Rampion Offshore Wind Farm

Outline Ecological and Landscape Management Plan

E.ON Climate & Renewables

09 August 2013

Revision A

E.ON Climate & Renewables UK Rampion Offshore Wind Limited
RSK GENERAL NOTES

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**Authors:** Victoria Gilbey, Technical reviewer: Chris Frain

**Signatures:**

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**Project manager:** Katie Barlow  
**Quality reviewer:** Katie Barlow

**Signatures:**

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**Date:** 15/05/13  
**Date:** 15/05/13

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work. This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.
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1 INTRODUCTION

1.1 This Document

1.1.1 This document provides details of ecological and landscape mitigation as committed to within the Environmental Statement (refer to Appendix 1), compensation and enhancement to be carried out both during, and following, the installation of the onshore cable and construction of the onshore substation associated with Rampion Offshore Wind Farm. This is a combined document with a habitat led approach which takes account of landscape and ecology together. This approach has been discussed and agreed upon with West Sussex County Council.

1.1.2 E.ON is required to write and submit a ecological management plan to satisfy aspects of the Development Consent Order (DCO) as detailed below:

1.1.3 31.—(1) No stage of the connection works shall commence until a written ecological management plan for the connection works reflecting the survey results and ecological mitigation and enhancement measures, and taking into account landscape reinstatement, included in the environmental statement has been submitted to and approved in writing by West Sussex County Council.

1.1.4 (2) The ecological management plan shall contain in particular:

1.1.5 (a) a hedgerows management plan, which shall accord with the principles set out in section 24 of the environmental statement; and

1.1.6 (b) an arboricultural method statement, which shall accord with the principles set out in section 24 of the environmental statement.

1.1.7 (3) The ecological management plan shall include an implementation timetable and shall be carried out as approved.

1.1.8 This document covers all onshore works from Mean High Water Springs (MHWS) at the landfall near Brooklands to the connection at the existing Bolney substation, in Twineham, Mid Sussex.

1.1.9 This document also addresses the requirement to produce a scheme of protection and mitigation measures where European Protected Species are present to satisfy aspects of the DCO.

1.1.10 Where information on badgers/Badger setts is to be provided this will be via separate confidential documents which will be made available to the relevant authorities on request. This is to avoid potential persecution of local Badger populations.
1.2 Background Information

1.2.1 The route for the onshore cable is around 26.4km long and the working width which will be impacted will generally be no wider than 30m except at certain defined locations including those at which the cables will be drilled under the landfall/A259, railway, River Adur and Sompting Bypass (A27). The cable will be buried underground for its entire length and trenching will be the primary construction methodology employed.

1.2.2 Environmental surveys have been undertaken for the entire cable route and substation site, including detailed landscape & visual and ecology surveys, and these are reported in full within the published Environmental Statement (ES) (March 2013).

1.2.3 The construction period for the Project from the commencement of onshore works to completion of commissioning of the wind farm will be approximately 4 years. However the onshore works are expected to take up to 2 years and 4 months in total.

1.3 Landscape Character

1.3.1 The cable route and substation site can be divided into seven individual landscape character sections based on the boundaries of the West Sussex Landscape Character Assessment (WSLCA) local character areas:

- Character section 1: From the shoreline to East Worthing, adjacent to Brooklands Pleasure Park, to Upper Brighton Road.
- Character section 2: From Upper Brighton Road to a footpath that runs between Coombes and Cow Bottom.
- Character section 3: From the footpath that runs between Coombes and Cow Bottom, to Mill Hill Road, north of Erringham Farm.
- Character section 4: From Mill Hill Road, north of Erringham Farm, to the base of the scarp slope at Tottington Mount.
- Character section 5: From the base of the scarp slope at Tottington Mount to east of Woodhouse Farm.
- Character section 6: From the east of Woodhouse Farm to the east of Morley Farm.
- Character section 7: From the east of Morley Farm to the proposed substation footprint.
1.4 Sensitive Landscape and Ecological Receptors

1.4.1 Within the seven landscape character areas the following sensitive landscape and ecological receptors affected by the construction of the onshore works have been identified:

- Brooklands Pleasure Park and Golf Course – mature amenity trees, shrubs and grasslands
- Lower Cokeham reedbeds and ditches Site of Nature Conservation Importance (SNCI)
- Applesham Farm Bank Site of Nature Conservation Importance (SNCI)
- South Downs National Park – 14 km section between the A27 Sompting Bypass and just south of Horn Lane, Woodmancote
- Tottington Mount steep scarp slope and chalk grassland
- Beeding Hill to Newtimber Hill Site of Special Scientific Interest
- A283 Steyning Road Notable Verge
- Old Erringham Farm Valley and road cutting Site of Nature Conservation Importance (SNCI) and area of unnamed Ancient Semi-Natural Woodland (ASNW)
- Woodhouse Wood ASNW
- Paddock Wood ASNW
- Sensitive and protected vegetation types including woodland and individual mature trees, ‘important’ and ‘non important’ hedgerows, unimproved and semi-improved neutral grassland, chalk grassland, marshy grassland and coastal shingle
- Notable plant species associated with the vegetation types above
- One river, nineteen streams and fourteen drains/ditches
- Protected species including Badger, bats, Dormouse, Great Crested Newt (GCN), nesting birds including Schedule 1 species, reptiles and chalk grassland butterfly species.
2 CURRENT CONDITION

2.1 Character section 1

2.1.1 Summary of the current (pre-construction) condition to include reference to topography, vegetation, noted habitats and current land use and management regimes. To be supported by photographic evidence.

2.1.2 Pre-construction tree surveys will be detailed in the Arboricultural Report in Appendix 2.

2.1.3 The pre-construction condition assessment summary will also include:

- Confirmation of status and location of Badger sett 1
- Confirmation of locations of TPO trees in Brooklands Pleasure Ground

2.2 Character section 2

2.2.1 Summary of the current (pre-construction) condition to include reference to topography, vegetation, noted habitats and current land use and management regimes. To be supported by photographic evidence.

2.2.2 Pre-construction tree surveys will be detailed in the Arboricultural Report in Appendix 2.

2.2.3 The pre-construction condition assessment summary will also include:

- Confirmation of status of hedgerows either side of Lambleys Lane for invertebrate mitigation
- Confirmation of status of hedgerows to the east of Lambleys Barn for Dormice mitigation
- Confirmation of status and location of Badger sett 2

2.3 Character section 3

2.3.1 Summary of the current (pre-construction) condition to include reference to topography, vegetation, noted habitats and current land use and management regimes. To be supported by photographic evidence.

2.3.2 Pre-construction tree surveys will be detailed in the Arboricultural Report in Appendix 2.

2.3.3 The pre-construction condition assessment summary will also include:

- Confirmation of status and location of Badger sett 3
2.4 Character section 4

2.4.1 Summary of the current (pre-construction) condition to included reference to topography, vegetation, noted habitats and current land use and management regimes. To be support by photographic evidence.

2.4.2 Pre-construction tree surveys will be detailed in the Arboricultural Report in Appendix 2.

2.4.3 The pre construction condition assessment summary will also include:
- Confirmation of status and location of Badger setts 4, 5, 6, 7, 8 and 9
- Baseline botanical NVC survey of Tottington Mount chalk grassland

2.5 Character section 5

2.5.1 Summary of the current (pre-construction) condition to included reference to topography, vegetation, noted habitats and current land use and management regimes. To be support by photographic evidence.

2.5.2 Pre-construction tree surveys will be detailed in the Arboricultural Report in Appendix 2.

2.5.3 The pre construction condition assessment summary will also include:
- Confirmation of status and location of Badger setts 10 and 11
- Confirmation of status of hedgerows highlighted for bat mitigation (five in total)
- Confirmation of status of ponds with Great Crested Newts (two in total)

2.6 Character section 6

2.6.1 Summary of the current (pre-construction) condition to included reference to topography, vegetation, noted habitats and current land use and management regimes. To be support by photographic evidence.

2.6.2 Pre-construction tree surveys will be detailed in the Arboricultural Report in Appendix 2.

2.6.3 The pre construction condition assessment summary will also include:
- Confirmation of status of hedgerow east of Woodhouse Farm for bat mitigation
• Confirmation of status of ponds with Great Crested Newts at Woodhouse Farm

2.7 **Character section 7**

2.7.1 Summary of the current (pre-construction) condition to included reference to topography, vegetation, noted habitats and current land use and management regimes. To be support by photographic evidence.

