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Phase 1 Habitat Assessment

**Horndean Road,
Emsworth
Paul Whitby**

6th June 2013

Report Summary:

- 1. A survey was undertaken on 14/05/13 by Paul Whitby, to assess the ecological value of an area of farmland situated off Horndean Road in Emsworth.**
- 2. Habitats present includes rough semi-improved grassland, cultivated fields growing winter wheat, native hawthorn hedges, a large pond and a small wooded area.**
- 3. Habitat suitable for reptiles has been identified, along with records for adder and grass snake in the Hbic dataset. A presence absence survey should be carried out under the most recent best practice guidance between April and September (inclusive) to establish if any reptiles are present and if so, the population class of any species found.**
- 4. The large pond around the site centre has been deemed to be suitable to support breeding amphibians and a presence/absence survey for great crested newts should be undertaken according to Natural England best practice guidelines. As such, four surveys must be undertaken between mid March and mid June, with at least two surveys undertaken during the optimum mid April and mid May period.**
- 5. Suitable habitat for nesting birds is present, with boundary trees, hedges and suitable ground nesting habitat for farmland birds such as skylarks. The removal of these features should therefore be undertaken outside the nesting bird season (1st March to 31st August) or if necessary following a hand search by a suitably qualified ecologist.**
- 6. It is recommended that a walkover of the site is undertaken by an ecologist not more than 8 weeks prior to the commencement of construction to ensure that no badger setts have become established.**

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This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

1 INTRODUCTION

1.1 Purpose of the Report

This report gives details of a walkover assessment for protected species and Phase 1 Habitat survey carried out at a plot of land situated adjacent to Horndean Road on the western outskirts of Emsworth. The grid reference for the site is SU 743 070.

This survey comprised an ecological walkover survey for all protected wildlife and was carried out by Paul Whitby, a full member of the Institute for Ecology and Environmental Management (IEEM).

This survey and report was carried out and produced at the request of Bidwells.

1.2 Background

This report is intended to assess the present ecological value of a farmland area situated on the western edge of Horndean Road and south of Southleigh Road in Emsworth. The intention is to develop the site to support up to 100 new homes, whilst incorporating an ecologically sensitive landscaping plan. The report describes the results of an ecological walkover survey conducted to assess the potential for any development on this land to affect protected wildlife and habitats and additionally provides the findings of great crested newt and reptile presence absence surveys . Where necessary this report outlines measures to ensure that no protected wildlife is harmed during the development of the site.

A Phase 1 Habitat Map has been provided in section 1.3.1 to show all of the habitats on and adjacent to the development site that might be affected through the development process. Additionally, biodiversity records were requested from the Hampshire biodiversity information centre (Hbic) based on a 2km radius from the centre of the site. Biodiversity records returned included all known protected and notable species records.

1.3 Site Description/Ecological Context

The site is situated on the western outskirts of Emsworth on Horndean Road and a number of residential plots that border the road. The site is bounded to the north by Southleigh Road and a residential property and gardens to the south.

The site is set within a semi-rural area, with open farmland extending to the west and a large area of housing across much of the landscape to the east, forming part of Emsworth (see picture 1).

The majority of the survey area comprises of arable ground with cultivated winter wheat

crops and grassy field margins. The northern half of the site is formed out of a portion of a large arable field, whilst the southern part of the site is made up by a small arable field with a wide grass field margin bordering a wet ditch, which runs along the western boundary. Both fields show some signs of crop damage following very wet weather over the winter months

Four large mature Oak trees border the western edge of the southern field between the field and the wet ditch, whilst several other mature trees form a small wooded feature around the edges of the pond at the site centre. Some further detail on the value of habitats identified on the site are included within a habitat appraisal made in section 3.7.



Picture 1 – An aerial view of the Horndean Road site as seen on Google (see figure 1 on page 9 for a site boundary reference).



