion that all of these impacts will occur - for example, pollution control measures will reduce the risk of harmful discharges to watercourses, and specific measures will be implemented to mitigate site safety and security measures. The contractor appointed to build the Scheme will be responsible for adopting and developing the Outline Construction Environmental Management Plan ("CEMP") in consultation with the regulatory authorities and the local planning authorities. The final CEMP will be approved by the relevant authorities prior to the start of works so that all the necessary mitigation measures are in place before the start of works. This process is secured under Requirement 8, Schedule 2 of the draft Development Consent Order ("DCO") (Application Document Reference 3.1).

1.5.3 It should be noted that the requirement is not to achieve an absence of environmental impact, but to minimise the effects on the environment. As reported in paragraph 1.6.2 in the Environment Statement (Application Document Reference 6-1) which accompanied the Application, where an environmental impact was identified, mitigation was also identified in order to minimise the effect on the environment.

1.5.4 As a result, for example, the Scheme is assessed to result in no significant increase on air quality during operation, as summarised in Table 6.23 of the ES.

Construction impacts could adversely affect air quality through elevated dust concentrations, and therefore proposals to control dust generation are set out in the Outline Construction Environmental Management Plan (“CEMP”) (Appendix 4.2A to the ES) (Application Document Reference 6-3) which will be implemented by the contractor.

1.5.5 The forecast impacts of the mitigated Scheme are mostly beneficial. The noise and vibration assessment for the Scheme is provided in Chapter 12 of the ES, along with Appendices 12.1 to 12.5 of the ES (Application Document Reference 6-3) and Figures 12.1 to 12.6 of the ES (Application Document Reference 6-2).

1.5.6 A summary of the environmental mitigation provided for the Scheme is presented in Appendix A to Section 4 Environment of the Highway Agency’s submission to the Planning Inspector in response to the first round of questions, which can be downloaded from the following address:

[http://infrastructure.planninginspectorate.gov.uk/projects/south-east/m4-
junctions-3-to-12-smart-
motorway/?ipcsection=docs&stage=4&filter=Deadline+II+--+08-10-2015](http://infrastructure.planninginspectorate.gov.uk/projects/south-east/m4-
junctions-3-to-12-smart-
motorway/?ipcsection=docs&stage=4&filter=Deadline+II+--+08-10-2015).

1.6 *The aims do not specifically mention (minimising) the effects on local residents although the assessment does discuss significant adverse impacts. The Human Rights Act states that a person has the right to peaceful enjoyment of all of their possessions, which includes the home and other land as well as the substantive right to respect for their private and family life, which encompasses not only the home but also the surroundings. In all of the consultation/application documentation available, we have seen nothing that addresses this major issue and we have set out below specific concerns in relation to the impact of the scheme on The Myrke.*

Highways England Comment

1.6.1 Highways England addresses the issues raised in Section 9 of the Statement of Reasons (Application Document Reference 4.1), which assesses the Scheme against Article 1 of the First Protocol, Article 6 and Article 8 of the Human Rights Act 1998.

1.6.2 As noted in paragraph 9.1.4 of the Statement of Reasons:

"The DCO has the potential to infringe the human rights of persons who own property in the Order land. Such infringement is authorised by law so long as, firstly, the statutory procedures for making the DCO are followed and there is a compelling case in the public interest for the inclusion of powers of compulsory acquisition in the DCO, and, secondly, the interference with the convention right is proportionate. On the basis of decisions of the Courts, the test of proportionality is satisfied provided that the DCO strikes a fair balance between the public benefit sought and the interference with the rights in question".

1.6.3 This analysis applies with equal force to those nearby whose enjoyment of property may be affected. However, even in those cases, as noted at paragraph 1.5.2 above, no significant adverse effects are predicted.

1.7 *We urge the ExA to decline the application on the basis that it does not achieve the aims and it will have a detrimental impact on our neighbourhood (The Myrke being in close proximity to the M4 carriageway between junctions 5 and 6).*

Highways England Comment

1.7.1 Highways England has outlined how the Scheme will achieve its aims and provide protection to the neighbourhood through the responses to paragraphs 1.2 to 1.5 above. The impact to the Myrke has been addressed in relation to the specific points raised below.