2.7.2 Pre-construction tree surveys will be detailed in the Arboricultural Report in Appendix 2.

2.7.3 The pre construction condition assessment summary will also include:

• Confirmation of status and location of Badger setts 12, 13, 14 and 15

• Confirmation of status of hedgerows highlighted for bat mitigation (five in total)

• Confirmation of status of ponds with Great Crested Newts (five in total)
3 MANAGEMENT AIMS

3.1 General

- To restore and reinstate disturbed sections of the cable route, temporary construction accesses and construction compounds to enable their previous condition to be re-established.

- To maintain the open aspect and general character of the existing local landscape of the onshore cable route.

- To compensate for the loss of established landscape features associated with the construction of the onshore cable route and substation, achieved through targeted planting of trees and shrubs and the application of re-seeding techniques on disturbed areas.

- To take into account the landscape management objectives identified within the West Sussex Landscape Land Management Guidelines.

- To ensure impacts on biodiversity are minimised and, where practical, to provide net gains for biodiversity.

3.1.1 These aims can be further broken down into more direct objectives for each character section.

3.2 Character section 1

- Fully reinstate areas of amenity grassland within 1 year of construction completion

- Reinstate areas of amenity landscape including mixed native and ornamental trees and shrubs with semi-mature stock matching what has been removed

- Reinstate all hedgerow breaches using indigenous species during the first appropriate planting season following site restoration

- Reinstate watercourse profile and banks habitats

- Allow natural regeneration of unimproved neutral grassland areas

- Avoid intentional killing or injury to common reptile species

- Minimise disturbance to active Badger setts

- Reinstate sensitive hedgerow for bats with semi-mature stock
3.3 Character section 2

• Fully reinstate areas of agricultural land within 1 year of construction completion

• Fully reinstate the small area of semi-improved chalk grassland near Lambley’s Barn, including re-seeding measures.

• Reinstating all hedgerow breaches using indigenous species during the first appropriate planting season following site restoration.

• Reinstating sensitive hedgerows for Dormouse (a total of two) with semi-mature stock.

• Avoid intentional killing or injury to common reptile species.

• Minimise disturbance to active Badger setts.

• Enhance chalk grassland at Steep Down through targeted scrub removal in conjunction with WSCC and SDNPA (subject to landowner consent).

3.4 Character section 3

• Fully reinstate areas of agricultural land within 1 year of construction completion.

• Allow natural regeneration of semi-improved neutral grassland areas.

• Reinstating all hedgerow breaches using indigenous species during the first appropriate planting season following site restoration.

• Reinstating watercourse profile and banks habitats.

• Avoid intentional killing or injury to common reptile species.

• Reinstating sensitive hedgerow for bats with semi-mature stock.

• Minimise disturbance to active Badger setts.

• Reinstating three derelict ponds at Old Erringham Farm Valley.

3.5 Character section 4

• Fully reinstate the chalk grassland and scarp slope at Tottington Mount and carry out post-construction monitoring and aftercare for a period of up to five years.
• Fully reinstate areas of agricultural land within 1 year of construction completion

• Reinstate all hedgerow breaches using indigenous species during the first appropriate planting season following site restoration

• Minimise disturbance to active Badger setts

• Avoid intentional killing or injury to common reptile species

3.6 Character section 5

• Fully reinstate areas of agricultural land within 1 year of construction completion

• Reinstate all hedgerow breaches using indigenous species during the first appropriate planting season following site restoration

• Allow natural regeneration of semi-improved neutral grassland areas

• Reinstate watercourse profile and banks habitats

• Avoid intentional killing or injury to common reptile species

• Avoid intentional killing or injury to Great Crested Newts

• Reinstate sensitive hedgerow for bats with semi-mature stock

• Minimise disturbance to active Badger setts

3.7 Character section 6

• Fully reinstate areas of agricultural land within 1 year of construction completion

• Reinstate all hedgerow breaches using indigenous species during the first appropriate planting season following site restoration

• Reinstate watercourse profile and banks habitats

• Avoid intentional killing or injury to Great Crested Newts

• Reinstate sensitive hedgerow for bats with semi-mature stock

3.8 Character section 7

• Fully reinstate areas of agricultural land within 1 year of construction completion
• Reinstate all hedgerow breaches using indigenous species during the first appropriate planting season following site restoration

• Allow natural regeneration of semi-improved neutral grassland areas

• Reinstate watercourse profile and banks habitats

• Avoid intentional killing or injury to common reptile species

• Avoid intentional killing or injury to Great Crested Newts

• Reinstate sensitive hedgerow for bats with semi-mature stock

• Minimise disturbance to active Badger setts

• Physical and visual integration of the substation into the local landscape

• To provide a degree of visual softening, screening and containment around the proposed substation.
4 MITIGATION DURING CONSTRUCTION

4.1 Management Plans

4.1.1 The following stand alone management plans will be produced and included as an appendix to this document:

- Hedgerow Management Plan
- Tottington Mount Management Plan

4.1.2 These will set out mitigation, compensation and enhancement measures to be implemented during, and post, construction. The Tottington Mount Management Plan will include a written scheme for the restoration of the chalk grassland to satisfy aspects of the DCO.

4.2 Site Specific Method Statement

4.2.1 The following site specific method statements (SSMS) will be included as an appendix to this document where detailed clarification is required in relation to specific mitigation, compensation and enhancement measures at certain sites or a group of sites:

- SSMS 1 – Old Erringham Farm Valley SNCl (including the A283 Notable Verge and area unnamed ASNW);
- SSMS 2 – Tottington Mount (with regard to Badgers);
- SSMS 3 – stream crossings north of Truleigh Sands;
- SSMS 4 – Woodmancote (plots XX to XX);
- SSMS 5 – Paddock Wood ANSW;
- SSMS 6 – Herrings stream
- SSMS 7 – Substation

4.3 Arboricultural Method Statement

4.3.1 This method statement will be included as an appendix to this document and will contain details for generic and specific working methods in and around the retained trees. Specifications of protective fencing(buffer zones and or other measures necessary for protecting trees will be specified together with appropriate signage.

4.3.2 The tree protection plan will be incorporated within the Ecological and Landscape Management Plan, with protection measures indicated.
4.4 Protected Species Method Statements

4.4.1 In addition to the above the following Protected Species Method Statements (PSMS) will be included as an appendix to this document, where specific methodologies need to be followed for mitigation works during construction:

- PSMS 1 – Seed harvest, storage and re-seeding
- PSMS 2 – Pre-works vegetation clearance
- PSMS 3 – Reptile mitigation
- PSMS 4 – Great Crested Newt mitigation
- PSMS 5 – Mitigation for Barn owls and other Schedule 1 bird species
- PSMS 6 – Bat tree mitigation
- PSMS 7 – Badger mitigation
- PSMS 8 – Dormouse mitigation

4.4.2 In addition to the above there will be licences required for Badger, Dormouse (to be confirmed, awaiting correspondence from Natural England) and Great Crested Newt mitigation. These licences will contain detailed method statements specific to the species and the works proposed. They will be submitted to, and approved by, Natural England. The Great Crested Newt (and Dormouse if required) draft European Protected Species licence applications will address the DCO requirement to produce a scheme of protection and mitigation measures where European Protected Species are present.

4.4.3 Generic mitigation measures to be implemented along the cable route during construction will be detailed below in the relevant section.

4.5 Implementation Timetable

4.5.1 This will be produced when a construction start date has been confirmed and in conjunction with the appointed contractor.

4.5.2 The ELMP will act as a key document to brief contractors on all aspects of the ecological and landscape mitigation, compensation and enhancement. The appointed contractor will be expected to sign up and comply with all the requirements detailed in the plan.
5 REINSTATEMENT

5.1 Landscape Planting Plan

5.1.1 All reinstatement measures to be implemented along the cable route will be shown on the Landscape Planting Plan showing planting and maintenance specifications. This will include re-planting required by the Hedgerow Management Plant (Document XX).

5.1.2 The Landscape Planting Plan and specifications will be issued to WSCC and SDNPA (where appropriate) for approval before re-planting commences.

5.2 Proposed Tree Planting

5.2.1 Any trees removed will be replaced on a 2 for 1 ratio. No deep rooted tree species will be planted within 6 m of the centerline of the cables or any existing overhead lines.

5.2.2 The species of tree to be replanted will be agreed between the arboriculturalist and landscape team once a schedule of tree removals has been confirmed. This will be shown on the Landscape Planting Plan and detailed in the Landscape Works and Maintenance Specifications.

