

IN THE MATTER OF AN APPLICATION TO  
AN BORD PLEANÁLA

FOR APPROVAL OF THE FOYNES TO LIMERICK ROAD (INCLUDING  
ADARE BYPASS) COMPRISING:

- (I) FOYNES TO RATHKEALE PROTECTED ROAD SCHEME,  
2019;
- (II) RATHKEALE TO ATTYFLIN MOTORWAY SCHEME, 2019;
- (III) FOYNES SERVICE AREA SCHEME, 2019.

ABP Ref. ABP-306146-19 and ABP-306199-19

ORAL HEARING

Brief of Evidence  
**Biodiversity – Vertigo Snail**

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## 1. QUALIFICATIONS AND EXPERIENCE

- 1.1 My name is John Brophy. I am a Principal Ecologist with BEC Consultants Ltd. I hold a Bachelor of Arts in Natural Science (Zoology) from Trinity College Dublin, and a Masters in Fisheries Management, Development and Conservation from University College Cork. I am a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Chartered Ecologist.
- 1.2 I have worked as an ecological consultant for 15 years, with experience in a range of habitats and species. Most relevant to the current project, is my work on the Rare Mollusc Survey (2012) and the *Vertigo* National Monitoring Project (2014-2017) for the National Parks & Wildlife Service, during which I surveyed most of the known *Vertigo moulinsiana* (Desmoulin's whorl snail) sites in the country.

## 2. ROLE IN PROPOSED ROAD DEVELOPMENT

- 2.1 As part of the Foynes to Limerick Road (including Adare Bypass) project, I was contracted by Roughan & O'Donovan – AECOM Alliance to carry out presence / absence surveys for *Vertigo moulinsiana* at three fen sites along the proposed route (Ballyellinan, Lismakeery and Blossomhill – Appendix I, Figure A1) and, subsequently, carry out a more detailed survey at one of those sites (Lismakeery).

### 3. EXECUTIVE SUMMARY

- 3.1 *Vertigo moulinsiana* is a small snail (up to 2.7mm tall) that is found on tall vegetation in calcareous wetlands. The full details of *Vertigo moulinsiana* in the context of the Foynes to Limerick Road (including Adare Bypass) are presented in the Environmental Impact Assessment Report (EIAR), including two reports presented in the appendices (Appendix 7.4A and 7.4B) of Volume 4A of the EIAR. Presented here is a summary of the key information required to inform the Board and address the received submissions.
- 3.2 *Vertigo moulinsiana* is listed under Annex II of the Habitats Directive and is a Qualifying Interest in eight Special Areas of Conservation (SACs) around Ireland. The closest SAC with *V. moulinsiana* as a Qualifying Interest is the Curraghchase Woods SAC (000174), which is located approximately 7km from Blossomhill, 9km from Lismakeery and 10km from Ballyellinan. This was also the closest known population to the three fen sites.
- 3.3 In the course of the habitat mapping survey for the project, three fen sites were identified along the route of the proposed road development that had the potential to support *V. moulinsiana*: Ballyellinan, Lismakeery and Blossomhill. A survey was carried out at all three fens to confirm the presence/absence of the snail within the footprint of the proposed works or within a 50 m buffer from the works boundary.
- 3.4 None of the three sites fall within an SAC or Natural Heritage Area (NHA), either designated or proposed (pNHA).
- 3.5 At Ballyellinan and Blossomhill, *V. moulinsiana* was not recorded within the footprint of the proposed works, but was recorded within the 50m buffer (Appendix I – Figures A2 & A3). At Lismakeery, the snail was recorded within both the works boundary and the buffer.
- 3.6 The proposed road development does not encroach on the *V. moulinsiana* habitat at Ballyellinan or Blossomhill, so there will be no direct negative effect on the populations at these sites. Mitigation measures to prevent change to the groundwater flows at Ballyellinan or Blossomhill are set out in EIAR Chapter 9 Hydrogeology, Table 9.19. These measures will prevent significant indirect effects from changes to the groundwater regime and associated changes to the fen habitat.
- 3.7 Due to the presence of *V. moulinsiana* within the works boundary at Lismakeery, a more detailed survey was carried out to discover the extent of the population and the suitable habitat. The fen area was drained historically, and substantial drains can still be found crossing the site. The southwestern boundary has a particularly large drain separating the existing fen from a reclaimed field to the southwest. This reclaimed field has no suitable habitat for *V. moulinsiana*, nor does any of the remaining land adjacent to the fen outside the CPO boundary (Appendix I, Figure A4). The fen is subject to some grazing from cattle and there has been some filling at the eastern end.