2. *DETRIMENTAL IMPACT ON THE MYRKE*

2.1 *Should the application be approved, as residents of The Myrke, we are very concerned as to the impact the various elements of the proposed scheme and its construction will have on the neighbourhood and day-to-day life.*

Construction Compound 8

2.2 *Proposed construction compound 8 is only 35 metres from some homes on The Myrke and, according to the application, there may be significant night time noise impacts and potential adverse effects from construction dust, and therefore air quality, on homes in The Myrke (assessment ref 14.10.23 Main Text). There are alternative sites that are further away from residential property (e.g. construction compound 7) with noise impacts "unlikely to be significant" so we strongly urge the ExA to remove compound 8 from consideration to reduce the impact on local residents in the event that the application is approved.*

Highways England Comment

- 2.2.1 The proposed Construction Compound 8 is sited in a triangle of land on the opposite side of the B376 Datchet Road to the homes on The Myrke. The boundary of the land for the proposed Construction Compound 8, at its closest point, is approximately 50m to houses and 35m to residential gardens. At this location a substantial screen of trees and shrubs exists between the west-side of the B376 and the properties of The Myrke. The construction of the new bridge and the compound should not require these trees and shrubs to be removed at this location, as shown in the Engineering and Design Report ("EDR") (Application Document Reference 7.3), Annex A1, Environmental Masterplan Sheet 23.
- 2.2.2 If Construction Compound 8 could not be used during the construction phase, the nearest alternative would be Construction Compound 7, which at over 2km away from the bridges would be impracticable due to such a distance. Compound 7 will be used during the construction of the Windsor Rail Bridge and is also not of sufficient size to be able to accommodate the construction of the other structures.
- 2.2.3 Between the east-side of the B376 and the compound there are also trees and shrubs. Where necessary for the construction of the new Datchet Road Bridge and new road alignment, site clearance will be carried out, as outlined in the Vegetation Clearance drawings in Annex A2 to the EDR. Where possible (subject to detailed survey) existing trees and vegetation on the boundary will be retained and protection fencing will be provided in accordance with the provisions of Section 8.3.2. e) of the Outline CEMP, Appendix 4-2A of the Environmental Statement(ES) (Application Document Reference 6-3) to avoid accidental damage during the operation of the area as a compound. Proposals for minimising any adverse effect from dust, noise and vibration are explained further below.
- 2.2.4 Proposed Construction Compound 8 is planned to be used to support the demolition and construction of Datchet Road, Recreation Road and Riding Court Road bridges. Datchet Road and Recreation Road bridges are immediately adjacent to the north eastern and south eastern boundaries of the proposed Compound. The immediate proximity of the proposed compound to the structures is essential for the construction of these bridges.
- 2.2.5 Construction Compound 8 will service some night time working along the M4 motorway carriageways. However, this will most likely be restricted to vehicles

making occasional visits to the compound to visit offices and collect materials. The facilities would be sited to the northern and eastern parts of the compound, as the southern and western parts of the compound will be reserved to service the construction of the new Datchet Road Bridge.

- 2.2.6 Construction traffic will access the compound from the M4 westbound carriageway where practicable. However, access to the compound and the bridge construction area will also be necessary from the B376. The majority of the work to construct the new bridges will be carried out during normal daytime working hours.
- 2.2.7 Areas of the compound that would be heavily trafficked will be surfaced with tarmacadam to minimise dust. Dust suppression via water spraying would be carried out to un-surfaced areas to minimise airborne dust. The screen of trees and shrubs between the compound and residential properties will assist in the prevention of dust nuisance.
- 2.2.8 Section 6 of the Outline CEMP details the management of air quality during the works, whilst Section 12 of the Outline CEMP details the management of noise and vibration during the works.
- 2.2.9 A construction noise and vibration assessment is provided in Chapter 12 of the ES (paragraphs 12.4.32 to 12.4.87) and Appendix 12.3 of the ES. The assessment is based on an indicative likely construction schedule and plant roster, and identifies reasonable worst-case noise and vibration effects along the Scheme corridor. For the Myrke area, the assessment concludes that construction noise and vibration effects would generally be slight adverse for daytime, evening and night-time works. Where more significant effects are identified for particular activities, it is noted that these activities would be dynamic in nature, as the works move along the Scheme, and that these higher noise levels would prevail for only a short period of time, resulting in a slight adverse effect overall.
- 2.2.10 A preliminary assessment of construction compounds is provided in paragraphs 12.4.80 to 12.4.87 (and associated Table 12.15) of the ES. For the Construction Compound 8, a slight adverse effect is predicted, which is not considered to be significant.