5.3 Hedgerow Replanting

5.3.1 A replanting schedule for hedgerow breaches will be provided in the Hedgerow Management Plan as well as additional management measures to be implanted in specific areas. The re-planting mixtures will also be shown on the Landscape Planting Plan. This plan will be issued to WSCC and SDNPA (where appropriate) for approval before replanting commences.

5.4 Re-seeding

5.4.1 Re-seeding will be provided at the discretion of the landowner. Re-seeding of chalk grassland areas, the A283 notable verge and the unimproved field west of the new substation from harvested seed is dealt with within Protected Species Method Statement (PSMS) 1. Re-seeding of chalk grassland will only be undertaken where turfing is unachievable or unsuccessful. All other areas of unimproved or semi-neutral grassland along the cable route will be left to naturally regenerate as this is the preferred reinstatement method for this habitat.

5.4.2 Re-seeding mixtures for arable or improved grassland will be shown on the Landscape Planting Plan and detailed in the Landscape Works and Maintenance Specifications.
5.5 Watercourse Restoration

5.5.1 Bank and bed material removed for construction will be reinstated in the reverse order in which they were removed, to promote the re-establishment of natural riparian habitats. The reinstated areas will be fenced off where there is a risk of poaching of the banks by livestock.

5.5.2 Natural regeneration of aquatic vegetation is the preferred reinstatement method for this habitat, however any riparian trees removed to facilitate works will be re-planted, where appropriate. The re-planting mixtures will be shown on the Landscape Planting Plan and detailed in the Landscape Works and Maintenance Specifications.

5.5.3 Additional reinstatement measures required as part of the Water Framework Directive will be agreed with the Environment Agency and detailed here and within the Site Specific Method statements (SSMS) 3 and 6.

5.6 Substation

5.6.1 The specific substation landscaping strategy will be detailed here once a design has been finalised. It will include details of all proposed hard and soft landscaping works need to be submitted to WSCC as a requirement of the DCO, this includes details on the following:

- location, number, species, size and planning density of any proposed planting, including any trees;
- cultivation, importing of materials and other operations to ensure plant establishment;
- proposed finished ground levels;
- hard surfacing materials;
- vehicular and pedestrian access, parking and circulation areas;
- minor structures, such as furniture, refuse or other storage units, signs and lighting;
- proposed and existing functional services above and below, ground, including drainage, power and communications cables and pipelines, manholes and supports;
- details of existing trees to be retained with measures for their protection during the construction period;
- retained historic landscape features and proposals for restoration, where relevant; and
• implementation timetables for all landscaping works.
6 MONITORING AND AFTERCARE

6.1 Proposed Planting

6.1.1 The reinstatement of all replanted areas, including individual trees or hedgerow sections, shall be monitored for a period of five years from the end of construction.

6.1.2 During this time, any plants which have failed to establish will be replaced, weeds removed and herbicide applied if required. Tree boxes will also be maintained.

6.2 Watercourses

6.2.1 The reinstatement of all watercourses shall be monitored for a period of five years from the end of construction. This will include inspecting upstream and downstream for signs of erosion/slumping of banks. In areas where this may have occurred, remedial works will be carried out following consultation with the landowner.

6.3 Grassland Reinstatement

6.3.1 EON shall monitor the reinstatement of all grassland areas for a period of 5 years. Monitoring of the chalk grassland at Tottington Mount will occur for five years post reinstatement, details of this are dealt with in the Tottington Mount Chalk Grassland Management Plan.
Schedule of Mitigation (Register of Aspects & Impacts) Ecological & Landscape

<table>
<thead>
<tr>
<th>Relevant ES Section</th>
<th>Activity/Impact</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>During Construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to the South Downs National Park</td>
<td>All mitigation measures within the South Downs National Park will be developed in partnership with the South Downs National Park Authority (SDNPA) and will be carried out to agreed standards/specifications.</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to the Beeding Hill to Newtimber Hill SSSI</td>
<td>Post-construction monitoring will be undertaken at Tottington Mount which may provide valuable information on the areas of chalk grassland adjacent to the SSSI. This information will be provided to Natural England on an annual basis and could potentially help inform future long term management of the SSSI and its surrounds.</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to Applesham Farm Bank SNCI</td>
<td>To enhance the site and compensate for the loss of an area of new plantation, a small amount of scrub removal will be undertaken from the nearby chalk grassland embankment adjacent to the path.</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to Old Erringham Farm Valley and Road Cutting SNCI and A283 Steyning Road</td>
<td>Widening of the existing entrance to the site from the A283 will be minimised as far as possible to reduce the direct impact to the A283 Notable Verge. In addition, seed will be harvested from the verge prior to the works commencing to aid the restoration of the road verge post-construction. During construction the areas of chalk grassland embankment and ANSW will be fenced off and marked clearly as ecological sensitive areas to ensure that there is no encroachment during works. The trees and scrub present within the section of ASNW close to the proposed working area are young and therefore indirect impacts from root damage due to their proximity to drilling works are unlikely. However, an arboricultural survey will be undertaken here to confirm whether any additional mitigation associated with the protection of the trees is required. This will also be applied to the group of <em>Aesculus hippocastanum</em> (Horse-chestnut) trees at this site which are to be retained and protected.</td>
</tr>
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<tr>
<th>Relevant ES Section</th>
<th>Activity/Impact</th>
<th>Mitigation</th>
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<tbody>
<tr>
<td>Notable Verge</td>
<td>To mitigate the loss of a notable plant species, protection will be installed over the existing farm track (for example, aluminium tracks). Removal of scrub from the chalk grassland embankments and reinstatement of ponds (the site citation refers to three derelict ponds being present and requiring management) will also be undertaken to compensate for any habitat loss to this site.</td>
<td></td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to Lower Cokeham reedbeds and ditches SNCI</td>
<td>Pollution prevention guidelines from the Environment Agency will be implemented throughout the horizontal directional drill working area north of the railway. In addition, the natural water flow in this area will not be impeded during the proposed works, unless required in the case of emergency.</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to Ancient Semi Natural Woodland</td>
<td>Areas of ASNW will be avoided and clearly marked to indicate their sensitivity during construction. Where possible, a buffer of between 5 m and 15 m will be maintained between the ASNW site boundary and the edge of the working width. The hedgerow breach at Target Note 160 will also be reduced to 20m to minimise the impact to the ecological network. In addition generic measures will be implemented to protect root systems when there is risk of them being present within the working area. When detailed working areas have been confirmed, further guidance will be sought from an arboriculturalist to advise on appropriate working distances from the areas of ASNW.</td>
</tr>
</tbody>
</table>
| Section 24 - Ecology | Impacts to woodland, scrub and trees | A pre-construction walkover survey will be undertaken by an appropriately experienced arboriculturalist as soon as a detailed working area has been agreed. They will define specific mitigation measures required for all trees situated in or adjacent to the working width. The typical mitigation measures that will be employed during construction to minimise the impacts upon trees and woodland are as follows:  
  - The roots of retained trees along the edge of the working width will be protected from soil compaction by the enforcement of root protection areas that will be fenced off from the construction. (the extent of which will be calculated using guidance from BS 5837:2012);  
  - Facilitation pruning may be recommended where tree crowns are at risk from impact by machinery or high sided vehicles;  
  - The working width within woodlands will be reduced by storing soils from the woodland areas within the working width of adjacent sections of lower |
### Relevant ES Section | Activity/Impact | Mitigation
--- | --- | ---

- Soil excavated from within the woodland areas will be stored separately to that removed from either side of the woodland. This will protect any seeds which may be present within the ancient woodland soil. Soil will be stored in a fenced-off area; highlighting its different origin to soil excavated outside of the woodland and preventing mixing of the two;

- The woodland soils will be replaced within the woodlands on completion of the cable installation;

- A Project Reinstatement Plan (PRP) will be prepared and agreed with SDNPA;

- Replanting will be with native species, preferably of local origin at a 2 for 1 ratio;

- To aid establishment of trees and shrubs, they will be protected by tree-guards and weeds will be controlled;

- Where possible, removal of vegetation will be timed to avoid the bird breeding season as noted in Section 24.6. ‘During construction – Nesting Birds’; and

- If bat roosts are found in the trees then the mitigation measures set out in Section 24.6 ‘During Construction – Bats’ will be followed.