- 3.8 The suitability of *V. moulinsiana* habitat is classified on a five-point scale from Optimal down to Unsuitable (Optimal, Optimal-Suboptimal, Suboptimal, Suboptimal-Unsuitable, Unsuitable), based on ground moisture and the vegetation present. Suitable habitat for *V. moulinsiana* is considered to be anything from Suboptimal-Unsuitable up to Optimal. A good *V. moulinsiana* site tends to have a range of habitat suitability present, as the suitability can change over time, ensuring that micro-habitat conditions required by the snail will still be present in a changing environment.
- 3.9 In assessing the suitability of the fen habitat at Lismakeery for *V. moulinsiana*, it was concluded that the study area contained 2.12ha of Suboptimal habitat (Appendix I, Figure A4, Area 'A' & 'B'), 0.46ha of Suboptimal-Unsuitable habitat (Area 'C') and 1.41ha of currently Unsuitable habitat (Area 'D'), but which has potential to improve. The northern half of the fen contains the majority of the currently Suboptimal habitat, while in the southern half, the habitat becomes increasingly more unsuitable.
- 3.10 Due to other constraints, including Ballycullen House and demesne to the north, the route of the proposed road encroaches on the fen at Lismakeery resulting in a direct loss of 0.51ha of suitable *V. moulinsiana* habitat along the northern end of the site. The snail will continue to be present within the remaining suitable habitat to the south of the road (1.61ha Suboptimal and 0.46ha Suboptimal-Unsuitable) and, in the design of the road drainage, care will be taken to ensure that the hydrology of the unimpacted section of the study area remains unaltered (See EIAR Chapter 9 Hydrogeology, Table 9.19), thus preventing indirect effects via changes to the groundwater regime. The area of fen habitat that will be lost due to the proposed road development amounts to 20% of the overall fen habitat with current suitability to support *V. moulinsiana* at Lismakeery. The direct loss of the *V. moulinsiana* habitat at Lismakeery has been assessed as a moderate negative permanent impact.
- 3.11 Following the implementation of engineering measures to ensure a drainage neutral design (EIAR Chapter 19, p. 45), the residual impact of the proposed road development on the hydrology of the fens at Lismakeery, Ballyellinan and Blossomhill will be imperceptible.
- 3.12 While the loss of the 0.51ha of *V. moulinsiana* habitat under the footprint of the road cannot be avoided, it is proposed that the remaining fen habitat and associated wet grassland (approximately 4.4ha) at Lismakeery will be acquired to protect the remaining *V. moulinsiana* population from other threats and pressures into the future (Appendix I, Figure A4). This would require minimal or no intervention, with the main benefit being that the site could be protected from future reclamation or more intensive grazing, both of which would impact negatively on *V. moulinsiana*.
- 3.13 The inclusion of the remaining fen habitat within the project land-take will ensure *V. moulinsiana* continues to be present within the two 1 km grid squares into the future (Occupied 1km grid square is the population unit by which the *V. moulinsiana* population is assessed under Article 17 of the Habitats Directive). This option will also see the loss under the road land-take offset by habitat enhancement or re-creation throughout the area and provide more space for *V. moulinsiana* to utilise.

## 4. RESPONSES TO SUBMISSION

### 4.1 Overview

- 4.1.1 One submission was received that related to *V. moulinsiana*, albeit indirectly. SCH-48 raises a concern regarding the land-take being 'excessive especially with regard to habitat replacement'.