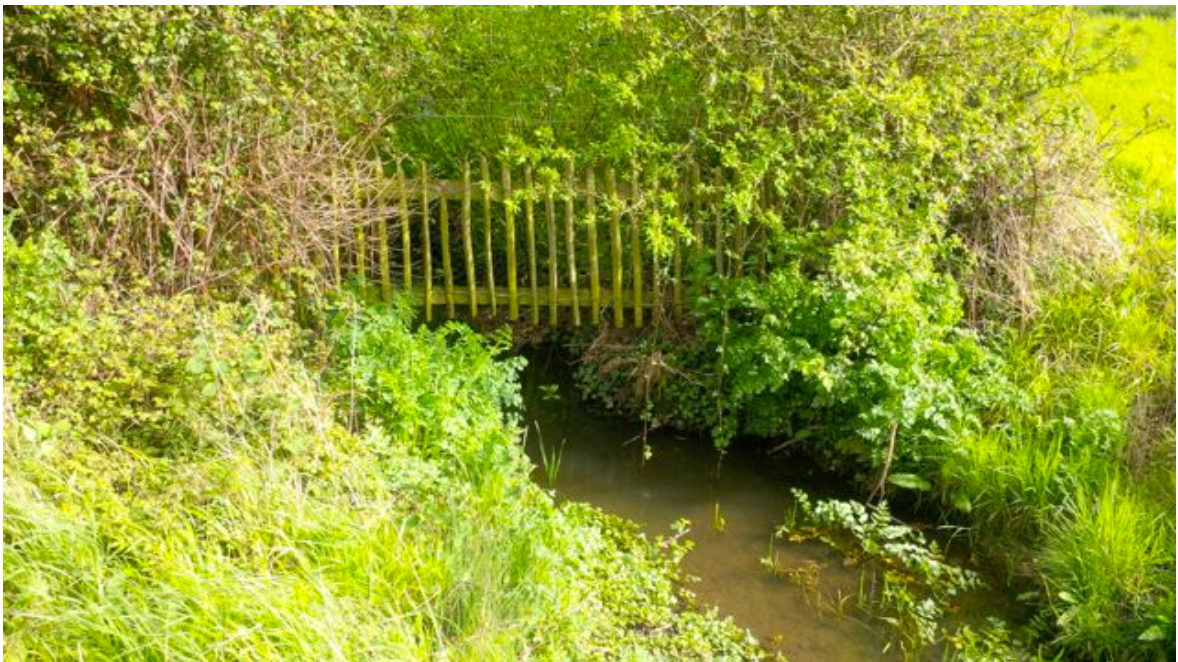
Picture 2 – The northern part of the site, comprising of part of a large arable field, with a small wooded area surrounding a pond visible around the site centre.



Picture 3 – The hedge boundaries around the northern field are tall, native and dominated by hawthorn, but species poor.



Picture 4 – The southern field is bordered by wide field margins buffering a wet ditch running along the western boundary.



Picture 5 – At the southern boundary the wet ditch flows from the site across a residential garden.



Picture 6 – A culvert connects the pond near the site centre to the wet ditch running along the western boundary.



Picture 7 – The southern boundary, with a wide grassy field margin bordered by a row of mature horse chestnut trees.



Picture 8 – The majority of the eastern boundary along the southern field is formed by walls, with some hedges.



Picture 9 – the pond at the site centre receives water from a land drain running from Horndean road.



Picture 10 – The pond margins are densely vegetated with yellow flag on the eastern side, whilst the northern, southern and western side is heavily shaded by adjacent trees.

1.3.1 Phase 1 Habitat Map

A phase 1 Habitat map is designed to show all of the significant habitats present on or adjacent to the proposed development site in a recognisable format using guidelines published by the Nature Conservancy Council. Figure 1 below shows the site in a north facing aspect.



Figure 1 – Phase 1 habitat map, with the site boundary indicated as a red line. This map drawing has been laid over the top of an aerial image to give a wider context to the plan.

* The letters “SI” indicate an area of species poor semi-improved grassland highlighted in light green.

