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31 January 2017

Dear Sir or Madam,

**NATURAL RESOURCES WALES RESPONSE TO:  
THE M4 MOTORWAY (JUNCTION 23 EAST OF MAGOR TO WEST OF JUNCTION 29  
CASTLETON AND CONNECTING ROADS) AND THE M48 MOTORWAY (JUNCTION 23  
EAST OF MAGOR CONNECTING ROAD – DECEMBER 2016 ENVIRONMENTAL  
STATEMENT SUPPLEMENT**

**1. INTRODUCTION**

Thank you for the opportunity to comment on the December 2016 Environmental Statement Supplement (“the December ESS”). This letter should be read in conjunction with our letter of 4 May 2016 (“the May Letter”) in response to the publication of the Environmental Statement (ES) in March 2016, and our letter of 18 October 2016 (“the October Letter”) in response to the publication of the ES Supplement in September 2016 (“the September ESS”).

Natural Resources Wales’ (NRW’s) comments on the draft Orders, ES, the September ESS, the December ESS and other relevant documents, are made in the context *inter alia* of our role as a statutory consultation body under section 105B of the Highways Act 1980, Statutory Nature Conservation Body under the Conservation of Habitats and Species Regulations 2010 (as amended) as further amended by paragraph 189 of the Natural Resources Body for Wales (Functions) Order 2013, and as advisers to the Welsh Government (WG) on matters pertaining to the natural heritage of Wales and its coastal waters.

**2. NRW’S POSITION**

NRW has considered the additional information, published as the December ESS, and this has enabled NRW to alter our view, as originally expressed in the May Letter, with respect to great crested newts (GCN) and water voles. Provided that proposals as set out in the

respective Mitigation Strategies for these species are fully implemented, NRW is of the view that the proposal should not cause adverse effects on either GCNs or water voles.

However, having considered all the information provided, NRW is still unable to agree with the conclusions of the ES that adverse effects on dormice, bats and on the suite of Gwent Levels Sites of Special Scientific Interest (SSSIs) can be avoided.

NRW also considers that the proposal is contrary to WG's Technical Advice Note (TAN) 15: Development and Flood Risk.

NRW reserves the right to revise comments made here if and when additional relevant information is made available. We note that the Public Local Inquiry with respect to this proposal will start on 28 February 2017. At the time of writing, NRW is preparing to provide evidence to assist the Inquiry on a number of topics including those listed above. We remain committed to continuing discussions with WG both before and during the Inquiry process.

Further advice is presented below, with detailed comments on the material published as the December ESS given in Annex 1 to this letter.

### **3. PROTECTED SPECIES**

#### **3.1 General**

In the context of all protected species likely to be affected by the Scheme, NRW has concerns relating to:

- Timing of ecological works (including trapping and clearance of species) – NRW consider that these works should be undertaken in accordance with established best practice. Whilst we recognise that programming a project of this size and nature is immensely challenging, some of the proposals would appear not to constitute best practice in terms of timing, driven as they are by a July start date. As previously advised, where NRW has a licensing responsibility, including with respect to European Protected Species (EPS), we note that application proposals departing from accepted practice are unlikely to be licensed.
- Phasing of planting and habitat creation – we note proposals for post construction habitat provision as set out in the Environmental Management Plan drawings. NRW consider that a phased approach to planting and habitat creation would benefit a number of protected species, and request that this issue be addressed via a Commitment in the Register of Environmental Commitments.

#### **3.2 European Protected Species**

##### **3.2.1 Dormouse**

In the May Letter, NRW objected to the scheme pending the provision of a comprehensive dormouse mitigation strategy. We therefore welcome the provision of the 'Draft Hazel Dormouse Mitigation Strategy' as Appendix SS10.4 of the December ESS.

However, NRW considers that the Strategy does not set out how the proposals will ensure no detriment to the maintenance of the favourable conservation status of dormice in its natural range. As a result, and on the basis of the current information, NRW would not be able to issue an EPS licence for this species. Our concerns can be summarised as follows:

- Lack of demonstration that impacts on affected dormouse populations will be fully mitigated;
- Insufficient information that Coed Mawr has sufficient good quality habitat to support a translocation programme;
- Lack of detail on the re-planting strategy, including phasing and maturity of stock to be used; and
- Concerns with respect to captive breeding and the potential, exceptionally, to translocate dormice back into the wild 15-20 years after capture

Our detailed comments are provided in Annex 1.

### 3.2.2 Bats

In the May Letter, NRW objected to the scheme pending the following additional information about bats:

- Completion of outstanding bat surveys
- Provision of a bat mitigation strategy

In this context, we welcome the provision of the following appendices to the December 2016 ESS:

- Appendix SS10.2 'Bat survey 2016' December 2016
- Appendix SS10.3 'Bat Roost Surveys of Buildings and Structures 2016' December 2016
- Appendix SS10.5 'Draft Bat Mitigation Strategy', December 2016

NRW considers that the Bat Mitigation Strategy does not set out how impacts on bats could be fully mitigated. Our concerns can be summarised as follows:

- Lack of clarity on mitigation for bat roost loss, with respect to multiple non-breeding roosts;
- Lack of clarity on proposals for roost sites, and extent of vegetation clearance at Berry Hill; and
- Concerns with respect to mitigation for habitat severance and fragmentation in the context of commuting and foraging bats, specifically in the context of:
  - Lack of certainty of size of culverts and head room above Summer penning levels beneath the Scheme;
  - Lack of updated assessment taking account of any proposed changes to culvert sizes; and
  - Lack of clarity of planting proposals linked to crossing provision.

Our detailed comments are provided in Annex 1.

### 3.2.3 Great Crested Newt

In the May Letter, NRW objected to the scheme pending the provision of a detailed conservation strategy for GCN. We therefore welcome the provision of Appendix SS10.6 of the December 2016 ESS; 'Draft Great Crested Newt Mitigation Strategy'.

We note that the strategy includes the creation of two GCN Mitigation Areas to be managed favourably for GCN and within which new ponds will be created. We are satisfied that the measures set out in the draft Mitigation Strategy form an adequate basis on which to withdraw our objection relating to this species.

Notwithstanding this, there are a number of aspects of the proposals set out in the draft GCN Mitigation Strategy that we consider require clarification and further development both in the context of preparing the final mitigation strategy and in timing the ecological aspects of site preparation. These are detailed in Annex 1. We consider that these matters could now be agreed during the preparation of the final GCN mitigation strategy, the implementation of which could be secured through the Register of Environmental Commitments.

We advise that the applicant seeks an EPS licence from Natural Resources Wales under Regulation 53(2) e of The Conservation of Habitats and Species Regulations 2010 before the commencement on site of any works that may impact upon GCN.

## **3.3 UK Protected Species**

### 3.3.1 Water Vole

In the May Letter, NRW indicated that '*in principle NRW do not object to the proposals currently put forward for water vole*', but qualified this by stating that, as pre-construction surveys and detailed mitigation measures and methods of working were not yet submitted, it could not assess fully the impacts upon this species. NRW also advised that a comprehensive conservation strategy should be prepared.

We therefore welcome provision of the draft water vole Mitigation Strategy provided at Appendix SS10.7 of the December ESS. We acknowledge that a final strategy can only be drawn up closer to the commencement of construction, following survey to determine species distribution at that time.

We have a number of comments to make at this time which we advise are considered in the context of preparing the final mitigation strategy and in timing ecological aspects of site preparation. These are detailed at Annex 1. We are satisfied that these aspects could now be agreed as part of finalising the water vole Mitigation Strategy, or through other commitments contained within the Register of Environmental

Commitments, and therefore we are withdrawing our objection in relation to water voles.

### 3.3.2 Other Protected Species

We note that the new information includes reference to species such as badger and reptiles. NRW will consider issues relating to these species where requested through requirements set out in the Register of Environmental Commitments and/or at the time of a licence application.

## **4 GWENT LEVELS SITES OF SPECIAL SCIENTIFIC INTEREST**

### **4.1 SSSI Mitigation Strategy**

We note and welcome the publication of a revised SSSI Mitigation Strategy as Appendix SR10.35. NRW has advised on earlier iterations of this document and we recognise that many of our earlier comments have been taken into account in this latest draft. However a number of issues remain:

- Lack of clarity on the phasing of management works relative to the losses of existing SSSI area to the scheme;
- We note that, where not already in Welsh Government ownership, the areas of land in question (Maerdy Farm and Caldicot Moor) form part of the draft Compulsory Purchase Order. However, NRW consider that a commitment to undertake or fund appropriate ongoing management works in perpetuity is also required;
- We have concerns over the reduction in size of the proposed mitigation area at Caldicot Moor. Whilst we acknowledge that the overall area of land put forward within the SSSI Mitigation Strategy meets the criteria agreed with NRW, we are unclear how the management of the Caldicot Moor area can now be altered to mitigate for grazing marsh loss; and
- Lack of demonstration, for those parcels of land where protected species (including water vole, GCN and common crane) mitigation is also proposed, either within or on adjacent land, that the management requirements are compatible.