### 4.2 Response

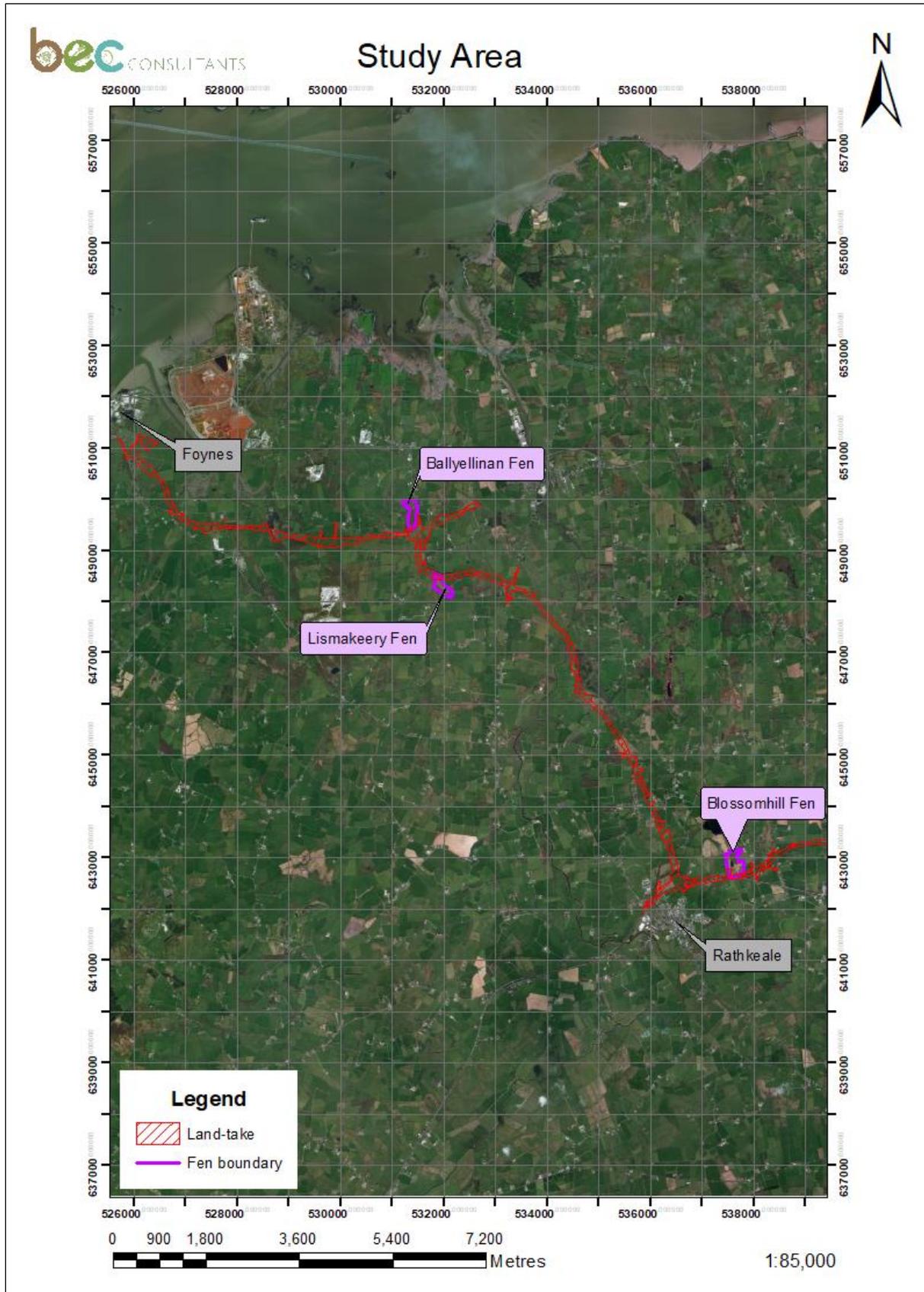
- 4.2.1 This issue relates to the fen habitat at Lismakeery and the *V. moulinsiana* population within it. As part of the proposed road development, it is intended to acquire the remaining fen habitat at Lismakeery to ensure the remaining population is protected from other threats and pressures. The acquisition will also allow for habitat recovery by protecting the fen site from future reclamation or more intensive grazing, both of which impact negatively on *V. moulinsiana*.
- 4.2.2 The extent of the proposed acquisition area has been informed by the known distribution of *V. moulinsiana* and habitat with any current suitability for supporting the species at Lismakeery. It also coincides with existing field boundaries, thus minimising disruption to the farming enterprise. This will ensure the maintenance of a healthy population of *V. moulinsiana* at the site into the future. The acquisition will allow for the expansion of suitable vegetation into areas of the site where the vegetation is currently too short, the removal of both trampling and grazing by cattle, and protection from future reclamation or more intensive grazing.