- 2.2.11 Once the contractor has developed the detailed construction programme and associated plant schedule, the noise and vibration effects will be revisited in detail, including those from operation of the construction compounds. This will include an assessment of necessary night-time working and the associated noise and vibration effects.
- 2.2.12 The contractor will employ best practicable means to minimise noise and vibration levels during the works. There will be close liaison between the contractor and Local Authority Environmental Health Officers, affected residents and commercial operations, to ensure that noise and vibration during construction is effectively managed. The contractor will enter into Section 61 Agreements (under the Control of Pollution Act 1974) with relevant Local Authorities.
- 2.2.13 The procedures for managing noise and vibration during construction, including a protocol for compliance monitoring, will be documented in the CEMP and secured under Requirement 8, Schedule 2 of the DCO. An Outline CEMP was submitted in the supported of the Application and this will be finalised by the contractor, and agreed with relevant Local Authorities, prior to commencement of construction works.
- 2.3 *Four of the proposed construction compounds (1, 10, 12 & 13) were deleted by the HA from the application; two of these were removed due to the potential disturbance to a traveller park (13) and to a hotel (12). Surely permanent residents of The Myrke should be afforded similar consideration and compound 8 removed from consideration.*

Highways England Comment

- 2.3.1 The rationale for excluding certain construction compounds is addressed in Highways England's response to Question 9.2 of the Examining Authority's first written questions. The question related to the clarification of the need for compounds. Highways England's response is as follows:

“The compound sizes have been based on the requirements for the scope of works associated with the Scheme outlined in the Summary of proposed development, Section 2.1 of the Engineering and Design Report (Application Document Reference Number 7-3). The criteria for construction compound selection are detailed in section 5.5 of the Outline Construction Environmental Management

Plan which is appendix 4.2A of the Environmental Statement (Application Document Reference 6-3)”.

- 2.3.2 Compound 11 also provided a suitable conveniently located alternative to compounds 12 and 13 with good access and less likelihood of ecology issues, however there is no suitable alternative for compound 8. It is not the case that construction compounds 12 and 13 were removed for reasons of amenity.
- 2.3.3 Proposed Construction Compound 8 is needed for two main functions. Initially, it will be used to support the demolition and construction of Datchet Road, Recreation Road and Riding Court Road bridges. Secondly, it will be used throughout the period of construction and commissioning of the M4 between junction 8/9 and junction 3 - in this respect, it will be used to provide welfare and office facilities during the construction phase. The linear nature of the highway works will require the compound to be used for the storage of different materials to suit the construction stage. Such materials include earthworks, drainage, ducting, safety barriers and cabling. Plant and equipment associated with these materials will also be stored in the compound area during the works.
- 2.3.4 As explained in the response to paragraph 2.2 above, if Construction Compound 8 were to be removed, the nearest alternative compound would be Construction Compound 7, which is located too far away to be practical and does not have sufficient size to serve all four structures (Windsor Rail Bridge, Datchet Road Bridge, Recreation Ground Bridge and Riding Court Road Bridge).

Datchet Road Bridge & Recreation Ground Bridge

- 2.4 *The replacement of the two bridges in close proximity to The Myrke is likely to involve work both day and night for a considerable period of time. This is unacceptable as it would have a serious detrimental impact on the standard of life for all those living on The Myrke.*

Highways England Comment

- 2.4.1 The majority of the work to construct the new bridges will be carried out during normal daytime working hours. Certain operations would be required to be carried out at night such as installation of the new bridge steel beams complete with falsework and screens, and the subsequent removal of the falsework and screens which would need to take place during partial or full closure of the M4.