### **4.2 Water Quality**

We note the publication of a supplementary Water Treatment Area Design Manual for Roads and Bridges Risk Assessment as Appendix SS16.1. We understand that this does not replace the original version, published as Appendix 16.3. We consider that the overall conclusions of the two documents are not clear and therefore we have been unable to come to a view on whether we agree or not. We therefore request a clear and definitive statement of conclusions before we are able to advise further. Specifically, we recognise and wish to continue the ongoing discussions on water quality.

## **5 FLOOD RISK**

We note that no substantive information has been published with respect to Flood Risk in the December ESS. Therefore our view with respect to Flood Risk remains unchanged; NRW considers that the scheme is contrary to TAN 15: Development and Flood Risk in the context of tidal flooding.

## **6 REGISTER OF ENVIRONMENTAL COMMITMENTS**

We note and welcome the publication of an updated Register of Environmental Commitments. Our detailed comments are provided in Annex 1.

## **7. SUMMARY**

We welcome the publication of the December ESS, which has enabled us to withdraw outstanding objections with respect to GCNs and water voles. However NRW continues to object to the Scheme and intends to pursue outstanding issues as part of the Public Inquiry process.

This letter should be read in conjunction with the May Letter and the October Letter, in order to identify all of the issues with which NRW needs to be satisfied.

NRW remains committed to continuing dialogue with respect to the Scheme, including in developing Statements of Common Ground and in advising on the Register of Environmental Commitments, as a means of seeking to resolve outstanding issues.

Yours faithfully



**John Hogg**

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## NATURAL RESOURCES WALES' COMMENTS ON M4 CORRIDOR AROUND NEWPORT ENVIRONMENTAL STATEMENT SUPPLEMENT (DECEMBER 2016)

***NB The comments which follow are made in the order in which the topics are presented in the M4 Corridor around Newport December 2016 ESS document titled Main Text, with reference to relevant Appendices made at the point at which they are referred to in the Main Text***

### 2 PART A: ERRATA

#### Chapter 10: Ecology and Nature Conservation *Air Quality*

2.1.7: It is stated “As the Severn Estuary is designated as a marine habitat, the annual mean NOx objective for the protection of vegetation does not apply.” This is not strictly correct; the Severn Estuary is also of a special interest for its Atlantic salt meadow, but in the context of the location of this scheme, this feature would not be significantly effected

2.1.8 We note the construction phase impacts on Langstone Llanmartin Meadows SSSI, due to construction traffic, but note the temporary nature of this. The long term benefit through the reduction of NOx and N-dep will be a net gain.

2.1.9 as 2.1.8

2.1.10 we note that the maximum increase in N-deposition due to construction traffic is 0.1kgN/ha/yr. We agree with the conclusion that this is not significant for the relevant designated sites.

### 3 PART B: CLARIFICATIONS

#### 3.1 Buildability Report *Appendix SR3.1*

Overall, we welcome the proposal that the work areas will be continually bunded and all contaminated runoff directed to settlement lagoons prior to (permitted) discharge. We also welcome the proposal that for the majority of the construction there will be no soil stripping thereby minimising the mobilisation of solids.

#### Introduction

##### 1.5 Construction Programme

1.5.1 As indicated in comments on the pre-CEMP, we wish to highlight that ecological considerations may also play a part in construction periods and



programmed dates. We advise that this is added to the text at this point and acknowledged as a constraint in these terms.

### **Table 1.2 Construction Phasing**

We welcome the amendments made to this table which now has further details on sequencing of works including the mitigation measures required for the Gwent Levels SSSIs and for protected species. We recognise that this phasing is still indicative, but it does provide clarity on the timing and sequence of required operations.

#### General / site wide activities

Tatton Farm mitigation area. This section refers to grassland enhancements and seeding, for which preparatory works will commence Q2 2019 and finish Q3 2019. We note that the water vole strategy implies that hedgerow and scrub management will occur here to open up southern banks of watercourses, which is not referred to here. Similarly the creation of new ponds for GCN, which is an essential part of the GCN strategy and which will be required in advance of GCN trapping, is not referred to. The document should be amended to provide consistency.

#### Section 1 Castleton Interchange

1c refers to the removal of maternity bat roost at Berry Hill Farm. There is no reference to this in the bat mitigation strategy. Clarification is required as to what is to be removed and what will be delivered in mitigation.

1e refers to closure of badger sett including construction of new artificial sett before closure. Please note that NRW would anticipate that evidence of use of the new sett would be confirmed prior to closure of existing.

#### Section 2 – Wentlooge Levels

1a. We highlight the potential constraints associated with potential reptile clearance into October. Capture at this time will be dependent on weather/temperature. These comments also apply to Section 3, 1a; Section 4 1b, Section 5 1b

1b. We note that capture and translocation of water vole is proposed for either Sept – Oct 2018 and/or Feb – March 2019. There is no reference to displacement or timing of displacement here which also forms part of the water vole strategy. Please see our comments on timing in the water vole strategy. These comments are also relevant for Section 4.1.c

#### Section 3 – River Ebbw to River Usk

##### River Ebbw

1-3 we note the proposed timing of works in relation to the river Ebbw underbridge from Q3 2018 to Q1 2021. We request additional involvement in the development of the detail of these works such that impacts are minimised on the over-wintering redshank populations linked to the adjacent Severn Estuary Special Protection Area/ Ramsar site.



River Usk crossing

2 We note and welcome that sheet piling and bored concrete piling to the main towers of the cable stayed bridge must be complete outside of the fish migratory period. For clarity this would be April-June inclusive

#### Section 4 – Caldicot Levels

1d. This states 'Establish receptor site for great crested newt (GCN)' at WTA 10 in Q3 2018. We presume this refers to the mitigation area adjacent to WTA rather than WTA 10 itself. We seek clarification through revised text. We note that ponds created in this area will need a period of establishment before any aquatic phase GCN could be translocated into them.

We further note that timing of capture and translocation of GCN is stated July 2018 to September 2018 and March 2019 to September 2019; with local displacement to key construction areas in year 1 and translocation to permanent receptor sites in year 2. We would wish to highlight that the appropriateness of local displacement in year 1 will depend on the extent on several factors, including the extent and nature of the habitat to be affected and its place/position in the local environment.

### **2.2 Enabling/Pre-Construction Works**

2.2.12 – Bullet point 6 refers to a Flood Defence Consent. Please note that this has now been replaced with Flood Risk Activity Permit. This needs to be amended here and where relevant in other documents supporting the project.

## **4 Water Management**

4.3.2 We reiterate that any water sampling regime implemented to confirm that the settled water achieves required parameters should also have consideration as to what would occur if the water quality did not meet the required standards.

4.3.3 We note the intention to deposit the excavated material from the temporary settlement lagoons into the borrow pits, we advise that this will need to be tested for suitability of use, and that procedures put in place if any of the excavated material is found to be waste and not suitable for use in the project.

4.4.6 We note the statement that *"Due to the minimal longitudinal falls across the Levels, the bunded areas would act as lateral settlement lagoons. Silt fences and settlement weirs would be installed at reens to prevent runoff from entering the reens prior to settlement. Runoff would migrate to natural low areas within the bunded areas and would be pumped to the nearest WTA.* We request clarification of this statement as we consider that the silt fences and settlement weirs should not be required as all runoff should be pumped to the water treatment areas.

## **6 Utilities, Network Rail and Associated British Ports**

6.1.10 Welcome the proposed measures to protect foul sewers

6.1.14 Welcome the proposed measures to protect the Solutia pipeline

## **7 Earthworks**

We note that where possible the need to remove topsoil or break the upper soil layer across the Gwent Levels will be avoided limiting the amount of surface water run-off flowing over bare ground.

We note the intention to discharge to existing field ditches however this will only be possible if water quality is shown to be compatible with the SSSI features of interest. No contingency is described if the water quality did not meet the required standards.

## **8 Roadworks and Surfacing**

Haul road stabilisation works will require protection from causing pollution from contaminated surface water run-off (ie high pH from concrete products).