## 5. CONCLUSION

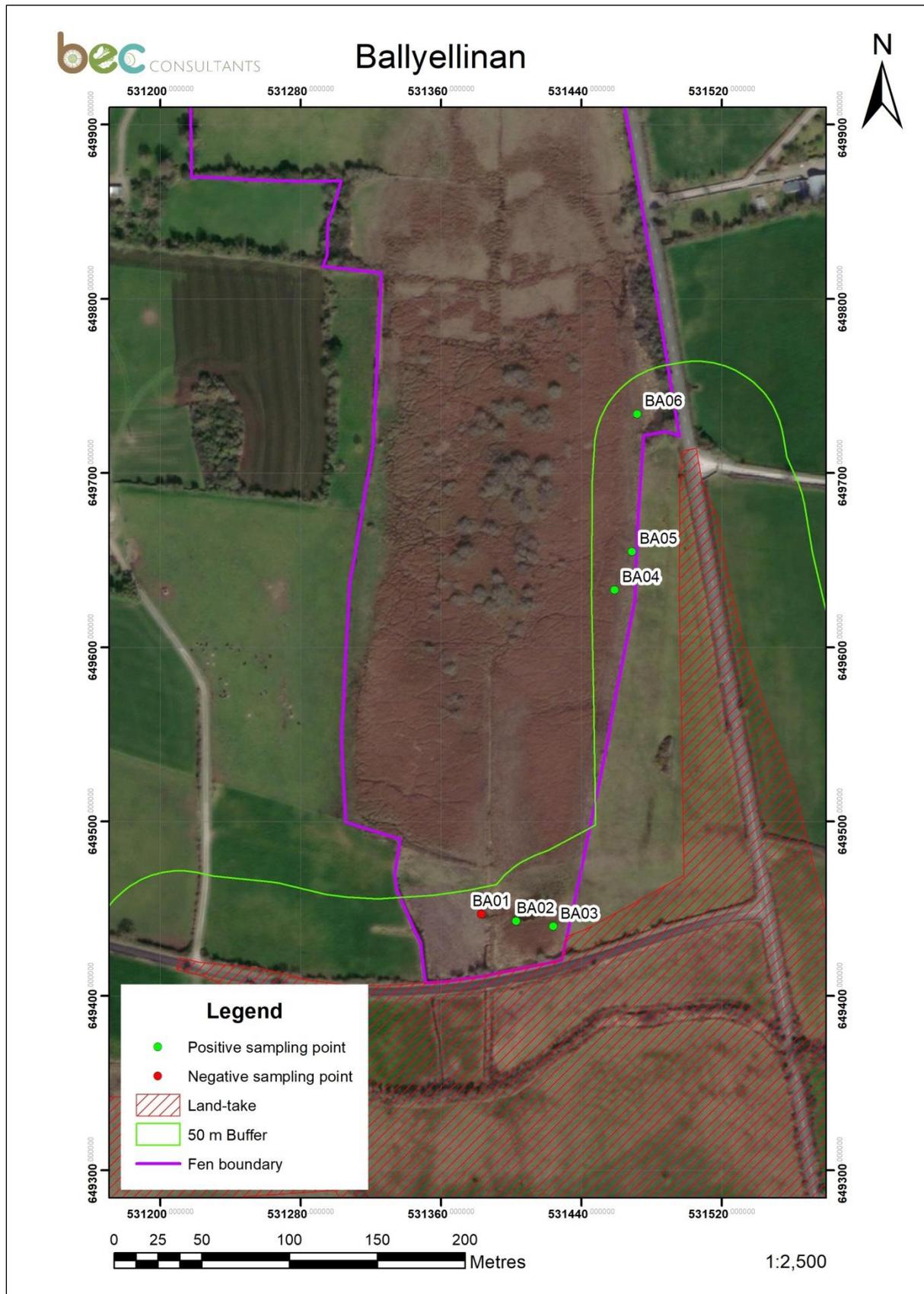
- 5.1 *Vertigo moulinsiana* occurs at three fens along the route of the proposed Foynes to Limerick Road (including Adare Bypass): Ballyellinan, Lismakeery and Blossomhill. There will be no impact on the *V. moulinsiana* populations at Ballyellinan or Blossomhill, should the proposed road development go ahead. At Lismakeery, there will be a loss of 0.51ha of Suboptimal habitat for the snail, though the snail will continue to be present in the remaining habitat, in the absence of some other pressure. The area of fen habitat that will be lost due to the proposed road development amounts to 20% of the overall fen habitat with current suitability to support *V. moulinsiana* at Lismakeery, and this has been assessed as being a moderate negative permanent impact. The implementation of engineering measures to ensure a drainage neutral design will result in an imperceptible residual impact on the hydrology of all three fen sites.
- 5.2 The proposed land acquisition to protect the previously unknown population of *V. moulinsiana* at Lismakeery into the future is of an appropriate scale to meet the objective. It will ensure the core habitat at the northern part of the remaining fen is maintained, while allowing more suitable vegetation to expand within the southern section, where it is currently limited by grazing and trampling by cattle, and by infilling. It also allows for possible enhancement of the site through raising ground moisture levels to facilitate the development of more optimal *V. moulinsiana* habitat, and removes existing pressures such as disturbance by cattle and further reclamation.