- 2.4.2 Demolition of the majority of the parts of the existing bridges would also need to be carried out at night during partial or full closures of the M4. Where possible, the bridges will be demolished by removing appropriate parts to minimise the duration of the work and the noise/dust arising.
- 2.4.3 The night time works associated with the construction of the new bridges and removal of the existing bridges would be on a relatively small number of discrete occasions and whilst there may be some noise disruption, forward planning and close liaison with local residents will allow these works to be carried out with the minimum disruption possible.
- 2.4.4 Section 5.4 of the Outline CEMP details the working hours for the Scheme. Section 12 of the Outline CEMP additionally details the management of noise and vibration during the works.
- 2.4.5 As stated above in the response to paragraph 2.2 above, a construction noise and vibration assessment is provided in Chapter 12 of the ES.
- 2.4.6 With specific reference to Datchet Road Bridge, daytime and evening bridge works are assessed as slight adverse in noise terms, and thus not significant. A moderate adverse effect is identified for night-time bridge demolition works (paragraph 12.4.75 of the ES). However, these higher noise levels will prevail for a relatively short period of time and the overall significance of bridge works on Datchet Road is assessed as slight adverse.
- 2.4.7 Vibration from bridge works is addressed in paragraphs 12.4.77 to 12.4.79 of the ES. The majority of the methods and plant to be employed are not sources of significant ground borne vibration and vibration levels to surrounding sensitive receptors (which would include residential properties at the Myrke) are assessed as not significant.
- 2.4.8 The mitigation measures include standard mitigation measures (Section 6.2 of the Outline CEMP) and additional mitigation measures (Section 6.3 of the Outline CEMP) where residential properties are close to construction compounds and bridge works. These additional measures will apply to the construction works carried out in this area and are intended to minimise the adverse impacts of dust generated by construction and demolition works.

2.4.9 Section 5.6 of the Outline CEMP also includes measures on site construction layout to control dust, mud, and spoil.

2.5 *Also, the removal of the existing Datchet Road Bridge may include destroying some, or all, of the mature vegetation on the Datchet Road (west-side) embankment which runs behind homes on The Myrke. These trees and plants have been established over the last half century and provide an essential visual and aural screen to the traffic, as well as wildlife habitation, and should not be removed.*

Highways England Comment

2.5.1 Highways England's policy is to retain trees wherever possible. Locating the replacement for Datchet Road bridge to the east of the existing bridge supports the protection of the existing vegetation between the Myrke and the Datchet Road. Sheet 23 of the Vegetation Clearance drawings, Annex A2 of the EDR, shows that much of the vegetation between the Myrke and Datchet Road (west-side) will remain untouched. Where the removal of trees is necessary, it is not predicted to result in a material change in the noise climate in this area.

2.5.2 The landscape and visual impact assessment for the Scheme is provided in Chapter 8 of the ES, along with Appendices 8.1 to 8.4 of the ES (Application Document Reference 6-3) and Figures 8.1 to 8.4 of the ES (Application Document Reference 6-2). The landscape mitigation strategy for the Scheme comprises the provision of planting to replace the existing vegetation lost during construction. The vegetation clearance and mitigation proposals at Datchet Road Overbridge are provided in the Engineering and Design Report, Annex A2, Vegetation Clearance Sheet 23 and Annex A1, Environmental Masterplan Sheet 23. Whilst vegetation clearance will be required on the east embankment of Datchet Road overbridge, vegetation will be retained at the western embankment, except for the area required to widen the carriageway of the M4 to provide the width required for four lane all lane running, and replacement planting is proposed where vegetation has been cleared. As set out in Appendix 8.3 of the ES, the visual effects on properties at the Myrke during, and immediately following, construction are assessed to be slight adverse, reducing to neutral by Design Year (15 years after construction) due to establishment of planting.