## **10 Gwent Levels**

10.2.1 We welcome identification of the main key constraints and the addition of those added since the publication of the original ES 2016.

10.3 We note that bullet point 2 refers to pre-construction surveys to confirm presence absence of various protected species following acquiring land entry. It is understood that land entry is likely from July 2018. Please note that if land entry is from July 2018, there will be very short period in which to survey, deliver mitigation sites and undertake translocation before most species become inactive. Please also note that this would mean also the amount of time available for dormouse survey would be insufficient to gain meaningful results.

We welcome the addition of Annex 7 which refers to a series of drawings depicting the sequence of construction activities. These drawings provide an important visual aid to the difficult construction works proposed across the Gwent Levels. They provide clarity on the timing and sequence of required operations necessary to protect the Gwent Levels SSSIs. NRW note the cross referencing to the Pre CEMP and refer you to our comments on this document.

10.3.12 We note that *“The new section of motorway crosses TATA Steelworks land used as reed beds and sludge lagoons for storage of sludges from their previous steelmaking operations. Accommodation works need to be undertaken to retain the integrity of their waste and water management system (for example and not limited to, the relocation of the reed beds and peripheral ditches network to allow the construction of the new section of motorway). The accommodation works related to the reed beds relocation would be commissioned before the earthworks were undertaken within this location,*

*thus removing a further obstruction to the transit of bulk materials east to west along the new section of motorway. We consider that this aspect of the proposal poses a high risk to the environment and as such we request continued discussion on the Pre-CEMP and flag that close liaison with NRW would be required during the undertaking of these proposed works*

### **3.2 Pre-construction Environmental Management Plan Appendix SR3.2**

#### **2.3 Construction Programme and Phasing.**

We note that it is anticipated main construction activities will begin in summer 2018 following a short 'mobilisation period'. We further note that it is acknowledged that 'programme dates and construction periods may be subject to change depending on factors such as the actual start date, weather conditions and engineering conditions' (Section 2.3.3). We wish to highlight that ecological considerations may also play a part in construction periods and programmed dates. We advise that this is added to the text at this point and acknowledged as an important constraint in these terms.

It would appear that all ecological mitigation required before construction is programmed to take place in a relatively short time frame. NRW wish to advise that ecological works (particularly trapping out and clearance of various species) should be carried out during the time periods agreed to be best practice and following best practice guidelines. Whilst we recognise that programming a project of this size and nature is immensely challenging, some of the proposals would appear not to constitute best practice in terms of timing, driven as they are by a July start date.

When it comes to delivery there are often changes in programmed timings to projects of this size and we accept that this may be the case here. We therefore wish to highlight this as a potential constraint and highlight particularly that timing proposals departing from best practice which are likely to be detrimental or undermine their effectiveness are unlikely to be licensed by Natural Resources Wales.

Table 5.1 9 The Gwent Levels SSSIs are not listed in the Ecology section of this table We request that they be added to Table 5.1.9 and that consideration is given to the likely impacts on the Gwent Levels SSSIs

6.4 We previously sought clarification on how the landscaping proposals would source local provenance native species including the possibility of a programme of growing on local provenance plants. This aspect of our comments has not been outlined in the revised CEMP

In addition we recommended that tree and hedgerow protection also be included in the CEMP, including a commitment to replacement as a result of damage.

6.5.56 we note and welcome the proposals with respect to tree clearance and bird breeding. We recommend that, where breeding birds are found during the course of construction works that a buffer of vegetation is retained which is sufficient to enable birds to remain on nest. We welcome that this issue is picked up in the Register of Environmental Commitments at number 64.

6.5.58-63 We note the reference to the Ground and Surface Water Management plan and refer you to our specific comments below. NRW welcome the addition of the reference to Annex 7 of Appendix 3.1 (buildability report) a series of drawings depicting the sequence of construction activities. These drawings provide an important visual aid to the difficult construction works proposed across the Gwent Levels. They provide clarity on the timing and sequence of required operations given the sensitivities of the Gwent Levels SSSIs, which was absent in previous ES.

6.5.75 we require further detail before we are able to comment on the adequacy of the monitoring proposals. We note that any monitoring should trigger timely action where problems are identified. Please also note our comments with respect to the Register of Environmental Commitments 130 and 142

6.6.17 refers to the CL:aire code of practice being used. We recommend that note is made here to the approach at Llanwern lagoon being slightly different, as is picked up in the outline materials management plan

6.7.1 We note the reference to waste exemptions and highlight that depending on the activity and timescales involved a permit might be required.

6.7.2 – It should be noted that the Tata lagoons are within a permitted area and will require the permit holder to authorise the removal of waste from the site if it does not meet the End of Waste criteria

## **Annex E – Outline Pollution Control and Prevention Plan**

5.1.2 Recommends having NRW's contact information, however in section 5.1.3 the key actions for the response contacting NRW is not mentioned, it only recommends contacting the emergency services. Likewise in section 9.1.4 any pollution events or spillages are to be forwarded to the Environmental Coordinator but there is no mention of them informing NRW. We recommend that these sections be amended to include NRW

6.10.3 Needs to make reference to the requirement for temporary discharge permits during the construction phase.

## **Annex F Outline Waste Management Plan**

1.2.2 We note reference to the Site Waste Management Plan as a live document. We recommend that we be consulted on revisions during the detailed design phase – please also note our comment with respect to Commitment 78 in the Register of Environmental Commitments (Appendix SR18.1)

2.2.5 Depending on the type of pre-treatment proposed, this could constitute an activity and require a permit.

4.2.1 Need to confirm where this waste is stored and whether they are permitted to do so.

4.2.2 States that all storage areas will be away from potential contaminant pathways (drains, trenches etc.). We query whether there are any proposals to ensure that storage areas are also away from potential receptors i.e. as per the fuel storage recommendations in Sec 6.6.3 in relation to surface water, boreholes, wells and springs

5.2.3 We support and welcome the proposals with respect to environmental induction

## **Annex H – Outline Materials Management Plan**

1.1.3 We have previously discussed wastes discovered during excavation works but where known wastes have been deposited and then excavated it should be undertaken within the controls of the permit conditions. CLAIRE is for unpermitted land not known to contain waste.

## **4 Part C: Additional Information**

### **4.1 Navigation Risk Assessment**

This section is of relevance to our Marine Licensing team, as navigation is one of the aspects they consider as part of their licensing process. I have drawn this report to their attention, and they have provided the following advice:

*We would strongly advise that the second supplement to the Environmental Statement is submitted to the Marine Licensing Team directly in response to the pre application advice dated 10<sup>th</sup> March 2016. This will allow the MLT to assess whether the comments within the pre application document have been properly addressed by the ES and the additional supplement. It would be in the interest of the applicant to ensure that all sections of the ES which relate to any works below MHWS are properly addressed in order to satisfy the needs of an exception under Reg 10(1) (b) of the marine Works Regulations.*

This advice has been drawn to the attention of Dr Peter Ireland, Environmental Coordinator, and contact details provided.

#### **4.3 Air Quality** **Appendix SS7.1**

We welcome the undertaking of an assessment of inter-annual variation, and note its findings that variability is low.

#### **4.4 Ecology and Nature Conservation**

##### **Additional Survey Work** **Hazel Dormouse Surveys 2016**

No comment at this stage

##### **Bat Surveys 2016** **Bat Surveys Buildings and Structures 2016 (Appendix SS10.3)**

With regard to the building surveys, we note that there was no internal access to survey at The Vicarage (Woodland House). Activity surveys undertaken in late August and early September confirmed a non-breeding roost of pipistrelles. However, NRW considers that activity surveys were undertaken too late in the summer to have reliably confirmed whether a maternity roost was present. We therefore advise that the building is subject to further survey in the maternity season.

##### **Breeding Crane Survey 2016**

4.4.17 We agree with the assessment of impacts as major adverse with respect to land-take and welcome their consideration as a nationally important bird. We require further detail of the proposed mitigation proposals before we can comment on the scale of likely impacts following mitigation. Part of our concern relates to certainty that cranes will take to the mitigation lagoons – we therefore request further detail on the steps which are being taken to maximise the potential for the cranes to colonise. In addition, it must be recognised that any new lagoons will take time to develop to be attractive to cranes; we therefore request clarification on the timescales between the instatement of the new lagoons and the destruction of the current nest site.

