

M & R HOSIER (REF: 20020373) RESPONSE TO DOCUMENT 8.31 - comments on further information

9 Hosier Family (REP3-055 to 060, and 077)

Comments on Site Inspection

Matter Raised by M & R Hosier

9.1.1 Point H (Western Tunnel Portal) – - The view point was not on the site of the western portal, but from the field across the opposite carriageway of the western portal;

- The tape used to demark the area was barely visible to the eye; -

The viewpoint from the National Trust open access land looking south towards the tunnel portal was obscured by the built up section of the A303. In reality the public viewpoint into the western portal will be from the existing A303 which is at a much higher level than from the level seen on the day

- It would have been more beneficial for Point H to be on M&R Hosier land and/or from the existing A303 which is the most realistic public viewpoint during the operation of the scheme

Who is responsible for taking down the marker tape otherwise it will get caught up in farm machinery

The Applicants response

The viewpoint was from a publicly accessible and safe location, which had been agreed in advance of the ASI via the itinerary. The viewpoint enabled the western portal location to be seen in the context of the landscape.

The tape used to demarcate the area was visible and those on the inspection were able to see it.

An elevated location within the National Trust open access land was chosen to view the western portal location. The fact that the western portal location is not visible from all parts of the National Trust land is considered beneficial and demonstrates the careful siting of the portal. The site inspection participants were not able to stand on the existing A303 due to health and safety concerns.

All locations were agreed in advance with the Examining Authority to provide safe viewing locations.

If the tape is still up, Highways England can remove it when they undertake photomontages from M&R Hosier land in the coming weeks, for which permission has been sought and approved by M&R Hosier.

M & R Hosier response to 8.31

We had offered access to the site, so that the western portal could be viewed properly. In this scenario, participants would not have to stand on the current A303 verge as stated by the Applicant. However, we were told that the Applicant had chosen instead to view the portal off site and from the opposite side of the road.

A number of people remarked that it was difficult to see the tape demarking the western portal. If the tape was easy for people to see, then I wonder why one of the Applicant's team had a pair of binoculars to hand and offered them to people who were trying to locate the tape. We suggest that if binoculars are needed, the viewing point is too far away for proper assessment.

The western portal may have been difficult to view from the designated location, but it does not necessarily follow that the portal would not be seen from other locations within the WHS. We believe that the view from the downgraded A303 will be into the cutting of the western portal. In any event, a line of marker tape is not a fair representation of the hard infrastructure which will make up the Western Portal.

We await to see any photomontages that the Applicant provides for this area.

We thank you for removing the tape you used to mark the western portal and green bridge 4. If our combine finds any mislaid posts in the crop as we have done following past surveys, we will be submitting another repair invoice to the Applicant.

Once again we offer an on-site viewing of the western portal for the next site inspection as we are aware that it is the Applicant and not the Inspectors that decide the itinerary.

Matter raised by M & R Hosier

9.1.2 Point I (Green Bridge 4)

Very difficult to spot the tape on the ground which denoted either end of the Green Bridge 4 if not impossible

Again would have been more beneficial/appropriate to view Green Bridge 4 from the A303 and/or M&R Hosier land as this will be where the public will see the structure from

The Applicants response

The Examining Authority were able to view the tape from the elevated position of the bus, which was parked in the layby adjacent to the Green Bridge No. 4 location.

Photomontages are being produced for the Examining Authority to indicate the view from Green Bridge No. 4 towards the western and eastern portals.

M & R Hosier response to 8.31

For the site inspection, we offered the opportunity to view the green bridge from its proper location, as it will be seen by the public once the Scheme is in operation. However, we were told that the Applicant had decided not to take up this offer. As such, we believe that the Applicant is failing to provide an accurate assessment of the placement of the green bridge within the landscape and so misleading the taxpayers.

Due to the height of the crop and the angle of the green bridge to the road it was not easy to see the demarcation of green bridge 4.

We will also be interested to see the photomontage views from the green bridge looking towards the western portal and the carriageway that stretches towards Longbarrow Roundabout.

We will be interested to see the photomontages from the green bridge with its view of the eastern portal! In any event a line of marker tape is not a fair representation of the hard infrastructure and sheer size of the actual green bridge and its impact on the landscape.

Matter raised M & R Hosier

9.1.3 Generally we consider that a new ASI is arranged to inspect the western portal and the green bridge from the actual positions where the public will be viewing them from if the scheme proceeds.

The Applicants response

There will be a second ASI in August and Highways England would advise that M&R Hosier submit this request to the Examining Authority. In relation to the above matter regarding Point H and the Western Tunnel Portal, this will require permission and access to locate tape to demarcate the portals, if it is removed prior to August.

M & R Hosier response to 8.31

We again offer on-site visits for the next site inspection. We understand that it is the Applicant and not the Inspectors that agree the locations for viewing. We are in agreement for the Applicant to mark out the locations.

9.2 Response to Written Questions (CA.1.48 - Rachel Hosier on behalf of Max Hosier 20020782 and Helen Hosier – Ref:20020636)

Matter Raised M & R Hosier

9.2.1 The seeming injustice that the land that has been farmed by four generations of our family can be taken away in exchange for a compensation fee which will not enable us to purchase additional replacement acres is criminal. It seems only honourable that Highways England (HE) should compensate like for like, by providing compensation levels to enable us to replace the lost area of land in order to ensure there will be no detrimental effects to our overall farm business.

The Applicants response

See response to item 40.1.13 in the Comments on Written Representations [REP3-013]. Paragraph 6.3 'Fair compensation' of the Statement of Reasons [APP-023] details the Applicant's approach to compensation.

M & R Hosier response to 8.31

40.1.13 in Comments on Written Representations [REP3-013] is in relation to the pig enterprise, so we presume the Applicant is referring to compensation for the pig enterprise rather than for land value as per item 9.2.1.

Paragraph 6.3 "Fair compensation" of the Statement of Reasons [APP-023] We would hope that this would be true, but our experience has shown that the Applicant takes little notice of anything we say or any evidence we produce that does not back up their position. As such, we are doubtful that a "fair compensation" will be reached, ie the ability to purchase like for like including all incidental costs.

As per our oral presentation at the Compulsory Acquisition Hearing, there has been no negotiation for land acquisition. (See Simon Mole of Carter Jonas, summary of oral submission on behalf of M & R Hosier).

Matter raised M & R Hosier

9.2.2 Farm overheads are spread over the whole acreage, so a reduction of 4% of the arable land will have a considerable effect. Added to this, our independent investigation into the groundwater of the Scheme has highlighted that there is no certainty that groundwater flow will not be effected by the tunnel. HE's refusal to take this real danger on board and investigate a replacement supply, is astounding. The borehole water supply is critical to our business and farm cottages. Should this be compromised, it will have devastating results on our farming business.

Applicants response

See response to items 40.5.1-40.5.9 in the Comments on Written Representations [REP3-013].

M & R Hosier response to 8.31

The Applicants response refers to item 40.5.10, relating to water supply and assessment which is as follows:

40.5.10 The two boreholes extract water from the Chalk aquifer. The effects of the Scheme on this aquifer (quality and quantity) and on the boreholes have been fully assessed. A full EIA has been undertaken, including a detailed assessment of the potential risks to controlled water, as set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049]. During the assessment, there was extensive engagement with the Environment Agency and Wiltshire Council. The extent of agreement with these organisations will be set out in the Statements of Common Ground. Monitoring is ongoing. As part of the full EIA process, an Outline Environmental Management Plan (OEMP) [APP-187] has been prepared, and a revised version is being submitted at Deadline 3, that sets out general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts, including in relation to the protection of private water supplies, hydrology, land drainage, and sewage disposal from construction compounds. These works will be carried out in accordance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The OEMP will be secured through paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].

M & R Hosier response to 8.31

For the Applicant to state that the effects of the Scheme on the aquifer (quality and quantity) and on the boreholes have been fully assessed a 3D fracture model would need to have been produced at this stage. On a scheme of this nature, Golders Fracman software would produce a 3D fracture model which would show all the geotechnical and hydrogeological risks associated with the Scheme. Concealing information, through dismissing the requirement to carry out 3 D modelling at this stage is in breach of NEC3 and 4 contracts.

We believe that the Applicant is failing to address the major issue. They state that there cannot be complete certainty that there will not be a problem with our water supply in relation to either water quality or quantity. Yet they have not quantified this percentage risk. If they are unable to quantify this risk then how will any prospective contractors be able to accurately tender for the Scheme? Too much responsibility is being placed on the contractors when they have not been involved in early contractual involvement.

How can we assess the water risk to M & R Hosier if the Applicant has not even quantified the risk?

Matter raised M & R Hosier

9.2.3 The management agreement for a legacy brief refers to our family ethos, summarised as follows: Although the land we farm provides us with an income, we have a moral responsibility to ensure it is tended in a respectful way, maintaining the health of the soil and welfare of the livestock. We endeavour to do whilst maintaining the natural environment and protecting the important archaeological culture depicted in the barrow cemeteries. It is this guardian role of managing the farm as a legacy for all those generations that will follow after that we refer to.

The Applicants response

Soil - see response to item 40.1.24 in the Comments on Written Representations [REP3-013].

Archaeology – see response to item 40.2.16 in the Comments on Written Representations [REP3-013].

Animal Welfare – see response on page 13-5 of the Relevant Representations Report [AS-026].

M & R Hosier response to 8.31

The Applicant has failed to take into consideration our farming timetable, has failed to fully consider the whole of the WHS and has failed to take on board the Stone curlews that inhabit Normanton Down Reserve. Priority is given to deliver the tunnel Scheme with no consideration of whether it is appropriate to the WHS or not. As such, M & R Hosier and all the other landowners are left to make the best we can of a bad Scheme as the Applicant seemingly takes no account of the comments we make.

9.3 Response to Written Questions (Ag.1.28 - M & R Hosier, Boreland Farm – Ref: 20020373)

Matter Raised M & R Hosier

9.3.1 The business operates a balanced cropping rotation, with sequential rotation of different arable and livestock including spring and winter cereal crops as well as peas, winter oilseed rape, stubble turnips and pigs as cropping breaks to maintain the health and structure of the soil.

Within the scheme area, the pigs have the dual role of adding extra organic matter to the soil to aid fertility as well as providing a break for cereal disease and weed burdens.

The Applicants response

The agricultural use of the land is understood including the use of pigs in an arable cropping rotation – and the inherent benefits that this provides.

As set out at paragraph 40.1.7 [8.18 Comments on Written Representations] the land identified for permanent acquisition around the tunnel has been reduced to the minimum required in order to construct, operate and maintain the tunnel.

However, there would still be a requirement to acquire permanently an area of some 15ha from Boreland Farm with Westfield Farm; this represents 3% of the total holding. It is understood that the pigs make use of 89ha at the northern end of the farm on a 6-year rotation, utilising 29ha at a time. The land that would be acquired forms part of the 89ha and represents 17% of the land area used by the pigs. Due to the reduction in land available it is inevitable that pig numbers may need to be reduced unless other land were made available on the 526ha holding. If the pig or arable enterprises are demonstrably adversely affected by the scheme, compensation may be claimed.

M & R Hosier response to 8.31

We question the comment that the land taken around the tunnel is the minimum area required to deliver the Scheme and legacy benefits. We have continually stated that the land put forward for chalk grassland creation within the area of the western portal can remain in our ownership and under an agreement, we can farm the area to deliver the Scheme vision. This would save money on the land requirement and provide a more cost effective option. Despite continually raising this point no one has discussed this opportunity further with us.

Within a mixed farming system, the benefits or negatives of a single enterprise have a considerable knock on effect to all the other farm enterprises. Reducing or even removing the pig enterprise from the farm will necessitate a great number of changes within the farming system, which will impact on the overall farm profitability. Topography and infrastructure have a large bearing on where different enterprises will thrive on the farm. Causing an enterprise to fall below the optimum level brings its justification into question.

9.3.2 Being the furthest end of the farm from the main farm entrance, the pigs deposit the organic matter straight onto the land without the need to bring organic matter through from the opposite end of the farm. Although byway 12 does link to the A303 it is not appropriate for the delivery of heavy lorries of organic matter as the byway surface has a number of scheduled monuments that would be at risk of damage, the area is also too deeply rutted and the byway surface will not sustain such traffic.

The Applicants response

See response to item 40.7.3 in the Comments on Written Representations [REP3-013].

M & R Hosier response to 8.31

Transport of alternative organic matter to the far end of the farm in the vicinity of the pig enterprise would be subject to many practical issues. Including possible issues of accessing agricultural lorries and machinery through existing narrow roads in Amesbury which was the subject of much discussion at the CPO Hearing. We would therefore be looking for compensation from the Applicant for removing the benefit of pig manure from the land should the pig enterprise be forced to vacate this area.

As the Applicant has failed to negotiate with us over land acquisition we have no confidence that adequate compensation for any disruption of our farming business will be fair and just.

Matter raised M & R Hosier

9.3.3 Although the percentage of land take of our holding is only a small percentage, it represents a 20% reduction in the block of land that the pig unit rotates around. This would have a significant impact on the viability of the enterprise. The pig unit operates at an optimal efficiency of 750 sows spread over approximately 29 ha being supported by 3 members of staff.

The reduction in the size of the block of land would either require a reduction in pig numbers, or for the pig enterprise to relocate to a different part of the farm every 4 years. Whilst this is possible, it will have considerable impact upon the economies of scale of the enterprise and the profitability. Even moving from field to field in close proximity is a considerable investment, but the costs would increase with a greater distance of moving.

The flexibility to move the pig unit within the farm is limited by field topography, size and location of scheduled monuments, as such there are limited areas within the farm that the enterprise can use to relocate

The Applicants response

See response to item 40.1.1 in the Comments on Written Representations [REP3-013].

It is understood that the pigs make use of 89ha at the northern end of the farm on a 6-year rotation, utilising 29ha at a time. The land that would be acquired forms part of the 89ha and represents 17% of the land area used by the pigs. Due to the reduction in land available it is inevitable that pig numbers may need to be reduced unless other land were made available on the 526ha holding. If the pig or arable enterprises are demonstrably adversely affected by the scheme, compensation may be claimed.

M & R Hosier response to 8.31

Due to the Scheme taking land occupied by the pig enterprise and the distinct possibility that we will not be able to accommodate pigs within other areas of the farm. It is almost certain that the pig enterprise will no longer operate on the farm due to other land being the subject of existing Stewardship or management schemes which would conflict with the pig enterprise. The Applicant takes every opportunity to say we will be compensated for our losses, but their performance to date gives us no confidence that this will be the case. The Applicant takes no notice of our farming calendar in relation to surveys and they have no interest in whether our business is negatively impacted. The District Valuer was only instructed to begin any negotiations the week before the Compulsory Acquisition Hearing and no such negotiations have actually taken place yet.

Matter raised M & R Hosier

9.3.4 The unit has had a high health status with the A303 providing a natural barrier between the pigs and potential biohazards in this location. Our concern is that the new proposed byway along the existing A303 and A360, along with the anticipated heavier use of the existing byway 12, when combined with the scheme objective to bring more people into the area, will increase the risk of trespass onto the pig unit. Pig diseases are known to be carried on people's clothing, so there is an increased risk of health to the pigs with the proximity of the new byway in this area. There is also the pressures from livestock worrying from dogs off leads wandering into the pig field causing stress or even injury to animals.

The applicants response

See response on page 17-9 of the Relevant Representations Report [AS-026] and response to item Ag.1.4 (part ii) in the Examining Authority's Written Questions [REP2-022].

M & R Hosier response to 8.31

Wiltshire Council is either unable or lacking in funding, to cope with the enforcement of the byways that already exist within the area despite this being a WHS and one of the UK's most visited tourist attractions. The state of the byways deteriorate every year and currently, the end of byway 12 is littered with human faeces, wet wipes and toilet paper! Welcome to the WHS! This is a biohazard and the real prospect of this activity taking place in yet another area of the farm in close proximity to an animal production area for human food is shocking.

We already experience people climbing over fences for camping, toilet facilities or accessing Scheduled monuments, so this gives no confidence that fencing as proposed by the Applicant will form any kind of defence against negative byway behaviours.

Matters raised M & R Hosier

9.3.5 The flexibility to move the pig unit within the farm is limited by field topography, size and location of scheduled monuments, as such there are limited areas within the farm that the enterprise can use to relocate.

The Applicants response

See response to item 32.7.2 in the Comments on Written Representations [REP3-013].

The agricultural use of the land is understood including the use of pigs in an arable cropping rotation – and the inherent benefits that this provides.

As set out at paragraph 40.1.7 [8.18 Comments on Written Representations [REP3-013] the land identified for permanent acquisition around the tunnel has been reduced to the minimum required in order to construct, operate and maintain the tunnel.

However, there would still be a requirement to acquire permanently an area of some 15ha from Boreland Farm with Westfield Farm; this represents 3% of the total holding.

It is understood that the pigs make use of 89ha at the northern end of the farm on a 6-year rotation, utilising 29ha at a time. The land that would be acquired forms part of the 89ha and represents 17% of the land area used by the pigs. Due to the reduction in land available it is inevitable that pig numbers may need to be reduced unless other land were made available on the 526ha holding. If the pig or arable enterprises are demonstrably adversely affected by the scheme, compensation may be claimed.

M & R Hosier response to 8.31

As stated in other points above, we have no confidence that the Applicant will take on board our concerns and fully compensate us for losses associated with our business.

The Applicant seems to believe that if they use the phrase *“that compensation may be claimed”*, then they are fulfilling their obligation under Articles 8 and 6 of the European Convention on Human Rights and Article 1 of the First Protocol.

Matters raised M & R Hosier

9.3.6 Added to this the risk that our borehole water supply has the potential to be compromised for water quality and quantity with no firm commitment for HE to reinstate water supplies. Animal welfare for an outdoor breeding enterprise is extremely high, with requirements legislated within the buyer's assurance contracts. The worst case scenario would be, that should 750 sows and followers be without water for any length of time, an emergency slaughter plan would be required to prevent breach of animal welfare

The Applicants response

See response to items 40.5.1-40.5.9 in the Comments on Written Representations [REP3-013].

M & R Hosier response to 8.31

We can find no reference within documents as to **how** safe water would be provided to livestock should we experience either contamination or a decrease in water supply from our boreholes. No work has been done by the Applicant to understand the issues involved in supplying water to our farm if it should be needed as a consequence of construction works.

We note that OEMP contains many references to the Mains Work Contractor being responsible for completing numerous reports, the groundwater report being one of them. We believe it is irresponsible for the Applicant to push responsibility for water provision onto the contractors who will only be working with the scant information that the Applicant will have. We are of the opinion that the mains work contractor will be using the information and survey assessments carried out by the Applicant that we believe to be inaccurate. Therefore, there is the distinct probability that the Scheme will be delayed by numerous "unforeseen" issues, which will result in large overspends on the project and may even lead to the contractors going out of business.

We urge the Applicant to highlight all project issues with prospective contractors in order for the Scheme to be successfully implemented. It is irresponsible for the Applicant to force through a Scheme that is flawed. It will reflect not only on the contractor, but also on the integrity of the Applicant.

Matters raised M & R Hosier

9.3.7 For all the following reasons, the seeming small reduction of area will have a significant impact on the viability of the pig enterprise on the farm as well as having consequences to farm profitability.