Vibrations

- 2.6 *The bridge works are likely to increase the level of vibrations, which may adversely impact some of the homes on The Myrke particularly given their age and shallow foundations. If the scheme goes ahead, all homes on The Myrke should be inspected by an independent structural surveyor, at the scheme's expense, and each homeowner provided with the resulting report for their property; a similar inspection should be carried out following completion of the scheme to identify any damage. The resolution of any damage should then be funded by the scheme.*

Highways England Comment

- 2.6.1 It is normal practice to carry out initial structural surveys, both before and after the works, of any properties that could possibly be significantly affected by ground borne vibration from the works.
- 2.6.2 Section 12 of the Outline Construction Environmental Management Plan (“CEMP”) details the proposed management of noise and vibration during the works. Paragraphs 12.6.11 to 12.6.18 detail the contractor’s approach to protecting buildings from the effects of ground borne vibration, including the identification of any buildings requiring structural surveys pre and post construction works. The CEMP is secured under Requirement 8, Schedule 2 of the DCO a draft of which is provided in the DCO Application (Application Document Reference 3-1).
- 2.6.3 The majority of the works to construct the new bridge(s) will create very little vibration. However, the bridge demolition and certain other works may have potential to cause vibration including installation of sheet piles when constructing the new foundations and when placing and compacting fill to the new approach viaducts.
- 2.6.4 Construction vibration impacts are addressed in paragraphs 12.4.63 to 12.4.68 (and associated Tables 12.13 and 12.14) in Chapter 12 of the ES (Application Document Reference 6-1). Stand-off distances for piling and ground compaction works are provided, outside of which distances vibration impacts should not be significant. Tables 12.13 and 12.14 from the ES are reproduced below.

Table 12.1 Stand-off distances for cosmetic building damage

Activity	Stand-off distance (m)
Impact Piling	15
Vibratory Piling	5
Ground Compaction	5

Table 12.2 Stand-off distances for human response

Piling method	Stand-off distance (m)
Impact Piling	45
Vibratory Piling	35
Ground Compaction	25

2.6.5 Any construction activities likely to cause significant ground vibration will be subject to further, detailed assessment prior to the works, and the method chosen will seek to keep vibrations to acceptable limits in order to minimise disturbance to residents and to prevent damage to residents’ properties and other infrastructure.

Creation of Additional Running Lane

2.7 *There is no existing hard shoulder on the west-bound carriageway adjacent to the north end of The Myrke. The application therefore requires the creation of an additional lane which, it was feared, may have required permanent land take of The Myrke if the space between the existing carriageway and wooden fence (separating the carriageway from The Myrke) was deemed insufficient.*

2.8 *The order limit included In the application appears to have been amended to exclude land take here but reassurance is required that this is indeed the case. Any intrusion into The Myrke itself, and permanent land take of The Myrke, would be unacceptable as it would*

effectively bring the motorway closer to our homes bringing with it noise and pollution. It is complicated further by the existence of mains gas, water and sewers situated here. It would also result in the removal of existing vegetation, which provides a screen between The Myrke and the motorway.

Highways England Comment

- 2.8.1 The Order Limits and the requirements for permanent and temporary land are shown on the Land Plans (Application Document Reference 2-2). The area around Datchet Road and the Myrke is shown on sheet 23 of 31.
- 2.8.2 The Land Plans indicate the proposal to take permanent acquisition of one plot: the plot between the M4 motorway and the northern end of the Myrke, Plot number 23-13.
- 2.8.3 There is a discontinuity in each of the existing hard shoulders of the M4 as it passes under Datchet Road overbridge. The Scheme proposes to widen the carriageway of the M4 in this location in order to provide the width required for four lane all lane running.
- 2.8.4 In order to complete the works it will be necessary to remove the existing wooden fence and to clear the vegetation in the plot between the motorway and the footpath leading from the northern end of the Myrke up to Datchet Road.
- 2.8.5 Due to vegetation cover and to the existing fence, Highways England has not yet been able to carry out a detailed topographic survey of this area. It is therefore not yet possible to ascertain the full extent of the earthworks widening or strengthening required in this location. As noted above, the vegetation clearance is described in drawing Sheet 23 in Annex A2 of the Engineering and Design Report.
- 2.8.6 The detailed design will consider the different earthworks options available in the Earthworks Standard Details (Application Document Reference 2-7) to minimise any increase in the motorway footprint so that on completion of the works the wooden fence will be reconstructed as close to its current location as practical
- 2.9 *The application doesn't offer the alternative of widening the motorway on the east-bound carriageway, which is further away from housing.*