##### **Draft Mitigation Strategies** **Dormouse Mitigation Strategy – Appendix SS10.4**

Coed Mawr habitat assessment

Section B.7.32 NRW considers that the statement ‘results confirm the presence of a diversity of age structures and habitat types including habitats



of value to dormice' does not demonstrate that Coed Mawr has sufficient habitat to make it suitable as a receptor site for dormice. However, we acknowledge that this statement is made on the basis of an initial assessment and the applicant intends to carry out a detailed habitat assessment (section B.8.19-20) to inform the development of a management plan and consideration of this site as a receptor site for dormice. We would be happy to review this once completed.

#### Population size estimates

Section B.8.6. We note the number of animals considered likely to be directly affected by the scheme. Evidence from other schemes involving the clearance of verge habitat is that it is possible that affected habitat may support higher numbers of animals than specified and the impact may be greater. We advise the approach to mitigation should include contingencies to account for this.

#### Proposed winter 2016/2017 survey

Section B.8.14. We note the proposal to extend the dormouse nest tube survey to determine the presence of dormice at a number of additional sites in the Magor and M4/M48 area (B.8.14 bullets one and two) and at Tata. In our view there are also additional areas around J29 where dormice dormouse presence hasn't been confirmed from nut hunts and where nest tube surveys could be undertaken.

Section B.8.16. NRW seeks clarification about the purpose of these surveys, as it is unclear how they will contribute to determining the impact of the scheme on remaining dormouse populations. We also advise that the location for such surveys are represented on suitable maps.

#### Section C Impact assessment

Section C.3.1 refers to habitat loss represented in Table 5. However, this table appears to only include those areas where there are positive records and does not appear to consider adjacent areas or areas where there has been no survey or only limited survey undertaken. As a result, it is not clear which areas are considered to be dormouse habitat and so will be subject to the licence. We advise that the total extent of the areas considered suitable for dormouse is shown on a drawing cross referenced to appropriate text.

Section C.6.3 refers to mitigation measures proposed to prevent adverse impact to the favourable conservation status of dormouse, but doesn't demonstrate how these measures will achieve this. In addition, in terms of the impacts the applicant has failed to set out an assessment of the impacts of the scheme for dormice at local, regional and national levels. This would be considered appropriate in terms of their seeking to demonstrate that the proposal will cause no detriment to the maintenance of the favourable conservation status of dormice, as required in the legislation.



## Section D.1 Site clearance methods; Vegetation clearance, trapping and translocation and release of dormice

Should the scheme be consented, we consider the clearance strategy requires further work to provide the clarity around what is likely to be a complex process. We will provide further comment on this at a later stage. We would offer the following initial comment at this time:

- D.1.5. We note that 'all clearance of vegetation of value to dormice (as confirmed by the ECoW) would be overseen by an on-site ecologist named on the NRW licence'. Whilst we welcome the presence of an ECoW, we strongly advise that the vegetation of value to dormice is identified and set out in the mitigation strategy and not identified at this late stage by the ECoW.
- D.1.6 – D.1.7. We note the preference in D.1.6 for displacement of dormouse to facilitate clearance 'May or after late September'. However, we note that D.1.7 suggests that clearance will need to take place from July in the dormouse breeding season. Please note that NRW advise against displacement during the breeding season due to the risk of separating mothers from dependant young.
- D.1.9 – D.1.11. These sections require further clarity to demonstrate that the proposed approach is likely to succeed in locating nests and relocating any dormice. We note that it is proposed to move nests to 'within 100-150m of their original location'. We note that this will only be possible if there will be available undisturbed habitat within that radius.
- D.1.20 Regarding the proposal for localised and immediate translocation at Tata steel, we advise that habitat maps setting out the location of, extent of and nature of the habitat to be removed and habitat that will remain is provided to seek to provide assurance that this is appropriate.
- D.1.30. We note the proposal to trap animals from May through until November. We consider additional clarification is required to adequately set out how the proposals will ensure the likely capture of all animals in the area including dependant young.
- In the context of D.1.35 and D.1.43, we would highlight that the current programme requires capture and vegetation clearance within a relatively short ecological window and should capture rates not decline prior to the hibernation period, it may be necessary to delay clearance in relevant areas.
- D.1.61-D.1.78 Holding dormice in captivity. NRW advise that full details relating to the proposals to hold dormouse in captivity at Bristol Zoo are given in the final mitigation strategy. We would wish to discuss this in detail at that time.
- D.1.83 – D.1.86. We advise that this section which describes approaches to dormouse capture is reworded to provide clarity of the approach.

- D.1.86 - D.1.89. NRW has reservations about the ability of the survey as proposed to reliably determine whether the numbers of dormice in the surrounding area may be declining, particularly in the absence of a suitable baseline or a detailed mark and re-capture survey.
- Finally, various different scenarios are outlined for the release of captive dormice. However, no indication is given of the likely time to release at the site of clearance. We advise that the strategy includes this, taking into account the likely time planting would take to reach a favourable condition.

## Section D.2 Dormice Habitat

We note that no habitat of value for dormice will be retained on the construction site.

### D.2.1.1 Coed Mawr potential receptor site for translocated dormice

We note that should Coed Mawr be confirmed as a suitable receptor site, measures to enhance the woodland would be undertaken for the benefit of dormice in advance of any translocation into the wood. This would be informed by detailed habitat mapping yet to be undertaken. We reiterate our advice that enhancement measures will need to have delivered sufficient appropriate habitat before any translocation could take place. We advise that this section includes both a habitat map when available and a likely indication of when Coed Mawr might realistically reached a suitable condition.

### D.2.3.10 Planting schedule

NRW seeks clarity around the locations where early planting will be possible, supported by an indication of the extent of such planting and the timelines associated with this. We also seek clarification of where planting can be carried out at the outset. In this context, it would be helpful to clarify where areas marked as 'landscape mitigation land' or as in Figure 6 marked 'other permanent land take e.g. mitigation planting' can be taken forward earlier in the programme.

The current text (D.2.3.10-13) includes references such as 'where practicable...', or 'early planting could include..' and so does not provide either clarity or commitment to what is possible.

### D.2.3.16 Access to new habitat

This section includes reference to dry mammal crossings as potential measures to minimise severance of the scheme for dormice. There is no evidence to suggest that such structures will be used by dormouse.

### D.2.4.1 – D.2.4.5 Habitat losses and gains

As indicated earlier, it is not clear from Fig 6 exactly which areas have been included in the habitat loss calculation (D.2.41)

We note Berryhill farm is included in this calculation of habitat to be planted to replace that lost to dormice (D.2.4.2). We advise that the woodland to the east may not be accessible to dormice.

D.2.4.5. There is an overall loss of habitat at Tata with 2.27 ha woodland replacing 3.54 ha scrub, 0.24 ha woodland and 2164 m of hedge. This is not in line with recommended best practice regarding habitat compensation.

Section D3 Mechanisms for ensuring delivery of mitigation and compensation measures and Section E Post Development Site Safeguard

D.3.6, D.3.7, E.2.9., E.3.4. We advise that a clear commitment is made by WG to the provision of long term finances to deliver management at Coed Mawr and other areas of the scheme where planting is required to support dormouse populations. Additionally we advise that if animals were to be taken into captivity and later put into new replacement planting, there will be a need for a long term financial commitment to support holding the animals in captivity, to translocate them back and a long term commitment by WG to ensuring that a dormouse population is successfully established.

In terms of the need for habitat management this is likely to far exceed the initial 5 years establishment phase referred to in the text.

D.4.1 Mitigation Contingencies. We advise that this section includes reference to contingencies should considerably more animals be trapped than expected.

### **Bat Mitigation Strategy Appendix SS10.5**

#### **Mitigation for roost loss**

Further detail will be required about the exact nature of roost provision for the loss of multiple non breeding roosts for bat species likely to be lost as a part of construction of the new road. The need to agree this provision with NRW is acknowledged in the draft mitigation strategy. We would advise that the further development and implementation of the strategy is delivered through a commitment in the Register of Environmental Commitments.

#### **Bat Roosts at Berry Hill Farm**

A.4.4 and A.4.5 confirms that building 1 at Berry Hill farm is a common pipistrelle maternity roost and building 2 a brown long eared maternity roost. We note and concur with the assessment in the text that these buildings are located relatively close to working areas and therefore, works could result in disturbance to roosting bats. We further note that extensive vegetation clearance works will take place in this area during construction. Indeed D.3.29 states that this will 'destroy any flight paths during construction' and that 'there is likely to be some severance effects on bats in this area, including breeding brown long ear bats using Berry Hill farm'. We are concerned therefore that the extent of clearance and proximity of the works will result in abandonment of the brown long eared maternity roost.

