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To: Don Baker (West Sussex County Council)

From: Ele Cooper (URS)

cc: Celtique Energie c/o Jenny Massingham (Barton Willmore).

Subject: **Broadford Bridge (aka Woodbarn Farm and Willow-1)- Updated timings of works, ecology survey results and recommendations**

1. INTRODUCTION

URS Infrastructure & Environment UK Limited (URS) have undertaken the ecological assessment of an exploratory wellsite in Broadford Bridge West Sussex on behalf of Celtique Energie. The proposed development is a temporary (approximately 22 weeks) scheme which involves the construction of a temporary gas and oil testing drilling rig and with associated temporary access route, car park and bunds within an improved grassland field. The drilling and testing phase of the works is estimated to take approximately 12 weeks. Overall, 14 meters of hedgerow removal would be required to allow access to the site. Replacement and enhancement suggestions for this hedgerow are included within the recommendations.

It is understood that if the use of the site be extended in the future it would be subject to a separate planning application and further surveys may be necessary to assess the implications of long term development.

At the time of publication of the Environmental Statement, not all survey information was available and therefore a precautionary approach was taken and precautionary mitigation was included with works planned to be completed between November and February to avoid significant effects on fauna species in particular. It is now understood that these timing constraints are not feasible within the scheme and therefore amendments to the previous assessment will be provided within an addendum to the submitted Environmental Statement.

All further survey has since been completed at the site and this memorandum sets out our updated results and amended recommendations based on the new scheme details. A phase 1 Habitat Map showing the sites features can be found in Appendix 1 with the accompanying Target Notes in Appendix 2.

2. METHODS

An Extended Phase 1 Habitat Survey was completed in September 2011 which appraised the ecological value of the proposed wellsite as well as surveying for and surrounding area and made recommendations for further protected species surveys. Further survey work for badger *Meles meles*, dormouse *Muscardinus avellanarius*, great crested newts *Triturus cristatus* and bat activity survey was recommended and completed to fully understand the baseline ecological conditions. The completed surveys are summarised below in Table 1.

Table 1: Further Protected Species Surveys

Species	Method
Badger	Badger surveys were completed during the initial phase 1 and checks for any changes in badger activity or sett location continued through the dormouse surveys completed in 2012.
Great crested newt	Six amphibian surveys were completed according to the Herpetofauna Workers Manual on a water body located approximately 130m from the proposed wellsite in an adjacent field.
Dormouse	A high density of dormouse tubes (75) were positioned in the woodland surrounding the proposed site and these were checked by a licensed dormouse worker between September 2011 and July 2012. The recommended survey index was exceeded using this method with a score of 37.5. Hazelnut searches were also completed during a number of survey visits.
Bats	Trees adjacent to the proposed wellsite were assessed for their potential to contain bat roosts as outlined in the Bat Conservation Trust's (BCT's) Good Practice Guidelines for Bat Surveys. Desk-based studies also identified any records of roosts within 2km of the site. Three static bat detectors were positioned at the site for five days during good environmental conditions during September 2011 in order to determine levels of bat activity at the site. All bat survey work was completed prior to the publication of the 2012 Bat Survey Guidelines.

3. RESULTS

The site itself is heavily grazed improved grassland with predominantly species poor defunct hedgerow was therefore assessed as being of low ecological value. The woodlands adjacent to the site did show value and therefore recommendations are based on limiting impacts on this area. A summary of the further protected species survey results are shown below in Table 2.

Table 2: Protected Species Survey Results

Species	Results
Badger	An outlier sett containing two active entrances was located within the north-eastern part of Pocock’s wood approximately 200m from the Proposed Development.
Great crested newt	All water bodies within 500m of the site were assessed using the Habitat Suitability Index (HSI). One pond was considered suitable for great crested newts. Further presence/absence surveys and a population survey revealed a low population of great crested newts using this pond (~130m away from the site in an adjacent field). The peak count using any one survey method was eight (adults).
Dormouse	No evidence of dormouse presence was recorded
Birds	The hedgerows and woodland surrounding the Application Site have potential to be used by breeding birds. The adjacent Pocock’s Wood is likely to support a range of bird species during the breeding season and also provide foraging habitat for common species of woodland and farmland birds during winter months.
Bats	<p>One tree within the survey area with low/moderate potential for roosting bats was noted adjacent to the north of Pockocks Wood and approximately 200m from the proposed development. All other trees adjacent to the site had negligible potential for roosting bat species.</p> <p>A low to moderate level of bat activity was recorded over a period of three nights between the 14th and 17th September; This included moderate levels of common pipistrelle <i>Pipistrellus pipistrellus</i> and soprano pipistrelle <i>Pipistrellus pygmaeus</i> activity and low levels of activity for brown long-eared bat <i>Plecotus auritus</i> and a Myotis species (possible Natterer’s). Soprano pipistrelle bat were also recorded social calling during the surveys. No activity was recorded between 17th and 20th September 2011.</p>

4. UPDATED MITIGATION RECOMMENDATIONS

The following mitigation recommendations are based on the updated scheme with an amended programme and informed by the full survey results. It is understood that there have been no other changes to the proposed development since the ecological assessment within the ES was written.