1.3.2 Constraints/Limitations

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support some species, even where no direct evidence (such as droppings) has been found.

2 SURVEY METHODOLOGY

2.1 Scope of the survey

A protected species walkover assessment was carried out on 14/05/13 to evaluate the site for its potential to support protected species. Taking into consideration the geographical region and habitat type, species that could be encountered are:

- Badger;
- Bats;
- Nesting birds;
- Great Crested Newt; and
- Reptiles;

In addition, observations of any important plant communities or other valuable ecological features will have been recorded and detailed. Details of initial survey method for each species are given below.

2.1.1 Badger

An initial assessment was carried out to identify areas that might be used by Badgers (*Meles meles*). Signs of Badgers including setts, incidental foraging signs, runs and latrines, are recorded if encountered during the survey.

2.1.2 Bats

Trees, buildings, and other structures were assessed for the potential to support roosting bats. Bats can use a variety of roost areas including trees with holes, splits, cracks, cavities, Ivy and loose bark as well as a variety of roosting areas within buildings.

A detailed survey was carried out looking for any evidence indicating the presence of bats using buildings or trees, such as rub marks, staining or droppings inside or outside any potential roost sites.

If any definite signs of bats or other evidence had been found (such as actual sightings, droppings, urine stains, odour, scratch marks, grease stains and feeding remains), they would have been recorded.

2.1.3 Breeding Bird Habitat

Habitats were assessed for their suitability for nesting birds. This could include ground

nesting species, such as Skylark (*Alauda arvensis*) and Lapwing (*Vanellus vanellus*) or birds that favour urban environments. Where buildings were present, possible use by Starlings (*Sturnus vulgaris*) House Sparrow (*Passer domesticus*), or Barn Owls (*Tyto alba*)

2.1.4 Great Crested Newt

Initial surveys centre on identifying suitable habitat. If there are Great Crested Newt (*Triturus cristatus*) breeding ponds within 500 m that are not isolated from the site by unsuitable habitat or physical barriers, the species might be using terrestrial habitat on the site.

2.1.5 Reptiles

The site was assessed for reptiles, with particular attention paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub).

2.1.6 Water Voles

All habitats that are suitable for water voles, including ponds, water courses and wet ditches were walked to look for any evidence of water vole activity, including latrines, runs, burrows and feeding stations.

2.2 Legal Protection

Legal protection applying to vertebrate species is briefly detailed in *Appendix 1* of this report.

3 RESULTS

3.1 *Badgers*

No badger setts or latrines were seen during the survey and a walk of the site perimeters did not reveal any signs of badger runs. The site is within an area that could potentially support badgers, and particularly the sheltered small wooded area bordering the pond could provide cover for badgers should they become established in the area in the future.

No signs of any badger activity were identified during the survey.

3.2 *Bats*

There are no buildings anywhere upon the site, however a number of mature trees bordering the large pond and the wet ditch along the western boundary could potentially support roosting bats, within old rot holes, under flaking bark or in any splits or cracks. The value of the site for foraging bats would be attributed much more to the value of the pond, wet ditch and grass buffer strips. The 'clean' weed free arable fields themselves would be unlikely to support invertebrate prey, suggesting that the overall value of the construction zone itself is low.

3.3 *Breeding Birds*

It is likely that breeding birds will nest in the hedges bordering Horndean and Southleigh Road, as well as mature oak trees along the western boundary and the small wooded area bordering the pond around the site centre. A skylark was seen displaying above an arable field just to the west of the site and it remains possible that this species could nest on the Horndean road site, as well as other species such as grasshopper warbler or grey partridge, although no ground nesting birds were seen during the survey.

3.4 *Great Crested Newts*

Only a single pond has been identified on the site or within 500 metres of the site boundary. A large pond is situated near to the site centre, with a small wooded area bordering it on three sides. The pond has a large area of yellow flag (XXX) growing around the pond margins and extending into the pond. The pond is suspected to be no more than 40cm deep at its deepest point and could be subject to low water levels later in the year. Suitable vegetation for newt egg laying included some water mint (*Mentha aquatica*) and redshank (*Persicaria maculosa*), although as much as 70% of the pond banks lacked suitable leafy aquatic vegetation.