In addition to the measures described above, a number of high value mature trees have been identified along the route and discussions have been had with project engineers to reduce the risk to these individual trees where possible. These measures include the following:

- A group of Aesculus hippocastanum (Horse-chestnuts) at Target Note 108 – the working area will be sited to the south of the easement here and the trees fenced off during construction to reduce any impact;

- A Quercus robur (Pedunculate Oak) at Target Note 133 – the cable easement will be micro-sited to avoid impacting the tree and the tree will be fenced off during construction;

- A Quercus robur (Pedunculate Oak) at Target Note 139 within a narrow corridor of high value scrub habitat along the banks of a stream – the cable easement will be micro-sited to the east, where possible, to avoid impacting the tree and the working width will be reduced to 20m at the stream crossing to minimise the impact on the stream corridor and high value scrub;

- A Quercus robur (Pedunculate Oak) at Target Note 149 - the cable easement will be micro-sited, where possible here, to avoid impacting the tree;

- A Quercus robur (Pedunculate Oak) (near Target Note 177) situated in the middle of a field, south of Woodhouse – the working area will be sited to
Mitigation

- the to the west of the easement here and the tree will be fenced off during construction;
- two Quercus robur (Pedunculate Oaks) at Target Note 285, located either side of cable easement – the working width will be minimised at this location to reduce damage to these trees;
- A line of trees at Target Note 292 – the tree line will be maintained where possible and the working width reduced to 20m at this crossing however there will be a residual loss of trees here;
- A narrow woodland strip at Target Note 297 and mature trees at Target Note 298 situated either side of a road crossing – the working width will be reduced to 20m here to reduce the impact on woodland and trees;
- An area of semi-natural woodland at Target Note 299 outside Paddock Wood ASNW – the working width will be minimised and the easement and working area will be maintained to the east of the ASNW; however there will be a residual loss of trees here;
- A Quercus robur (Pedunculate Oak) at Target Note 316 with a nesting Barn Owl – the cable easement will be micro-sited to avoid impacting the tree and the tree will be fenced off during construction; and
- A Quercus robur (Pedunculate Oak) at Target Note 258 – the working area will be sided to the west of the easement and the tree will be fenced off during construction.

With regard to the thin strip of semi-natural woodland at Target Note 277, a crossing location for the temporary substation construction access road will be selected based on which location has the least impact on high value mature trees. Advice will also be sought from an arboriculturalist on any additional measures required to protect trees either side of the access route.

### Section 24 - Ecology

**Impacts to hedgerows**

Compensatory planting for the two ‘important’ hedgerows lost at the proposed substation will occur at two locations to the north and east of the proposed substation. An indicative landscape strategy has been prepared for the substation site. The species planted will be of native origin and will reflect the species present within this area and that which will be lost. Careful consideration will be given to the location of the compensatory planting to ensure that the hedgerow connectivity of the local area will be enhanced.

For non-important hedgerows where there are no protected species issues (e.g. they are not used as important commuting/foraging routes by bats), the following measures will be followed:

- the topsoil (including any bank) from beneath the hedgerow will be stripped and stored separately;
- vegetation and topsoil from any associated ditch will be stripped and stored separately;
soil storage areas will be clearly signed and demarcated to prevent any mixing with other soils;

- banks and ditches will be reformed to similar profiles as before;
- topsoil will be replaced after works;
- planting will use native species, preferably of local origin;
- planting will use shrubs of the same species and in the same general proportions as existed pre-construction; and
- to aid establishment of replanted trees and shrubs, they will be protected by stock-proof and either rabbit-proof fencing or tree guards.

The mitigation measure for the ‘important’ hedgerows will be the same with the exception that where viable:

- vegetation will first be strimmed to ground level; and
- where possible, geotextile will be used for the running track to reduce the amount of topsoil being stripped (this will aid reinstatement of vegetation).

At hedgerow crossings identified as sensitive for bats, dormouse and invertebrates soil storage will be offset along the working spread to minimise the amount of hedge removed at the crossing point. The working width will be reduced to 20m at these specific hedgerow crossings.

In three locations, hedgerows run parallel to the proposed cable route. The working area at these locations will be maintained to the east of the easement to avoid removing long lengths of hedgerow.

<table>
<thead>
<tr>
<th>Crossing No</th>
<th>Crossing Type</th>
<th>Sensitivity</th>
<th>Description</th>
<th>Proposed Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-01</td>
<td>Landfall</td>
<td>Ecology</td>
<td>Environmental impact on foreshore due to traversing of heavy vehicles during construction</td>
<td>Matting will be laid on foreshore during cable landfall operation</td>
</tr>
<tr>
<td>02-17</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to</td>
<td>Working width to be</td>
</tr>
<tr>
<td>Relevant ES Section</td>
<td>Activity/Impact</td>
<td>Mitigation</td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>be minimised</td>
<td>reduced to 20m at this location. Possibility that it may be crossed by HDD as part of Sompting- Bypass HDD.</td>
<td></td>
</tr>
<tr>
<td>03-02</td>
<td>Hedgerow</td>
<td>Invertebrates</td>
<td>Hedgerow breach to be minimised</td>
<td>Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>03-06 to 03-07</td>
<td>Hedgerow</td>
<td>Dormouse</td>
<td>Hedgerow breach to be minimised</td>
<td>Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>04-01</td>
<td>Hedgerow</td>
<td>Dormouse</td>
<td>Hedgerow breach to be minimised</td>
<td>Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>07-02</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to be minimised</td>
<td>Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>07-05 to 07-08</td>
<td>Other</td>
<td>SNCI</td>
<td>Impact to ASNW and SNCI to be avoided, pinch point east of River Adur</td>
<td>HDD used to minimize impact on SNCI and reduced working width used to minimise impact on ASNW.</td>
</tr>
<tr>
<td>07-11</td>
<td>Other</td>
<td>Mature Tree</td>
<td>Group of mature trees to north of easement</td>
<td>Working area will be sided to south of easement. Mature trees will be fenced off during construction.</td>
</tr>
<tr>
<td>South of 11-01</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Sensitive hedgerow for bat foraging runs parallel to western edge of easement.</td>
<td>Working width will be maintained to the east.</td>
</tr>
<tr>
<td>11-05</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to be minimised</td>
<td>Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>11-08</td>
<td>Ditch</td>
<td>Mature Tree</td>
<td>Mature tree to be avoided</td>
<td>Cable easement will be micro-sited to avoid impacting on mature tree. Tree will be fenced off during</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Relevant ES Section</th>
<th>Activity/Impact</th>
<th>Mitigation</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-01</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to be minimised</td>
</tr>
<tr>
<td>12-03</td>
<td>Hedgerow</td>
<td>Mature Tree</td>
<td>Mature tree conflicting with easement</td>
</tr>
<tr>
<td>12-03</td>
<td>Stream</td>
<td>Ecology</td>
<td>Sensitive stream crossing, risk to stream ecology</td>
</tr>
<tr>
<td>12-05 &amp; 12-06</td>
<td>Stream</td>
<td>Ecology</td>
<td>Sensitive stream crossing, risk to stream ecology</td>
</tr>
<tr>
<td>12-09</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to be minimised</td>
</tr>
<tr>
<td>12-10</td>
<td>Hedgerow</td>
<td>Mature Tree</td>
<td>Mature tree conflicting with easement</td>
</tr>
<tr>
<td>14-04</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to be minimised</td>
</tr>
<tr>
<td>14-04 to 14-06</td>
<td>Other</td>
<td>Other</td>
<td>Marshy grassland to west of easement</td>
</tr>
<tr>
<td>15-01 to 15-04</td>
<td>Hedgerow</td>
<td>Ecology</td>
<td>Hedgerow running parallel to west of easement between these crossings.</td>
</tr>
<tr>
<td>15-02</td>
<td>Other</td>
<td>Mature Tree</td>
<td>Impact on mature tree standing within working area</td>
</tr>
<tr>
<td>Relevant ES Section</td>
<td>Activity/Impact</td>
<td>Mitigation</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>15-07</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to be minimised. Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>15-09</td>
<td>Ditch</td>
<td>ASNW</td>
<td>Woodhouse Wood ASNW impinges onto the west working area. Working width to be minimised to avoid impact on ASNW. Working area will be sided to east of easement.</td>
</tr>
<tr>
<td>16-02</td>
<td>Stream</td>
<td>Ecology</td>
<td>Sensitive stream crossing, risk to stream ecology. Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>16-06</td>
<td>Hedgerow</td>
<td>Mature Tree</td>
<td>Two mature trees located at this crossing, one on either side of cable easement. Working width to be minimised to avoid impact on these mature trees.</td>
</tr>
<tr>
<td>16-06 to 16-11</td>
<td>Hedgerow</td>
<td>Ecology</td>
<td>Hedgerow running parallel to east of easement between these crossings. Working area will be sided to west of easement to avoid removing long length of hedgerow.</td>
</tr>
<tr>
<td>16-11</td>
<td>Hedgerow</td>
<td>Mature Tree</td>
<td>Multiple mature trees at this crossing. Treeline to be maintained where possible. Likely that at least some of tree line will be impacted during construction (~12m width). Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>16-13</td>
<td>Hedgerow</td>
<td>Bats</td>
<td>Hedgerow breach to be minimised. Working width to be reduced to 20m at this location and micro-site further north.</td>
</tr>
<tr>
<td>16-14</td>
<td>Road</td>
<td>Mature Tree</td>
<td>Mature trees are situated on both sides of the road. There is also a pond on the south side of the road. Working width to be reduced to 20m at this location.</td>
</tr>
<tr>
<td>17-02</td>
<td>Other</td>
<td>ASNW and Bats</td>
<td>Paddock Wood ASNW to the west of</td>
</tr>
<tr>
<td>Relevant ES Section</td>
<td>Activity/Impact</td>
<td>Mitigation</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
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<td>------------</td>
<td></td>
</tr>
<tr>
<td>17-05</td>
<td>Track Bats</td>
<td>Hedgerow breach to be minimised. This access track will be crossed by mini-HDD, hedgerow will not be breached.</td>
<td></td>
</tr>
<tr>
<td>17-06</td>
<td>Hedgerow Barn Owl</td>
<td>Mature tree to be avoided, home to a barn owl. Cable easement will be micro-sited east to avoid impacting on mature tree. Tree will be fenced off during construction.</td>
<td></td>
</tr>
<tr>
<td>18-06</td>
<td>Stream Ecology</td>
<td>Sensitive stream crossing. Working width to be reduced to 20m at this location.</td>
<td></td>
</tr>
<tr>
<td>18-02</td>
<td>Stream Ecology</td>
<td>Sensitive stream crossing. Working width to be reduced to 20m at this location.</td>
<td></td>
</tr>
<tr>
<td>South of 19-51</td>
<td>Hedgerow Ecology</td>
<td>Hedgerow running parallel to west of easement between these crossings. Working area will be sited to east of easement to avoid removing long length of hedgerow.</td>
<td></td>
</tr>
<tr>
<td>19-51</td>
<td>Hedgerow Mature Tree</td>
<td>Impact on mature tree standing within working area. Working area will be fenced off during construction.</td>
<td></td>
</tr>
</tbody>
</table>