Section 10.8.387 of Volume 1 of the ES refers to 'consideration to be given to a further bat barn' near Berry Hill in mitigation in the event that 'a bat roost would be present in buildings to be demolished at Berry Hill Farm'. In the light of the likelihood of abandonment of the brown long eared bat roost here following vegetation loss, NRW advises that further mitigation is considered in this area. This would also mitigate for loss of roost sites at the Conifers. We would be happy to discuss this further with the applicant.

#### Severance and fragmentation; Bats

The ES and the September ESS confirm that 14 out of the 17 bat species known to breed in the UK (B.9.5) were confirmed in bat activity surveys along the proposed route and assess the route corridor to be of 'Regional importance' for bats.

C.1.3 identifies that 'Construction works would result in the severance and loss of features of value to commuting (and foraging) bats along the full length of the M4CaN corridor' and that habitat severance caused by the road increases the likelihood of mortality through vehicle collision and can lead to severance and fragmentation of roosting and foraging areas to species that are sensitive to gaps in habitat connectivity'. (C.4.1/C.4.2)

We therefore welcome the updated information within the mitigation strategy which summarises the activity data for some of the more sensitive species and provides further information about the provision of measures seeking to address severance of flight corridors primarily through the provision of culverts.

However, NRW is concerned that the information presented does still not adequately set out or provide reassurance that the severance and potential mortality effects of the road on bats will be minimised. In part this is due to uncertainty about the effectiveness of most mitigation measures, as reported by Berthinussen and Altringham (2015) and more recently by CEDR (2016) <sup>1</sup>but also to a lack of certainty about what can or will be delivered here.

#### Culvert size and headroom

Table 10.18 of Volume 1 of the ES indicates that the majority of proposed bat crossing points are unlikely to function as a flight route for many bat species. The primary function of many of the culverts is to carry water under the road. The size of the headroom (free board) above the summer penning level of watercourses will be material to the likely success of culverts as flight routes for bats and thus, the permeability of the road for bats.

However, the supplement does not give adequate reassurance that these culverts will be suitable for the range of the species present. Furthermore, in many places

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<sup>1</sup> <http://bios.au.dk/om-instituttet/organisation/faunaoekologi/projekter/safe-bat-paths/documents/>

there appears to be some doubt as to the likely headroom to be delivered. For example:

- Section D.3.29 of the mitigation strategy states ‘However, given the height of the road in this area, there is **availability** to increase Athensway Culvert and **this will be considered** at detailed design stage. It is **recommended** that a 4m x 4m box culvert be provided at Athensway Culvert, which would allow all sensitive species, including barbastelle, and non-sensitive species, including pipistrelle, to cross under the road in safety’ and
- D.3.31 ‘There is **availability** to increase the height of culverts under the road across the Wentlooge Levels, providing additional headroom above summer penning levels in Percoed Reen Bridge, Morfa Gronw Reen Culvert, Old Dairy Reen Culvert and Pont-y-Cwch Reen Culvert between 1.2m and 1.9m, which would make the road much more permeable to bats along this section. This will be **considered further at detailed design stage**’ and at
- D.3.33 ‘There is **availability** to *increase* the height of culverts under the road in this section, providing additional headroom above summer penning levels in Lakes Reen Culvert, Julian’s Reen Culvert, Tatton Farm Culvert, Field Culvert, Ellen’s Reen Diversion Track Culvert, Black Wall Reen Culvert, Monks’ Ditch Bridge, Elver Pill Reen Culvert, New Cut Reen Culvert, Cock Street Reen Culvert and Petty Reen Culvert between 0.67m and 1.7m, which would make the road much more permeable to bats along this section. This will be **considered further** at detailed design stage.’

These statements are broadly to be welcomed as they imply that there would appear to be some potential to increase the size of culverts which would increase confidence in the proposals. However, the statements emboldened introduce ambiguity into what can be delivered, and fail to demonstrate what the overall headroom at each location will be, only that they will be considered later. Furthermore, for example, in the context of D.3.33 most of these culverts are currently 1.8m box culverts delivering little over 1m in headroom. Whilst 1.7m headroom would be welcome, there is no clarity about where and how frequently the maximum 1.7m can be delivered.

**NRW advises that a clear commitment is given at this stage to increase culvert sizes to a functional extent and greater clarity provided around where greater headroom is available and how much that will be.**

In the context of demonstrating that severance can be minimised by appropriate crossing point provision, NRW advises that Table 10.18 from the ES is updated. This summarises the potential for bats recorded along the route to utilise underpasses including culverts. NRW advises that this table is updated, in the light of and to demonstrate the effect of, these proposed changes. The table should also state what additional measures will be used to encourage bats to use the mitigation feature and discourage unsafe crossing. The purpose of this is to identify any possible constraints on methods to guide bats to intended crossing points.

#### Species

We welcome the representation of activity associated with species more sensitive to severance in the text and drawings of the mitigation strategy.

There is the potential for well-connected suitable sized culverts, located in areas used by some of the species considered (horseshoe bats, long-eared and Myotis species bats) to provide effective mitigation, provided that they are well-designed, constructed to design and that there are processes in place to rectify errors or unforeseen issues. However, the mitigation strategy has not adequately set out that the provision is appropriate for these species.

#### Other mitigatory measures including planting

Many of the proposed crossing points for bats are not on the line of existing flight routes and this is a significant factor in the likely success of crossing points. Therefore, the proposal to design planting to guide bats to culverts is therefore welcomed. However, Section D.3.36 of the bat mitigation strategy introduces doubt into whether this might be possible at all relevant locations. It states that 'where the landscape requirements of the Gwent levels do not conflict strategic planting of trees and shrubs will be undertaken in order to provide habitat corridors to guide bats into culverts and dry underpasses'.

Whilst we are seeking the provision of larger culverts and these will increase the chances of their being used by bats, appropriate links to bat flight lines and foraging habitat will also be material to ensuring that bats species at specific locations will use the culverts or underbridges provided. We recognise that there is a balance to be struck between the interests of the Gwent Levels but seek assurance that where planting is required to provide links to crossing provision that this will be delivered.

As a result, we are seeking clarification of and firm commitment to aspects of the mitigation provision regarding severance.

We note that the results of pre-construction surveys will be taken into account to inform finer detail of mitigation for the licence information (D.4.13). We welcome this and anticipate this will form an integral part of any licence application.

#### Management and maintenance of habitats, buildings and structures

We note the commitment to manage and maintain habitats, buildings and structures in accordance with an operation and maintenance manual (OMM) (Section E.1.2). NRW advise that this forms part of the Register of Environmental Commitments and would wish to be consulted on draft text.

#### Population monitoring (Section E.2)

The preparation and implementation of a bat monitoring scheme to the satisfaction of NRW should be listed in the Register of Environmental Commitments. We welcome commitment to monitor a sample of under road crossings points for bats given in E.2.3, E.2.4, and E.2.5. We would wish to be consulted on the development of the strategy for monitoring these, which we advise should be delivered as indicated by Register of Environmental Commitment.

Other observations to be addressed in the final mitigation strategy



Please note that this list is not exhaustive and NRW may have other observations should we be consulted on the text of a final mitigation strategy or at the time of a licence application.

- We advise that site specific proposals are included to set out how individual 'bat' crossing points will adequately minimise severance for bats, including, species specific information & detail of additional measures that will be used to encourage bats to use the mitigation feature and discourage unsafe crossing
- Re section D.3.5 and D.3.6. We advise that these sections are reworded to read 'Location, type and numbers to be pre-approved by NRW', rather than 'exact locations of bat boxes' only.
- Re section D.3.29. As indicated above, NRW advise that additional mitigation provision, possibly in the form of a bat barn is made in the Berry Hill/Castleton part of the scheme. The buildability report refers to the removal of a maternity bat roost at Berry Hill farm and the commitment to monitor a bat house here in Section E2 appears to indicate that that this might be the case. However, it is not referred to here or at other appropriate parts of the text. Clarification is sought and the text amended accordingly.
- Re section D.4.23. We note that planting and habitats will be monitored throughout the establishment phase as described in the EMP. We would highlight that there may be a need to monitor their condition and development beyond the establishment phase particularly where management actions are required to fulfil habitat quality and condition objectives.
- We note the commitment to monitor Berryhill farm bat house annually. This is the first reference to a bat house at Berry Hill farm. Please see our comments about the need to review mitigation for bat roosts at Berry Hill farm, given above at D.3.29.
- We advise that E.2.3 is revised to update size and freeboard height.
- Re section E.3.1 Post development mitigation contingencies. We welcome the commitment to review the results of surveys and to consider alterations to box location or Bat House design as appropriate. We advise that this section is expanded to include a commitment to review the results of the crossing point surveys and agree with NRW and implement remedial action should this be required.
- Re section F. Timetable. We recognise that this will require further development in the context of the scheme delivery.
- We will provide comment on the compliance audit at Annex 2 at the time of the Register of Environmental Commitments.
- We advise that Figures 2 & 3 showing bat activity are amended to show the names of all relevant structures including culverts.