- Being a mixed farm there are a lot of "unseen" benefits from enterprises, each enterprise in a symbiotic relationship with the other. The removal of pigs in the rotation will remove benefits from organic matter and plant health and weed burden.

The Applicants response

The agricultural use of the land is understood including the use of pigs in an arable cropping rotation – and the inherent benefits that this provides.

As set out at paragraph 40.1.7 [8.18 Comments on Written Representations] the land identified for permanent acquisition around the tunnel has been reduced to the minimum required in order to construct, operate and maintain the tunnel.

However, there would still be a requirement to acquire permanently an area of some 15ha from Boreland Farm with Westfield Farm; this represents 3% of the total holding.

It is understood that the pigs make use of 89ha at the northern end of the farm on a 6-year rotation, utilising 29ha at a time. The land that would be acquired forms part of the 89ha and represents 17% of the land area used by the pigs. Due to the reduction in land available it is inevitable that pig numbers may need to be reduced unless other land were made available on the 526ha holding. If the pig or arable enterprises are demonstrably adversely affected by the scheme, compensation may be claimed.

M & R Hosier response to 8.31

As stated in points above, in respect of the Applicants previous dealings with us, we have no confidence that they will take on board any of our concerns yet alone compensate us fairly for them.

Matters raised M & R Hosier

9.3.8 • There would also be a reduction to farm security as there is always someone from the pig enterprise within the area for the greater part of each day, which has slight benefit in reducing incidence of poaching.

The Applicants response

See paragraph 40.1.17 in the Comments on Written Representations [REP3- 013]. Fencing will be discussed with landowners pursuant to item MW-COM3 of the OEMP.

M & R Hosier response to 8.31

As already stated above, fencing is no deterrent for security or people who want to trespass. We have no confidence that the Applicant will ensure adequate security measures are in place during the construction. Whilst a recent ground investigation survey was being carried out on our holding (with security in place), we were still victims of poaching. Despite security guards seeing a 4x4 enter the byway late at night they did not think to take the registration number of the vehicle that subsequently damaged our property and drove over our fields. Currently, the presence of the pig enterprise within the area helps reduce poaching incidents by providing a daytime presence. If the pig enterprise was to leave, this would have a negative impact on farm security.

Matters raised M & R Hosier

9.3.9 • There would be a loss to biodiversity within the area as beetles associated with the pig enterprise feed the Stone curlews, bats and other species within this area. The pig, beetle relationship may be drawing the bats to this area, so removing the pigs from this area of the landscape there will be less to attract bats into this exposed area.

The Applicants response

Dung from pigs would attract invertebrates, which is a foraging resource for bats. The bat activity surveys undertaken did not show the areas where the pigs were located as having peak bat activity levels [APP-258]. Altering the position of the pig enterprise within the farm would not reduce the overall foraging resource for bats using the open farmland in this landscape.

M & R Hosier response to 8.31

Bat activity within the area was shown to be both the highest and the lowest activity recorded, as we have already referenced in our comments. ES Appendices Appendix 8.1B [APP-233] page 20 paragraph 8.1.47 for the highest activity and paragraph 8.1.48 the lowest activity. Bat Activity Survey Report [APP-258] under Diamonds Wood and Normanton Transect notes bats were recorded at locations around the entire transect. Limiting factors for bats using the area were noted as temperature and feed source. This highlights the need for additional survey work to further understand bat activity within the area.

9.4 Comments on Written Questions

Matter Raised M & R Hosier

9.4.1 Highways England's Response Highways England Response to Examining Authorities written questions 8.10.11 Flood risk, groundwater protection, geology and land contamination (Fg1) Deadline 2 [1]

We remain concerned that Highways England have not adequately addressed the concerns raised within the examining authority's questions [on the Flood risk, groundwater protection, geology and land contamination submission for the A303 Amesbury to Berwick Down (Deadline 2)]. Our concerns being:

Question Fg 1.5 Geology and soils

Response to point 4

We have concerns that as the tunnel boring machine will operate below groundwater level, any voids will require filling to provide an adequate seal. In order to achieve this grout will have to be sprayed at significant pressures onto the chalk surface. In doing so there is a high risk that grout will also be forced into the fissures that supply our farm borehole, potentially reducing the volume of water that is available to us. As far as we are aware, there have been no tests carried out to assess the distance that the grout will travel along the fissures when under pressure.

References to Crossrail C310 Thames Tunnel project through the chalk aquifer do not take into account that the aquifer is not used for a public water supply in London. There are both public and private drinking water abstractions drawing from the area surrounding the A303 project.

We note the intended use of grout and lubricating fluids that are non-contaminating to water supplies. But there is the potential for the grout lubrication mix to combine with the fine ground up phosphatic particles from the tunnel boring process and be carried along the fissures. As the grout sets in the fissures it will block the water flow.

The Applicants response

See response to item 44.5.1 and 44.5.2 in the Comments on Written Representations [REP3-013].

M & R Hosier response to 8.31

Items 44.5.1 and 44.5.2 [REP3-013] is from Mr B Garwood's Written Representation, being as follows:

44.5.1 The application does not appear to give consideration to the possibility of increased groundwater levels on the southern, downstream side of the proposed tunnel. However, the structure of Chalk gives rise to the possibility that construction of a tunnel could see an increase in groundwater level at some points on the downstream side, particularly in the vicinity of Stonehenge Bottom where the lowest point of tunnelling occurs.

44.5.2 The act of tunnelling is very likely lead to fracturing of the Chalk in the vicinity of the works, given the rather fragile nature of the rock. This would lead to localised increases in the transmissivity, or rate that water can flow through the rock. Although the tunnel may form a physical barrier to flow from north to south across the route, fracturing would increase hydraulic mobility along the direction of the tunnel but outside it, channelling water towards the low point in the Stonehenge Bottom area.

Highways England response

44.5.3 The groundwater risk assessment [APP-282] demonstrates that the construction of the tunnel would lead to a small rise in groundwater levels upstream and a fall downstream. An increase downstream is not anticipated.

44.5.4 The nature of the Chalk is discussed in detail in [AS-017] Implications of 2018 Ground Investigations to the Groundwater Risk Assessment. The Chalk is dominated by fracture flow (secondary permeability) and is heterogeneous with a wide range of hydraulic conductivity and transmissivity. The conclusion is that there may be preferential groundwater flow that is active in Stonehenge Bottom valley. It is agreed that flows will change locally as they are diverted around the tunnel but Stonehenge Bottom is a higher flow zone and the effects of this change in flow are not significant as set out in the ES Chapter 11, Road Drainage and Water Environment [APP-049].

44.5.5 A closed-face Tunnel Boring Machine (TBM) is considered to be the best option for tunnelling in the chalk geology (Preliminary Geotechnical Investigation Report, ES Appendix 10.1 [APP-273]). The Chalk is known to be a fractured rock and the presence of further fractures (should they be created during tunnelling) and open voids will not present any problems for the closed-face tunnelling methodology. The presence of open voids will not present any problems for the closed-face tunnelling methodology. As part of the risk management process during the TBM operation, grouting behind the tail skin will ensure uniform contact between the lining and the ground by ensuring voids are filled.

M & R Hosier response to 8.31

The Applicant states that open voids will not present a problem with closed-faced tunnelling and that the rock is known to be fissured. Yet no survey work has been undertaken to know where these voids or fissures will be along the line of the tunnel or how big they are. Therefore, how can contractors tender for the scheme with this uncertainty, as these features will slow down the progress of the TBM.

Statements by the Applicant, that pressure of grout will be monitored to determine whether voids or fractures are present in the tunnel are questionable. Encountering a large void, there will be a need

for a vast amount of grout to be pressurised into the area to stabilise the concrete tunnel sections. On each occasion that fissures or voids are encountered, there is a potential risk for the grout combined with phosphatic particles to be forced into fissures thus blocking up their flow.

We are not aware of any references within documents for surveys carried out to assess the suitability of various possible grout recipes or assessments as to how far the grout will travel along fissures within the geology. Please direct us to any areas if this data is available.

As Dr Reeves stated at the Issue Specific Hearing on Groundwater, there is a need for a 3D model to be produced for the entire length of the tunnel for the mains work contractor to have a full understanding of the structural geology they will be encountering, including fissures and flint bands. The Applicant dismissed the need for a 3D model at this stage, choosing instead to rely on their groundwater modelling. We believe this is a deliberate attempt of the Applicant to obscure the complex nature of the tunnelling geology from potential contractors. Contractors will not appreciate the full extent of the potential problems, therefore submitting lower tenders that will result in overspending having to solve problems as they are encountered. 3D work is vital at this stage to inform any mains work contractor of the many vital issues they will encounter whilst tunnelling.

For all the above reasons we believe that it is not possible for the Applicant to state that there will be no blockage or contamination of fissures as they have not carried out this assessment.

Matters raised M & R Hosier

9.4.2 Question Fg 1.8 Contaminated land

Response to point 2

We note that the Planning Authority and Environment Agency will be informed should previously unidentified contaminated land (including ground water) be found during the construction, but there is no note of when our business will be informed of any risk to our water supply and health. Our farm has no mains water supply and is solely reliant on boreholes to supply drinking water at farm properties as well as livestock. As such, it is important that we are informed of any situations that have the potential to contaminate our drinking water. An alternative safe water supply would need to be provided if this was the case.

In discussions with HE, we note that groundwater will only be monitored quarterly in the surrounding area. As such, it is highly likely that we will be drinking contaminated water and become unwell before HE informs us that there may be a problem.

Having pointed out for over a year, that there is no monitoring of the farm drinking water supply, HE have now decided they will carry out surveys. However, the only monitoring offered is for water levels and chemical composition. There is no intention to carry out any water quality analysis to drinking water standards although we have raised their moral obligation to do so.

In addition HE have made no provision for any alternative source of safe drinking water for our farm or farm business. There seems to be no comprehension of the difficulties in providing us with an alternative water supply if this is needed.

The Applicants response

See response to item 40.5.1- 40.5.9 in the Comments on Written Representations [REP3-013].

The main works contractor shall develop a Scheme-wide Groundwater Management Plan, outlining how groundwater resources are to be protected in a consistent and integrated manner. The Plan shall be prepared in consultation with the Environment Agency and address:

- a. Potential effects on groundwater (resources and quality) that fall outside other regulations such as the Environmental Permitting Regulations.
- b. An update to the Groundwater Risk Assessment for the final design and construction plan.
- c. The groundwater level and water quality monitoring and reporting programme.

Development of baseline groundwater conditions and derivation of trigger levels and action levels/mitigation/action plans for exceedances and accidents/incidents.

M & R Hosier response to 8.31

References by the Applicant Item 40.5.1- 40.5.9 in the Comments on Written Representations [REP3-013] 40.5.10 below is HE reply:

Highways England response

40.5.10 The two boreholes extract water from the Chalk aquifer. The effects of the Scheme on this aquifer (quality and quantity) and on the boreholes have been fully assessed. A full EIA has been undertaken, including a detailed assessment of the potential risks to controlled water, as set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049]. During the assessment, there was extensive engagement with the Environment Agency and Wiltshire Council. The extent of agreement with these organisations will be set out in the Statements of Common Ground. Monitoring is ongoing. As part of the full EIA process, an Outline Environmental Management Plan (OEMP) [APP-187] has been prepared, and a revised version is being submitted at Deadline 3, that sets out general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts, including in relation to the protection of private water supplies, hydrology, land drainage, and sewage disposal from construction compounds. These works will be carried out in accordance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The OEMP will be secured through paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].

The second paragraph quoted comes from OEMP MW-WAT10

MW-WAT10 Groundwater Management Plan (GMP): The main works contractor shall develop a Scheme-wide GMP, outlining how groundwater resources are to be protected in a consistent and integrated manner. The Plan shall be prepared in consultation with the Environment Agency and

address: a) Potential effects on groundwater (resources and quality) that fall outside other regulations such as the Environmental Permitting Regulations. b) An update to the Groundwater Risk Assessment for the final design and construction plan. c) The groundwater level and water quality monitoring and reporting programme. d) Development of baseline groundwater conditions and derivation of trigger levels and action levels/Mitigation/action plans for exceedances and accidents/incidents. The main works contractor shall consult with the Environment Agency during the development of the GMP

M & R Hosier response to 8.31

We disagree with the Applicants statements in 40.5.10 (response to 40.5.1-40.5.9). For the Applicant to claim our boreholes have been assessed for potential impacts of the tunnel, surveys would have to have been carried out on characterising our boreholes. This has not taken place.

Similarly, no tracer tests have been carried out to show whether there are any links to fissures at Stonehenge Bottom and our boreholes. Tracer work is a recognised practice used in other schemes, notably Hazelton Wood and Bedhampton springs. Atkinson and Smith (1974) carried out a dye tracing experiment in Hampshire and showed that water pumped into dissolution features at Hazelton Wood emerged in springs at Bedhampton some 5.75 km away within a 53 hour time span. As such, tracer work is vital to determine the presence of fissures below the water table in any excavation to fully assess connections with rivers and boreholes.

The Applicant has not and cannot disprove the presence of fissures containing fast flowing water moving southwards from the proposed tunnel.

The Applicant notes that the Environment Agency and Wiltshire Council have been overseeing and commenting on the Road Drainage and Water Environment [APP-040]. But, the Applicant has failed to follow DCO requirements presenting all relevant data and survey work up front, resulting in a shorter time scale for full assessment. Therefore, it is feasible for crucial details to be overlooked. There is the real concern that errors will be carried forward with disastrous consequences. Furthermore, we do not believe that private groundwater supplies have been fully assessed as they would be secondary to public water supplies with less protection status.

The OEMP submitted at deadline 4 item MW-WAT10 as referenced by the Applicant in this response, details the mains work contractor as being responsible for preparing the Groundwater Management Plan. We note under OEMP item MW-WAT11 that the mains work contractor is responsible for informing us of any potential pollution problems, providing emergency, temporary and permanent water supplies if existing sources are interrupted, install intermediate monitoring holes to be monitored along with private water abstractions points. We maintain that the Applicant is transferring a considerable number of its (the Applicant's) responsibilities onto the mains work contractors. This is particularly concerning when the mains work contractor has not been taking part in, or feeding into the survey works that are being carried out.

We are of the opinion that the Groundwater Risk Assessment model has been calculated over such a vast area that problems could easily be experienced with our water supply, yet they would still be within the report's margins of error!

For all of the above reasons we have little confidence that problems will be foreseen or even addressed satisfactorily when they occur.

Matters raised M & R Hosier

9.4.3 Question Fg 1.8 Contaminated land

Response to point 4

As it cannot be proved that there will be no impact on our water supply, HE has a responsibility to ensure that measures are in place should our water be compromised. We require a legal document from HE stating details of measures they guarantee to put into place to reinstate safe drinking water at Boreland and Westfield Farms. This would include temporary measures for immediate drinking water as well as provision of a long-term safe water supply. Our water engineers would need to advise on appropriate water provision as they have the necessary knowledge and experience of our farm supply that HE do not.

The Applicants response

See response to item 40.5.7 – 40.5.9 in the Comments on Written Representations [REP3-013].

[M & R Hosier response to 8.31](#)

See response to item 9.4.2 and 9.3.6 above.

We understand that it will now be the responsibility of the mains work contractor to prepare a file detailing our farm water system, plus carry out the feasibility study for alternative water provision. How can a contractor put in a representative tender for the Scheme when they do not know any of these details and costs up front?

We would suggest that there needs to be a series of comprehensive meetings with the mains work contractors groundwater team for them to become familiar with our water system. Respectfully, we also believe that our groundwater engineers, who back up our water system are also allowed to feed into any alternative water provision process as they will be the ones tasked with the long-term maintenance of the water system. They have valuable input and experience to give yet seem to be side-lined by alternative contractors who have no knowledge of farm supplies. This in our opinion, is very short sighted of the Applicant.

Matters raised M & R Hosier

9.4.4 Question Fg 1.9 Land and groundwater contamination Response to point 1

Meeting with the HE groundwater modelling team, we learned that even with the groundwater model assessing the impacts, there can be no certainty that groundwater levels will not be affected. In view of the fact that there are a number of farms and cottages that drink borehole water, it is surprising that HE have not carried out tracer tests within the proposed locations of the tunnel, to ascertain which boreholes are linked to the fissures located in the line of the tunnel. This information would give more confidence as to the accuracy of the water model used to assess the scheme's effects on groundwater.

We note that OEMP [APP-187] sets a requirement for the contractor to ensure that work operations do not affect the chalk aquifer. Throughout the documents there are references to contractors being responsible for various operations and not HE as the Applicant of the Scheme. As such, we believe

that the contractors chosen must be assessed for adequate public liability insurance should there be a breach in the contractors' obligations. We would require a written clarification as to who is responsible for reinstating a safe like for like supply of water to our farm.

The Applicants response

As part of the procurement process the Applicant will ensure that the contractor(s) has adequate public liability insurance relevant to undertaking a scheme of this nature. Item MW-WAT11 of the OEMP (management of impact on abstraction boreholes) [REP3-006] outlines measures to be developed by the appointed contractor(s) to manage any potential risk of groundwater pollution at abstraction points. This includes monitoring of water quality where agreed through consultation with abstractors / licences holders and the Environment Agency. Items MW-WAT11 and MW-COM6 of the OEMP identify that it is the main works contractor's responsibility to ensure that alternative water supplies are provided to private water abstractors in the event they are adversely affected by construction works. Measures within the OEMP are secured via Schedule 2 paragraph 4 of the draft development consent order [REP3-002].

M & R Hosier response to 8.31

As referenced by the Applicant

MW-WAT11 Management of impact on abstraction boreholes: The main works contractor shall recognise the rights of existing abstractors and take measures to avoid or minimise, so far as reasonably practicable, loss or interruption of supply, or provide alternative supplies. The main works contractor will put in place appropriate monitoring and emergency measures to overcome the adverse impact if this occurs. The main works contractor shall recognise the rights of existing abstractors and consult them on measures to avoid or minimise loss or interruption of supply, or provision of alternative supplies. The Environmental Permitting (England and Wales) Regulations 2016, as amended, will apply as appropriate to any discharges of water that are required to ground and surface waters. The main works contractor shall, to limit and manage residual risk from groundwater pollution at abstraction points, apply the following precautionary actions, where applicable:

a) where determined, and agreed with the owners/operators or other abstraction licence holders, targeted risk-based audits and checks of water quality monitoring will be undertaken at abstraction sources by the main works contractor. The period of monitoring will be appropriate to the timing and type of work undertaken, and will include a period of baseline monitoring. The need for intermediate monitoring holes and procedures for water and contaminant testing during construction and operation will be discussed with the owners/operators or other abstraction licence holders.

b) the main works contractor will arrange any monitoring of water levels in areas where dewatering of the Chalk aquifer is required; and

c) where the water quality monitoring shows an adverse impact on water quality as a result of the works, the main works contractor will contact the relevant abstractor (licence holder and operator) and the Environment Agency as soon as reasonably practicable. The main works contractor will put in place appropriate emergency measures to overcome the adverse impact where this has resulted from the construction works. These emergency measures may include the transfer of a potable water supply to another water source and informing the water users. Further monitoring and remediation will be arranged as appropriate.

Management of impact on Environment Agency monitoring borehole

The Environment Agency groundwater level monitoring borehole at Berwick Down lies within the DCO boundary close to the current A303 alignment at approximately NGR 405302, 140492. The main works contractor shall agree with the Environment Agency any works needed to retain the borehole for monitoring.