- 5.3 The assessment of *V. moulinsiana* carried out as part of the EIAR remains valid and the measures proposed will ensure that the populations at Ballyellinan, Lismakeery and Blossomhill will continue to be present into the future.

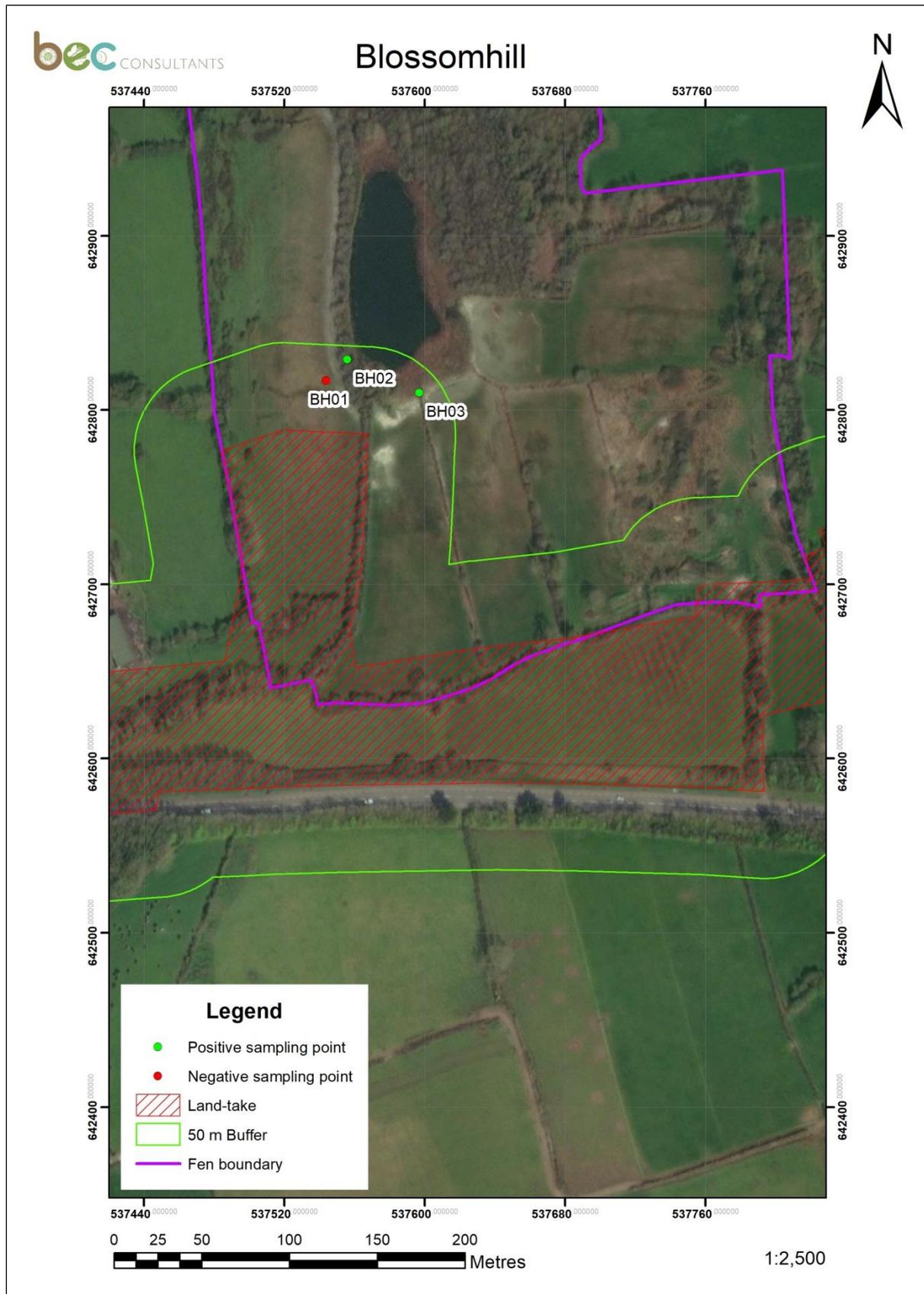
## Appendix I – Maps



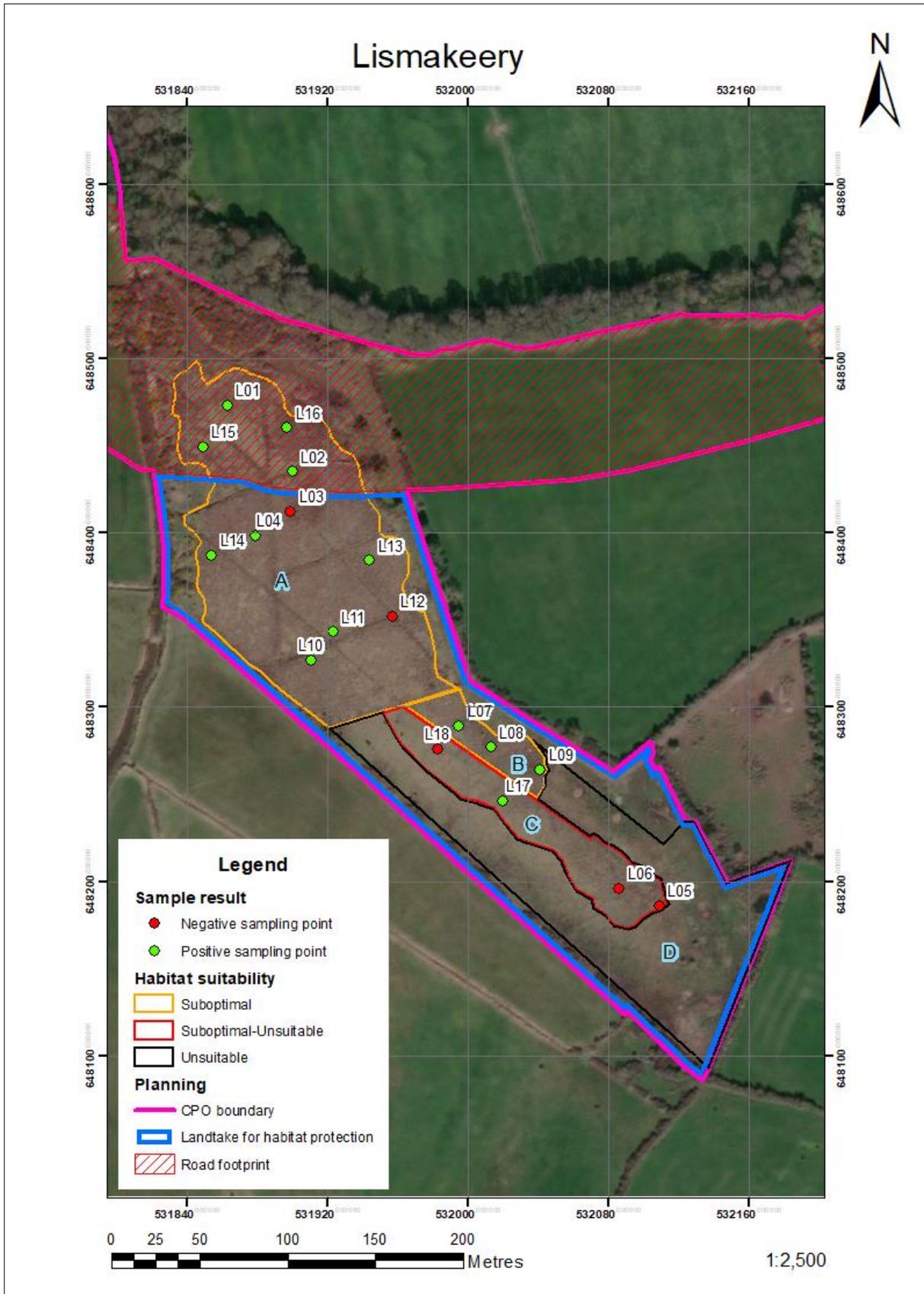
**Figure A1:** Map of the study area showing the locations of the three surveyed fens and the route of the proposed road development.



**Figure A2: Map of Ballyellinan Fen, Co. Limerick showing locations positive/negative for *V. moulinsiana*, road footprint and 50m buffer.**



**Figure A3:** Map of Blossomhill Fen, Co. Limerick showing locations positive/negative for *V. moulinsiana*, road footprint and 50m buffer.



**Figure A4:** Map of Lismakeery Fen, Co. Limerick showing locations positive/negative for *V. moulinsiana*, habitat suitability, road footprint, land-take for habitat protection and proposed CPO boundary.