

8 Recommendations for Avoidance, Mitigation and Restoration

8.1 Measures for Avoiding Adverse Effects at Solent & Southampton Water SPA (Yarmouth)

- 8.1.1 The assessment concluded that adverse effects on the SPA were unlikely as result of Vinci Ringway's proposals at Bouldnor Road, Yarmouth, because of the intended use of silent vibro-piling methods to install sheet piling. However, it is possible that percussive piling will be required to complete the works, depending on the ground conditions found when implementing the scheme.
- 8.1.2 Restrictions on the working method for the scheme should be imposed so that, should percussive piling be necessary, it is not carried out at times of year when bird populations of the SPA are most likely to be adversely affected (i.e. between July and March). Furthermore, if percussion piling is to be carried out during spring and early summer (April to June), it should not proceed until an assessment has been made of possible impacts to other nesting birds which are not protected by the SPA.
- 8.1.3 It is recommended that an Ecological Clerk of Works (ECoW) is present during construction to supervise piling methods and advise on when and how alternative methods could be employed, if necessary, without adversely affecting the bird assemblage.

8.2 Measures for Avoiding Adverse Effects at Brook and Shippards Chines, South Wight Maritime SAC

- 8.2.1 The proposed bridge constructions to span developing chine and landslip features maintains the ecological functioning of the vegetated sea cliff habitat for which these sections of the coast is designated as SAC. The effect of shading under the bridge on typical invertebrate species of this habitat type should be monitored to ensure that negative impacts do not ensue.
- 8.2.2 In the longer term, beyond the useful life of the temporary bridge structures proposed through the Highways PFI, a policy for the alignment of the Military Road along this section of coast is needed that allows for landward migration of cliff top Annex 1 vegetated sea cliff habitat beyond the current line of the road. This is needed to prevent coastal squeeze of this habitat between the road and the receding cliff top, and would also provide opportunities to re-create and restore additional areas of vegetated sea cliff habitat and to restore the ecological function of the chines.

8.3 Recommendations for Restoration and Improvement of European Sites

Solent and Southampton Water SPA/Ramsar at Bouldnor Road, Yarmouth

- 8.3.1 A ground water connection between the Thorley Brook flood plain and the sea may exist, which could influence salinity in the SPA and Ramsar site. Further investigation of this connection should be undertaken in planning the sheet piling to ensure that it is not damaged in the piling operation.

South Wight Maritime SAC at Brook and Shippards Chines

- 8.3.2 Freshwater flows to the coast between Brook Chine and Shippards Chine are complex and include ground water as well as surface water flows. The balance of flow is influenced by management of an on-line irrigation reservoir inland of the Military Road as well as the drainage system recently installed by the Isle of Wight Council. A comprehensive review of the hydrology of this section of coast is needed to better manage flows to the three chines or developing chines (Shippards Chine, Churchill Chine and the newly formed landslip west of Brook Chine).
- 8.3.3 In particular, an understanding of the relative surface and ground water flows between the chines and developing chine features needs to be obtained. This information can be used to model the long term management of freshwater flows to the coast and the relative evolution of chines and the intervening cliff face in the future. Modelling of future predicted natural evolution of coastal chines should be carried out with reference to an Environment Agency sponsored University of Southampton research project entitled *Modelling the future evolution of incised coastal gullies using a coupled terrestrial-coastal Landscape Evolution Model* (Hackney et al, 2012).
- 8.3.4 Shippards Chine is in unfavourable condition due to the effects of the culvert and gabion basket structure through which it outfalls onto the coast. The ecological structure and function of Shippards Chine needs to be restored through the removal of the artificial outfall onto the beach by the Compton Bay car park.

9 Conclusions

9.1 Summary

- 9.1.1 This report presents an Appropriate Assessment under the Conservation of Habitats and Species Regulations 2010, for the capital scheme proposals put forward by Vinci Ringway as part of the Isle of Wight Highways PFI. The Council will need to consider the findings and recommendations of this report when implementing the Highways PFI.
- 9.1.2 The report assesses seven capital scheme proposals in relation to the conservation objectives of the Solent and Southampton Water SPA/Ramsar and South Wight Maritime SAC. The capital schemes are road improvement projects for locations on the highway network at risk of catastrophic failure during the Highways PFI's 25 year period of operation, including Duver Road, St Helens, Bouldnor Road, Yarmouth, Undercliff Drive, St Lawrence, and Military Road, Brook.
- 9.1.3 The Appropriate Assessment has concluded that none of Vinci Ringway's capital scheme proposals would adversely affect the ecological integrity of South Wight Maritime SAC. However, recommendations are made for post-construction monitoring to ensure that short-term impacts to habitats and typical species though overshadowing do not ensue.
- 9.1.4 Solent and Southampton Water SPA/Ramsar is not expected to be adversely affected by Vinci Ringway's current proposals. However, there is uncertainty surrounding the feasibility of installing sheet piling for the length of affected highway at Bouldnor Road using silent vibro-piling techniques. Percussive piling, if necessary to complete the works, will need to be scheduled for spring and early summer (April – June) in order to avoid disturbance to important bird populations within the SPA. However, there could be disturbance to other nesting birds during this time of year. Recommendations are made for the piling works to be supervised by an Ecological Clerk of Works to ensure that adverse effects on the bird assemblage can be avoided.
- 9.1.5 South Wight Maritime SAC in particular is already being adversely affected by previous schemes, and recommendations are made for restoring the site to favourable conservation status.

9.2 Consultation

- 9.2.1 The Appropriate Assessment Report is being made available for consultation for a period of four weeks, from 6 March 2013, and can be viewed at:

<http://www.iwight.com/highways-pfi/consultation.asp>

- 9.2.2 Alternatively hard copies can be viewed at:

County Hall
High Street
Newport
Isle of Wight
PO30 1UD

- 9.2.3 Responses on this consultation exercise should be sent to jonathan.murphy@iow.gov.uk or to the following address:

Highways PFI Team
Corporate Services
Isle of Wight Council
114 Pyle Street
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- 9.2.4 Following consultation, responses will be reviewed, analysed and fed back to the Service Provider to inform the detailed design stage for each capital scheme. It is likely that further assessments under the Habitats Regulations will be required as individual project proposals are finalised.

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