Highways England Comment

- 2.9.1 One of the objectives of smart motorway development is to provide works, so far as possible, within the existing footprint of the motorway. The proposed symmetrical widening is required only to the extent of the existing hard shoulder discontinuities, which are each approximately 120m long, with permanent land acquisition limited to plot no 23-13 described above in the response to paragraphs 2.7 and 2.8. Asymmetrical widening would require the central reserve of the motorway, and associated drainage, to be slewed to the north and would require widening along the northern side of the M4 for a distance of approximately 300m either side of Datchet Road. This work and the land required for it would impact on Upton Court Park.
- 2.9.2 Asymmetric widening would also require a relaxation in the alignment standards of the M4. The existing motorway alignment adjacent to the Myrke is built to the minimum desirable radius for a rural motorway. To adjust the alignment of the motorway so that widening was only required on the eastbound carriageway, the radius would need to be reduced to below desirable minimum. This would require a relaxation of the design standards. Stopping Sight Distance would also require a relaxation from standards due to the reduced radius. The carriageway currently falls towards the central reserve on a camber of approximately 3%, which is below current standards, by further reducing the radius this substandard feature would be further exacerbated.
- 2.9.3 For these reasons, Highways England considers that asymmetrical widening of the M4 is not an appropriate alternative in this location.

Further Design Elements

- 2.10 *The application does include the installation of noise barriers between the M4 and The Myrke as well as low noise surfacing. Both of these are essential and should be considered mandatory but the low noise surfacing has a finite effective life and it's not clear what the ongoing resurfacing programme will be. (This work should be carried out even if the application is declined; the current low noise surfacing, laid in about 2000, requires replacing and then maintaining on a suitably regular basis.)*

Highways England Comment

- 2.10.1 Highways England is committed to the provision of the noise mitigation specified in Chapter 12 of the ES. The mitigation strategy comprises the provision of a low noise surface across all lanes of both carriageways (see paragraph 12.2.49), plus the provision of a number of additional noise barriers. Existing noise barriers will be retained, or replaced like for like if in poor condition.
- 2.10.2 All road surface types degrade over time, with consequent increases in tyre/road noise. Research has indicated that, when new, low noise surfaces provided on average between 4 and 6 dB(A) benefit over tested hot road asphalt (“HRA”) surfaces. In spite of the better acoustic durability of the HRA surfaces, low noise surfaces still outperformed the HRA surfaces by 1 to 3 dB(A) after 10 years. The -3.5 dB correction for a low noise surface, as prescribed in Design Manual for Roads and Bridges (“DMRB”) and employed in the noise assessment, is a reasonable average over the life of the surface for calculation and assessment purposes.
- 2.10.3 It is assumed in the noise assessment for the Scheme that, if the Scheme did not go ahead, the M4 motorway between Junction 3 and Junction 12 would be provided with a low noise surface at some time after 2022 and before 2037 (2022 and 2037 being the assessment years for the noise assessment).
- 2.10.4 Low noise surfacing, like any 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 10 and 15 years (as noted in paragraph 6.20 of HD37/99 *Bituminous Surfacing Materials and Techniques (Incorporating Amendment No1)*). The pavement is regularly monitored following installation using a variety of tests and its replacement will be scheduled once its performance is no longer satisfactory.
- 2.11 *The application includes digging up the current northbound approach to the existing Datchet Road Bridge and landscaping it. It is essential that this be designed with dense evergreen woodland/shrubs/plants to increase the visual and aural screen rather than being an open, social area that could attract fly-tipping and/or loiterers.*

Highways England Comment

2.11.1 The vegetation clearance and planting proposals at Datchet Road Overbridge are provided in the Engineering and Design Report, Annex A2, Vegetation Clearance Sheet 23 and Annex A1, Environmental Masterplan Sheet 23. Planting will comprise a significant area of trees and shrubs, a proportion of which will be evergreen.