Noise isopleths provided by Royal Haskoning were used to assess the likely noise levels in the surrounding habitats. The greatest effect is predicted on a small section of Pocock’s Wood to the north where noise levels will be up to 70dB. The majority of the woodland on site during the operational drilling

phase will experience low or negligible increases in noise. It is therefore possible that during this time there may be some short term and localised displacement of birds, bats and foraging badgers from the woodland fringe to the other areas of available woodland of a similar structure and composition. However, this effect is considered unlikely to adversely affect the conservation status of fauna populations. Bat activity on site was assessed as low to moderate and no roosts or potential bat roost locations were identified within 200m of the proposed wellsite during field surveys and therefore it was assessed that no disturbance of bat roosts was likely. The badger sett was ~200m away, so that disturbance is very unlikely and a large amount of other badger foraging habitat is available away from the woodland fringe. One record of a Schedule 1 bird species was identified within 1km during the desk-based study. However, this record was for fieldfare (*Turdus pilaris*) which is not known to breed in this country and therefore is unlikely to be significantly affected by the proposed development. Though not within the search area, a single record of the Schedule 1 barn owl (*Tyto alba*) was identified approximately 2.5-3km from the site. Adjacent trees did not provide suitable opportunities for nesting barn owls and the immediately surrounding land did not include high quality foraging habitat for this species. The woodland adjacent to the proposed development included a pheasant pen and was used regularly by shooting parties. Other than the potential for temporary displacement from the woodland edge, it is highly unlikely that the proposed temporary development would impact on the conservation status of any Schedule 1 birds.

During the 12 week drilling and testing phase there will be proposed 24-hour lighting strategy. The lighting strategy includes highly directional lighting and was assessed as having a low impact on the woodland directly adjacent to the site. There is potential that, as with noise, this could temporarily displace light sensitive species from the woodland fringe. However, it is considered that this temporary displacement is unlikely to impact on the conservation status of protected or notable species.

A low population of great crested newts were identified within a water body approximately 130m from the site within an adjacent field. This pond was within a species rich grassland providing excellent terrestrial habitat in close proximity to the pond, and also woodland adjacent to the pond provided good hibernation habitat. The proposed development site itself is heavily grazed improved grassland of very low value to great crested newt. Due to the distance from the pond and lack of cover across the site it was assessed unlikely that newts would migrate across this land. As a precautionary measure it is recommended that the site remains grazed to its current sward height (~50mm) or is cut to this level to prevent this land becoming more suitable for this species and avoiding the risk of harm during construction, operation and decommissioning phases.

Dormouse has now been shown to be probably absent at the site and no mitigation is required for this species.

The hedgerows have potential to be used by nesting birds. Therefore vegetation removal should be undertaken outside the breeding bird season (i.e. clearance should be undertaken outside of March to September inclusive) to avoid disturbance to nesting birds. If this is not possible, an ecological watching brief should be undertaken by a suitably qualified ecologist prior to removal of vegetation to check for nesting birds. If a nest is found then vegetation removal at this location must be stopped until the nestlings have fledged.

The section of hedgerow to be lost to increase the site entrance (~14m) will be replaced and/or translocated adjacent to the new site access. The replacement hedgerow will also be species-rich, enhancing the existing species-poor hedgerow and inter-planting to reduce gaps and provide better linear connections between woodland and other hedgerows.