MW-COM6 **Private water supplies:** Where an existing private water supply to a farm is adversely and directly affected by the construction of the Scheme, the main works contractor shall, if requested by the farmer or landowner to do so, provide or procure or meet the reasonable cost of the provision of an alternative supply of water (at the contractor's option). Where the supply is affected temporarily by the construction of the Scheme, then the alternative supply need only be supplied for the period during which it is affected. Where a request is made by the farmer or landowner for a permanent supply due to permanent severance of the existing supply caused by the construction of the Scheme, the main works contractor shall, where provision of an alternative means of supply can be demonstrated by the land owner/farmer to be reasonably required for his business, provide or procure or meet the reasonable cost (at the contractor's option) of a permanent means of alternative supply of water

M & R Hosier response to 8.31

For the above statements to be correct, an alternative water supply would have to already be in place prior to the commencement of construction of the Scheme. It is not possible for large emergency tankers of water to reach livestock situated down dirt byways. It is not possible for large emergency tankers to access our reservoir as it is in the middle of an arable field. For reassurance, we would want a copy of the mains work contractor's public liability insurance to ensure that there is adequate provision for potential water infrastructure instalment. Please can the Applicant confirm whether they will be responsible for any liability costs should the mains work contractor fall into liquidation. There needs to be provision for this within the contract.

We note MW-WAT11 and the many responsibilities the Applicant is placing on the mains work contractor which we regard as inappropriate. If the Applicant believes that the Scheme is deliverable, viable and free from major construction and operational issues, then they as proponents of the Scheme should be responsible for some, if not all of these areas.

MW-COM6 having carried out our own investigations into alternative water sources and their viability we have concerns that the wording under this item be changed to "supply an alternative supply of water, to replace like for like". A replacement water source needs to be at a pressure at the source point capable of delivering the water around all areas of the network. The provision of a mains connection with a low water pressure is not a suitable replacement.

In addition, if the farm was to be connected to the mains network, the costs of the mains water consumption would be a new burden on our farming business. On a like for like basis, the cost of the water our business would use should therefore be paid by the Applicant and not by our business. Currently I pay my abstraction fee. We do not pay for a meterage of water volume.

Matters raised M & R Hosier

9.4.5 Question Fg 1.10 Combined effects

Response to point i) 8

Although dewatering or abstraction is not intended during the construction process, it has been stated that it may be necessary in some scenarios, in locations such as Stonehenge Bottom. This area is one of high faulting and fracturing through which most of the fissures supplying the region pass. So although the water model shows that dewatering “should not” significantly reduce aquifer levels, there is no certainty that the small reduction in water levels will not impact on our borehole supply. Water levels may be reduced to levels below the level where the fissures enters our borehole. As no surveys have been done on our boreholes to establish where the water enters there can be no certainty that this will not severely reducing water yields available to us.

See M & R Hosier Written Representation, Appendix 2 Groundwater Concerns – Report by Sweetwater Resources 2] See page 5 paragraph 12

The Applicants response

See response to item 40.5.8 in the Comments on Written Representations [REP3-013].

Any need for dewatering will be minimised as far as reasonably practicable. The current proposal is to use tunnel construction techniques (such as the use of Tunnel Boring Machines) that limit the requirement for dewatering during construction. The assessment of risk and identification of any required mitigation measures will be achieved through the OEMP (MW-WAT8) and whichever regulatory regime is ultimately agreed, i.e. either the Environment Agency's permitting regime or protective provisions within the development consent order, if it is confirmed that dewatering will be required.

M & R Hosier response to 8.31

As referenced by the Applicant:

MW-WAT8 **Dewatering and abstraction:**

The main works contractor shall adopt construction techniques which minimise, so far as reasonably practicable, the need for and extent of dewatering and groundwater abstraction. The main works contractor shall be responsible for obtaining the necessary approvals and permits to enable and abstraction and discharge of pumped water in an approved manner.

M & R Hosier response to 8.31

OEMP item MW-WAT8 is concerned with dewatering but as far as we are aware, no locations have been identified for dewatering surface discharge should this be required. We suggest that possible areas for dewatering would be at western and eastern portals, Stonehenge Bottom and the area where the carriageway emerges from the western portal in the deep cutting. However, we can find no references to potential sites where the surface discharge would be located on the ground. We have concerns that if vast quantities of discharge water are surface discharged on sites that have high fissure flow, there is the risk that increased water flow will wash with it a substantial volume of silt etc. The addition of extra silt into the groundwater could cause a potential source of contamination to water supplies that are “potable” as well as supplying livestock. The siting of any surface discharge of water also needs careful consideration as there are extensive livestock operations in the vicinity of the western portal, which brings the added risk of faecal contamination, washing levels of organic matter through the ground.

In addition, we are concerned that the Applicant's surveys may not have determined the full extent to which dewatering will be required. As far as we are aware, the majority of the monitoring boreholes have been constructed by the rotary method. Rotary bits smear the chalk edges of the bore as it is constructed. Mud cake will smear fissures within the strata, blocking the water flow within the immediate area of the bore. Therefore, rotary boreholes require acidisation to remove mud cake, allowing fissures to flow freely in order to provide a true representation of water flow. WJ in 2000, drilled their monitoring boreholes with cable percussion which does not produce so much mud cake and does not require acidisation. This will probably account for why WJ data shows a higher water level in the landscape than any of the current survey data. Added to this, in areas where vertical faults are present, it is very difficult to detect these by drilling vertical monitoring boreholes. Our concern is that the southern end of green bridge 4 and the western portal, is located in a dry valley with alluvium, which suggests high permeability chalk. There is a distinct possibility that during winter months dewatering will be required within this area, with the need to lower the water table by as much as 2-4m. This volume of water could equate to a similar quantity as a large public water supply would abstract. If dewatering is required in this dry valley location that has had an extensive history of livestock production, where will the water discharge site be placed?

As far as we are aware, all ground investigation work is not being carried out by a prospective mains work contractor. Early contractual involvement would ensure that they are part of the ground investigation process and able to feed in to survey works in the locations that they require.

Matters raised M & R Hosier

9.4.6 Response to point ii) 9

We have concerns over the accuracy of the Conceptual site models used to assess the water movement within the geology of the Scheme landscape. See M & R Hosier Written Representation, Appendix 2 Groundwater Concerns – Report by Sweetwater Resources 2] Pages 2 to 6, Paragraphs 6.1 to 6.13 Paragraph 6.12 The model does not predict water levels to an accuracy which guarantees that there will not be a reduction of yield from boreholes during periods of low groundwater in summer, or that there will be no contamination. Therefore, HE is wrong to say there is zero risk to the water supply of Boreland and Westfield Farm. Mortimore et al Proc. Geol Assoc 2017 Figure 26 notes presence of many high permeability sub-horizontal fissures (dipping to the south) in the location of Stonehenge Bottom. As the tunnel is below the water table in this location and the exact location of the fissures will never be known unless the whole of the area is surveyed by core samples every few meters, it is not possible to assess the full damming effects that a tunnel will cause. Claims that the water will flow round cannot be accurately known until the tunnel is in place. There is a massive potential for the tunnel to alter groundwater flows far beyond the survey area.

The Applicants response

The conceptual model has built on the work of previous investigation phases from other consultants, as well as new ground investigation data, and the understanding of the catchment interactions of groundwater with surface water across several catchments that influence groundwater flow through the Stonehenge area developed in the Wessex Basin Study. The model was considered to be a good representation of groundwater levels and river flows by its technical working group as well as

Wessex Water, the largest groundwater abstractor in the area. The model incorporates aquifer property information from pumping tests accounting for fracture flow through which groundwater in the aquifer flows. Higher transmissivities were recorded in pumping tests in Stonehenge Bottom as expected for a dry valley environment, which has been incorporated into the model. The fractures observed are typical of Chalk whose flow characteristics are understood from pumping test analysis.

Groundwater level trends from monitoring data between the tunnel and Hosier abstractions shows the model properties are appropriate for the trends observed, capturing the bulk of groundwater flow behaviour.

The Groundwater Risk Assessment considers relative differences between the baseline and tunnel scenarios in line with best practice, acknowledging that absolute groundwater levels cannot be simulated perfectly in a heterogeneous medium. The calibration shows that the overall properties of the aquifer have been captured well. The model has also been set up with a conservative representation of the tunnel which gives confidence to the impact assessment.

M & R Hosier response to 8.31

As stated above: The Groundwater Risk Assessment considers relative differences between the baseline and tunnel scenarios in line with best practice, acknowledging that absolute groundwater levels cannot be simulated perfectly in a heterogeneous medium.

The Applicant has not assessed the percentage risk to our water supply for quality and quantity as a result of the proposed Scheme, during construction and once the Scheme is in operation.

If the Applicant cannot quantify the risk to our farm business then how do they expect us to manage the commercial risk?

The Applicant has not detailed how water will enter our farm network within 24 hours of a problem being detected (at no extra cost to our business and at all times of year.)

For all the above reasons we do not have confidence that the Applicant has fully assessed the effects of the Scheme on the surrounding landscape and businesses.

Matters raised M & R Hosier

9.4.7 Question Fg 1.41 Response to point 2

HE inform us that there will be no impact on our groundwater supply as the Environment Agency (EA) are overseeing the project ensuring all areas of concern will be appropriately resolved prior to the Scheme going ahead. We disagree with this statement as EA will be assessing the Scheme in relation to the impacts on the River Avon and public water supplies. There is no legal obligation for EA to assess the impact on private abstraction licences. Indeed we believe that there has not been the necessary work carried out by HE on private abstraction boreholes for them to fully assess this criteria. 2] REP2-104: M & R Hosier WR: Groundwater Concerns – Sweetwater Resources Appendix 2:

<https://infrastructure.planninginspectorate.gov.uk/wpcontent/ipc/uploads/projects/TR010025/TR010025-000808- M&R%20Hosier-Written%20Representation.pdf>

The Applicants response

See response to item 40.5.1 – 40.5.9 in the Comments on Written Representations [REP3-013]. The EA is responsible for the protection of controlled waters including groundwaters and all licensed abstractors. The EA provided Highways England with all licensed abstractions in their records and not just public water supplies.

The EA require impacts on groundwater receptors to be assessed before construction commences or dewatering (if needed) is permitted, as secured through the OEMP (MW-WAT8) and the EA's regulatory powers.

M & R Hosier response to 8.31

We remain concerned that the Applicant has not correctly interpreted the survey data they have collected, hence they do not have a full appreciation of the issues that will be encountered during tunnel construction.

The EA has abstraction licence details, but it does not have physical details relating to our boreholes, so they are limited in their assessment of how the Scheme will affect our individual boreholes.

Indeed, the Applicant was not aware at the outset that we had two boreholes noted on our holding until we updated their information. Similarly, the BGS holds additional records for the geology of boreholes which is customary to be submitted on their construction, but it has become apparent that not all boreholes have been categorised so information is lacking.

Please will the Applicant tell us how they plan to proceed with the tunnelling if they discover a need for dewatering, and the EA refuses to grant a licence for this purpose on the grounds that the Applicant needs to dewater to a greater depth than is safe for groundwater?

9.5 Additional Submissions (A303 Amesbury to Berwick Down: Summary of Appendix 1 Written Representation - By Tracé Williams, FarmView Consultancy – Representing M & R Hosier, Westfield & Boreland Farms – Ref: 20020373)

Matter Raised M & R Hosier

9.5.1 The Appropriate Assessment does not mention any potential impacts of continual lights, noise and construction traffic upon the gathering activity of birds forming the autumn roost. Autumn roosts play an unknown role in survival of young as they gather with adults before migration, also they are vital in enabling assessment of annual breeding success of the SPA population.

The Appropriate Assessment does not mention any potential impacts of continual lights, noise and construction traffic upon chick rearing. Construction may render large areas that are currently used at night-time by adults foraging for their chicks, as unsuitable. Stone Curlew may forage up to 3km from the nest to find food and this activity mostly being undertaken at night. It is vital that comprehensive investigation be undertaken of effects that construction works may have on the birds' ecology.

The Applicants response

A large roost of stone curlews was recorded congregating on the RSPB Normanton Down nature reserve in autumn 2017, located over 500m south-east of the western portal. Measures to avoid disturbance of sensitive ecological receptors outside the limits of the scheme are considered suitable and proportionate to avoid disturbing the autumn roost of stone curlews.

PW-G4 and MW-G12 of the OEMP [REP3-006] set out the core working hours. Works that will occur outside of the core working hours include the use of the tunnel boring machine, which will be out of sight underground. Some lighting would be required at the western portal during construction of the tunnel, but the works would be in a deep cutting which would form a visual barrier, limiting light spillage as detailed within 8.9.35 of the Environmental Statement [APP-046]. MW-G29 of the OEMP requires the CEMP to include measures to minimise light spillage, particularly around the portals. As noted, stone curlews forage at night within the pig enterprise and the construction works would not prevent this foraging activity. It is to be noted that existing lighting from A303 traffic and Longbarrow roundabout would remain until the traffic was routed into the new tunnel. MW-NOI1 of the OEMP requires the use of best practicable means for minimising noise. In addition, PW-BIO5 of the OEMP includes specific mitigation measures in relation to stone curlew.

The Statement to Inform Appropriate Assessment [APP-266] is considered robust in terms of its assessment of construction impacts on the stone curlew population in the vicinity of the Scheme.

M & R Hosier response to 8.31

We do not agree that the Statement to Inform Appropriate Assessment is robust in terms of its assessment of construction impacts on the Stone curlew population in the vicinity of the Scheme. It concentrates on the loss of the plot south east of Parsonage Down, the impact of construction works on the impacted plot and the monitoring of the replacement plot.

Under Impact Pathway: Construction Disturbance of nesting Stone curlews

5.2.1 Stone curlews breed outside the SPA in proximity to the scheme at Normanton Down RSPB reserve and at other locations known to historically support breeding stone curlew. These populations of stone curlew would have the potential to be disturbed by increased vehicular movements and human disturbance during construction. Disturbance impacts would have the potential to cause stress, which may result in a reduction in their resilience and breeding success. In extreme cases disturbance impacts may result in the abandonment of breeding plots.

Yet mitigation for disturbance within the document reverts back to the clearance of the plot near Parsonage Down and the replacement plot and work within 500m of a Stone curlew plot, see 5.2.4. Therefore, despite noting the potential impact to Stone curlews at Normanton Down and other breeding locations, no mitigation is proposed.

There is no mention of the impact the preliminary works will have on the autumn roost within the vicinity of the Scheme. The birds are most active during dawn and dusk, but also forage during the day, spanning a 9 mile radius of the main roost. Disturbance of the birds will largely depend upon the time of the year preliminary works will be carried out. Should all the ground clearance and archaeological investigations within the area be carried out between the months of November and February then this would not impact upon the birds. However, it is likely that these preliminary works will be occurring for a far longer period. In addition, during winter months dawn and dusk will coincide with the beginning and the end of working days; this has not been accounted for.

There is no mention of the impacts that construction will have upon Stone curlews trying to provide for their young within the vicinity of the Scheme. This may affect foraging Stone curlews that are rearing young within the Scheme boundary and/or adults from breeding plots just beyond the 500m boundary of the Scheme; ie Normanton Down Reserve.

OEMP PW-BIO5 does not contain mitigation for Stone curlew foraging for their chicks within the vicinity of the Scheme. It is suggested that the screening will deter nesting attempts by prospecting birds through growing dense vegetation to cover the bare ground created during preliminary works and construction. However, no detail has been provided for the screening to assess its suitability. In addition, no mitigation in respect of the autumn roost despite this being integral to the development of and survival of the juvenile birds.

PW-BIO5 updated at deadline 4

At the Issue Specific Hearing Biodiversity, we raised points where mitigation proposals were lacking. This seems to have been skimmed over in the Applicants written summary of the oral proceedings, however, we have outlined these points in our summary.

It should be recognised that the ECoW of the Preliminary works contractor will need to be experience in Stone curlew field craft. An example of what can happen when this experience is lacking was demonstrated during the archaeological surveys in the western portal area during summer 2018 requiring the RSPB to detect birds. The updated wording notes monitoring by an *appropriate specialist*, but this does not guarantee that they will have previous experience working with Stone curlews. A more appropriate commitment and wording would be to include “experienced field staff to be identified and trained by the RSPB and that monitoring will be undertaken by these experienced field staff in conjunction with guidance from the RSPB”.

The document concentrates on nesting while there is no acknowledgement that Stone curlew chicks are dependent on their parents for up to 10 weeks as such, it is not just the nest that is important. The parent’s ability to safely forage to feed their chicks is integral to their survival.

It was explained at the Hearing on Biodiversity that the visual screening proposed would actually be topsoil from the preliminary works vegetation clearance heaped up around the works compound. This is the first time this action has been described and we do not feel it will not provide visual screening of construction works to Stone curlews feeding on the pig enterprise in the vicinity of Longbarrow Roundabout.

The OEMP revised at deadline 4 has incorporated the maintenance of areas of dense crops and grass until necessary to access the working area. Whilst this is good, we understand that this is to deter nesting attempts, and not intended to screen construction works traffic on site.

Point b), no details have been provided regarding what the “visual deterrents” will be. This is vague and will require further detail to ensure visual deterrents are fit for purpose and understandable.

We therefore still believe the Statement to inform Appropriate Assessment and the updated PW-BIO5 are still lacking in respect of the Stone curlews at Normanton Down Reserve. This needs to be addressed to conform with the Habitats Regulations.

Matters raised M & R Hosier

9.5.2 There appears to have been a lack of consistency when assessing Stone Curlew breeding plots at Winterbourne Stoke and Normanton Down reserve. Whilst Normanton Down is not directly in the construction path, it is bounded by two byways being within 180m of a breeding plot at the closest point. We are concerned at the lack of baseline data collection on current byway use.

Promotional documents produced by Highways England actively encourage visitors to “roam and explore” the southern half of the WHS without restriction, yet there are no plans to monitor this to assess any impacts.

The Applicants response

See response to item 40.3.7 and 40.3.9 in the Comments on Written Representations [REP3-013]. The Scheme would not change Byways 11 and 12. Visitor usage of the PRowWs adjacent to Normanton Down has been surveyed and this is ongoing. The results will provide a baseline for any subsequent monitoring of visitor usage of the PRowWs.

[M & R Hosier response to 8.31](#)

The Applicants response to items 40.3.7 and 40.3.9 is as follows:

40.3.12 It is not agreed that the materials suggest the whole of the WHS would be available for exploration, including within private land. The applicant considers that the consultation materials did not imply that private land would be accessible. Where Public Rights of Way designations were unclearly labelled in the consultation materials for Statutory Consultation, these were clarified as part of the supplementary consultation.

We disagree with the Applicants response and stand by our comments

40.3.7 In my opinion, the mitigation proposed for the protection of the Normanton Down breeding stone curlews is inadequate. Highways England documents have even noted that the recreational pressures on Normanton Down are unknown. There is no certainty as to whether the byways 11 and 12 will be downgraded to pedestrian use only. Even if this happens, it will not prevent the pedestrian pressures on the Reserve which are the greatest threat to the breeding birds. The proposed mitigation plot at Winterbourne Downs RSPB Reserve does not follow the mitigation criteria applied to Winterbourne Stoke and is not in proximity to Normanton Down for use by any displaced breeding pairs.