2.12 *The area around The Myrke is designated as a high flood risk so it is essential that the application does not exacerbate this and mitigation is built into the design. The application as it stands does not provide any comfort in this regard.*

Highways England Comment

2.12.1 Highways England considers that the Application documents provide an appropriate level of information to provide comfort that flood mitigation will be provided for the effects of the Scheme. It is not the function of Highways England to provide enhanced flood attenuation.

2.12.2 Highways England confirms that measures to ensure that the Scheme will have no detrimental impact on existing flood risk at any location, including those areas that are already vulnerable to flooding, will be incorporated within the design. The commitment to provide mitigation in areas where the Scheme encroaches into the floodplain, specifically between junctions 6 and 5 (i.e. local to the Myrke) is stated in paragraph 5.1.45 of the Flood Risk Assessment (Application Document Reference 5-3). Where works result in a loss of storage volume for floodwaters this will be compensated for by re-profiling land or removing parts of existing embankments, within the Scheme Order Limits, to create areas that will hold the same volume of floodwater storage that is lost. It should be noted that the compensation storage area will be created first (i.e. before any storage is lost), meaning that there is no period when the area available for the storage of floodwaters is less than the current area. It is intended that this approach will be agreed as appropriate by the Environment Agency, in a Statement of Common Ground which is in the process of negotiation between the parties, and will ensure that there is no increase in baseline (existing) flood risk throughout the Scheme and specifically, locally from the River Thames or Jubilee River at the Myrke.

2.12.3 Datchet Road is to be re-aligned, with the new alignment shifting approximately 15m towards the east. The proposed road alignment and Scheme embankment works have been checked against the 1 in 100 year plus climate change flood level, as supplied by the Environment Agency, and it has been confirmed that the Scheme works do not encroach into the floodplain in this area. as documented in paragraph 5.1.44 of the Flood Risk Assessment (Application Document Reference 5-3).

2.12.4 With regard to managing surface water flood risk, measures have also been incorporated into the design of the Scheme to manage flood risk from this source. The drainage design (described in paragraphs 1.2.1 to 1.2.3 of the Drainage Strategy Report (Application Document Reference 7-5) incorporates attenuation at key locations in the form of oversized pipes/underground tanks to ensure that rates and volumes of highway runoff continue to discharge at existing established rates. Furthermore, areas where repairs or replacement of drainage infrastructure is needed will be identified and work undertaken to improve upon the existing functionality of the system.

2.13 *The application includes retaining the existing footpath and extending it to meet the new Datchet Road Bridge. Detailed design should include additional lighting and minimise access from the footpath to the rear of houses on The Myrke. Improvements should be discussed with Slough Borough Council.*

Highways England Comment

2.13.1 The existing footpath will be retained in its current position and as detailed on sheet 10 of Drawing 4.2 of the ES (Application Document Reference 6-2) a new link will be provided from the new Datchet Road embankment to the existing public right of way. This new link will be to a standard to match the existing path and in consultation with Slough Borough Council. Lighting will be provided to the new section of footpath but not to the existing section of footpath due to potential additional visual intrusion on residential properties, including those at the Myrke. The detailed design will be developed in consultation with Slough Borough Council.

3. **SITE VISIT**

- 3.1 *We would like to request a site inspection of The Myrke, to include our property, in order for the ExA to see and discuss the points raised above. We believe that the approval of this application will have serious implications on people's lives, rights and well-being.*

Highways England Comment

- 3.1.1 Highways England confirms that the Examining Authority has agreed the locations for the site visits. One of these locations is The Myrke, which will be visited on 12 November 2015. Should any additional locations be selected then Highways England will aid, wherever possible, in the facilitation of these site visits.
- 3.2 *In summary, we are of the view that the proposed scheme will not achieve its aims and will have a detrimental impact on our standard of living, and those of our neighbours, and demonstrably harm the amenities enjoyed by us, in particular the right to enjoy a quiet and safe residential environment.*
- 3.3 *The Myrke is a small community, which is under threat from this proposed scheme; it has many elderly residents, some of whom may not put their fears in writing. We would like our objection and concerns to be given serious consideration and await your response accordingly.*