### **Great Crested Newt Mitigation Strategy Appendix SS10.6**

We welcome the provision of Appendix SS10.6 of the December 2016 ESS; 'Draft Great Crested Newt Mitigation Strategy' and advise that commitment to produce a final GCN mitigation strategy is included within the Register of Environmental Commitments.



Notwithstanding this, there are a number of aspects of the proposals set out in the draft Strategy that we consider require clarification and further development. We advise that the following matters be addressed in the preparation of the final mitigation strategy. Please note that this list is not exhaustive and NRW may have other observations should we be consulted on the text of a final mitigation strategy or at the time of a licence application.

#### Relocation of GCNs

- We advise that greater clarity is given around the proposals for the translocation (referred to as relocation) of newts in the final mitigation strategy.
- Section D.1.81 indicates that GCN would be re-located as close to the area of trapping as practicable for example into sections of the same watercourse outside the works area. However sections D.1.83-86 indicate that newts captured in survey areas A, C and D will be moved to a GCN mitigation area.
- We welcome the intention to move trapped newts directly to the closest GCN mitigation area. We advise that this is also applied to all newts trapped within Area B with animals moved to either of the 2 GCN mitigation areas. The re-location of all trapped newts to the GCN mitigation areas will improve the ability to monitor and manage the population in the long term.
- In this context, we note that the Appendix SR3.1: Buildability Report Update indicates that there will be localised re-location of newts from key construction areas in year 1 but that newts trapped from all remaining areas in year 2 will be re-located to GCN mitigation areas. We advise that the final GCN Mitigation Strategy develop this further to clarify in what circumstances newts might be re-located outside of mitigation areas.
- In the context of section D.1.74 we advise that appropriate biosecurity measures to ensure that no fish (including eggs on vegetation) are translocated into GCN mitigation areas should also be included.
- We note the intention (D.1.480) to undertake an intensive period of trapping within the fenced watercourses once they are bunded. Further information to clarify this aspect of the works should be included in the licence method statement.

#### Receptor sites

- We welcome the intention to create new ponds within the 2 GCN mitigation areas and to undertake improvement works to existing habitat.
- We advise that additional information is included in the final strategy to detail the nature, extent and distribution of habitats and features that each of the GCN mitigation areas will support together with an assessment of their likely carrying capacity. We would suggest that much of this information would be best presented on appropriate detailed drawings of each GCN mitigation area.

In terms of siting ponds within the mitigation areas, ponds should be located so as to maintain suitable distance from reens. NRW guidance states that the minimum buffer requirement for a reen is a width of 12.5m either side of the watercourse and 7m for field ditches.

Ponds should also be located and/or designed such that flooding events do not allow fish ingress and be designed to allow easy drain down should that become necessary. Distribution (i.e. appropriate spacing) and shape of ponds should consider the need for management operations in the long term. We advise that detailed pond designs should be included in the final mitigation strategy.

Suitable contingency should also be included in Section D.4 for pond failure whether that be related to water level control, water quality, water quantity or fish ingress as above.

- Timing of receptor site provision - we note that it is considered that new receptor ponds could be in favourable condition in 2019 (D.1.80 and D.2.2). However, trapping is proposed to commence from July 2018.

We advise that habitat creation and initial habitat improvement works within receptor sites must be completed and habitats sufficiently established prior to the commencement of trapping if they are to be relied upon as receptor sites. Given the above timings it is not apparent that this will be the case.

In order to seek to achieve this and to minimise any delays to the start of trapping within areas of the scheme where GCN may be present, we advise that works to create suitable/favourable habitats within the GCN mitigation areas are carried out as a priority at the outset.

We note that it may be possible to access the Tatton Farm SSSI Mitigation Area ahead of the rest of the scheme and 2017 is suggested in the water vole strategy. We would advocate that access is sought at the earliest opportunity and habitat creation and improvement works undertaken immediately following access to allow sufficient time for establishment of the GCN mitigation area within Area A. A suitable method for confirming suitability should be described (for example, use of Habitat Suitability Index).

We also suggest exploring the scope to agree alteration of the current management regime within GCN mitigation areas in advance of access in 2018 to enable aspects of the proposed improvement of grassland habitats to begin to take effect by the time trapping is commenced.

We advise that the final GCN Mitigation Strategy should confirm that the GCN mitigation area habitats to be used as receptor sites for re-located newts will be in a suitable/favourable condition to support GCN prior to the start of trapping.

- Habitat creation and improvements  
We welcome the intention to prepare a detailed programme and methodology for habitat construction within the licence method statement (D.2.3). As indicated above we advise that these works are undertaken as early as possible and likely before the submission of a licence application. We would therefore advise this programme is included within the final GCN Mitigation Strategy and/or via alternative commitment to be delivered through the Register of Environmental Commitments.

We would advise that aspects of habitat improvements such as the removal of hedgerow/scrub on the south side of watercourses is only undertaken once grassland habitats have improved providing more favourable habitat for GCN. Please ensure that the removal of hedgerows / scrub reflects requirements of other species such as bats and birds.

#### Schedule / timing

- Trapping

We note that exclusion fencing is to be installed as soon as practicable after obtaining land owner permission anticipated to be from July 2018 onwards with the intention of completing the trapping exercise prior to the commencement of hibernation in October onwards.

D.1.40 identifies that trapping nights must be in suitable conditions avoiding temperatures below 5°C. However we also wish to highlight that trapping should also not be carried out in dry or excessively hot conditions when newts are also unlikely to be active. Undertaking trapping in the summer period will increase the likelihood of such conditions. Trapping should only be carried out during suitable conditions within the newt active period February/March to October.

Therefore if trapping is to be undertaken from July as currently proposed, given the sub-optimal time of year and the limited time available prior to the hibernation period when newts will no longer be active, we advise that suitable contingency is built into the construction programme in the event that trapping is not completed in 2018. This seems to have been considered in the Buildability Report. We advise that this is also reflected in the GCN Mitigation Strategy.

- Development of habitats

As indicated above, consideration should be given to the time required for receptor site habitats (GCN mitigation areas) to be created and to sufficiently establish in the timing of trapping within the construction programme.

In this context, we welcome that the Buildability Report indicates that there will be localised re-location of newts from key construction areas in year 1 but that trapping of all remaining areas will be undertaken in March to September of year 2. We advise that this schedule is set out in the GCN Mitigation Strategy as this is not currently the case. 'Key construction areas' should be clarified. See also 3.1 above.

#### Replacement of terrestrial GCN habitat loss

- We note that Table 2 and Sections D.2.14-30 together with reference to the relevant Landscape Environmental Masterplan (EMP) drawings attempt to quantify and set out what replacement terrestrial habitats will be created in the longer term within the areas GCN have been recorded. However it is unclear what areas of habitat on the EMP drawings correspond to the figures in the Table. We advise that this information is presented with additional supporting drawings specifically illustrating these

replacement habitats and their distribution relative to both retained GCN populations and re-location sites.

- In Section D.4.9, the Cetti's Warbler mitigation area within Caldicot Moor SSSI Mitigation Area is proposed as a contingency receptor site in the event that large numbers of GCN are trapped. It is unlikely that we would agree to this area forming a suitable contingency site for GCN on the basis of distance from and consequent separation of the meta-population as well as likely conflicting management requirements.

#### Habitat Management

- We note the reference within Section E to habitat management in landscaped areas, including mitigation areas. However little further detail is provided.
- We advise that the commitment to manage and maintain aquatic and terrestrial habitats for GCN should form part of the Register of Environmental Commitments along with the preparation and implementation of appropriate long term management plans. We would wish to be consulted on draft text.
- Whilst we note that the creation of habitats for GCN within 3.5ha of the Tatton Farm Mitigation Area is included in the Draft SSSI Mitigation Strategy no reference is made to the management of these habitats or to GCN within section 4.7 'Protected Species Requirements'. We advise that further information is included in the SSSI Mitigation Strategy.