And

40.3.9 M&R Hosier are not satisfied that the proposed scheme meets the Habitats Regulations in relation to the SPA population of Stone Curlews that nest in Normanton Down Reserve. The potential that once the scheme is in operation that the increased pressures from people in the landscape will have the possibility of negative effects from recreational pressures on Normanton Down breeding Stone Curlews.

We do not understand the statement that “*the Scheme will not change byways 11 and 12*”. New changes included within the DCO are considering the current BOAT status of these byways for downgrading.

[Surveys of byways 11 and 12 adjacent to Normanton Down](#)

There are no reports within the DCO of survey data from monitoring visitor usage of byways 11 and 12 adjacent to Normanton Down. Indeed at the Issue Specific Hearing, Biodiversity, the Applicant remarked that there had been no surveys undertaken of the use of the byways

If surveys have been undertaken, then we ask to see a copy of the report. We would also like to know who was engaged to carry out the surveys, over what period of time were they carried, at

what times of the day and on which days of the week. All these things have an effect upon the results gained.

Please can you direct us to the report for the baseline monitoring of byways 11 and 12 in the proximity of Normanton Down.

Matters raised M & R Hosier

9.5.3 We are unconvinced that the proposals to deal with Stone Curlews should they be attracted to bare ground created by construction works are adequate. We can find no recognition that breeding, in its entirety, can last up to 10 weeks. If the Scheme is promoting itself for biodiversity why has the minimum distance of 450m been chosen as an exclusion zone should any nests occur on the bare ground in the construction areas? Legislation states that works should take account of and fit around the requirements of Stone Curlew. As such we feel the exclusion zone should be at least 500m.

The Applicants response

The OEMP was amended at Deadline 3 (items PW-BIO5 and MW-BIO8), with the relevant buffer zones in question being extended to a maximum of 500m on a precautionary basis [REP3-006].

[M & R Hosier response to 8.31](#)

As previously stated at Issue Specific Hearing Biodiversity, and in M & R Hosier response to 8.18 there are omissions within PW-BIO5 and MW-BIO8. We are pleased to note that the exclusion zones have been increased to 500m, however, are disappointed that further improvements have not been incorporated despite being raised.

OEMP [APP-187] MW-BIO8 updated at Deadline 4

In relation to a breeding attempt within the 500m zone, no mention is made that the breeding cycle of the Stone curlew is 10 weeks during which time the chicks are still dependent on their parents for survival. Feeding disturbance at this stage would also be covered by Habitats Regulations and is as important as the nesting phase. Plus there is the added risk that chicks may be run over by construction traffic.

No mention is made for mitigating construction impact on the Stone curlew roost. The roost being integral for the juvenile Stone curlew survival.

There is a need for the ECoW of the Preliminary works contractor to have experience working with Stone curlews (the lack of experience was demonstrated at the archaeological surveys in the western portal area summer 2018). Updated wording notes monitoring by an *appropriate specialist*, but this does not guarantee ECoW has previous experience working with Stone curlews.

Matters raised M & R Hosier

9.5.4 The Great Bustard is noted of National Importance /High Value. It is also listed under Annex 1 therefore given additional protection under European law being a species for which an SPA can be designated. The UK population of Great Bustard is currently only found within the Salisbury Plain area, being the location of the Great Bustard Recovery Project. The Scheme is billed at delivering

biodiversity benefits and yet it seems to continually overlook the Great Bustard despite it being a very high-profile species nationally and one that visitors to the area are keen to spot.

Great Bustard has been omitted from the summary of important biodiversity features within the study area, we can find no field study methods or dates of survey recorded. Normanton Down and the surrounding landscape south of the A303 is important to the reintroduction project. It frequently hosts visiting and occasional breeding Great Bustard. Baseline surveys are absent for this species, therefore vital information to aid assessment of likely impacts is missing.

The Applicants response

See response to items 40.3.18 -40.3.21 in the Comments on Written Representations [REP3-013].

The reintroduced great bustard has been taken into account in the environmental assessment in the Environmental Statement Chapter 8 Biodiversity [APP-087]. Recent data on locations of great bustard were provided by the Great Bustard Group to inform the environmental assessment. Further consultation with the Great Bustard Group will be undertaken in the period leading up to and during construction.

[M & R Hosier comments on 8.31](#)

As referenced:

[REP3-013 Document 8.18 Deadline 3 report.](#)

[Highways England response to items 40.3.18-40.3.21](#)

40.3.22 As described in the response to Written Questions EC.1.22, the potential of the proposed Scheme to affect great bustard populations was assessed in the Environmental Statement Chapter 8 Biodiversity [APP-046], paragraphs 8.9.141-8.9.144. No existing nest sites would be lost to the proposed Scheme. The potential for disturbance has been considered. Construction activity would be visible to great bustards at some locations, but measures such as the screening of construction compounds will provide mitigation and any disturbance is likely to result in a temporary adverse impact that would result in a neutral effect that is not significant [APP046].

We stand by our comments in REP3-013 is HE Document 8.18 Deadline 3 report, see below.

[M & R Hosier response submitted at 8.18](#)

We note Environmental Statement Chapter 8 Biodiversity [APP-046] paragraphs 8.9.141-144. But would draw attention to the fact that table 8.7 Summary of the study area for likely important biodiversity features does not include Great Bustard.

There were no field study methods or dates of surveys recorded in table 8.8 as per other noteworthy species so we question how the population can be assessed for the effects of the tunnel scheme.

There has been a lack of communication with the GBG to learn about the behaviours and habitat of the Great Bustards, so the statement relating to disturbance are not based on fact (GBG Pers. Comm).

Statements that no existing nesting sites would be lost to the proposed scheme are incorrect. GBG tried to contact HE consultants in spring 2018 to alert them to the fact that the archaeological

surveys for the junction were taking place were in the location of nesting areas, but they did not engage. (GBG Pers. comm).

We have asked for the location of where HE believe the construction compounds will be visible to the Great Bustards.

No discussions have taken place with HE consultants as to appropriate screening for the compounds. (GBG Pers. Comm).

Recent data on GB provided by GBG

We are pleased to note that the Applicant has finally begun consultation with the GBG after two years of Scheme planning and consultation with others less informed than the GBG.

The Applicant still needs to demonstrate they have a depth of understanding of the Great Bustard species which will only be obtained by ongoing meaningful discussions and we look forward in seeing this reflected in further updates of the OEMP.

Matters raised M & R Hosier

We are extremely concerned at the creation and management proposals for chalk grassland within the Scheme. Creation should always use locally sourced seed where possible and establish the correct grassland type for the locality. Salisbury Plain is the obvious candidate for brush harvested seed which has been used successfully many times in the locality before, but this method and source of seed is excluded.

The Applicants response

See response to item 40.3.30 in the Comments on Written Representations [REP3-013]. Due to the large area of calcareous habitat to be seeded and uncertainty about the quantity of brush-harvested seed that may be available at the time required, it is not considered appropriate to restrict seeding of the scheme to wild-harvested seed from Salisbury Plain. Selective use of some wild harvested seed could be included in the detailed landscaping scheme at some locations, but this would be finalised when the Scheme is developed during detailed design and submitted for approval under Requirement 8 of the draft Development Consent Order. Some species of grasses that may be present in established grassland and hence in wild-harvested seed can become dominant if seeded into new habitats and suppress less vigorous species. Commercially produced seeds would provide scope for seeding areas with selected species characteristic of the early stages of chalk grassland, in seed mixes with and without grasses. This would provide confidence in achieving the target habitat type. The chalk grassland would establish from seed in two to five years, but would continue to develop, with additional species appearing over time according to conditions on site.

As described in the OLEMP [APP-267], the objective will be to create a mosaic of early-successional habitats ranging from bare ground to species-rich, low nutrient, swards.

M & R Hosier response to 8.31

Paragraphs referenced:

40.3.30 Having co-created Normanton Down Reserve with RSPB, I question the proposed management of this area including the suitability of the proposed grassland seed mix for it.

Highways England response

40.3.31 As detailed within paragraph 8.9.237, the Scheme would result in approximately 186ha of semi-natural habitats in the soft estate and the area east of Parsonage Down, mainly chalk grassland. Over time, this would contribute to enhancing the natural environment locally by providing net gains for biodiversity, and by establishing coherent ecological networks that are more resilient to current and future pressures.

M & R Hosier additional response

There seems to be some confusion regarding early-successional habitats.

During the creation of grassland “early succession” is the term given to a phase in the establishment of the grassland. It should not be considered a final target. It is impossible to maintain grassland in a state of early succession as they will by their very definition develop into grassland.

It would not be possible to keep the ground at an early-successional stage unless the area was periodically broken up over the years and re-sown. We doubt this is the plan and would question the theory if it were so.

Documents state that ground cover would range from “*bare ground and low swards*” - this is ideal nesting habitat for Stone curlews. As this location is in close proximity of the new A303 PRow which will no doubt attract numbers of dog walkers, this would have a negative impact upon any breeding attempts. It would be more appropriate for this area to have a longer sward height to be less attractive to Stone curlews, and would lend itself to seeding with brush harvested seed from Salisbury Plain CG3 *Bromus erectus* grassland. This would also benefit a range of other wildlife which require this longer type of grassland, such as particular butterflies which will not be attracted to, or provided for by very short chalk grassland proposed elsewhere within the Scheme.

We do not see how these proposals can be addressing the Habitats Regulations requirements for Annex 1 species. The Scheme works are going to create the ideal habitat to attract these species and due to disturbance will no doubt be a sink; birds attracted will not breed successfully.

As we have previously noted OEMP MW-LAN4, there is the intention for areas of the scheme to be planted as soon as available (which would also be mitigation for possible Stone curlew nesting sites). With forward planning, any competent contractor would be able to source brush harvested seed ahead of use.

As previously stated in our feedback, grass sward and wildflower heights are easily controlled by grazing. Tight grazing will reduce the size of dominant grass species as well as reduce the heights of the tall but native wildflowers noted in the OLEMP. If the Applicant wishes to create a flower-rich sward with less grass species there should be a reference to an 80:20% mix in favour of wildflowers.

Matters raised M & R Hosier

9.5.6 The proposed management tool for the new grasslands is mowing; this is the single most destructive method that could be deployed in terms of destruction of invertebrates. Many invertebrates would be attracted to the new grasslands, with very rare species attracted from Salisbury Plain and Normanton Down, but we fear the new grasslands would act as a sink to their

detriment. We seek assurances that correct expertise in chalk grassland creation is sought and that local landowners with many years expertise such as ourselves are included.

The Applicants response

Applying a range of management within the scheme will be beneficial to overall biodiversity. The management techniques for different areas of the scheme, including mowing and grazing, will be developed during detailed design and incorporated into the detailed landscaping scheme submitted for approval under Requirement 8 of the draft Development Control Order, as well as the Landscape and Ecology Management Plan to be developed within the framework set out in the OEMP.

As detailed on page 1 of the Butterfly Conservation Written Representation [REP2-193], Butterfly Conservation is supportive of the habitat creation and management techniques that have been recommended.

“BC supports the proposals for chalk grassland creation as outlined in the submitted version of the OLEMP.”

Butterfly Conservation highlights where suitable mowing and collection of arisings have been successfully implemented during the habitat creation of the A354 Weymouth Relief Road, Dorset. There will be further engagement with stakeholders on habitat creation and management during detailed design.

M & R Hosier response to 8.31

It seems that throughout the course of this Scheme the Applicant is keen to follow only the advice of organisations rather than those with experience of conservation within the WHS, but not part of a recognised organisation. Whilst I respect the comments of Butterfly Conservation's written representation, I bring additional knowledge to the chalk grassland management.

It is feasible to manage chalk grassland with mowing but especially during the first few years mowings would need to be repeated frequently to control weeds, which would have a devastating effect on the invertebrate population. However, to allow chalk grassland flora to establish, mowing would have to be carried out late in the growing season, and on a rotational basis to leave a varying sward height for all invertebrate species. This would not offer adequate weed control.

Undoubtedly all entomologists would agree, that grazing is the best way to manage grassland for invertebrates and flora, with mowing being a lesser option. Where feasible, the grassland areas should be designed with grazing in mind. This option is a far “greener” option and ecologically sustainable as well as providing habitat for dung fauna such as Hornet Robber-fly. So with respect to the A354 Weymouth Relief Road, the A303 tunnel scheme within the WHS can do better!

Livestock have been successfully managing the British landscape for thousands of years sensitively encouraging the invertebrate life that they support.

Additional Submissions (A303 Amesbury to Berwick Down: Summary of Appendix 2 Written Representation By Sweetwater Resources Ltd Representing M & R Hosier, Westfield and Boreland Farms – Ref: 20020373)

Matter Raised M & R Hosier

- 9.6.1** 1. The water supplies for two homes, the farm and livestock are provided by two boreholes A (no water treatment) and B (ultra violet only), cannot kill oocysts from Cryptosporidium).
2. Loss of water could result in loss of business and home, either due to pollution from pathogens and/or reduced yield.
3. If water was lost the options are:-
- a. Construct new borehole. To obtain a competent water well driller and complete the works could take at least 6 months. To tanker in 30 cubic metres per (daily licence), construct a new borehole and ancillary works would cost at least £278,000. The maximum distance for pumping from the lorry is 300m. The distance from the lorry to reservoir is 1000m and is across a valley. Storage, hardstanding, a pump and an electrical supply would have to be constructed before tankering operations started.
 - b. To construct a new water mains could take a year. Wessex Water has been contacted but no quotation has been received. Tankering cost for a year would be approximately £416,000 and 10,000 cubic metres would be £22,000.
 - c. In both cases, construction of a new borehole and/or mains supply would require alteration to existing water distribution system. As much of the farm is within the World Heritage Site and the water distribution system was installed prior to the scheme being created, the cost and time involved are unknown.

The Applicants response

The Scheme is not anticipated to increase the risk of pathogenic contamination as there are no significant changes in sources of pollution or the pathway.

The Groundwater Risk assessment [APP-282] predicts no impacts at the boreholes. Notwithstanding this, MW-WAT11 of the draft OEMP sets out measures for management of impact on abstraction boreholes:

“The main works contractor shall recognise the rights of existing abstractors and take measures to avoid or minimise, so far as reasonably practicable, loss of interruption of supply, or provide alternative supplies. The main works contractor will put in place propagate monitoring and emergency measures to overcome the adverse impacts if this occurs.”

M & R Hosier response to 8.31

The Applicant has already put the groundwater at risk of pathogenic contamination as they have littered the landscape with numerous ground investigation boreholes. We question the Applicants approach to drilling methods as have noted a number of bores under construction have been left uncapped over periods of time. Farms have been provided with no after care advice on these boreholes either from the EA or the Applicant.

We remain unconvinced that the main works contractor will put in place appropriate measures to monitor private borehole supplies, as they will only be working on the information that the Applicant supplies them, which we believe to be inadequate.

Matters raised M & R Hosier

9.6.2 The farm comprises pasture supporting livestock and cereals overlying Chalk and hence the aquifer is vulnerable to pollution. At BH A, groundwater is approximately 30m below ground level. Most ground water flow is via horizontal beds/fractures from the proposed Tunnel A 303 in a south east direction towards Boreholes A and B.

5. Due to fracture flow there is risk of the following:-

a. The cutting removes the protective topsoil and Chalk which enables the water table to be within at least 3m of the surface and may arise above it, therefore greatly reducing the protection afforded by attenuation.

b. The presence of dead animals from road kill(deer etc., in the cutting and living within the embankment greatly increases risk from contamination via , due to rotting carcasses , faeces and urine.

c. The actions of the TBM and injection of grout could block fissures which supply the water to Boreholes A and B. It is possible to measure the volume and pressure of grout pumped into the Chalk but not how far it travels along fissures. As the fissures can be several millimetres in width and the bed and groundwater flow towards the south east this could be far.

d. Heavy rainfall producing fast groundwater flows could wash Chalk slurry and /or grout from the TBM which could flow via fissures into the boreholes blocking them or the pumps.

e. Any increase in turbidity would reduce the effectiveness of the UV and so increase the risk of disease from pathogens.

The Applicants response

a. The water table is within 3m of the constructed portal at extreme peak groundwater levels only, which occur rarely. Typical winter high groundwater levels along the tunnel alignment are approximately 4m deeper than the extreme peak groundwater level as shown in Figure 4.1 to Annex 1 of APP-282. The dry valleys between the tunnel and Hosier boreholes are areas of shallower groundwater compared to interfluvial areas.

b. The Environment Agency consider a 50m buffer around small abstractions such as private supplies as sufficient for activities leading to a risk of pathogen contamination. The highest risk is from nearby farming activity rather than road cuttings in excess of 2km away.

c. See response to items 17.1.1 to 17.1.4 in the Comments on Written Representations [REP3-013]. Also see responses under agenda item 5 from the written oral submission of ISH4.

d. Groundwater monitoring data does not indicate rapid recharge and fast groundwater flow in the area. Monitoring data shows rising groundwater levels from the autumn through to spring in response to recharge, and declining levels from the spring to autumn, in common with typical Chalk aquifer behaviour.

e. See response to item 40.5.1 to 40.5.9 concerning groundwater supply impacts in the Comments on Written Representations [REP3-013]. Highways England agrees that increased turbidity can reduce the effectiveness of UV treatment. However, the assessments completed to date do not indicate that there will be a significant impact to groundwater quality. The type of grout used in the construction of the tunnel will be determined as the design develops and will require approval by the Environment Agency. agenda item 5.2 from the oral submission for ISH4 regarding construction.

Any need for dewatering will be minimised as far as reasonably practicable which would reduce further the potential for increased turbidity. See agenda item 5.2 from the oral submission for ISH4 regarding dewatering and abstraction.

M & R Hosier response to 8.31

Documents referenced

Stonehenge Alliance (Flood Risk and Groundwater Protection) (REP2-131)

17.1 General and cross-topic Key Issue Geotechnical Aspects of tunnel construction and legacy concerns of proposed works

17.1.1 During tunnelling, vibration may cause induced fracture migration and settlement in overlying strata transmitted upwards towards the surface. In the extreme, subsidence could migrate to surface levels, resulting in sinkholes and/or compaction.

17.1.2 Grout migration from the TBM systems could lead to extensive permanent areas of Chalk with lowered permeability.

17.1.3 The potential loss of fissures, fractures, void spaces, burial features, galleries, tunnels and shafts, at present undiscovered and unidentified, either by grout injection, settlement or the combined effects of both processes, could lead to the permanent loss of potentially important archaeological features.

17.1.4 Similar detrimental effects of settlement and grout migration may also cause problems in land drainage and surface/shallow subsurface drainage systems.

Highways England response

17.1.5 The small annular gap formed around the tunnel segments during excavation is necessary for the operation of the TBM and must be backfilled to provide support to the tunnel lining segments and limit settlement from ground closure around the lining. A backfill grouting system is therefore an integral part of TBM design and operation.

17.1.6 Grouting is undertaken in a controlled manner at the rear of the TBM Shield as the completed rings are built. The whole grouting process including material specification; use of setting accelerators; viscosity; injection pressures, and injection volume are all tightly controlled and monitored matters to ensure the void is completely filled without causing grout migration from the TBM system. Similarly, grouting required for ground stabilisation will involve using a mix designed to prevent uncontrolled grout loss or migration away from the area being strengthened. The properties and characteristics of the grout mix will be carefully selected and controlled to limit grout migration, dilution and other effects due to the presence of groundwater and fissures in the chalk. These matters will be able to be considered by consultees pursuant to the Heritage Management Plan and Groundwater Management Plan required by the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

17.1.7 The Land Instability Risk Assessment (Environmental Statement Appendix 10.6 [APP-278]) includes consideration of initial tunnelling induced ground settlement. Settlement impacts may occur in areas associated with the tunnel and cutting works. Settlement can result in a change to surface and sub-surface conditions.