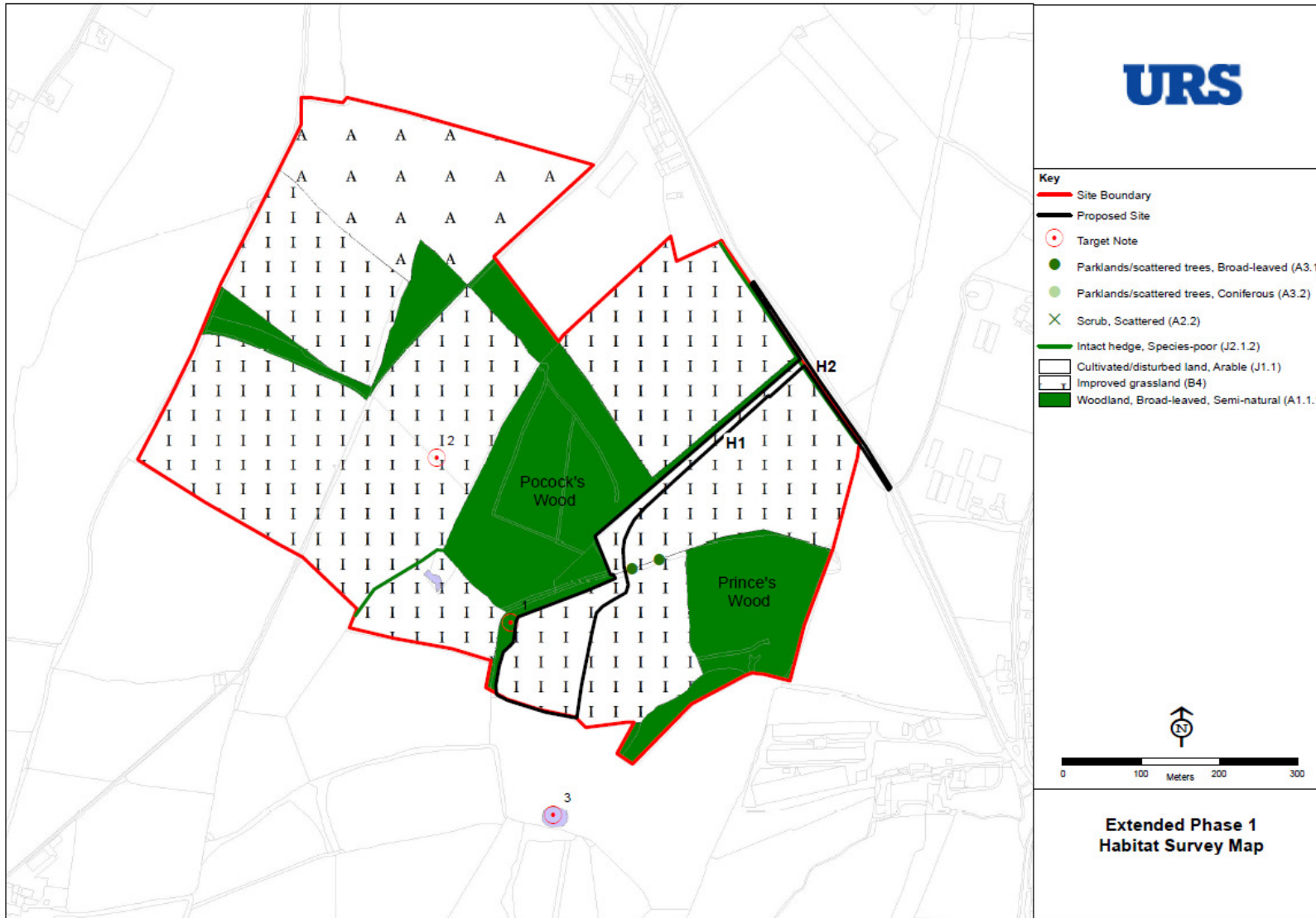
It is recommended that the site construction (installation of plant and infrastructure) and decommissioning extents be clearly marked prior to commencement in order to reduce the risk of accidental damage to woodland edge vegetation or compression of tree roots. Trees and woodland would be marked as no go areas for both workers and machinery in order to reduce disturbance. Areas used for materials and storage would be clearly defined within the Application Site and away from the woodland edge.

Standard pollution prevention controls over site establishment, operation and decommissioning would be implemented to avoid surface run-off and dust emissions from the site to the adjacent habitats.

Overall, due to the low ecological value of the proposed wellsite and the temporary nature of any assessed impacts the development is assessed as having a no significant adverse residual impact after mitigation recommendations have been incorporated.

The above conclusions remain valid for a period of at least 12 months, after which the development programme and methods should be reviewed by an ecologist to determine whether survey work needs to be updated.

Appendix 1- Broadford Bridge Phase 1 habitat Survey Map



Appendix 2: Target Notes (TN)

TN 1 –Wild service tree *Sorbus torminalis*;

TN 2 –Ash tree with low-moderate bat roost potential

TN 3 –Medium sized pond with potential for great crested newts is located within a field adjacent to the survey site. This is open to cattle on one site and surrounded by blackthorn and hawthorn on the other.