### Section 24 - Ecology

Impacts to grassland

In all grassland (outside of the chalk grassland areas) topsoil will be stripped, stored and replaced to retain the seed bank. Reinstatement of improved grassland areas may be supplemented by seeding, using standard agricultural seed mixes, however this will be at the discretion of the landowner and SDNPA will be consulted beforehand if areas are within the SDNP.

In neutral grassland areas, natural regeneration is preferred and no supplementary seeding will be used. However topsoil from the neutral grassland at the temporary construction access road (Target Note 277) will need to be stripped and stored for up to 2 years. Therefore to mitigate for any loss in viability of the soil after this time, seed will be harvested from the area prior to construction commencing and the impacted area will be re-seeded during reinstatement.

The proposed cable route crosses chalk grassland in two locations: east of Lambleys Barn and Tottington Mount, both of these areas are on steep slopes. The
The chalk grassland to the east of Lambleys Barn is generally in unfavourable condition and covers a relatively small area (approximately 7,600m²). Standard topsoil strip as described above will be implemented here however during reinstatement the area will be re-seeded with seed harvested from the area affected (at an appropriate time of the year) prior to the works commencing.

There are two appropriate methods for re-seeding:

- **Hay strewing**: Hay that is cut and collected, with minimal turning, from local donor sites after flowering will contain seeds from many of the plants present. Most grassland species set seed between June and August. Cutting in early June should mean that most of the seeds are still attached. A second cut would catch later seeding species. Actual timing of cuts will depend on location and species composition. More seed may be lost when collecting using a forage harvester than with hay making, but the choice of method will depend on the availability of machinery. The hay should be spread as soon as possible after its collection to minimise seed loss to rot during storage (After Minerals 2010).

- **Seeding**: Seeds may be collected from the proposed development site in advance, from a local donor site using a brush harvester, or acquired from commercial sources. It should be ensured the seeds have native provenance and are from a local source. Only a restricted range of species is commercially available and therefore these can be used as a starter sward, as other species will colonise over time (After Minerals 2010).

This approach will require a detailed plan for harvesting, cleaning and storing seed from adjacent areas (brush harvester can work well and is regularly used by Weald meadows initiative) or harvesting hay (with seed) just before reinstatement. The timing of reinstatement will influence which method is preferred. Hay cannot be stored for any length of time (must be strewn immediately after harvest) or seeds will die due to microbial activity.

The overall method statement for reinstatement of this area will be agreed with WSCC.

The construction methodology for the chalk grassland areas on Tottington Mount is complex and has been described in Section 2b.5 ‘Crossing of Chalk Grassland’. The working methodology for the chalk grassland sections will be agreed with the SDNPA.

Designed-in mitigation for Tottington Mount has included modifying the construction method through Section TM2 so that only four approximately 1m wide strips of chalk grassland above each trench are directly removed. In addition, using bog matting or similar temporary surfacing for the haul road and either side of the trench has also been designed-in for this section. For Section 3 the designed-in mitigation has included reducing the impacted area to between 6m and 12m (final method yet to be decided).

The proposed technique for removing the areas of chalk grassland within the working width for Section TM2 is through turfing. The turves would be removed in large sections and reinstated back in the same position on the ground after the work is complete. Each turf section will be up to 1.0m x 1.2m in area, cut in depths of up to 300mm and laid either side of the working width in single layers. Turves will be stored on a porous geotextile membrane as close as possible to the trench.

The construction programme in this area will be kept to a minimum to reduce the length of time the turf/topsoil is stripped. In addition, the installation of the cables in the ducts will be sequenced to follow on immediately after the ducts are installed to allow closure of the haul road and the final replacement of the...
In all areas of chalk grassland on Tottington Mount a compromise has been made between reducing the working width as far as possible to minimise the impact to the chalk grassland and retaining enough space to be able to store the removed turves in a single layer within the working width (to avoid the requirement for any transportation of the turves).

Turfing will greatly minimise the impact to chalk grassland at Tottington Mount by enabling quicker reinstatement and retaining the natural seed bank and topsoil mix; however it will not eliminate all the impacts. Impacts associated with shading and compaction of adjacent areas of chalk grassland where turves have been stored will remain. There will also be a residual risk that turves will not reinstate properly or that indirect impacts such as settlement in the trench area, changing soil conditions and plant death leading to areas of bare ground and increased erosion will occur. Turf shrinkage would result in some bare turf shortfall areas that may require seeding treatments to enhance vegetation development. In Section TM3, which is approximately 100m in length and up to 12m wide, it may be necessary to excavate the trenches without topsoil/turf removal due to health and safety implications associated with the gradient of this section. The mitigation proposed for chalk grassland here, in addition to minimising the working width as far as possible, will be to harvest seed from the area prior to construction commencing and re-seed the working width post construction.

Post-construction monitoring will be undertaken at Tottington Mount to assess the success and survival of chalk grassland turves and re-seeded areas and to identify any additional post reinstatement management and aftercare that may be required to control such issues as increased weed populations or to carry out re-vegetation of bare areas.

The post-construction monitoring strategy will be formulised following consultation with stakeholders including the SDNPA. The duration of monitoring will be five years post-construction.

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### Section 24 - Ecology

#### Impacts to marshy grassland and swamp

The working area at Target Note 162 will be sided to the east of the easement to minimise the impact to an area of high value marshy grassland.

In this area additional consideration will be given for the use of bog matting, preferable in the form of aluminium rafts rather than typical bog mats made from 5m-wide timber boards, for the running track. This would result in fewer disturbances to the habitats underneath.

For the sections where disturbance cannot be avoided (i.e. the cable trench) topsoil will be removed, stored and reinstated and the area left to recover naturally.