17.1.8 The predicted effects of excavation induced ground settlement have been considered as part of a staged assessment used in tunnelling to determine the zone of influence and potential structures and archaeology affected during construction (see Environmental Statement Appendix 10.6 - Land Instability Risk Assessment [APP-278, Section 6.4]. Items PW-CH1 and MW-CH1 of the Outline Environmental Management Plan (OEMP) [APP187] (a revised version of which is submitted at Deadline 3) require the preliminary works and main works contractors to produce Heritage Management Plans indicating how the historic environment is to be protected in a consistent and integrated manner, coordinated with all other relevant environmental topics. This includes the potential indirect impacts on heritage from activities such as ground vibration, ground movement / subsidence and dewatering. Items PW-NOI4 and MW-NOI5 of the OEMP [APP-187] identify industry guidance that the preliminary works and main works contractors are to follow in relation to controls and working methods for managing vibration. This guidance specifically refers to groundborne vibration from tunnelling. They also require the preliminary works and main works contractors to identify any potentially vibration sensitive cultural heritage assets and actions to control or mitigate impacts, including monitoring.

17.1.9 The installation of monitoring equipment and programme of monitoring to monitor ground movement above the tunnel will be included as part of the Heritage Management Plan required by item PW-CH1 and MW-CH1 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). Environmental Statement Chapter 6 - Cultural Heritage [APP-044] notes that "It is assumed that ground settlement will be minimal at the surface from the boring of the twin bored tunnel and any changes to heritage assets on the surface would be negligible and imperceptible to the eye" [APP-044, para. 6.4.1 (i)].

17.1.10 The monitoring methodology instigated as part of the Heritage Management Plan will consider acceptable levels and identify the associated action in response as part of a pre-planned contingency plan. The general principle is to control the works such that unacceptable levels are not breached, and put in place a warning of trends which may approach unacceptable levels.

17.1.11 The OEMP [APP-187] provided at Deadline 3 requires the main works contractor to develop a Ground Movement Monitoring Strategy to be approved by the Authority. The strategy will identify heritage assets that are at risk from ground vibration from the tunnel, or from ground surface movement caused by settlement. As part of this strategy, the contractor shall develop contingencies and identify measures to ensure the protection of historic assets.

17.1.12 Annex 1 to the Groundwater Risk Assessment, Appendix 11.4 [APP-282] sets out the assessment of the potential for the tunnel to cause impedance to groundwater flow. Details are provided in Section 4.1 of Annex 1 [within APP-49]. Small changes were predicted for all conditions with no resultant significant effects.

8.30.4 Written Summary of Oral Submission Flood risk Groundwater, Geology and Waste 11/06/2019

5.2 Construction

Agenda Item

i. Vibration and land stability.

ii. Voids.

- iii. Subsidence.
- iv. Slope failure at cuttings.
- v. Settlement and compaction of rock.
- vii. Monitoring and remediation

Highways England responses

Mr Taylor QC responding to comments on monitoring from Paul Brown QC for Wiltshire Council mentioned that the OEMP e.g. NMWAT10 requires a groundwater management plan and refers to the potential for ongoing monitoring, as does WAT15 and MWCOMM4. He advised that the period of monitoring is a matter for discussion with stakeholders. Responding to comments from Mr Hedges, Mr Taylor QC advised that the Applicant has not seen any scientific proof of fissures in the ground along the line of the tunnel but highlighted the comments of the Environment Agency and Dr Sladen.

Mr Taylor QC mentioned in response to comments from Barry Garwood on vibration matters that these are carefully assessed in Chapter 9 of the ES. He noted that an explanation on the process undertaken is set out in the comments on written representations provided at Deadline 3 [REP3-013], in particular those at and following paragraph 15.2.29 which explain methods used following BS5228 (2009) and A1 2014 the Code of Practice, which is relevant to the construction of tunnels. This methodology assumes tunnelling in rock with a hydrologic hammer. Mr Taylor QC advised that even on that basis, the results show a PPV of 0.16 millimetres per second at Stonehenge, whilst for context, the criteria for protection of listed buildings on the Crossrail project was 3 millimetres per second.

Regarding settlement, Mr Taylor QC advised that these issues were assessed in the Land Instability Risk Assessment Report at Appendix 10.6 [APP-278], of the ES. He noted that this assessment demonstrated a conservative and precautionary approach and even on that basis at most the settlement identified is 20 to 30mm above the line of the tunnel and spreading to the edge no more than 55 metres from the line of the tunnel itself.

Ms Ayliffe explained that the typical surface monitoring will be complemented by vibration monitoring. She noted that these are commitments in the Heritage Management Plan and the Ground Movement Monitoring Strategy. Mr Taylor QC added that monitoring of ground movement in the OEMP is covered by MW-G7, setting out strategies to be covered, MW-CH1 relating to the Heritage Monitoring Plan, specifically requiring monitoring in a heritage context, and MW-CH8.

Mr Taylor QC replied to comments from Kate Fielden on behalf of Stonehenge Alliance that construction of tunnel portals was addressed in the Land Instability Risk Assessment Report. He noted that section 5 set out the potential sources of movement and section 6 sets out the results of the assessment. In regard to retaining walls related to tunnel portal construction, Mr Taylor QC stated the conclusion reached is that 8mm of settlement would result.

M & R Hosier response to 8.31

The Applicant has not assessed the percentage risk to our water supply for quality and quantity as a result of the proposed Scheme, during construction and once the Scheme is in operation.

If the Applicant cannot quantify the risk to our farm business then how do they expect us to manage the commercial risk?

The Applicant has not detailed how water will enter our farm network within 24 hours of a problem being detected (at no extra cost to our business and at all times of year.)

For all the above reasons we do not have confidence that the Applicant has fully assessed the effects of the Scheme on the surrounding landscape and businesses.

Matters raised M & R Hosier

9.6.3 HE have shown ignorance of the requirements of the Private Water Supplies (PWS) Act 2016 under which Boreland Farm has to supply water. HE have failed to sample and analyse water according to the PWS 2016, especially pathogens. HE did not volunteer their specifications for preventing contamination or their hygiene and disinfection procedures in relation to the ground investigation water monitoring boreholes.

- a. HE have not sampled and tested pathogens in the water by a DWI approved laboratory.
- b. Have allowed ground investigation water monitoring boreholes to be constructed and left open which could allow animals to fall in and/or defecate and their rotting carcasses would produce pathogens. Absence of security guards means somebody could have maliciously contaminated the groundwater.
- c. Did not supply information that the drillers are free from infectious diseases; that overalls and gloves are free from pathogens and the drilling rigs were clean and free from pathogens. Drilling equipment and casing should have been steam cleaned using water containing 50mg/l chlorine to ensure removal of mud, manure and faeces. Only construction risk assessments and construction methods were supplied when asked for additional information.
- d. Did not ensure the sanitary seals were at least 50mm wide, 6m deep, comprising 50:50 cement water and were installed via Tremi pipes from the base.
- e. The Farm was not provided with any instructions of the ongoing farm management, especially muck spreading, around the area of the ground investigation water monitoring boreholes in line with good management practice of water protection.

The Applicants response

- a. The groundwater analysis is a standard suite for characterising groundwater baseline chemistry. Drinking water sampling is the responsibility of Wiltshire Council and is not duplicated in the A303 scheme monitoring programme.
- b. All drilling operations are conducted by a suitably qualified driller (NVQ level 2) in accordance with both BS5930 and the contractor's site-specific Risk Assessment and Method Statement (RAMS), which has been reviewed and approved by the project HSE Advisor. In addition, the Advisor visits site on a weekly basis to inspect the works and ensure that all necessary safety and environmental provisions are being adhered to. Each borehole location is set up within a secure compound area

comprised of Heras fence panels which provides a physical barrier between the borehole and livestock, wildlife and the public. Within each compound area (20mx20m approximately) the ground is covered with protective trackway or matting and a layer of visqueen impermeable membrane beneath in order to contain any water and fines within the working area. At the end of each shift a plug is connected to the top of the casing which prevents foreign objects including contaminants from entering the borehole.

c. The Contractor's RAMS document identifies the risk and the precautions the staff will take to prevent contamination of the aquifer. In view of the location of the boreholes and the distance from the wells steam cleaning and disinfecting of tools is not considered necessary.

d. The RAMS document discussed the protection of the aquifer at depth and ensures that a bentonite plug will be installed as and when required.

e. We consider that, as a private water supply owner, the Hosiers will be aware of good practice around their drinking water well and the same practices should be applied in the vicinity of any monitoring wells.

M & R Hosier response to 8.31

Point a) Groundwater analysis for monitoring boreholes along the landscape is for chemicals linked to traffic and environmental pollutants. However, when considering the effects on private water abstractions for drinking water, the Drinking Water Inspectorate (DWI) criteria for pathogens are vital. We have never suggested that any DWI water tests carried out by the Applicant would replace those carried out by Wiltshire Council Public Protection Services and this would never be possible.

By sampling water to DWI standards, the Applicant would be following good practice, showing that none of their monitoring boreholes have introduced pathogens into the groundwater. This would give guarantee that the Applicant has taken due care and attention of the groundwater.

Does the Applicant know how many houses within a 5Km area of the Scheme are supplied with drinking water from private boreholes and how many people this is likely to effect?

Point b) We challenge the statement that "at the end of each shift a plug is connected to the top of the casing which prevents foreign objects including contaminants from entering the borehole". M & R Hosier Written Representation Appendix 2 – Groundwater Concerns – Sweetwater Resources Ltd page 7 clearly shows one of the monitoring boreholes under construction open to the elements with no cap and just a pallet placed over the top.

From discussions with Wiltshire Council Public Protection Services we are informed that anything entering open boreholes within the landscape will enter the groundwater with potential polluting consequences. The distance between the monitoring boreholes and our private drinking water abstraction is irrelevant.

Point c) We are alarmed at the Applicants comment that due to the distance between monitoring boreholes and boreholes used for private drinking water, they do not consider there to be a need to steam clean and disinfect tools prior to work commencing. There is a risk that pathogens can be spread between boreholes on different farms, as well as during transportation of the drilling rigs between farms. Added to this, the location of boreholes does not seem to take into account the topography of the landscape and the land use. Monitoring boreholes constructed in valleys in areas with a history of intensive livestock farming are not within DWI good practice.

Point d) That the RAMS document notes a bentonite plug will be installed as and when required gives us no confidence that work is being carried out with due consideration to protecting the groundwater.

Point e) We are well aware of good practice around our boreholes which supply drinking water, but there are farmers with monitoring boreholes on their land that are not private abstractors and so would not be aware of DWI good practice. None of the farmers have been provided with any information for management of the land over or around any of the boreholes.

Matters raised M & R Hosier

9.6.4 HE have not undertaken the following assessments of Boreholes A and B

a. Tracer tests to determine absence/presence of fissures between site and BHs A and B and if present the travel time of groundwater flow (maximum and minimum velocities).

b. Seasonal variations in rest water and pump water levels, pumping tests to assess yield, drawdown and efficiency, undertaken geophysical logging such as conductivity, temperature calliper, flow velocity (pumped and un-pumped) to determine elevation of major flow horizons.

The first indication of pathogenic pollution of the water from Borehole A would be illness.

The Applicants response

There is no evidence of karstic behaviour and no mechanism by which the Scheme is predicted to affect Boreholes A and B which are at distances of between 2km and 3km from the Scheme. Therefore, detailed investigation of these boreholes is not necessary. Notwithstanding this, HE has agreed to monitor boreholes where practicable and MW-WAT11 of the draft OEMP sets out measures for Management of impact on abstraction boreholes.

M & R Hosier response to 8.31

Within documents, there is disparity between pumping test results undertaken by WJ Engineering and those produced by Structural Soils. WJ used cable percussion rigs which do not produce a mud cake lining to the sides of the bore. This mud cake lining is well described on page 1-8 of 8.30.4 Written Summary of oral submissions put at Flood risk, Groundwater and Geology.

“Face Pressure- Face stability at the cutting head is controlled by the Bentonite/chalk slurry caking effect. The excavation action of the TBM produces a slurry of water, chalk and bentonite. This slurry mix displaces the groundwater in the immediate vicinity of the TBM and the solid particles in the slurry form a “cake” which fills the fissures and voids in the chalk”.

The tricone rotary bit construction method used by Structural Soils produces a smearing of the sides of the bore which infills the fissures. Eductors can remove some of the mud cake but to be reliable acidisation should be undertaken as recommended by the British Geological Survey. Rotary open hold methods produce a far thicker mud cake than cable percussion as the drilling flush is blown against the walls of the borehole and into fissures. Stonehenge Area Pumping Test 2018 Interpretive Report page 35, figure 6.16 showed the summer results from the boreholes drilled by Structural Soils of a lower transmissivities than those drilled by WJ Engineering. This indicates the potential for fissures to be present yet the mud cake around the borehole walls may have wholly or partially blocked these fissures off.

Stage 4 Implications of 2018 Groundwater Investigations to The Groundwater Risk Assessment Working Draft April 2019, page

We believe for the above reasons that there is evidence of karstic behaviour with a mechanism that does link between the Scheme and our farm boreholes. The Applicant has failed to carry out tracer tests to either confirm or discount the presence of fissures connecting to our boreholes.

9.7 Comments on Written Representations

Matter Raised

9.7.1 England's Response H E Response to Examining Authorities written questions 8.10.7 Biodiversity, ecology and biodiversity Deadline 2 We remain concerned that Highways England have not adequately addressed the concerns raised within the examining authorities' questions [on the Biodiversity, biological environment and ecology submission for the A303 Amesbury to Berwick Down (Deadline 2) [2]]. Our concerns being:

Page 7-2 Question Ec.1.1 Cumulative and in-combination assessments: Response to point ii) 2

The response does not address the key points of concern within our Written Representation, Deadline 2: In-Combination Effects, Pg. 7-9: 3.21- 3.28 [2]. We remain highly concerned that the planned increase of military personnel and families, increased housing development and encouraged tourism into the area will have an unknown level of increased recreational activity surrounding Normanton Down reserve. The increase proposed is such as to result in the MoD committing to mitigation to reduce suggested potential conflict for breeding Stone Curlews. Due to the scale or magnitude of impacts being unknown, it is not unreasonable to suggest that all of the above proposed increases in activity may result in increased use of the byways bordering Normanton Down reserve and effect an increase in disturbance to breeding Stone Curlew. This could be disastrous for the SPA population that is still in 'recovery'.

The Applicants response

The scope of the cumulative and in-combination assessments undertaken for the Scheme, as well as the assessments contained in the Applicant's Habitats Regulation Assessment documentation generally, are considered to be robust. Mitigation and enhancement measures are currently under discussion with the RSPB and Natural England and agreements will ensure that the measures provided will avoid any adverse impacts on the integrity of the SPA.

M & R Hosier response to 8.31

As stated in our response to document 8.18. Comments on Written Representation, Paragraph 40.4.14 and other responses, the scope for cumulative and in-combination assessment as well as the assessment in the Applicant's Habitats Regulation Assessment documentation is lacking in relation to the full breeding cycle. From the Issue Specific Hearing Biodiversity, it was evident that mitigation for cumulative and in-combination effects highlighted within the Habitats Regulations Assessment are not satisfactory for Natural England and RSPB, although this does not seem to have been reflected in the oral summary presented by the Applicant. This is extremely important yet the Applicant has selectively omitted to reflect these comments in the oral summary they presented.

In addition, we raised the point that during preliminary works, the clearing the topsoil is in fact creating Stone curlew breeding habitat rather than providing mitigation. The Applicant noting that the topsoil was to be moved away from the site and deposited around the works compound area where it was to be planted with quick growing crops. As such there is no mitigation for the Stone curlew habitat created as a result of the preliminary works. This point seems to have been omitted from the oral summary presented by the Applicant, but is represented in our oral summary.

Trace' Williams on behalf of M & R Hosier also stated at the Hearing, that the measures the Applicant is proposing for the creation of the Parsonage Down replacement Stone curlew plot, are indeed identical to those noted under preliminary works ie removal of topsoil. So why is this practice being considered acceptable in the location of the deep cutting at the western portal. The archaeological surveys in 2018 have already shown this practice to be inadequate as Stone curlews nested on the bare area. This point was not in the Applicants oral summary.

At the Hearing, Trace' Williams on behalf of M & R Hosier also stated that PW-BIO5 and MW-BIO8 had not noted that if a Stone curlew did nest within the Scheme area, there could be a potential 10 week period of shut down to works whilst the chicks were dependent on their parents. This has also been omitted from the Applicants oral summary.

At the Hearing, Trace' Williams on behalf of M & R Hosier stated that there was no mention of the disturbance of the well-established autumn Stone curlew roost and the potential impact that this would have on the juvenile Stone curlews. This point has been omitted in the Applicants summary.

At the Hearing, NE stated that resolution of mitigation methods was needed to meet Habitats Regulations and that the HRA is not complete re no adverse impact was found, and that it is essential to have agreement on this. This point has been omitted in the Applicants summary.

ES Chapter 8, Biodiversity [APP-046] 8.6.15 (see below) Under Future Baseline Construction year baseline (2021) draws attention to the unknown applications and associations in relation to the increased residential dwelling and visitor pressures on the area, rather than the "no likely significant effects" stated in the Applicants response.

8.6.15 The majority of the land to be impacted by the Scheme has been classified as agricultural land and associated linear boundaries. As such, the biodiversity baseline is unlikely to change significantly by 2021, unless any large-scale changes in agriculture policies and practices occur. The known applications and allocations associated with the provision of residential dwelling (cumulatively approximately 2,000 dwellings) may result in an increase in visitor pressures on the areas surrounding the WHS; this may result in increased disturbance events on breeding stone curlews within Normanton Down RSPB Reserve. The majority of other applications are unlikely to significantly change the biodiversity baseline at 2021.

Other references to disturbance under both construction and operation of the Scheme are found at:

ES Chapter 8, Biodiversity [APP-046] 8.7.5 under Construction

c) **Disturbance:** An indirect impact resulting from a change in normal conditions (light, noise, vibration, human activity) that would result in the important biodiversity feature changing its typical behaviour;

And

ES Chapter 8, Biodiversity [APP-046] 8.7.6 under Operation

d) **Disturbance:** An indirect impact resulting from a change in normal conditions (human activity) that would result in the important biodiversity feature changing its typical behaviour, such as changes in roosting behaviour.

RSPB has already brought these elements to the Applicants attention and proposed some suitable mitigation, yet the Applicant seems unwilling to take most of these points forward.

Matters raised M & R Hosier

9.7.2 Question Ec.1.2 Green Bridges: Response to point i) 1

We believe that no shelter in the form of new habitat is to be provided on green bridge 4 to provide safe passage of wildlife from predators; the area is limited to chalk grassland with no hedging.