#### Population monitoring (Section E.9-10)

- We advise that the preparation and implementation of a GCN monitoring scheme to the satisfaction of NRW should be listed in the Register of Environmental Commitments.

### **Water Vole Mitigation Strategy**

#### **Appendix SS10.7**

We welcome provision of the water vole mitigation strategy provided at Appendix SS10.7 of the Supplement and advise that a final water vole mitigation strategy is delivered via the Register of Environmental Commitments.

We advise that the following matters be addressed in the preparation of the final mitigation strategy. Please note that this list is not exhaustive and NRW may have other observations should we be consulted on the text of a final mitigation strategy or at the time of a licence application.

#### Timing of Displacement and trapping

Both displacement and trapping of animals from working areas are proposed as measures to reduce the impacts of the scheme.

With regards to displacement, we note that the strategy proposes displacing water voles to adjacent areas between 15 September 2018 to 30 November 2018 and/or between 15 February 2019 and 15 April 2019 (Section 2.2.76). Currently NRW is unlikely to licence displacement in the autumn period (15 September to 30 November). We advise that displacement of water voles is undertaken in suitable conditions in the spring period mid-February to mid-April as indicated in 2.2.77. This is consistent with the published national guidelines.

With regards to translocation, we note in Section 2.2.87 that it is proposed that translocations to receptor sites could be undertaken between 15 September and 30 November. As subsequently indicated in 2.2.88 this is not consistent with best practice. Ideally water voles should be trapped during the period 1 March to 15 April.

#### Watercourse replacement and water vole translocation

We welcome principles for watercourse replacement in the mitigation strategy. We note that it is considered (Section 2.2.84) that water vole will be translocated back to replacement watercourses when they have reached a favourable habitat condition and when ongoing works would not present a threat to water voles or their burrows. The strategy also states that it is likely that replacement watercourses would not be available until after completion of construction works in an area including erection of the operational boundary fence. NRW advises that in order to avoid a lengthy period in captivity for animals, the final mitigation strategy includes a phased re-introduction programme rather than defer this to the end of the programme. We understand that this should be possible and anticipate that this will be included within the final mitigation strategy.

#### Provision of appropriate licences

NRW advises that as a licence can only be issued for conservation purposes, in order to licence displacement of water vole, we will require the application to demonstrate a net conservation benefit.

#### Other Observations

- 1.7.6 - we welcome the information presented in this section relating to the length of watercourses used by water vole which will be directly impacted by the scheme. However there appear to be a number of watercourses shown on Figure 2 that lie within the red line that are not included. These include WV11, WV13, WV14 (within temporary construction land) WV27, WV28, WV46, WV49, WV52, WV83, WV135.
- Please ensure that the final water vole method statement clearly identifies how each watercourse with evidence of use by water vole will be impacted. If the watercourse is to be lost please ensure that the water vole method statement clearly sets out for each watercourse the quality of the habitat present, length and the potential number of animals that will be re-located; and whether water voles will be displaced or translocated. We advise a location specific timetable summarising the overall

strategy at each affected location affected is included including a displacement, trapping and release schedules, and habitat management as appropriate, accompanied by a method statement for each technique.

- 2.2.3 – 2.2.9 Pre-construction surveys - we welcome the intention to undertake pre-construction surveys. We advise that these should also include all watercourses within the SSSI mitigation areas, proposed as potential receptor sites for re-located water voles, and particularly given that a number of these have not yet been surveyed.
- 2.2.14 – 2.2.26 Culverts - as identified in the text, there is currently no evidence of the use of culverts longer than 35m by water vole. In order to increase the likelihood of the culverts proposed being used by water vole, we advise that mammal ledges are installed in all relevant culverts. We advise that drawings of the design of mammal ledges within each culvert are included in the final water vole mitigation strategy.
  - 2.2.27 – 2.2.55 Creation and enhancement of waterbodies
  - 2.2.47 & 2.2.135. We advise that drawings of the design, location and specification of water vole exclusion fencing should be included in the water vole mitigation strategy.
  - 2.2.47 and 2.2.51. We note the intention to fence replacement watercourses until completion of construction. We advise that consideration is also given to fencing enhanced or newly created field ditches within the SSSI mitigation areas to prevent colonisation of water voles in the locality in advance of relocation.
  - 2.2.49. Caldicot Moor SSSI Mitigation Area as illustrated on Figure 2f appears to be larger than indicated on Figure 2b included from the Draft SSSI Mitigation Strategy (Appendix SR10.35). Please ensure all drawings are consistent.
  - 2.2.52-3. We note and welcome the intention to undertake watercourse creation and enhancement works within the SSSI Mitigation Areas as soon as possible and at the outset of works, and in the case of Tatton Farm in 2017 in advance of construction. We advocate that the schedule reflects the need to prioritise replacement habitat for water vole in order to minimise the time any trapped animals are held in captivity before release.
  - In addition in relation to the SSSI mitigation areas, please include the lengths of the new field ditches to be created and so an indication of the potential number of translocated water voles each area could receive.
- 2.2.60 – 2.2.73 Mink Control - we welcome that mink control will form part of the water vole method statement and included in the Register of Environmental Commitments for the scheme. We advise that the mink control programme should be at a sufficiently large scale to ensure that it will be effective and continue after water voles have been relocated.
- 2.2.83 – 2.2.132 Translocation of water voles
  - We understand from the strategy that water voles are to be translocated into the following receptor sites: replacement watercourses (to be created alongside the new road); SSSI Mitigation Areas and potentially new



watercourses created by the G. Both displacement and trapping of animals from working areas are proposed as measures to reduce the impacts of the scheme.

- We advise greater clarity is given around the proposals for trapping and translocation in the final strategy.
  - We also advise that full details relating to the proposals to hold water vole in captivity at Bristol Zoo and their subsequent release are given in the final mitigation strategy. We would wish to discuss this in detail at that time.
- Section 3.4. We welcome the intention for the Environmental, Landscape and Ecology Aftercare Plan (ELEAP), which will include management of new or replacement waterbodies, and the SSSI Mitigation Management Plans to be listed in the Register of Environmental Commitments. Notwithstanding this we advise that the principles of management measures are also set out in the water vole method statement.

## **SSSI Mitigation Strategy**

### **Appendix SR10.35**

1.2.4 We note that section amended to reflect the comments made by NRW.

1.3.7 We note the clarification that field corners which would be severed by the Scheme have been included in the permanent loss figures.

## **2 Mitigation Areas**

In the absence of any detailed timetable and programme of implementation, linked we are unable to provide our complete view on this Strategy. Of particular importance at this stage is clarity on when habitat creation and management prescriptions would commence in relation to habitat loss as part of the Scheme.

### **2.1 Tatton Farm**

We support this site being considered given its important location on the northern edge of the Gwent Levels: Nash and Goldcliff SSSI, within the historic back-fen. The majority of this area is to the north of the road scheme. As detailed in 5.1.2 we require reassurance that favourable management can be assured in perpetuity – ie that the land constitutes a viable agricultural tenancy and that it will be practically possible to manage the reed and ditch network here.

We remain concerned that the small parcel of land to the extreme north of this area will be unviable to farm. Not only is it outside the current mitigation boundary, the boundary line does not follow any definitive landforms appearing on the map to cut through ditches and fields. Unless NRW can be satisfied that the current owner can maintain their current farming practises it should be brought into the Tatton Farm mitigation area at the least the boundary should be amended to follow distinguishable features ie hedges, field boundaries and ditches.



## 2.2 Maerdy Farm

We support the principle of returning arable to permanent grassland. We continue to seek reassurance that there is sufficient water in the vicinity of the proposed mitigation area to enable the ditches to be wet for much of the year. The proposals include extensive ditch creation; we consider that these will inevitably be blind to avoid connection to the potentially contaminated ditches adjacent to the railway line. We therefore require assurance that it will be possible to retain water within the ditches for much of the year, and therefore be able to support the SSSI features of interest.

We note that Figure R2b has been amended to remove management works labelled as being undertaken by the scheme but already undertaken by the Caldicot and Wentlooge Levels Internal Drainage District (IDD).

## 2.3 Caldicot Moor

We note the reduction in size of the Caldicot Moor Mitigation Area from 113 hectares to 55 hectares. The discrepancy in boundaries has been rectified with the correct boundary of the current proposal now showing on Figure 1c and Figure R2c. However, we reiterate our concerns over the reduction in overall area of this mitigation area and that the new location and boundary has reduced continuity with the Gwent Levels: Magor and Undy SSSI.