The wet ditches bordering the site are highly unlikely to support breeding amphibians, as they have a notable flow of water and some small fish were visible within the shallows.

The Hbic data search showed that there are no known records for this species within 2km of the site, however a record on the National Biodiversity Network website was found just outside this search area within Emsworth.

3.5 *Reptiles*

Suitable habitat for reptiles has been identified, with the grassy habitat associated with the field buffers and along the wet ditch offering the greatest value. Tadpoles were seen within the large pond during the survey and this shows that a breeding population of toads and/or frogs is present, which form the staple prey for adult grass snakes. It is possible that compost heaps associated with the gardens of the adjacent properties to the east could act as hibernacula for reptiles, although no significant potential hibernacula were seen during the survey of the site itself.

The 2km radius biodiversity records search undertaken by Hbic showed that there are known records for adder and grass snake in the locality, confirming that these species are found within this geographic range.

3.6 *Water Voles*

The wet ditch running along the western boundary and the large pond both constitute habitats with potential to support a population of water voles. The wet ditch has steep sided banks of both sides and has a slow flowing shallow water body running through it, which is not more than 40cm wide along most of the ditches length. The well vegetated banks of the ditch could provide a suitable food source for foraging, although with a water body less than 1 metre wide, the lack of water is less suitable.

During the survey, the banks of the large pond and the wet ditch were walked carefully to look for any signs of water vole activity, however none was seen. The biodiversity records search by Hbic showed that there are records for water vole within the 2km search area, however all records are for the River Ems, the other side of the A27 to the South.

3.7 *Habitat appraisal*

The Horndean Road site includes four main habitats, including arable ground, semi-improved grassland, a slightly eutrophic pond and a very small wooded area. Boundary features include a species poor hawthorn hedge and a wet ditch.

The majority of the site is made up of arable ground, sown with a winter wheat crop. The crop is very 'clean', with no notable arable weeds observed and some crop damage evident presumably from very wet ground conditions experienced over the winter.

The wooded area is very small, estimated to be less than 200 square metres in area and includes a small number of common woodland plants, including lords and ladies (*Arum maculatum*), ivy (*Hedera helix*), hedge woundwort (*Stachys sylvatica*) and lesser

celandine (*Ranunculus ficaria*). The woodland includes grey willow (*Salix cineria*), mature oaks (*Quercus robur*) and some dense blackthorn (*Prunus spinosa*).

The wet ditches are grassy, with some crosswort, a variety of umbellifers, including hogweed (*Heracleum spondylium*) and lesser water-parsnip (*Berula erecta*).

The Hbic dataset showed that there were some plants identified near to the site that are Nationally Scarce or IUCN red list species, including the green-winged orchid (*Orchis morio*), Autumn ladies tresses (*Spiranthes spiralis*), Corn Spurrey (*Spergularia arvensis*) and Wild clary (*Salvia verbenaca*).

4 CONCLUSION AND EVALUATION

4.1 *Badger*

No badger activity was identified during the survey, although the site is within an area likely to support this species. In the event that any mammal digging is identified anywhere on the site prior to or during development, then it is recommended that an ecologist is contacted for advice. Furthermore, it is recommended that a repeat walkover survey of the site should be undertaken not more than 8 weeks prior to the commencement of construction activity to ensure that no new setts have become established.

If any setts do become established prior to development, then appropriate mitigation or a sett closure license would be needed.

4.2 *Bats*

There are no buildings present upon the site that might support roosting bats, however there are several mature trees that could support roosts in features such as rot holes. Although it appears clear that all mature trees on the site will be retained, it is important to know if any of these trees are likely to support bats by undertaking a detailed appraisal. Artificial lighting can have a notable negative impact upon roosting bats, which will not emerge from roosts for longer when their roost entrances are illuminated. By understanding the use of the site by bats, this will best inform on-site mitigation and a landscape plan for the development.