There is no assurance that bats will use the green bridges as safe crossing points. The bat data in Environmental Statement Appendix 8.1B Baseline valuation [APP-233] paragraphs 8.1.47 and 8.1.48 report in respect of green bridge 4 was contradictory stating that bat activity within this area was both the highest activity on transect surveys as well as being the lowest activity recorded at the Longbarrow Junction. This highlights that more survey work would be needed to further understand the baseline use of this area by bat species.

The Applicants response

See response to item 40.3.39 in the Comments on Written Representations [REP3-013]. Green Bridge No. 4 is not designed specifically to provide mitigation for bats, however, the green bridge would provide a safe route for any bats currently using the area. It is considered that Green Bridge No. 4 would provide enhancement because it would improve the permeability of the landscape for wildlife.

M & R Hosier response to 8.31

The improved permeability of the landscape is only for the 150m width of the bridge, but with the bridge just comprising of short grassland and a byway, this will provide minimal attraction for wildlife (whatever that may be). The addition of the byway on the green bridge further detracts from wildlife use. Biodiversity is being overlooked by a lack of hedge planting and screening.

Whilst the bridge is not designed specifically for bats, the point 9.7.3 below notes that it is intended to be attractive for the use of bats within the landscape. Yet no features required for bats are incorporated into the bridge.

Matters raised M & R Hosier

9.7.3 We would like HE to have specifically mentioned which “other species” they are proposing will use the green bridges other than bats. There is little difference between the species on either side of the road, therefore there will be no net gain.

The spreading of xxxxxx populations within the WHS is having a seriously damaging impact on a large number of scheduled monuments within the WHS already.

Xxxxx are believed to transmit TB. By encouraging xxxxx into the wider area there is the potential risk that TB may be spread to our livestock.

This would have a negative impact on our farming business.

The requirement for fencing would also be important as dogs straying from the byway have the potential to disturb wildlife using the green bridges.

The Applicants response

The green bridges will maintain a permeable landscape for a number of different species, these include, but are not limited to, the following species and species groups:

- bats;
- polecat;
- hedgehog;
- barn owl;
- invertebrates (including butterflies of chalk grassland). All these species and groups would be able to cross more safely than with the existing A303.

The baseline surveys undertaken by AAJV within 2016-2017 identified the following xxx setts within the study area on M & R Hosier's land:

- three active main setts;
- one active annex sett;
- one active subsidiary sett;
- one partially-used subsidiary sett;
- six active outlier setts;
- one partially used outlier sett; and,
- one disused outlier sett.

Xxxx social groups are present both north and south of the Scheme centred on the main setts. As no main setts would be lost to the Scheme existing territories would likely be maintained. See response to item 40.1.36 in Comments on Written Representations [REP3-013] in respect of TB risk. Xxxxx currently cross the A303 and this would continue with the Scheme.

M & R Hosier response to 8.31

All of the above species are present on both sides of the existing A303 with established territories so there would be no net gain to species within the area as a result of the green bridge 4, especially as the bridge will be a vast expanse of short open grassland with no cover.

Point 9.7.2 above notes that the green bridge is not designed specifically for bats. The green bridges are primarily for heritage reasons to create inter-visibility between monuments. Suggestions that wildlife will use them as corridors are tenuous and without supporting evidence. Badgers numbers will continue to destroy WHS archaeology in all areas.

Matters raised M & R Hosier

9.7.4 Response to point i) 3

We were informed that the 150m width of green bridge 4 was decided upon for optimum heritage inter-visibility reasons rather than for biodiversity. We would like to see how this compares with the width of other green bridges within the scheme and whether the other green bridge widths have been secured.

The Applicants response

The width and location of Green Bridge No. 4 was determined for heritage intervisibility reasons. This is expanded on in paragraph 24.1.43 onwards in the Applicant's Comments on Written Representations [REP3-013].

Under item D-BIO3 of the Outline Environmental Management Plan, all green bridges which form part of the Scheme shall be designed and delivered having regard to Natural England guidance, which includes reference to optimum widths. See response to Written Question Ec.1.2 part i [REP2-027].

"The green bridges delivered as part of the Scheme are proposed to be in line with Natural England's recommendations (paragraph 4.1) regarding green bridges, with a view to ensuring they meet the relevant objectives."

M & R Hosier response to 8.31

The Applicant has already stated that green bridge 4 is included in the scheme for heritage inter-visibility reasons. Therefore, they are not designed to meet the relevant objectives for biodiversity, it is an afterthought. The bridge proposed, is to just be short grass for heritage inter-visibility to blend in with the rolling landscape as the OUV within the WHS would not allow anything less.

For a biodiversity benefit there would be a requirement for a range of habitats within the area to offer cover and protection for wildlife from the users of the new PRoW included on the bridge. As such, green bridge 4 is a clash of Scheme objectives of biodiversity, increase of PRoW and heritage.

Matters raised M & R Hoser

9.7.5 Response to point i) 4

There is no information regarding which species each of the green bridges are targeting.

In respect of green bridge 4 we question the benefits of "species" crossing to the southern side, as this will link to arable land. Discussions with Highways England note that the area south of the deep

cutting will vary depending on the area required for constructing the cutting, yet we note that on Environmental Statement Figure 2.5 Environmental Master Plan that the area is coded for species-rich chalk grassland. Clarification on this contradiction is required for proper assessment of the scheme.

The Applicants response

Please refer to the above response regarding species crossing Green Bridges.

The precise nature of the species to be planted would be dealt with during detailed design, as part of the Landscape and Ecology Management Plan to be developed under the terms of the OEMP, as well as under the detailed landscaping scheme required to be submitted for approval under Requirement 8 of the draft DCO. There is also an obligation in the OEMP (MW-BIO2) to establish the new habitats identified within the Environmental Masterplan within the Order limits.

M & R Hosier response to 8.31

The Scheme only establishes chalk grassland habitats.

The Porton to Plain project pushed as a legacy benefit of the Scheme, also sets out objectives for farmland birds, ensuring all lifecycle stages are catered for, chick food, nesting habitat and winter feed yet there are no measures incorporated within the Scheme to support this. Similarly the Project proposes improvement/creation of hedgerows especially along key flight paths and managing woodland for bats, yet there are no such provisions for green bridge 4 to ensure it delivers maximum wildlife benefits.

Matters raised M & R Hosier

9.7.6 The dispersal of less desirable plant seeds in an arable situation is not beneficial to our farming business. We have experience of reversion of land to chalk grassland; during the first three years many undesirable and injurious weeds need management.

The Applicants response

See response to item 40.3.47 in the Comments on Written Representations [REP3-013]. The LEMP, as stated in the OEMP (MW-LAN1) [REP3-006], will include management to control nuisance weeds. We agree that in any areas where arable reversion is used there will be a higher weed burden than in areas of the Scheme where a sparse sprinkling of topsoil is applied to bare chalk. Hence more weed control is expected to be needed in the early stages with arable reversion. Starting with low nutrient conditions, the preferred approach for the Scheme, is expected to produce chalk grassland habitat more readily, but the experience of M & R Hosier and National Trust shows that chalk grassland with a diversity of herb species can be created even on former arable land.

M & R Hosier response to 8.31

Our concern is that the area of chalk grassland created adjacent to our new farm boundary will not be adequately managed to ensure that airborne weed seeds are not blown onto our farmland. We are told that this area will not be landscaped as it is within the WHS and there is the intention not to disturb the archaeology of areas that are not required for the road itself. These areas will be subject to an increased weed burden as a result of the Scheme. The OEMP should include a commitment by

the Applicant that the 1959 Enforcing the Weeds Act, DEFRA, will be respected in terms of managing injurious weeds. We would like to see a plan of how weeds will be controlled in this particular area.

There is no plan to indicate of exactly what the grassland management will be within this area.

Matters raised M & R Hosier

9.7.7 There is already a 6m floral enhanced grass margin running along the A303 between the western portal and the green bridge. This has been in place for 7 years and already provides a link for invertebrates and grassland flora. This should not be destroyed during the proposed scheme but compliment and be-linked to newly created grassland. We are not convinced that the measures to control notifiable weeds will be adequately dealt with within the proposed management in the OEMP. [APP-187]

The Applicants response

See response to item 40.3.47 in the Comments on Written Representations [REP3-013]. Precise construction requirements and methodologies would be confirmed by the contractor. As such, it is not possible at this stage to confirm whether the grass margin referred to would be retained during construction – it is not considered by the Applicant to be essential to do so, given the other mitigation measures proposed.

See response above regarding weeds. Control of notifiable weed would be carried out as required in both retained and new habitats.

M & R Hosier response to 8.31

As the area between the deep cutting and the existing A303 is to be chalk grassland with a view to attracting butterflies and invertebrates into the area, the current floral margin would provide an existing reservoir for invertebrate species already present. Removing the margin would have a negative biodiversity effect removing the species already present. Invertebrates surveys carried out as part of the Scheme have noted the presence of countryside invertebrates within this area which have the potential to proliferate if left in situ. Moreover, a considerable amount of time and effort on my part, as well as RDP funding, has gone into creating this habitat over the last 7 years. In addition, keeping the vegetation intact will also make the area less attractive to potential nesting Stone curlews nesting within the Scheme.

Matters raised M & R Hosier

9.7.8 Response to point i) 5: There is no bund proposed for green bridge 4.

The deep cutting from the western portal to green bridge 4 creates a new barrier in the landscape in this location.

The area currently has a 6m floral enhanced chalk grassland margin that runs along the A303 in this area. This already forms part of the baseline connectivity between the eastern and western parts of the scheme.

The provision of the green bridge does not actually increase connectivity it reduces the connectivity within this area to 150m.

The Applicants response

See response to item 40.3.40 in the Comments on Written Representations [REP3-013]. In the section of the Scheme from the western portal to green bridge four the west-east linear chalk grassland will be increased compared to the existing 6m margin and will extend to the A360. The scheme will include new chalk grassland to be created along the redundant section of the A303. The zone between the chalk grassland margin referred to here and the retaining wall of the deep cutting on the north side will have chalk grassland, and so will a zone on the south side of the cutting. The habitats on both sides will be connected by the grassland on the green bridge. Together, these new areas of chalk grassland would provide greater area in total and a broader linear connection. This would be an improvement of the ecological network.

M & R Hosier response to 8.31

The Porton to Plain project is to provide islands of habitat as stepping stones to form an ecological network. This location currently has a large expanse of National Trust grassland to the north of the deep cutting, and an area of grassland on our neighbours land at Longbarow Roundabout. The net gain of even more grassland within this area is questionable in terms of linking habitats within the Scheme. I do agree with the chalk grassland creation. I just do not agree with the justification that it will make a significant contribution to the area, as currently there is a large expanse of grassland in this location.

Matters raised M & R Hosier

9.7.9 Response to point ii) 6: The fauna targeted as using green bridges has not been identified.

We have concerns as to the suitability of the type of chalk grassland proposed within the OEMP [APP-187] as it is not typical of Salisbury Plain and will require a high management input to deliver the objectives. As outlined in our written representation 2] page 18 paragraph 6.15-6.21

We have only had 2 meetings with HE ecology consultants from which we understand that green bridge 4 will just be chalk grassland. There is no intention to have any hedgerow with the area.

Environmental Statement chapter 8 Biodiversity [APP-046] 8.8.15 notes that green bridges will provide sheltered habitat links for fauna (as yet undisclosed), but in respect to green bridge 4 there is no shelter provided. This bridge has no bunds and no hedging.

Hedging would provide cover from predation for any animals using the bridge and provide some barrier between the general public and dogs that will be using the byway over the bridge. Hedging would also provide a navigable feature in the landscape that has the potential to encourage bats to link to the other side of the carriageway.

The species using the green bridge to link to the other side of the carriageway will be limited to species that are tolerant of human activity or nocturnal.

The Applicants response

Green bridge No. 4 does not require bunds or hedgerows to be included within the design, as this would not be appropriate for the maintenance of intervisibility between monuments within the WHS. Hedgerows have not been included within the WHS as detailed within paragraph 21.4.44 of the Comments on Written Representations [REP3-013], as this may have a negative impact on heritage within the WHS. Woodland and hedgerow planting would be included in other areas of the Scheme, where there is a specific requirement. Management by grazing will be considered for incorporation into the Scheme as referred to at MW-BIO13 of the OEMP [REP3-006]. The locations to be managed by grazing will be secured through a combination of the detailed landscaping scheme to be submitted under Requirement 8 and the LEMP, prepared under the framework contained in the OEMP (MW-LAN1) [REP3-006]. Applying a range of management within the Scheme will be beneficial to overall biodiversity.

M & R Hosier response to 8.31

Hedgerows do not have to be tall features, they can be managed to keep their heights restricted. This would ensure green bridge 4 has a greater potential to be attractive to “wildlife” within the area.

The decisions around the management of the chalk grassland have to be made at this early stage otherwise the requirement for suitable fencing, gates, water provision and safe mowing access will not be built into the scheme and will ultimately add to the costings. These are important factors that we have raised at the Issue Specific Hearing; Biodiversity, were acknowledged by Natural England.

Matters raised M & R Hosier

9.7.10 Response to point iii) 7

We note that Environmental Statement, Figure 8.10 Barn Owl Habitat Suitability and Road Casualties) [APP-158] contains a number of errors.

Areas on our farm that have been permanent grassland since 2002 have been incorrectly classified as ‘Other non-grassland habitats with little or no value for foraging barn owls’.

Normanton Down Reserve has never been surveyed by HE consultants and yet they have classified it as ‘Type 2 Sub optimal foraging habitat’. This is incredible as there are nest boxes within the barn on the Reserve that regularly host breeding Barn Owls, Little Owls and Kestrels and are monitored annually by staff of the Hawk Conservancy Trust. Grassland of the Reserve is managed such that different grass heights are available.

There are other questionable areas on the map that are noted as ‘Type 1 Optimum foraging habitat’ which are close to woodland. Barn owls require a taller grass sward 4

for optimum habitat, which can be easily created and managed by the correct grazing regime.

The intention to provide a low open sward in the area of chalk grassland creation between the existing A303 and the cutting from the western portal will not provide optimum foraging habitat for barn owls unless it is left to grow longer.

There are another 4 areas on the map (neighbouring Environmental Scheme grassland that borders Boreland Farm) which has also been incorrectly classified as 'Other non-grassland habitats with little or no value for foraging barn owls'. These areas regularly consist of longer grass which provides good habitat for Barn owls and their prey.

We question the noting of woodland as habitat for Barn owls. Apart from being factually incorrect as the Barn owl does not frequent woodland habitat, it is habitat for the Tawny owl, which if present, being more aggressive would drive Barn owls away.

This inaccurate poor-quality baseline data does not provide an accurate assessment of the current ecology of the area or of the ecological benefits of the scheme once in operation. The current surveys would suggest that the scheme will benefit the ecology of the area, yet this is based upon a realistic representation of the area. We suggest that old inaccurate desk top data has been used in preference to physical surveys. There has been no updating following field surveys as noted in Environmental Statement chapter 8 Biodiversity [APP-046] page 8-24. We question if the surveys were undertaken.

The Applicants response

The most valuable foraging areas for barn owl are coarse or tussocky areas of grassland that provide cover and foraging areas for abundant small mammals. This structure can be achieved by appropriate frequency of mowing of grassland, for example, along arable field margins or woodland edges. Sparsely vegetated or short chalk grassland is less favourable for the small mammals on which the owls feed.

Whilst detailed field by field mapping of habitat suitability is of value for a farm conservation management plan, the level of detailed survey proposed by M & R Hosier is not required for the purpose of the ecological assessment of the Scheme. As detailed within the RSPB SoCG [REP2-017], due to the well documented barn owl monitoring undertaken within the surrounding area, no further barn owl roost/ nest surveys were considered necessary. This was also agreed with Natural England [REP2-016].

The purpose of the barn owl habitat suitability appraisal was to assess whether the Scheme would result in a significant adverse effect on the local barn owl population. It highlighted the likely important foraging areas, within the wider landscape, using a combination of vantage points from PRowS and aerial mapping.

As stated in paragraph 8.9.216 of Chapter 8, of the Environmental Statement [APP-048], barn owls are vulnerable to direct mortality associated with road traffic collisions.

The data shows a hotspot of mortality at the existing A303. Barn owls crossing the A303 in this section are at risk. Putting the A303 in a tunnel will remove this risk. Having the Scheme in a vertical-walled cutting to the western portal also reduces the risk of barn owls flying close to traffic. There is high confidence that the Scheme will make conditions safer for barn owl. Hence barn owls on M & R Hosier land would have reduced risk of mortality from the A303.

M & R Hosier response to 8.31

It was not the level of surveying that was of concern, it was the misrepresentation of the current baseline that was the issue, as information here will get carried forward and needs to be corrected. This is demonstrated by comments such as “likely important foraging areas within the landscape”. The Hawk Conservancy Trust have been monitoring Barn owl and Kestrel nesting boxes on our farm for 17 years.

We agree that the Scheme has great potential to reduce the risk of mortality to Barn owls within the area. However, our understanding is that the area of the green bridge and grass in the area of the deep cutting is to be short grassland to quote “*early successional habitats ranging from bare ground to tight swards or low nutrient species*”. As such, this will provide less cover for small mammals and be less attractive to barn owls. Habitat for Barn owl also supports having a longer sward in this area.

In terms of adverse effects on barn owls we would suggest a neutral effect rather than an adverse effect, or a slight advantageous effect.

Matters raised M & R Hosier

9.7.11 Response to point iii) 8

Selected areas of our farm have been walked as part of the ‘Porton to Plain Project’. From this and our knowledge of the area and the surrounding land, leads us to question some of the findings within the report. Maps are too small to see clearly and it would appear that some of the data is out of date.

As noted in the DCO documents, non-presence of a species does not mean that it is not present. We believe that comprehensive surveys of the whole area should be undertaken for all the target species at the correct time and with the correct methodology to provide accurate base line information.

The Applicants response

All ecological surveys are considered to be a snapshot in time; the scope of the survey data presented as part of the DCO application was considered suitable and proportionate to the Scheme. This has been agreed with the statutory and non-statutory consultees, including, Natural England, the RSPB, and Wiltshire Council.

M & R Hosier response to 8.31

The Porton to Plain Project is a snapshot of many different times and years. Inaccurate data has a habit of being carried forward missing out on opportunities and providing warped results.

Matters raised M & R Hosier

9.7.12 Question Ec.1.7 Habitat creation: Response to point 3

The location of the deep cutting from the western portal to the green bridge is shown in the various DCO documents as having an area of chalk grassland creation between the current A303 and the cutting.

We have previously asked HE why the red line boundary on the opposite side of the cutting (between the cutting and our land holding) is so wide. We have been informed by HE that this area may not need to be as wide as shown in the plans; it being for the construction process, hence the full area may not be required. At no point have we been told of any other proposals for this area.

However, the Environmental Statement Figure 2.5 Environmental Master Plan shows maps with mitigation indicated along the length of the Scheme. Map sheet 15 and 16 Have colour coded the whole of the area as species rich chalk grassland rather than just the area between the cutting and the existing A303. At no time has the area to the south of the cutting been discussed at meetings as we were led to believe that it was a flexible area for construction purposes alone. The cross-sectional drawing page 19 chainage 6750 G1 shows the area just prior to green bridge 4. It also notes the presence of species-rich grassland on the southern side of the carriageway. Management of this area for speciesrich chalk grassland would be complex, poor value for money with debatable returns for biodiversity benefits.