We have concerns with this approach and how this smaller area can be successfully converted to grazing marsh, specifically in the context of land to the south no longer forming part of the proposed mitigation area and therefore land to the north not having sufficient water available to enable ditches to be wet.

3.2.3 We note the reference to re-en enhancement has been removed as requested.

4 As stated previously, we support the broad principles set out within the management prescriptions sub section particularly the recreation of grips, field boundaries, construction of scrapes and arable conversion.

4.2 Further detailed discussions will be required around the development of a monitoring programme including timescales, targets and any remedial action which should be undertaken if scheme shows measures are not successful

5.1.2 We still require assurance that both management control and the practical ability to manage has been secured in perpetuity, and that development cannot occur on these areas. We note that long term management will be the responsibility of WG and that management prescriptions would be set out in management plans which would need to be agreed with ourselves.

We reiterate our request for confirmation that funding will be made available, in perpetuity, to support ongoing management works alongside reassurance that there are identified landowners or other bodies with the necessary skills prepared to take on this work.

We will require reassurance that any management required for protected species is compatible with the SSSI mitigation strategy, even where the proposals are on separate, but adjoining parcels of land. Please also refer to our detailed comments with respect to GCN and water vole translocation

#### **4.7 Environmental Management** Appendix SR18.1

We note and welcome the publication of an updated Register of Environmental Commitments. The following comments are not exhaustive and we reserve the right to comment on further iterations of this document, both prior to and during the upcoming Public Local Inquiry. These comments are made without prejudice to our views on the environmental impacts of the scheme expressed elsewhere including, but not limited to, this letter, the May Letter and the October Letter.

Numbering below relates to the reference number of the specific commitment being commented on, and following the ordering in the document (NB numbering is not always sequential):

- 7 We support and welcome the commitment to undertake test piling to determine potential vibration effects in advance of piling works.
- 10. With respect to mitigation measures with respect to wintering birds, we consider that an additional bullet point be added detailing protection of redshank populations from disturbance during construction works related to and in the vicinity of the River Ebbw crossing
- 98 We request that this commitment be rephrased such that replacement reens would be managed in accordance with current Caldicot and Wentlooge Internal Drainage District (IDD) standards
- 101 We note the wording of this commitment - *Welsh Government will discuss and agree with NRW management responsibility of the new reens, ditches, culverts and water control devices*. NRW are willing to discuss all of this. However we note, in the context of current management responsibilities within the IDD that we have responsibility for reen and water control devices, but not field ditches which are the responsibility of the respective landowner. In addition we do not maintain culverts of the scale of those proposed beneath the new motorway
- 162 We welcome the addition of this commitment, relating to numbers and locations of tilting weirs, following a meeting with consultants working on behalf of Welsh Government on the 6 September 2016 – we are satisfied with the wording of this commitment as currently drafted
- 163 We welcome the addition of this commitment, relating to effectiveness of tilting weirs, following a meeting with consultants working on behalf of Welsh Government on the 6 September 2016 – we are satisfied with the wording of this commitment as currently drafted
- 164 We are satisfied with the wording of this commitment, covering blockage removal during construction phase
- 106 This commitment relates to recognition that multiple NRW staff would require access to the construction site for a variety of reasons. We welcome the inclusion of this, in

response to previously raised concerns, but note that our legal advice is that this should be covered by way of legal agreement. We would wish to progress this during the Public Local Inquiry process

- 107 We have previously discussed that NRW has a requirement to retain access along the western bank of the River Ebbw, for flood incident management purposes. We seek clarification of whether the additional wording (*subject to health and safety considerations during construction*) relates to access during construction phase only or both construction and operational phases
- 108 We welcome this commitment related to phasing of construction of new reens and ditches in relation to infilling, but query whether this can be implemented to NRW's satisfaction given the construction timetable
- 60 We welcome this commitment covering construction lighting designed to minimise light spill
- 63 We welcome the commitment to install the cofferdam and pylon piles to avoid the most sensitive period for migratory fish, and note that NRW recognises this period as April to June inclusive, rather than March to June inclusive.
- 64 We welcome this commitment with respect to implementing buffer zones to protect active nests from construction impacts.
- 68 We welcome the Commitment to agree the SSSI Mitigation Strategy with NRW. We refer you to our comments made with respect to the latest iteration of this document – Appendix SR10.35
- 130 We note this commitment concerning monitoring. For a number of our key concerns, including Gwent Levels water quality and protected species monitoring – during both construction and operational phase will be key. NRW consider that this commitment should be amended to reflect the need to prepare and agree monitoring programmes with NRW to include a commitment to remedial action if triggers are breached and/or there are indicators of deleterious effects. Monitoring to then be undertaken in accordance with the agreed programmes.
- 134 We welcome this commitment with respect to the operational lighting strategy, and note that as well as the river channels, it will be important that the Gwent Levels are not subject to light spill, in the context particularly of the Glan Llyn and Docksway junctions
- 142 Comments as 130
- 78 We note the commitment in relation to the Site Waste Management Plan as a living document. We recommend that the need to seek involvement and agreement from NRW is included within this commitment
- 89 We welcome the recognition that mitigation measures outlined in the specified appendices to the Construction Environment Management Plan will need to be agree with NRW
- 175 Refer to comments on 106

## **Additional comments on Appendix SR18.1**

- With respect to European Protected Species (EPS) licences, NRW consider that an independent audit is required to check compliance with the authorised scheme and any EPS licence conditions. We consider that the detail of audit and frequency of reports should be agreed with NRW and implemented as agreed.
- We recommend that pre-construction surveys are undertaken for a range of protected species including dormice, bats, GCN, barn owl, otter and water vole. We recognise that these are included within a number of commitments including 64a, 65, 67, 121, 123, and 126. For clarity, consistency and potential ease of actioning, we recommend that consideration be given to a single commitment concerning pre-application survey.
- For the protected species of greatest concern to NRW in the context of this scheme – dormice, bats, GCN and water voles – we will require that Mitigation Strategies are prepared and agreed with NRW and implemented in accordance with the agreed strategy.
- NRW consider that long-term habitat management plans will be required for all areas of protected species and SSSI mitigation – these should be agreed with NRW, implemented in accordance with flexibility to review progress and amend as necessary. Clarity on the management responsibility and funding of these works, potentially in perpetuity, is required
- NRW consider that a Commitment is required covering the preparation and implementation of a long-term mink control plan
- NRW consider that a commitment is required to include habitat management prescriptions concerning dormice, GCN and water vole within the Environmental, Landscape and Ecology Aftercare Plan (ELEAP)
- The bat mitigation strategy makes reference to (at E.1.2) an operation and maintenance manual (OMM). NRW considers that the OMM should be agreed with NRW, as it relates to habitats, buildings and structures used or to be used by bats and implemented in accordance with the agreed version.

## **Part D: Design Modifications**

### **Air Quality**

5.2.30 NRW agrees with respect to Langstone-Llanmartin Meadows SSSI that the Scheme would result in decreases in NO<sub>x</sub> (and concurrent N-dep, see 5.2.35 below) will be beneficial. With reference to 2.1.7, I would suggest the following as the last sentence in this para...“However, it should be noted that the area affected by the increase in annual mean NO<sub>x</sub> concentrations is marine habitat and does not have vegetation sensitive to changes in gaseous concentrations of NO<sub>x</sub>.” Or something like that to explain it better.

5.2.31 we note that although there is an increase in NO<sub>x</sub> concentrations due to the Scheme, the annual mean NO<sub>x</sub> concentrations at these locations will still be below the 30µg/m<sup>3</sup> with the Scheme, so not likely to damage the features.

5.2.35 we note an increase of 0.5kgN/ha/yr. (5%) N-dep at the various Gwent Levels SSIs but seek clarification as to significance of this.

### **Landscape and Visual/ Cultural Heritage**

**5.3.4 & 5.5.9** – we note the design modifications and amended plans relating to the increased height by 1.54m of the Usk crossing, changes to the retaining structures of the Docks Way Link Road and additional borrow pit at Magor. NRW:

- Agrees there is no change to the overall assessment conclusions or significant change at specific locations with a view of the Usk bridge crossing and minimal changes to the ZTV & no changes in the number of receptors.
- Agree that removal of one retaining wall and creation of new structure to Docks Way Link Road would result in no material change to the assessment conclusions.
- Agree that the additional borrow pit would not result in significant changes to the landscape & visual assessment.