#### Impacts to coastal shingle

The impact of light plant on vegetated areas will be minimised by reducing the width of the access track to the foreshore as far as possible and using light machinery only. In addition, aluminium matting will be laid on the foreshore during landfall operations to further protect the vegetated areas.
<table>
<thead>
<tr>
<th>Relevant ES Section</th>
<th>Activity/Impact</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to saltmarsh</td>
<td>The River Adur will be crossed using HDD to avoid impacts to the adjacent saltmarsh area and the river itself.</td>
</tr>
</tbody>
</table>
| Section 24 - Ecology | Impacts to rivers, streams and ditches | Crossing points will be chosen within the Development Area to minimise impacts and preserve valuable features as far as possible. Bank-side vegetation will be retained, with trees and shrubs coppiced rather than grubbed-out where practicable. Bank and bed materials removed for construction will be stored separately and replaced in the reverse order in which they were removed, to promote the re-establishment of appropriate habitat. Trees and shrubs will be replanted and the reinstated areas will be fenced off to prevent damage (including poaching) by livestock. Geotextile matting will be used, wherever necessary, to reinforce banks during reinstatement. The timing of the works will be carefully selected and periods of low flow will be chosen wherever practicable. The working width will be reduced to 20m at the following watercourse crossings:  
  - Stream north of Truleigh Sands (Target Note 139);  
  - Stream north of Truleigh Sands (Target Note 141);  
  - Stream south of Morley Farm (Target Note 187);  
  - Herrings Stream – crossing 1 (Target Note 222); and  
  - Herrings Stream – crossing 2 (Target Note 246).  
Measures to minimise impacts due to sediment release or pollution will be implemented and open-cut crossings will be completed in the shortest time possible. |
<p>| Section 24 - Ecology | Impacts to ponds | In general ponds have been avoided during the routing process. Where this has not been possible and ponds fall within the working width (i.e. at Old Erringham Farm Valley and Road Cutting SNCI) they will be fully reinstated after construction. One pond at Target Note 297b is situated on the edge the working width but the working area will be reduced at this location and the pond fenced off to prevent any damage. No supplementary planting is proposed for any ponds and natural re-colonisation of aquatic plants should be allowed. |</p>
<table>
<thead>
<tr>
<th>Relevant ES Section</th>
<th>Activity/Impact</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>It is proposed that the three derelict ponds at Old Erringham Farm Valley and Road Cutting SNCI are reinstated, this is in agreement with WSCC ecologists.</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to arable habitats</td>
<td>All arable fields will be reinstated to the same condition.</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to semi-urban habitats</td>
<td>All amenity grassland will be reinstated to the same condition. Areas of shrub and ornamental trees will be reinstated with semi-mature stock matching what has been removed.</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to invasive plant species</td>
<td>Owing to the presence of invasive plant species along the proposed cable route an Invasive Species Management Plan will be prepared prior to construction and implemented in the highlighted areas. All mitigation measures outlined in this plan will be agreed with the EA. This is discussed in further detail in Section 20 (Agriculture and Soils).</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to Badgers</td>
<td>Badgers are highly mobile species and can occupy their setts at different times over a number of years and seasons.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Owing to the length of time before construction commences all identified setts will be re-surveyed in a pre-construction walkover survey in order to assess their status and current use. Following this survey a method statement will be prepared and submitted to NE detailing outline construction methods to inform whether a disturbance licence will be required. The pre-construction walkover survey will also allow any newly excavated setts to be identified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Licences allowing works to proceed close to active Badgers setts, as works that would cause disturbance as defined by NE, will be acquired. Licences for disturbance are normally only issued for the period 1 July – 30 November and any deviation from this period would need to be discussed and agreed with NE in advance of submitting the licence application.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>During construction, Badgers will be prevented from accessing the working width (and the trench during the brief period that it is open) by stock-proof fencing which will be erected either side of the working width. In areas of high Badger activity, ramps will be installed when the trench is left open overnight to ensure that in the unlikely event that Badgers gain access into the working width/trench there is a means of exiting the trench available.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Setts 10 and 13 are situated on the edge of the proposed works area. In both locations the easement and/or working area will be micro-sited to avoid the need to close either sett. Owing to the proximity of Sett 10 to the cable works area a trial trench will be dug at the closest proposed trench line prior to construction to</td>
</tr>
<tr>
<td>Relevant ES Section</td>
<td>Activity/Impact</td>
<td>Mitigation</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------</td>
<td>------------</td>
</tr>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to roosting Bats</td>
<td>Unnecessary loss of trees will be avoided as much as possible through cable route refinement and reducing the working width. However, impacts associated with the loss of bat roosts may occur along the proposed cable route. The following mitigation strategy will be employed to minimise impacts for roosting bats during construction of the cable.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trees to be removed, with Category 1 features:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Inspect features using ladders or tree climbing equipment (any time of the year);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- If no bats or evidence of bats is found then the features could be blocked (providing all aspects of the feature can be fully inspected);</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Where it is not possible to access Category 1 features by climbing, it may be possible to carry out work on the tree in a careful way in the presence of a bat ecologist (as a precautionary measure); and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- If bats or signs of bats are found in any of the features, an EPS licence will be necessary to work on or remove the trees.</td>
</tr>
<tr>
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<td>Trees to be removed, with Category 2 and 3 features:</td>
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<td>- Inspect features using ladders or tree climbing equipment (this is best done during late summer or early autumn for fresh evidence and more reliable results);</td>
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<td>- Where it is not possible to access features by climbing, conduct emergence surveys during the summer months to confirm presence or likely absence of bats;</td>
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<td>- Retain features which might be lost due to pruning or felling by re-attaching to trees or alternatively erecting bat boxes in the surrounding area to</td>
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ensure that no sett tunnels extend towards the trenching areas.

The hedgerow in which Sett 13 is located will be retained and therefore potential dispersal routes and foraging areas to the east of the proposed substation will not be impacted.

As a result of the current location of the proposed cable route, Badgers will need to be excluded from Sett prior to works starting. Controlled exclusion will be carried out, under licence from NE, to ensure that no Badgers remain in the sett at the time of construction. This would involve the use of one-way gates on the sett entrance and a monitoring period of at least three weeks. Once sure that the sett is empty, works could then proceed. It should be noted that Sett 5 is an annex sett which is close to a main sett and in an area of high Badger activity.
### Mitigation for Roosting Bats

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<th>Relevant ES Section</th>
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<tbody>
<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to commuting and foraging Bats</td>
<td>To compensate for the overall loss of roosting habitat; and</td>
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- If bats or signs of bats are found in any of the features, a EPS bat development licence will be necessary to work on or remove the trees.

If roosts are identified, and destruction cannot be avoided, further surveys may be necessary to inform the EPS licensing process. Should this occur it will result in a permanent negative impact upon the bat population which, depending upon the bat species and number of individual bats/roosts affected could be significant up to the County level.

The BCT Guidelines (BCT 2007) recommend that when a tree with high potential to support roosting bats is felled, a bat box should be erected on a nearby tree. It should be assumed that a tree with high potential to support roosting bats may be used by bats at some point even if no bats have been recorded using it during the surveys. It is therefore recommended that before any trees which are classified as Category 1, 2 or 3 in terms of their bat roost potential are felled, a Schwegler 1FF bat box should be erected on a nearby tree. This will help to compensate for the potential roost lost and help to ensure the potential roost 'stock' of an area is not decreased as a result of the works. Schwegler 1FF bat boxes are known to be used by a variety of bat species and are also unlikely to be used by nesting birds which can out-compete bats for bat boxes during the nesting bird season.

To compensate for the removal of sections of hedgerows along the route, once the ground works have finished, all gaps will be planted up using native shrubs and trees of local provenance. It will take approximately three years before a hedgerow becomes full established. Therefore, there will be a potential decrease in insect biomass for three years following the severance.

All the hedgerows which were surveyed had different levels of bat activity. The 15 locations along hedgerows with more than 200 bat passes are important for foraging and commuting bats. Of these 15 hedgerows, 11 are crossed by the proposed cable route. Therefore the gaps within these 11 hedgerows will be planted up with more mature stock of shrubs and young trees. This will help reduce the length of time that insect biomass is reduced along a hedgerow.

At the 11 hedgerows crossed by the proposed cable route and important for foraging and commuting bats, the hedgerows will ideally be left to become overgrown for a length of at least 15m either side of a created gap. Subject to landowner approval, the hedgerows will be left uncut for a period of at least 1 year prior to the hedgerow severance. The overgrown hedgerow would increase the insect biomass of the hedgerow and help to compensate for the loss of hedgerow section when the hedgerow is severed.