The Applicants response

Consistency of land use to the north and south of the cutting and over the top of the land bridge is essential in order to mitigate the adverse impact of the cutting on the OUV of the WHS. Chalk grassland restoration is the preferred land use to complement the treatment of the de-trunked section of the A303 to the north and the landscape treatment at the top of the cutting.

Management by grazing will be considered for incorporation into the Scheme as referred to at MW-BIO13 of the OEMP [REP3-006]. The locations to be managed by grazing will be secured through a combination of the detailed landscaping scheme to be submitted under Requirement 8 and the LEMP, prepared under the framework contained in the OEMP (MW-LAN1) [REP3-006]. Applying a range of management within the Scheme will be beneficial to overall biodiversity.

M & R Hosier response to 8.31

For the Scheme to deliver biodiversity benefits the decisions on how to manage and design the grassland areas has to be done at this stage, or inappropriate infrastructure will be in place and require costly adaptation at a later date. 70% of cost over runs are due to inadequate information upfront.

For benefits for barn owls and to avoid inappropriate Stone curlew nesting habitat, we would suggest that the areas north and south of the cutting are managed as longer swards. But we would suspect that heritage concerns will dictate that the area will be short grassland with bare patches which will be inappropriate for owls and attract Stone curlews to nest in suboptimal conditions.

Matters raised M & R Hosier

9.7.13 Response to point 4

We have concerns about the establishment methods, management and proposed seed mixtures. Contradictions within OLEMP [APP-267] page 3 2.1.4 f) to use native indigenous species of local provenance wherever appropriate. Also, page 9 6.1.2 ..."A seed mix with affinity to CG2 grassland would, with appropriate management, meet these requirements". Page 9 6.1.3 the intention to overlook using brushharvested seed from Salisbury Plain Training Area is astonishing when with planning brush-harvested seed can be stored. The intention to not include certain locally represented floral species due to their height is questionable. See written representation M & R Hosier Appendix 1. Page 18 6.15 to page 19 6.21. 2]

The Applicants response

Due to the large area of calcareous habitat to be seeded and uncertainty about the quantity of brush-harvested seed that may be available at the time required, it is not considered appropriate to restrict seeding of the Scheme to wild-harvested seed from Salisbury Plain. Selective use of some wild-harvested seed could be included in the detailed landscaping scheme at some locations – this would be finalised during detailed design and contained in the scheme submitted for approval under Requirement 8 of the draft Development Consent Order.

As described in the OLEMP [APP-267], the objectives will be to create a mosaic of early-successional habitats ranging from bare ground to a tight sward of species-rich low nutrient swards.

M & R Hosier response to 8.31

OLEMP [APP-267] MW-LAN4 Early planting: The main works contractor shall implement planting/seeding as early as is reasonably practicable (and where there is no conflict with construction activities or other requirements of the Scheme including Stone Curlew mitigation), so as to be more established in advance of the operation of the Scheme. The main works contractor will consider where these measures can be implemented as described and programme them accordingly."

The Applicant states that the area of grassland to be delivered with this Scheme is 186 ha. Normanton Down was reverted to grass in 2002 being 89 ha. The seeding rate to create calcareous grassland of the CG2-CG3 variety is 20 Kg/ha; therefore, 186ha would need 3,720 Kg of seed. This is just over double that needed for an area the size of Normanton Down Reserve. Therefore, we suggest the amount of seed is easily available and quality seed merchants such as Heritage Seeds have ongoing contracts with the MoD to brush-harvest seed. We do not feel it necessary or appropriate to use seed sourced outside of the locality.

Good practice would mean that the contractors would have to liaise with any seed supplier in advance of seeding, be it a brush harvested mix or an "off the peg" mix. Seed specialists like the suppliers we use have facilities to store seed ready for use.

Brush harvested native seed would be more suited to the soil make up of this area. Experience shows the height of grass and wildflower species are easily controlled by grazing.

Ultimately the success of the chalk grassland establishment in this area depends upon the soil phosphate index, yet we have found no mention of this in Scheme documents.

Matters raised M & R Hosier

9.7.14 Response to point 5

Management measures stated in OLEMP [APP-267] page 13, 7.1.2 and 7.1.3 are not methods that have been successfully proven on site at Normanton Down. A mowing regime is not beneficial to grassland establishment and is incredibly destructive to invertebrate biodiversity. Although not stated, we assume that invertebrates are the key species targeted for biodiversity. See M & R Hosier Written Representation Appendix 1 page 17, 6.6 to 6.12, page 19, 6.19 and 6.20.

We question what the 'other objectives' are that HE refer to as benefitting from the mowing of chalk grassland. Mowing as a management tool is unlikely to benefit any biodiversity, being destructive to invertebrates, small mammals, nesting birds such as skylark that need to undertake several nesting attempts during the season; mowing results in the loss of the entire habitat where it is undertaken.

The Applicants response

As detailed on page 1 of the Butterfly Conservation Written Representation [REP2-193], they are supportive of the habitat creation and management techniques that have been recommended.

"BC supports the proposals for chalk grassland creation as outlined in the submitted version of the OLEMP."

Butterfly Conservation highlight where suitable mowing and collection measures that have been successfully implemented during the habitat creation of the A354 Weymouth Relief Road, Dorset.

Management by grazing will be considered for incorporation into the Scheme as referred to at MW-BIO13 of the OEMP [REP3-006]. The locations to be managed by grazing will be confirmed through a combination of the detailed landscaping scheme to be submitted under Requirement 8 and the LEMP, prepared under the framework contained in the OEMP (MW-LAN1) [REP3-006].

Applying a range of management within the Scheme will be beneficial to overall biodiversity.

M & R Hosier response to 8.31

[Please see our comments under 9.5.6 above.](#)

Matters raised M & R Hosier

9.7.15 Question Ec.1.17 Stone curlew: Response to point iv) 5

OEMP [APP-187] various mitigation methods are proposed for limiting the impacts of construction works on Parsonage Down Stone curlew plot. Little detail is provided of what visual screening actually entails.

Page 24, Stone curlews b), planting areas of temporary bare ground with quick growing crop/wildflower/game cover. With correct planning the Preliminary Works would take place just prior to construction works in areas where Stone curlews have historically frequented, that way there would be no suitable habitat available for them to prospect for nesting ie bare ground.

Areas cleared for construction will presumably have no or little topsoil, so will not be able to quickly grow any crops. Having farmed the local land for three generations, we can say that establishment of quick growing crops is, in reality, not that quick to give coverage to such a level that Stone curlew would be deterred from nesting. Crop establishment could take four or five weeks under good growing conditions and with normal levels of topsoil.

The Applicants response

Mitigation measures to be implemented in respect of stone curlew are contained in PW-BIO5 and MW-BIO8 of the OEMP. Such measures include the carrying out of works in accordance with method statements where those works have the potential to disturb breeding birds and liaison with RSPB should stone curlew be found within the Scheme boundary or a 500m buffer zone, to determine the most appropriate measures to be implemented to avoid disturbance.

Maintaining areas with soil and dense crop or grass is one of the means by which a contractor would be able to minimise the likelihood of stone curlew occupying areas required for construction. Once topsoil stripping and excavation of the Scheme commence, the construction activity within the order limits would be a deterrent to stone curlew establishing territories there.

M & R Hosier response to 8.31

Within updated PW-BIO5 and MW-BIO8 of the OEMP one of the means the contractor would mitigate for Stone curlews occupying the Scheme does now state areas could maintain dense crop or grass. However, we disagree with the statement that once topsoil stripping and excavation of the Scheme commence, the construction activity within the order limits would itself be a deterrent to Stone curlew establishing territories there. We doubt this due to the nesting occurrence in summer 2018, where despite archaeological activity taking place, Stone curlews did take advantage of the bare ground and nested during the archaeological survey at the western portal area. It is therefore likely that during the construction period of the Scheme there will be at least one if not more instances where Stone Curlews will nest within the Scheme area. This is a good example of where my knowledge and experience could have been taken into consideration by the Applicant. I had predicted that bare ground in the breeding season during the archaeological survey would attract nesting birds. It is disappointing that lessons from last summer's survey have not been learned and incorporated into the OEMP measures.

Matters raised M & R Hosier

9.7.16 Question Ec.1.18 Stone curlews: Response to point i) 1

We question why HE have not used the software package known as Stone-Curlew Access Response Evaluator (SCARE) modelling to aid the evaluation of the impact of specified disturbance at Normanton Down reserve which was developed by Taylor et al. [5]. The current situation of unknown level of disturbance caused by the new scheme would cause to affect the breeding Stone curlew at the Reserve is unsatisfactory.

Taylor et al report [5] research found that people on foot disturbed Stone Curlews at 450m but this is only a guideline, and that if the disturbance has not been regularly encountered before some disturbance can occur at distances of greater than 300m. Our personal experience has found that not all pairs of Stone Curlew follow these guidelines. Therefore, to promote the biodiversity benefits of the scheme we suggest a 'buffer zone' of 500m as a minimum should be adopted as best practice,

especially when taking into account the unknown level of recreational disturbance being encouraged into the southern half of the WHS.

The Applicants response

The Stone-Curlew Access Response Evaluator was not used in this scenario as it was considered that use of information gathered by the RSPB over the past 11 years within the area was sufficient. It has been agreed within the SoCGs with Natural England and the RSPB that the information to inform the Environmental Statement was suitable and proportionate to the scope of the Scheme.

The OEMP has been amended (in PW-BIO5 and MW-BIO8) to refer to a buffer zone of 500m from the scheme boundary, within which measures need to be taken should stone curlew be found during construction. Liaison will take place with RSPB to determine the most appropriate measures.

The measures that have been incorporated into the Scheme (replacement and enhancement measures) are considered suitable measures for any disturbance impacts associated with the operational phase of the Scheme. Discussions are ongoing with Natural England and the RSPB with regards to the reaching formal agreement on these measures.

M & R Hosier response to 8.31

There is no documentation within the OEMP outlining an appropriate suite of measures to be adopted should Stone curlews nest within the Scheme, there are only references to ECoW liaising with RSPB or Natural England. There is no certainty that the “appropriate specialists” will actually have adequate experience of working with Stone curlews. As such the OEMP remains lacking.

There are no measures within the Scheme for a replacement plots should Stone curlew be deterred from their breeding plots on Normanton Down Reserve due to increased recreational pressures with the potential for fence lines to be breached and entering the Reserve . RSPB has a legacy gain at Winterbourne Downs reserve, but have said that this is not mitigation for the pairs of birds at Normanton Down. See RSPB Written Representation [REP3-013]

Possible mitigation of downgrading of byways shows no understanding of the Stone curlew behaviour as it is the presence of people on foot with dogs that are the biggest disturbance factor. Enhanced fencing is wholly inadequate as fencing is easily cut or breached by people climbing over.

By advertising the southern area of the WHS for roaming and exploring once the Scheme is in operation, the Applicant is putting Annex 1 breeding birds at Normanton Down at risk, in breach of the Habitats Regulations.

Matters raised M & R Hosier

9.7.17 Response to point ii) 3

As evidenced by the Stone curlew that nested on the Archaeological Survey area at the western portal during 2018, it is imperative that Ecology Clerk of Works and ecology team has a good understanding of Stone curlew behaviour with previous experience. Even experienced staff can find the birds challenging to locate on occasions due to the birds’ camouflage.

The Environmental Statement states that monitoring will continue until Stone curlews are no longer utilising the nest site. This shows a lack of understanding of species behaviour; Stone curlew breeding can span 68 days; 26 days of incubation and up to 42 days of chick rearing [6]. Chicks are entirely dependent on their parents for food and foraging will occur within 3km of the nest [7]. Regulations within the Wildlife and Countryside Act 1981 (as amended) protect all nesting birds during their breeding cycle; this includes feeding of young until fledging. HE should recognise that if Stone curlew nest within the construction area, works will have to cease for a period of up to 10 weeks to comply with legislation.

Environmental Statement chapter 8 biodiversity [APP-046] page 8-57 para 8.9.35 notes the potential for disturbance if birds are foraging in the area of the scheme. This is recorded as a 'low frequency occurrence', but from our experience the birds are frequently drawn to this area to feed on the invertebrates associated with the outdoor pig unit. This is especially noted during the late summer months when the birds are feeding their young.

The Applicants response

To clarify, stone curlews will no longer be considered to be utilising the nest once all of the chicks are no longer dependent on the nest.

The monitoring of nest usage would continue until then. This may extend beyond a 10-week period or before, depending on the status of the nest. As stated in PW-BIO5 and MW-BIO8 an appropriate specialist will undertake the stone curlew monitoring.

The pig unit would remain within foraging range for stone curlew so the foraging opportunities would not be lost.

M & R Hosier response to 8.31

To clarify, Stone curlew chicks are entirely dependent on their parents for food and do not fledge (cannot fly) until between 36 and 42 days after hatching. Whilst parents will lead their chicks to rich food source areas, they will be unable to move them over a long distance. If they were required to do so, it would be putting the chicks' survival at risk. It should be recognised that that if construction traffic move within a 3Km radius of the nest site, the chicks will be at risk of being run over. They will not be seen. Prior to fledging, their response would be either to squat motionless on the ground, or to run and squat down. Either way it would be disastrous. If monitoring is only to take place while young are in the nest how will the contractors know that there are NO vulnerable Stone curlew chicks within the area? To comply with the Habitats Regulations, we would like to see the OEMP updated to take account of the 3 km foraging radius.

Matters raised M & R Hosier

9.7.18 Question Ec.1.20 Impact on habitats: Response to point 2

Ground investigations and archaeological surveys have been supervised where appropriate by an Ecology Clerk of Works. However, due to the ecology team being inexperienced regarding behaviour of Stone curlew, the RSPB Stone curlew team were called on a number of occasions to teach them the necessary Stone curlew behaviour signs and locate the birds when they could not be spotted. It is alarming that being a high profile species that there were not adequate experienced staff on the ecology team. We question how and who will assess the main contractors' ecology staff to ensure they have relevant and adequate knowledge with key species.

Our request for a copy of the written document detailing measures to be adopted should Stone curlew breed within the area were never provided. Instead this was covered by a paragraph in an email stating that RSPB did not consider that a Stone curlew would nest in the survey area. From that we deduce that there was no document in respect of nesting Stone curlews within the survey area detailing mitigation.

The Applicants response

See response to item 40.4.8 in the Comments on Written Representations [REP3-013]. The ground investigations and archaeological surveys were supervised by an Ecology Clerk of Works (ECoW), with several staff overseeing the works in this capacity in different areas. It included staff with prior experience of working with stone curlew. It was a member of the ECoW team who identified stone curlew breeding behaviour in an area formerly used for pig farming. When that area was in use by pigs it would have been unfavourable for nesting due to the high risk of loss of eggs to predation by pigs and by the crows which are attracted to food in the pig enterprise.

In addition to the work of the ECoW, Highways England has been working closely with the RSPB. It was stated within the method statements for the works that should stone curlew be identified within 500m of the working area the RSPB would be consulted. During this time Highways England and the RSPB worked in close collaboration.

“I would consider the response to the breeding attempt to be an excellent example of organisations working well together with the common objective of affording the nesting attempt the best chance of success. This augers well as it is possible this situation could arise again given the nature of the groundworks over the course of the scheme.” (RSPB personal comms date 18th July 2018, Mrs Rachel Hosier CC'd).

It should be noted that consultation with the RSPB, should stone curlew be identified within the Scheme boundary or within the 500m buffer zone, forms part of the stone curlew disturbance avoidance measures as detailed within the OEMP [REP3-006].

M & R Hosier response to 8.31

We find the Applicants comments that ECoW staff did have experience working with Stone curlews surprising, as RSPB was called in to help with locating the breeding birds on a number of occasions and had to explain the behaviour being exhibited by the birds. (Pers comm RSPB). If there had been one operative within the team that had Stone curlew experience, we ask why they were not tasked to monitor the breeding pair.

Mr Sheldrake as part of the RSPB organisation is bound by company protocol. I would suggest that the purpose of his email was to establish a good working relationship with the Applicant in order to ensure they agreed to adequate mitigation for Stone curlews under Habitats Regulations. It now appears Mr Sheldrake's email was in vain as the Applicant has proved unwilling to adopt appropriate mitigation set out within the RSPB's Written Representation, in respect of both the construction and in combination effects of the Scheme on Normanton Down Reserve.

Prior to the start of the 2018 archaeological investigations within the area of the western portal and green bridge 4 we flagged up the risk that Stone curlews would nest within the survey area. This was specifically due to the pig enterprise being forced to vacate the area during the breeding

season, leaving a vast expanse of uncropped land which was ideal Stone curlew breeding habitat. Stone curlews do nest in outdoor pig units, where the rotation of areas within the unit makes it possible to provide them with the space to nest away from sows. As with the nesting attempt in the archaeological survey area, there is a higher risk of predation by crows so it is not satisfactory situation, hence we attempted to alert the Applicant to this very real issue at the start of the survey.

Our request for a copy of the written document detailing measures to be adopted should Stone curlew breed within the area have never been provided. We therefore take this to mean that there never was a protocol produced prior to the 2018 ground surveys. As such the Applicant has already failed to meet Habitats Regulations for Stone curlews. This experience leaves us concerned that future mitigation in respect of Stone curlews will be inadequate.

Matters raised M & R Hosier

9.7.19 Our holding has proved very important for the Great Bustard reintroduction project and we have had both visiting and nesting Great Bustard on our land, we have a vested interest in protection of this species.

We also note that HE did not consult with the Great Bustard Group (GBG pers.comm) prior to commencing the archaeological surveys on the landscape in Spring 2018. GBG were not informed of where the surveys would take place or how long they would last. GBG were not asked if Great Bustards were prospecting in those areas for nesting and GBG were given no contact details for the ecology clerk of works. Furthermore, there were no discussions with GBG regarding what procedures HE surveyors should follow should a Great Bustard be found to have put down a nest during the survey period. This is a gross error being that Great Bustard is also a Schedule 1 bird covered by the Wildlife & Countryside Act 1981.

The Applicants response

PW-BIO5 and MW-BIO8 within the OEMP [REP3-006] have been updated to include Annex 1 species. In the revised version of the OEMP submitted at Deadline 4, further clarification has been included to detail that the measures in PW-BIO5 and MW-BIO8 will be extended to include great bustard. Additional to this, the Great Bustard Group will be consulted during the construction phase (MW-BIO8) and this will be included within the updated OEMP submitted at Deadline 4. These measures are considered suitable to avoid disturbance of great bustard. It should be noted that there was consultation with the Great Bustard Group by telephone and email in April 2018 prior to the commencement of archaeological surveys around Longbarrow junction.

M & R Hosier response to 8.31

As stated at Issue Specific Hearing Biodiversity on 14th June (yet not included in the Applicants summary) there are still areas in PW-BIO5 and MW-BIO8 that need further information.

Although there has been an update of OEMP at deadline 4, there are still areas that require addressing. There is a need for proper dialogue with GBG to determine appropriate disturbance criteria and screening measures required for Great Bustards.

PW-BIO5 as at deadline 4

Reporting criteria needs amending to “monitoring and reporting arrangements developed by the ECoW in consultation with Natural England, RSPB AND the Great Bustard Group (as appropriate), and approved by the Authority.

Following discussion with GBG, mitigation measures for Great Bustards are also to be included.

Preliminary Works Contractor to demonstrate they have personnel included within the Ecology team that have gained satisfactory experience, through consultation with GBG, to ensure the necessary skills to detect and monitor the species should Great Bustards nest within the survey area.