A bat roost appraisal should be undertaken by an experienced and licensed bat ecologist of all of the mature trees across the site or close to the site boundary.

4.3 *Breeding Birds*

The hedges, mature trees and small woodland area bordering the pond all have the potential to support a variety of wild nesting birds. In addition nesting wildfowl, including moorhens could nest on or near to the pond.

Ground-nesting birds including skylark could nest on the arable fields or the wide grassy field margins.

It is important that if any vegetation on the site is cut back/removed, then this is done outside the nesting bird season (1st March to 31st August). If this work must be done during this time, then a hand search could first be undertaken by a suitably qualified ecologist to ensure that no nests are present that might be disturbed or damaged.

Grassy cover associated with the field buffers that would form part of the construction zone, should be kept short at all times prior to construction.

4.4 *Great Crested Newts*

The large pond offers habitat that is suitable for breeding amphibians, despite some clear negative influences, including an outfall which appears to come from Horndean Road and dumping of some grass cuttings and other garden waste on the pond banks that could be elevating nitrogen levels. The water mint around the margins is a commonly used plant by newts for egg laying and there were no signs of any fish that might predate upon any amphibians.

In order to determine if there is a breeding population of great crested newts present, then a presence/absence survey should be undertaken according to best practice guidelines issued by Natural England. As such a total of four surveys should be undertaken between mid March and mid June, with at least two surveys between mid April and mid May, which is considered to be the optimum survey period. Recommended survey techniques include bottle trapping, torching, egg searching and netting.

4.5 *Reptiles*

Suitable habitat for foraging reptiles has been identified on the site in the form of relatively tall rough grassland and compost heaps that could act as hibernacula and additionally several records for adder, grass snake, common lizard and slow worm were identified in the Hbic data search within 2km of the site.

Presence/absence surveys are necessary in this instance as features with potential to support reptiles are present within the development boundary. A presence/absence survey conducted according to guidelines outlined by Froglife should be conducted between April and October, with seven survey visits forming a suitable survey effort on days when the ambient temperature is between 9 and 18 degrees Celsius in the absence of rain or strong wind.

4.6 *Water Voles*

The wet ditches bordering the western edge of the site do not appear to be particularly suitable for water voles, with a very narrow and shallow waterbody, although abundant vegetation for foraging was apparent.

A walkover assessment of both banks of the ditch did not reveal any evidence of water vole activity and although some records for this species were returned within the Hbic dataset, this was for the River Ems, which appears to be some distance away and is unconnected to the wet ditches at the site.

No further surveys are recommended for water voles.

4.7 *Habitat appraisal*

The majority of the application site is made up by arable land, with a very low ecological value. There is some interest associated with the wet ditches and semi-improved grassland and the dataset provided by Hbic showed that a number of nationally scarce and IUCN red list plant species are found within the wider area.

It is recommended that a NVC survey is undertaken around late June/early July, when most plants are visible to assess the botanical value of the site and establish if any protected plants or plants of conservation concern are present.

5 APPENDIX 1 – LEGAL PROTECTION

General

This section briefly describes the legal protection afforded to protected species. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

Badger

Badger is protected in Britain under the Protection of Badgers Act 1992 and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended).

The legislation affords protection to Badger and Badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

Bats, Dormouse and Great Crested Newt

Dormouse (*Muscardinus avellanarius*), Great Crested Newt (*Triturus cristatus*), and all species of British bat (*Vespertilionidae* and *Rhinolophidae*) are listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. These species are also all listed as European Protected Species on *Schedule 2* of the *Conservation (Natural Habitats, etc.) Regulations 1994* which gives them full protection under *Regulation 39*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CROW Act). Under the above legislation it is an offence to:

- kill, injure or take an individual;
- possess any part of an individual either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by these species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb these species whilst using any place of shelter or protection; or
- sell or attempt to sell any individual.