To help temporarily compensate for the loss in connectivity along a gap in a hedgerow and also to provide cover and protection from predation, bales of dead hedging material or similar will be installed within the gaps along the hedgerow. These will be removed during the day and be installed across the length and width of the gaps at night.

The above mitigation measures will be applied to the temporary hedgerow breaches at the proposed substation area. To mitigate for the permanent loss of hedgerows at the proposed substation, compensatory planting will occur at two locations to the north and east of the proposed substation (see Section 26 Landscape and Visual). Careful consideration will be given to the location of the compensatory planting to ensure that the connectivity of the local area will be maintained. There could however be a residual temporary impact to foraging and commuting bats in this area while they become accustomed to the minor...
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<td>changes to the landscape around the substation.</td>
<td>To prevent the potential reduction in available foraging opportunities and access to roosting sites for bats as a result of lighting impacts, work on the trenching and duct installation will be restricted to between 7am and 7pm. It is however possible that 24 hour working involving lighting will be used for the relatively small number of HDD operations. Of the fifteen locations with high numbers of bats, only bat activity survey point 9 has the potential to be affected by 24 hour HDD operations. At this location a specific lighting strategy will be prepared and agreed with WSCC.</td>
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<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to Dormice</td>
<td>Given the proximity to a known population of Dormice, a precautionary mitigation approach will be implemented with presence assumed at the two adjacent connected hedgerows which could not be surveyed due to health and safety issues associated with the presence of bulls in both fields. In order to avoid significant impacts on Dormouse as a result of the hedgerow severance the proposed cable will have a reduced working width of 20m at these two hedgerow crossing points. Vegetation at the two crossing points will be coppiced to ground level under a licence from NE and under the supervision of a suitable qualified ecologist between November and March inclusive. This will avoid the majority of the period when Dormice might be found in nests above ground. Clearance will be done by hand and in a sensitive manner, to minimise the likelihood of disturbing or killing hibernating Dormice. The felled stems and any leaf litter present will be searched again prior to the preparation of the working width by a suitably qualified ecologist. If, due to construction timetables, it is not possible to clear the vegetation at these hedgerow breaches between November and March then summer clearance will be undertaken. This will involve taking out small amounts of vegetation on successive days, ideally between May and late September, in the presence of an ecologist who will carry out a search for nests immediately beforehand. Final mitigation measures will be outlined in a Method Statement and agreed with NE as part of the application process for the necessary EPS licence to undertake habitat management work. In addition, hedgerow breaches in these locations will be replanted with semi mature stock to ensure that connectivity is restored as quickly as possible. To help temporarily compensate for the loss in connectivity along the two hedgerows, bales of dead hedging material or similar will be installed within the gaps along the hedgerow during the Dormouse active season to facilitate movement between areas of potential habitat. These will be removed during the day and will be installed across the length and width of the gaps at night.</td>
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<tr>
<td>Section 24</td>
<td>Impacts to Great</td>
<td>There are five discrete areas along the proposed cable route where GCN breeding ponds are present within a 250m radius of the working width. A translocation programme will be implemented for the working width in these areas. This will involve the installation of amphibian-proof fencing around the working width and</td>
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<tr>
<td>Ecology</td>
<td>Crested Newts</td>
<td>using pit-fall trapping and carpet tiles to catch and remove all GCN’s. This will take place during suitable conditions in the newt active season April-October inclusive for a period of time appropriate to the population size. Translocated newts will be transported to suitable habitat at least 50m away from construction works. These receptor sites have been identified are and currently being discussed with landowners. They will be subject to minor enhancement prior to any translocation programme starting in order to help support the temporary increase in numbers. The locations and enhancements will be discussed with NE directly. To ensure that newts are kept out of the working width once the translocation is complete and works are ongoing, the amphibian-proof fence will extend further out into unsuitable habitat at both ends, on the basis that newts will not travel into these areas and therefore a suitable barrier will be formed. In addition, a return will incorporated at both ends of the fencing and pit fall traps will be placed at the end of the return so that in the unlikely event that newts travel along the edge of the fencing they will be intercepted before they can enter the working width. These will be checked every morning and evening by suitably trained staff. All amphibian-proof fencing will remain in place until the works are complete in that area and the ground is remade. One additional area was identified along the proposed cable route where a GCN breeding pond was present right on the extreme edges of the 250m distance at which newts are likely to be found from those ponds in their terrestrial phase. The population level in this pond was also low. The risks of GCN being in the working width of areas are therefore extremely low. The size of the areas affected is also very small and a GCN. An ecologist will oversee works in this area and perform a fingertip search prior to works starting. In addition, no materials will be stored on the ground in this area for a significant length of time as this could form resting areas for newts. Any newts found would be moved to a place of safety nearby. Once the area has been stripped to below topsoil level no further actions will be needed. If any newts are found during works on other parts of the route then an ecologist will be called to site immediately to assess the situation and advise on a course of action. Mitigation for the permanent loss of approximately 7ha of GCN terrestrial habitat at the proposed substation will include compensatory planting positioned in areas which maximise connectivity to the wider landscape. The newly planted area to the east of Twineham Court Farm (see Figure 26.6 in Section 26 Landscape and Visual) will provide an important ecological link to the east where there are a number of suitable ponds which have yet to be colonised by GCN. This will help to ensure the long term viability of the high population of GCN at Pond 142. However, there will be a short term (1-2 years) impact on dispersal routes in this area whilst the compensatory planting matures and therefore additional habitat enhancement involving erecting hibernacula within the woodland surrounding Pond 142 is proposed. Long-term mitigation for the site could also include permanent amphibian-proof fencing to be installed around the substation to prevent GCN from wandering into the substation footprint and potentially coming to harm. This would also allow any ground disturbance works essential to the running of the substation to go ahead in future without potentially time-consuming and costly mitigation for GCN.</td>
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<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to nesting</td>
<td>Measures will be undertaken to minimise the likelihood of disturbance, injury or mortality of nesting birds, their eggs and chicks. Wherever possible, vegetation which will be directly impacted by construction and that could be used by nesting birds will be removed outside of the March–July</td>
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<td>birds</td>
<td>bird nesting season (particularly sections of hedgerow, scrub, tree lines and woodland). At locations where hedgerow removal during the breeding season is unavoidable, surveys will be undertaken immediately prior to habitat removal to confirm that there are no occupied nests. Should any occupied nests be identified, an appropriate buffer zone (determined on the basis of the species concerned and the location of the nest in the context of the surrounding vegetation, but no less than 5m) will be retained until the chicks have fledged. Grassland restoration measures will achieve the restoration of nesting habitat for ground-nesting species after the completion of works. Potential impacts on migrating Nightjars as a result of lighting impacts will be avoided by work on the trenching and duct installation being restricted to between 7am and 7pm. It is however possible that 24 hour working involving lighting will be used for the relatively small number of HDD operations although only one main HDD location is within a rural setting (River Adur crossing). A lighting strategy will be prepared and agreed with WSCC to minimise light spill at this location. The cable easement at Tree 1837 will be micro-sited to the east and the tree will be fenced off to avoid any impact to the tree. Further surveys will be undertaken prior to construction to confirm whether nesting Barn Owls are present in Tree 1837 or any of the other Barn Owl boxes along the route. If nesting Barn Owls are present, the RSPB and NE will be contacted to discuss the proposed methodology and working practice for each stage of construction and agree any further mitigation which may be required. It may be possible, subject to landowner agreement, to temporarily close any Barn Owl boxes which are close enough to the works area for any Barn Owls using them to experience disturbance. This approach would only be undertaken where the boxes were clearly not in use. The potential for disturbance to other notable/Schedule 1 species, including Little Egret, Long-eared Owl and Stone Curlew will depend upon up to date information on the location of breeding sites and the critical time periods for each species. Further consultation with the RSPB and NE will be undertaken to highlight potential risk areas and times of the year and to discuss the proposed methodology/working practice for these areas at each stage of construction and agree any further mitigation which may be required.</td>
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<tr>
<td>Section 24 - Ecology</td>
<td>Impacts to reptiles</td>
<td>To minimise any potential impact to reptiles, the working areas where reptiles have been recorded in low numbers (this includes the satellite compound area north of Tottington Mount) will be made unsuitable prior to any works commencing by reducing cover as much as possible (by mowing or strimming to 10mm above ground-level) to discourage reptiles from the area. These sections will then be left for one week to allow reptiles to move out of the area. Sections of hedge that are to be removed to facilitate construction will be coppiced using hand tools to prevent injuring any reptiles resting at the bases. Vegetation bases will only be removed once the area has been deemed clear of reptiles. These processes will be undertaken under a watching brief by a suitably qualified ecologist and any reptiles found will be transported to suitable habitat at least 50m away from construction works. These receptor sites have been identified and are currently being discussed with landowners. They will be subject to minor enhancement prior to works commencing in order to help support the temporary increase in numbers. The locations and enhancements will be discussed with NE directly. In addition five areas were highlighted on the route where notably higher numbers of reptiles were recorded. A reptile translocation programme will be implemented at three of these locations, including the disused allotment area south of the railway, Old Erringham Farm Valley and Road Cutting SNCI and an</td>
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<td>area of marshy grassland south of the Alders, Woodmancote. To ensure that reptiles are kept out of the working width once the translocation is complete and works are ongoing, the reptile-proof fence will extend further out into unsuitable habitat at both ends, on the basis that reptiles will not travel into these areas and therefore a suitable barrier will be formed. In addition, a return will be incorporated at both ends of the fencing and felt tiles will be placed at the end of the return so that in the unlikely event that reptiles travel along the edge of the fencing they will be intercepted before they can enter the working width. These will be checked every morning and evening by suitably trained staff. All reptile-proof fencing will remain in place until the works are complete in that area and the ground is remade. At the remaining two locations the areas concerned are very small (and in one case may not be affected) and therefore it is inappropriate to implement a translocation program here. At these areas a thorough hand search followed by strimming to dissuade reptiles from the area will be undertaken pre-construction.</td>
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| Section 24 - Ecology | Impacts to Terrestrial Invertebrates | The mitigation measures described for individual habitats along the route will consequently reduce general impacts on terrestrial invertebrates and achieve restoration of their habitats. Mitigation measures for the target butterfly species (Adonis Blue, Small Blue and Chalkhill Blue) have included re-routing the cable route, where possible, in specific areas (i.e. Applesham Farm Bank SNCI) and or identifying specific chalk grassland areas and highlighting them as ‘no go’ areas during construction (i.e. the chalk grassland embankment at Old Erringham Farm Valley and Road Cutting SNCI). However at Tottington Mount the food plants of the Adonis Blue butterfly are widely scattered and local in the area so that specific points of interest cannot be defined. A modification of the route is thus unlikely to reduce the losses that might potentially be sustained by local populations of the Adonis Blue butterfly here. It is likely that advance removal and subsequent replacement of turf will minimise losses of food plant and habitat, although it should be remembered that the caterpillars of this butterfly have an obligate relationship with ants and that, consequently, the survival of ants is of paramount importance. |