MW-BIO8 as at deadline 4

There is still a need for meaningful dialogue with GBG to determine suitable visual screening for the Great Bustard species along the length of the scheme.

There is a requirement for a list of measures to be put in place in the event of any nesting Great Bustards in the proximity of the Scheme.

Reporting criteria to needs to be changed to “Monitoring and reporting arrangements developed by the ECoW in consultation with Natural England, RSPB AND the Great Bustard Group (as appropriate)”.

Mains work contractor to demonstrate they have personnel within the Ecology team that have gained satisfactory experience, through consultation with GBG. Ensuring the necessary skills to detect and monitor the species should Great Bustards nest within the survey area.

Matters raised M & R Hosier

9.7.20 Question Ec.1.22 Great Bustards: Response to point i) 2

There seems to be no consistent approach in respect of the Great Bustard and how it is considered within the scheme. There are very few references to this species:-

- Appendix 8.1B Biodiversity [APP-233] the species is noted of National Importance /High Value. It is also listed under Annex 1. Annex 1 birds are given additional protection under European law being a species for which an SPA can be designated.
- The UK population of Great Bustard is currently only found within the Salisbury Plain area, being the location of the Great Bustard Recovery Project.
- The Scheme is billed at delivering biodiversity benefits and yet it seems to continually overlook the Great Bustard despite it being a very high-profile species nationally and one that visitors to the area are keen to spot.
- The Environmental Statement chapter 8 Biodiversity [APP046] table 8.7 Summary of the study area for likely important biodiversity features does not include the Great Bustard.
- There were no field study methods or dates of survey recorded in table 8.8 as per other noteworthy species. Page 8-36 table 8.12 Summary evaluation of species and species assemblages does include the Great Bustard, with page 8-39 referring to the area as ‘the only known population within the UK’. We question why, considering their conservation status and when Great Bustard are

observed as being largely limited to the south of the existing A303, that no surveys have been carried out in relation to the species?

The Applicants response

See response to item 40.3.18 in the Comments on Written Representations [REP3-013].

Although the great bustard is not currently afforded protection under Schedule 1 of the Wildlife and Countryside, status of the population was given recognition as nationally important in the Environmental Statement Chapter 8 Biodiversity [APP046].

The assessment is summarised in paragraphs 8.9.141-8.9.144 [APP-046]. It is not feasible for the Scheme to provide biodiversity net gain for all species and habitats. Only land which is essential for the Scheme for one or more purposes can be taken by compulsory acquisition. Within those limits, the Scheme will provide new habitats to benefit biodiversity, mainly that associated with chalk grassland. It was considered that the habitats created within the Scheme would be too close to the A303 to be attractive as nesting areas for great bustards.

Whether the more extensive new chalk habitats at East Parsonage Down would attract great bustard to feed would depend on subsequent management. The Applicant did not assume that great bustard would nest at East Parsonage Down and did not state this as a benefit of the Scheme. On the MoD land on Salisbury Plain the Great Bustard Group has found that great bustard will nest on plots provided for stone curlew, as well as foraging on arable and on other grassland (site visit with GBG, April 2019) but there is uncertainty as to whether great bustard will colonise other breeding plots provided for stone curlew in the Wessex area (approximately 250 available in 2018, according to RSPB and Natural England).

It is only necessary to carry out site-specific surveys for species and habitats where there is a lack of suitable data to inform an environmental assessment. With rare bird species that are easily disturbed and for which there is ongoing monitoring in place, it is not appropriate to duplicate survey effort. When the Great Bustard Group was first approached in October 2017, there was no request to carry out surveys in addition to the data the group provided. Natural England and RSPB were satisfied with the scope of the bird surveys carried out to inform the environmental assessment.

M & R Hosier response to 8.31

Although quoted as “*not protected under the Wildlife and Countryside Act*” the Great Bustard appears in Categories AE* of the Official Bird List as managed by the British Ornithologists Union, last updated December 2017. Category A indicates a species that has been recorded in an apparently natural state at least once since 1st Jan 1950 (this can apply to a rarity turning up in the UK once), E indicates non-sustaining introduced species, with * indicating that the species has bred in the wild in Britain. As there are 22 females breeding in the wild, some of which were born in the wild (GBG Pers. Comm) therefore destruction of nests, eggs or chicks would be a matter for the courts to decide. We would hope therefore, that a responsible developer would treat this Annex 1 species with the same regard as any other bird breeding in the wild. Its lack of inclusion with the Applicants species list to date has suggested otherwise.

We understand it is not possible to provide biodiversity net gains for all species and habitats. But HE has a moral responsibility to ensure that during the construction of the Scheme and once the Scheme is operational, that there should certainly be no detrimental impacts to Annex 1 birds. The Great Bustards reintroduction programme has already been supported by government money so there would be a duty to ensure this is not compromised.

We agree that the proposed grassland in proximity to the A303 is inappropriate for GB nesting, yet [REP3-013] seemed to suggest that the area would provide benefits to the species believing the birds to be an open grassland plain species. We now know that the Scheme is not targeting species rich biodiversity within the location of green bridge 4 and the western portal.

The Applicant allegedly states that they have consulted with GBG. We struggle with this comment. If the Applicant had consulted with GBG, then why is there so little information relating to this Annex 1 species within the documents? Either the Applicant has chosen not to consult fully with the GBG, or they have made a conscious decision not to include information relating to GB within the documents.

The Applicants statement that Natural England and RSPB were satisfied with the scope of the bird surveys carried out to inform the environmental assessment again shows a lack of understanding of the Great Bustards. Natural England and RSPB both stated at the Biodiversity Issue Specific Hearing that they had not had much involvement with the Great Bustard species, as such neither organisation is in a position to comment fully on the species.

On a number of occasions the GBG have tried to make contact with the Applicants ecology staff, so it is likely that the approach noted on 25/10/17 was either at a public consultation event or when GBG have tried to telephone the Applicant for more information, or even at the Community Forum events in an effort to establish a contact. See M & R Hosier response to 8.18 Comments on Written Representations

In respect of paragraph 5, the Applicant deems it unnecessary to carry out site specific surveys in relation to the GB species. The lack of reference within the documents show that there is a lack of information to provide adequate baseline assessment of the species. The GBG have no need to carry out their own surveys on the birds in relation to disturbance responses as they have never been put in a position to justify the area used by the Great bustards. As such, it is the Applicant that is responsible, in discussions with the GBG, to carry out surveys to assess disturbance to ensure there is no disturbance short or long-term on the GB species. Similarly, it is not the job of GBG to request surveys on their species, the Applicant behaving responsibly should ensure that all potential biodiversity aspects are fully assessed.

We are pleased that the Applicant has now started dialogue with GBG, but waiting until April 2019 is unacceptable delay.

Matters raised M & R Hosier

9.7.21 Response to point ii) 3

The GBG have had to rely on one of their landlords for an introductory meeting with HE consultants, with minimal follow up engagement and no formal surveys carried out in relation to Great Bustard (GBG Pers.comm). The lack of regard shown by HE for such a high-profile and protected species within the Scheme area is unsatisfactory. There has been a serious lack of communication with GBG

– so we fail to comprehend how HE can comment that no nest sites would be lost to the proposed scheme; HE consultants have not taken the opportunity to learn about the habitat and behaviour of the species, nor we assume the legislation surrounding it.

Environmental Statement chapter 8, Biodiversity [APP-045] page 8-76 Great Bustard paragraph 8.9.144 Disturbance. This paragraph shows a lack of understanding of the behaviour of Great Bustard, noting that the birds would not be disturbed by construction as they were already used to traffic from an existing major road. There is a vast difference between road traffic and construction traffic. The presence of large machines in the hitherto undisturbed arable areas where the birds have previously nested will be a significant disturbance resulting in the displacement of breeding Great Bustard. Construction traffic will be operating within the landscape day and night, large machines with warning alarms and flashing amber beacons together with a marked increase in human presence supporting high viz jackets is not a ‘temporary adverse impact’. This statement has been made with no engagement with GBG (GBG Pers. comm).

The Applicants response

See response to item 40.3.18 in the Comments on Written Representations [REP3-013].

There had been correspondence with the Great Bustard Group by telephone and email in October 2017. Prior to a date being arranged for a one-to-one meeting with the Great Bustard Group, members of the project team met with Mrs Hosier in early November 2017 on her farm. Mrs Manvell from the Great Bustard Group also attended this meeting. During the site visit there was an opportunity to see great bustards on a winter cereal crop and to discuss the species.

The 2016-2017 breeding bird surveys [APP-255] and nesting data obtained from the Great Bustard Group was considered to provide a suitable baseline for the ecological assessment of the Scheme. The scope of the baseline has been agreed with the statutory and non-statutory consultees, including Natural England, the RSPB, and Wiltshire Council. The baseline data indicated only five confirmed great bustard nesting sites within the study area at that time, the majority of which were located to the south of the Scheme.

Further engagement with the Great Bustard Group will be undertaken in order to obtain updated data on the nesting birds, as it is understood from the issue specific hearings that new nest locations have been identified since the production of the Environmental Statement.

PW-BIO5 and MW-BIO8 within the OEMP [REP3-006] have been updated to include Annex 1 species. In the revised version of the OEMP submitted at Deadline 4, further clarification has been included to detail that the measures in PW-BIO5 and MW-BIO8 will be extended to include great bustard. Additional to this, the Great Bustard Group will be consulted during the construction phase (MW-BIO8) and this will be included within the updated OEMP submitted at Deadline 4. These measures are considered suitable to avoid disturbance of great bustard. It should be noted that there was consultation with the Great Bustard Group by telephone and email in April 2018 prior to the commencement of archaeological surveys around Longbarrow junction.

The potential increase in recreational disturbance is unlikely to have a detrimental impact on the local population of great bustards. However, they are less likely to nest within the close proximity of the PRow. This is unlikely to impact the integrity of the local population due to the large expanses of retained areas.

M & R Hosier response to 8.31

We struggle to understand how the Applicant can build a baseline assessment of the GB species on a single breeding bird survey and consultation with Natural England, RSPB and Wiltshire Council. At the Issue Specific Hearing on Biodiversity, RSPB and Natural England confirmed that they did not have broad understanding of the GB species, yet this point has not been included in the Applicants summary of the meeting. The people representing these organisations at the Hearing have had little or no dealings with the GB species, so for the assessment to have been appropriate, there would be a need to have a number of meetings with the GBG rather than the scraps of telephone conversations that are alluded to.

Incidentally, ES Chapter 8 Biodiversity [APP-046] shows there are only 2 meetings in 2017 with GBG, one of which was when I invited GBG along. All the other stakeholders have “various” meetings throughout 2017 and 2018 with the exception of landowners.

The GBG were frantically trying to make contact with the Applicant’s ecologists at the start of the 2018 archaeological surveys as these were taking place in the location of known Great Bustard breeding areas. Despite GBG efforts, the ecologists were evading their request for information. (Pers. comm. GBG). It should be the Applicant that makes contacts with all relevant bodies, not the GBG continually trying to get their case heard.

It is not possible for the Applicant to say that increased use of the recreational disturbance will not have an impact on the Great Bustard population as they have not, until recently, begun discussions with the GBG.

Matters raised M & R Hosier

9.7.22 Response to point 4

Environmental Statement chapter 8 Biodiversity [APP-045] page 8-44 para 8.8 Design, mitigation and enhancement measures. 8.8.1 ‘The Scheme incorporates measures that have been embedded into the design to mitigate adverse effects on biodiversity features and compensate for the loss of habitats by the creation of new areas of habitat within the Scheme. It also includes working practices which would avoid impacts and provide mitigation for important biodiversity features during construction and operation. These measures have been identified and developed through the EIA process, including consultation with stakeholders and statutory bodies. The following sections outline the measures and how they would minimise the impact of the Scheme on biodiversity. Details are provided in the Environmental Masterplan (figure 2.5) and OEMP.

There are no direct statements within the OEMP [APP-267] for working criteria or mitigation in relation to Great Bustards as inferred in the HE response.

Page 47 MW-BIO 1 Table 3.2 (a) mentions Protected and notable species, however, Great Bustards are omitted. Page 26 PW-BIO10 lists “other notable species” but Great Bustards are omitted.

HE response infers that Great Bustards will be afforded the same protection as Stone Curlew as they are an Annex 1 species with similar legal protection, but this is omitted from the OEMP.

The Applicants response

PW-BIO5 and MW-BIO8 within the OEMP [REP3-006] have been updated to include Annex 1 species. Great Bustard is an Annex 1 species but is not listed on Schedule 1 of the Wildlife & Countryside Act. Further clarification will be included within the revised OEMP in respect of disturbance avoidance measures to be implemented for great bustard. Additional to this, obligations in respect of liaison with the Great Bustard Group have been included in the revised OEMP. These measures are considered suitable to avoid disturbance of great bustard.

With regards to the survey information, the scope of the survey data presented as part of the DCO application was considered suitable and proportionate to the Scheme. This has been agreed with statutory and non-statutory consultees, including Natural England, the RSPB, and Wiltshire Council. As detailed above, obligations in respect of further engagement with the Great Bustard Group have also been included in the revised OEMP.

The Public Rights of Way (PRoWs) proposed to be delivered by the Scheme are to be suitably fenced where necessary, as secured by P-PRoW2 in the OEMP. This will separate PRoW users from private land, as such, it is unlikely that users will be brought close to areas currently used by great bustards by any of the new PRoWs. The mitigation measures and embedded design included within the Scheme are considered suitable to avoid impacts on the local great bustard population.

M & R Hosier response to 8.31

As agreed at Issue Specific Hearing Biodiversity, the OEMP PW-BIO5 and MW-BIO8 will need updating following discussions with GBG as well as Natural England and RSPB to ensure that measures included are appropriate to the species. The revised OEMP at deadline 4 has improvements, but there are still areas that need revisiting, see point 9.7.19 above.

As already stated above in point 9.7.19, at the Issue Specific Hearing, Natural England, RSPB and Wiltshire Council admitted they did not have a deep understanding of the Great Bustard species. Therefore, they are not able to comment on the scope of the survey data presented as part of the DCO application was considered suitable and proportionate to the Scheme. But we are pleased to note that the GBG will now be able to feed in correct information.

Paragraph 3 relating to PRoWs shows a continual lack of understanding of the Great Bustards. Whilst the fencing along the PRoWs may separate users of the paths if barbed wire and stock netting is used, this does not form any visual barrier for the Great Bustards. It is both the sight and sound of general public and dogs using the byway that is the issue, (GBG Pers. Comm), as well as the potential for users to breach fences into the wider landscape.

Matters raised M & R Hosier

9.7.23 Response to point 5

There has been no true assessment for the Great Bustard species involving the Great Bustard Group, therefore it is an inaccurate statement that the Scheme will not be a threat to the success of the reintroduction project.

To correctly assess claims that creation of additional grassland habitat at Parsonage Down would have a benefit for the Great Bustards, would require both consultation with the GBG and survey work to be undertaken – both of which have not occurred.

No work has been done to establish the disturbance response of Great Bustards to general public, with or without dogs, and to traffic volumes. We believe the area is to be open access so these surveys are crucial. Again, consultation with GBG would have corrected the assumption (dictated by Natural England) that Great Bustard is a solely grassland species. It is well documented by other countries with surviving Great Bustard populations that the species requires both arable and grassland habitats.

That Great Bustards do not currently frequent Parsonage Down is not understood, but a fact which should be considered relevant with investigations undertaken to determine why the birds do not choose the area.

The reference to the presence of green bridges as being of benefit to the Great Bustard also shows a lack of understanding of the birds' behaviour. As the largest British flying bird, they have no need of green bridges to expand their habitat. The bridges also include byways for general public which would result in the birds actively avoiding these structures.

References to the A303 being in a tunnel as encouraging the dispersal of the Great Bustard into the wider landscape shows a lack of understanding of the birds' behaviour. The A303 road is not a barrier to Great Bustards as they already fly over the road at heights well above high sided lorries. The birds will not disperse into the area as it is an open access landscape with people and dog disturbance.

The Applicants response

See response to item 40.3.18 in the Comments on Written Representations [REP3-013].

It is acknowledged that great bustard is not solely a grassland species and the use of arable in the Wessex area is recognised and was discussed with the Great Bustard Group during consultation in 2017. As stated within paragraph 8.9.143 of the Environmental Statement [APP-046], both arable and open grassland are both considered to be suitable great bustard habitat.

Great bustards are unlikely to be at risk from direct mortality associated with traffic (paragraph 8.9.223 of the Environmental Statement [APP-046]). The green bridges have therefore not been included within the Scheme as embedded mitigation for great bustard.

It would not be considered necessary to undertake studies to determine why a recently re-introduced species has not colonised an area of land (in this case Parsonage Down) within the large expanse of Salisbury Plain and the Wessex area and whether this is due to the individual site being unsuitable or simply a reflection of the scatter of the founder population at the present time. Further investigations into this are not considered necessary for the Scheme.

[M & R Hosier response to 8.31](#)

[Having already noted paragraph 8.9.143 of the Environmental Statement \[APP-046\], we were puzzled by the Applicants response to the Inspectors Written Questions at Deadline 2 EC1.22 ii\) 3 referencing chalk grassland creation being used by GB for feeding areas once the Scheme was in operation.](#)

[Environmental Statement \[APP-046\] paragraph 8.9.22 states:](#)

Great Bustards

Great Bustards are unlikely to be at risk from direct mortality as they are considered to be an open grassland plain species that tend to avoid steep terrains and hedgerows. As such, they are unlikely to access the soft estate or be at risk from direct mortality caused by vehicles.

We agree that the GB are unlikely to be at risk from direct mortality associated with traffic. Which was why we struggled with references in the Applicants response to the Inspectors Written Questions at Deadline 2, question EC1.22 ii) 5, with references to Great Bustards requiring green bridges to disperse in the wider area.

If the Scheme has not included green bridges as part of the embedded mitigation for Great bustards what specific points have been included for embedded mitigation?

Matters raised M & R Hosier

9.7.24 Response to RSPB WR- Deadline 2 [3]

We are pleased to note the recent clarification by the RSPB, which support the concerns made in our WR [2].

The RSPB has highlighted that Highways England have an obligation to avoid impacts on the breeding stone-curlew population. The RSPB also agrees with the Statement to Inform Appropriate Assessment which states that:

The operation of the A303 may facilitate recreational disturbance of stone curlew at Normanton Down. The placement of the A303 in tunnel at this location will open up the area to recreational activity, potentially resulting in recreational users on the footpath through Normanton Down crossing the fence-line and disturbing the stone curlew plots. [2].

The Applicants response

See response to item 30.1.1 and 30.1.2 in the Comments on Written Representations [REP3-013]

M & R Hosier response 8.31

We are pleased to note that the Applicant agrees with our statement as well as the Written Representation from RSPB. However, they are unwilling to follow RSPB advice on mitigation measures in respect of Normanton Down Reserve. Only improved fencing was put forward at our March 2019 meeting with the Applicant, yet they seemed confused over the need for this. We were informed that fencing was not a necessary requirement for the Scheme, just something we may like to have, yet under RSPB written representation this fencing is noted as a condition for Habitats Regulations consent.

The Applicant has chosen to answer all the above questions, but has not answered questions relating to landscape and visual views from green bridge 4 and views of the western portal. We look forward to seeing the photomontages in due course.