It is also an offence to set and use articles capable of catching, injuring or killing bats (for example a trap or poison), or knowingly cause or permit such an action. In the case of Dormouse and all species of British bat there is also protection under *Schedule 6* of *The Wildlife and Countryside Act 1981* (as amended) relating specifically to trapping and direct pursuit of these species.

Dormouse, Great Crested Newt and all species of British bat are included as priority species in the *UK Biodiversity Action Plan* and as species of principal importance for the conservation of biological diversity in England under *Section 74 of the Countryside and Rights of Way (CRoW) Act 2000*.

Reptiles

Common Lizard (*Lacerta vivipara*), Grass Snake (*Natrix natrix*), Slow-worm (*Anguis fragilis*), and Adder (*Vipera berus*) are listed under *Schedule 5 of the Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the *Countryside and Rights of Way (CRoW) Act 2000*. Under the legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of these species; or
- sell or attempt to sell any part of these species either alive or dead.

Nesting Birds

All species of bird are protected under *Section 1 of the Wildlife and Countryside Act 1981* (as amended). Protection was extended by the *Countryside and Rights of Way (CRoW) Act 2000*. Under the above legislation it is an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Certain species are listed on *Schedule 1 of the Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4) and 1(5)*. The protection was extended by the *Countryside and Rights of Way (CRoW) Act 2000*. There are special penalties where the offences listed above are committed for any *Schedule 1* species and it is also an offence to intentionally or recklessly:

- disturb any such bird when it is building its nest or while it is in or near a nest containing dependant young; or
- disturb the dependant young of any such bird.

Bat Conservation Trust



Statement on the impact and design of artificial light on bats:

Artificial night lighting is disturbing to many bat species, including some of our rarest and most vulnerable bat species. Some fast-flying bats, such as common and soprano pipistrelle bats, are more tolerant of light and feed on the insect congregations around street lamps. However, this exposes the bats to predation. For the bats that are repelled by light such as horseshoe bats and brown long-eared bats, insect food becomes scarcer and more difficult to find and hunt.

We know that some bat species will not cross lines of light, such as street lighting. The light acts as a barrier, disrupting flight paths and fragmenting and restricting habitats. In addition, lighting close to roost access points disturb bats within a roost, delay emergence time and may result in the abandonment of a roost.

Smarter lighting, rather than less lighting, is key to mitigating the effects of light pollution. Light should only be erected where it is needed, illuminated during the time period it will be used, and at the levels that enhance visibility.

Mitigation must be guided by an understanding of the particular species that might be affected. For example, some bat species may be more sensitive than others.

Design recommendations for wildlife-friendly lighting include:

1. Do not "over" light. This is a major cause of obtrusive light and is a waste of energy. Use only the minimum amount of light needed for safety. There are published standards for most lighting tasks, adherence to which will help minimise upward reflected light.
2. Eliminate any bare bulbs and any light pointing upwards. The spread of light should be kept near to or below the horizontal.
3. Use narrow spectrum bulbs to lower the range of species affected by lighting.
4. Use light sources that emit minimal ultra-violet light. Insects are attracted to light sources that emit ultra-violet radiation.
5. Reduce light-spill so that light reaches only areas needing illumination. Shielding or cutting light can be achieved through the design of the luminaire or with accessories, such as hoods, cowls, louvers and shields to direct the light.
6. Reduce the height of lighting columns. Light at a low level reduces ecological impact. However, higher mounting heights allow lower main beam angles, which can assist in reducing glare.
7. For pedestrian lighting, use low level lighting that is directional as possible and below 3 lux at ground level.
8. Use embedded road lights to illuminate the roadway and light only high-risk stretches of roads, such as crossings and merges, allowing headlights to take up the slack at other times.
9. Limit the times that lights are on to provide some dark periods for wildlife.
10. Use lighting design computer programs and professional lighting designers to predict where light spill will occur.

Bat Conservation Trust
May 2011

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