| Section 24 - Ecology | Impacts to Aquatic Invertebrates | General mitigation measures put in place to minimise impacts at watercourse crossings will consequently reduce the disturbance to aquatic macro-invertebrates present. |

<table>
<thead>
<tr>
<th>Section 26 – Landscape and Visual Impact</th>
<th>Impacts to landscape during construction of the onshore</th>
<th>In relation to the installation of the onshore cable route, the following measures have either been incorporated into the overall design or will be employed during construction:</th>
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<tr>
<td>• Working Width: The working width will be confined as far as possible to a corridor no greater than 30m to minimise the construction footprint on the receiving landscape. The working width will be extended in various places to facilitate the construction of the cable across the various road, watercourse and service crossings and where trenchless crossing techniques (e.g. HDD) are proposed. Existing trees in close proximity to the</td>
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<td>working width will be protected by fencing to ensure that branches and roots remain undisturbed during construction.</td>
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<td>• Soil Strip and Storage: The limited stripping of soil will reduce the necessity for storage of material. Stripping and storage of material will be undertaken in accordance with a vegetation clearing/soil management plan. Material will be stored in low lying mounds along the working width, not longer or at greater depths than recommended best practice. Storage along the working width will assist in visually screening open trench works and activity within the corridor.</td>
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<td>• Cut-off Drains: The proposed cable route predominantly passes through arable farmland where agricultural drainage systems may exist in some locations. Interruption of a drainage system can have a negative impact on the land on the cable system itself and there is the potential for cable trenches to act as drainage channels for surface water run off or lead to the drainage of the near surface water table. The drainage of the near surface water table could in turn effect the growth of landscape features, for example trees and hedgerows. As such, any existing drains that have to be crossed as part of the construction works will be restored following the duct laying and backfilling operations. Furthermore, in areas of steep slopes, for example Tottington Mount, or where there is a flood risk, measures will be employed to prevent the flow of water along the trench, for example baffles being installed in trenches at regular intervals to disperse water evenly across the slope. Reference should also be made to Section 23 (Surface Water, Hydrology and Flood Risk).</td>
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<td>• Site Compounds: The storage of materials and vehicles will be limited to a series of temporary site compounds along the proposed cable route, which will be kept tidy and well maintained at all times during the works. Existing disused farm buildings and hard standings which will already have sufficient access for long and/or wide vehicles and negate the need to construct buildings, access roads, etc will be utilised where possible as compound locations thereby minimising the visual impacts of construction compounds. Compounds will have some artificial lighting installed, which will be faced inwards and downwards toward the compound. The main activities at compounds will take place during daylight hours. It is possible that 24 hour working involving lighting will be used for the relatively small number of HDD operations.</td>
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<td>• Site Operations: Generally, construction works along the corridor will be between 7am and 7pm, and are not anticipated to require night working or illumination of any part of the route, which will avoid night-time illumination of the corridor. However, in winter, some illuminations may be required in the early evening. It is also possible that 24 hour working involving lighting will be used for the relatively small number of HDD operations.</td>
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<td>• Reinstatement: Following construction of the cable route, all areas of disturbed ground (including the temporary construction sites) will be restored to their original levels and profiles using the stored subsoil and topsoil, to minimise landscape and visual impacts and enable previous conditions to be re-established. Where the proposed cable route will result in the disturbance of hedgerows, their removal will be kept to a practical minimum with replacements being planted and fenced off during the first planting season following construction, to minimise landscape and visual impacts, and enable previous conditions to be re-established.</td>
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<td>• Seeding: Topsoil will be prepared and seeded using an appropriate seed mix or returned to arable cultivation. The area will be fenced where required and maintained until a thick grass sward establishes. These measures will minimise landscape and visual impacts by ensuring the restoration and reinstatement of disturbed sections of the onshore cable route corridor to their previous condition as soon as possible.</td>
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Relevant ES Section | Activity/Impact | Mitigation
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• **Fencing**: Where necessary, a combination of post and wire fencing and stock proof fencing will be installed as per the local vernacular; these are considered to be in keeping with the agricultural character of the surrounding area and will result in minimal visual intrusion.

In relation to the installation of the onshore substation, the following measures have either been incorporated into the overall design or will be employed during construction:

• **Access**: A dedicated construction access will be created from Wineham Lane into private land, traversing east toward the new substation through two grazed pastures. The semi-permanent access would be in place for the duration of the construction works, and be limited to a 16m width. Gaps between trees will be utilised at field boundary crossings where possible in order to minimise the loss of landscape features. Topsoil will be stripped as part of the access road construction and stored adjacent to the access strip for the 2 year duration and sufficiently protected during this time. The top soil will be replaced and supplemented by harvested seed following completion of the construction works at the substation. These measures will minimise landscape and visual impacts by ensuring the restoration and reinstatement of the access road land to its previous condition as soon as possible.

• **Site Operations**: Construction works are not anticipated to require night time working, although in winter some illuminations may be required in the early evening. Low level security lighting may be required at night throughout the construction period. Under normal operating conditions the substation will not be illuminated at night. Lighting will be used only when required for maintenance outages or emergency repairs occurring at night. The lights will be directed downward, and shielded to reduce glare outside the facility.

Best practice construction management techniques will be employed during the construction of the substation to ensure the retention and protection of valued landscape features immediately adjacent to and surrounding the site(s).

During Operation

| Section 24 - Ecology | Impacts during operation | During any required inspections and/or routine maintenance work, best practice procedures will be followed and be in accordance with the relevant standards at that time. If intrusive works are required at any point, an ecologist will be contacted to assess whether there are any impacts associated with the work, before that work can proceed. |
| Section 26 - Landscape and Visual Impact | Impacts to landscape during operation | The final form of the substation will be finished to a high standard of design, using quality materials and integrated into the surrounding environment through the adoption of a robust, sustainable landscape planting strategy. The landscaping strategy centres on the planting of multi-age native tree and shrub species, the establishment of which is considered essential in achieving integration into the local and wider existing landscape framework. |