



LINDSAY CARRINGTON
ECOLOGICAL SERVICES

BIRD MITIGATION RESERVE PROPOSALS FOR, LAND
OFF ROMSEY AVENUE, PORTCHESTER

AUGUST 2020

ON BEHALF OF FOREMAN HOMES LTD



LINDSAY CARRINGTON ECOLOGICAL SERVICES

The Old Squash Court,
Rempstone Hall,
Rempstone,
Corfe Castle,
Wareham,
Dorset,
BH20 5JQ
www.ecological-services.co.uk

Telephone: 01929 477115
E-mail: adam@ecological-services.co.uk

Authorisation

	Name	Date
Report prepared and updated by:	Adam Day	05/08/2020
Report checked and authorised by:	Jeff Picksley	05/08/2020

The contents of this report were correct at the time of the last survey visit. The report is provided for the sole use of the named client and is confidential.

All rights in this report are reserved. No part of it may be reproduced or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, or stored in any retrieval system of any nature, without our written permission. Its content and format are for the exclusive use of the addressee in dealing with this. It may not be sold, lent, hired out or divulged to any third party not directly involved in this situation without our written consent. It is company policy to share species records collected during our surveys with local biological records centres unless instructed otherwise by the client

CONTENTS

SUMMARY	1
1.0 INTRODUCTION.....	2
2.0 BIRD RESERVE PROPOSALS.....	4
3.0 MANAGEMENT AND MONITORING	6
4.0 PUBLIC GREEN SPACE PROPOSALS.....	9
5.0 REFERENCES	10
APPENDIX I: Proposed bird reserve design	11

SUMMARY

1. Lindsay Carrington Ecological Services were commissioned by Steve Carrington, on behalf of Foreman Homes Ltd, to propose and design a mitigation bird reserve, specifically in relation to brent geese and wader species, for a proposed housing development at Land off Romsey Avenue, Portchester, Hampshire, PO16 9TA (SU 600 055)
2. The bird reserve has been designed in response to advice given by Natural England, following a Discretionary Advice Service request from Foreman Homes. Natural England requested that a mitigation reserve that can support approximately 300 brent geese, in line with previous counts at the site is designed.
3. A reserve has been designed that provides suitable winter grazing habitat for up to 300 brent geese and is adequately shielded from disturbance from local human populations. The proposals include an open area of improved and managed grassland with a central wet scrape. There is also an area of ponds created as part of a SuDS design and a viewing screen to promote engagement with the conservation value of the site.
4. The proposed reserve design also provides suitable foraging habitat for local wader populations and a variety of other bird species. This includes nesting provision for sand martins and kingfisher.
5. A management and monitoring strategy has been proposed to ensure that the long-term conservation value of the site to local bird populations is maintained. This includes a specific cutting regime and annual surveys for monitoring brent geese numbers that use the site.

1.0 INTRODUCTION

Lindsay Carrington Ecological Services were commissioned by Steve Carrington, on behalf of Foreman Homes Ltd, to propose and design a mitigation bird reserve, specifically in relation to brent geese and wader species, for a proposed housing development at Land off Romsey Avenue, Portchester, Hampshire, PO16 9TA (SU 600 055).

Foreman Homes Ltd have submitted an application to construct 225 dwellings and associated infrastructure on land to the south of Romsey Avenue. The land is a field currently in agricultural use for arable crops and is within 500m of the Portsmouth Harbour Special Protection Area (SPA). The field has been identified as a primary support area for brent geese (*Branta bernicla*) under the criteria of the Solent Waders and Brent Goose Strategy (2019), with a maximum historic count of 300 geese recorded on the site in 2017 over two visits.

‘The Primary Support Areas are land that, when in suitable management, make an important contribution to the function of the Solent waders and Brent goose ecological network. However, it is generally considered that, where on-site avoidance or mitigation measures are unable to manage impacts, there may be opportunities for the loss or damage to these areas to be off-set by the provision of new sites to ensure a long term protection and enhancement of the wider wader and Brent goose ecological network.’

Prior to winter 2017, usage of the site by brent geese was classed as uncertain and subsequent visits have not recorded any geese on the site. Brent geese use open sites with clear sight lines for grazing on grass and specific crops. Therefore, the use of the site by brent geese is based on very specific management. Sites with long grassland, or a lack of winter crop cover, or crops not favoured by the geese are unlikely to be used.

An Environmental Statement for the proposals was written in May 2018. This summarised that the impacts of the proposals on brent geese and waders in relation to the Solent SPA with mitigation implemented would be negligible.

As part of the application process, Foreman Homes consulted Natural England through their Discretionary Advice Service (DAS). Natural England recommended that the development design was based around a bespoke bird reserve, with recommendations for brent geese included. The recommendations of this process were as follows.

Design the bird reserve prior to the rest of the development

We consider it may be possible to incorporate a BCA and some development on the site, however it will be critical for you as developer to be able to demonstrate that the function of the site’s ability to support 300+ Brent geese (based on previous records) is maintained and can be secured and delivered in perpetuity.

It is advised a suitably experienced ecologist with ornithological expertise is brought in to help design an appropriate bird reserve on site, which should then be used to inform the rest of the development. The design of the BCA should consider:

Appropriate quantum and shape of land – Brent geese prefer large wide open spaces with clear sight-lines. The reserve should be large enough to be able to accommodate at least 300 geese and provide appropriate sightline distances required by the birds – therefore a square reserve with equal sightline distances from all sides would be more appropriate than a long but narrow area. More information of appropriate sightline distances for Brent geese can be found in the Solent Wader and Brent Goose Strategy 2010 report and Natural England’s designated sites view.

Prevention of informal access – measures should be included such as suitable fencing and ditch system. Consideration should also be given to signage and interpretation opportunities, such as viewing platforms, bird hides etc.

Screening - consideration to be given to screen the site from the adjacent development using appropriate landscaping/planting to minimise lighting and visual disturbance.

Management – Brent geese prefer short lush grassland for grazing. Details of appropriate management and wardens and how this will be secured and delivered in perpetuity as advised previously. Consideration should also be given to long term monitoring and how any adaptive measures will be secured.

The following bird reserve proposals and management policy have been designed with these recommendations in mind. The provision of suitable areas of greenspace is also discussed as a provision of the development.

2.0 BIRD RESERVE PROPOSALS

The bird reserve will cover approximately 4.2 hectares of the 12-hectare site. It will be created in the southern portion of the site, so as not to place the reserve between two urban areas. Approximately 3.7 hectares of the reserve will be designated to brent geese mitigation habitat only.

Mitigation area

To create the reserve boundary, a protective fence will be installed to prevent people and predators such as foxes entering the reserve. The perimeter fence removes the need for monitoring by wardens. The fence will be two metres high, with anti-climb measures installed. The fence will not be passable by predators such as foxes. This will protect foraging geese and waders in the winter and ground nesting birds in the summer. A ditch line will be created along the length of the fence on the inside of the brent goose reserve area to provide additional habitat and further increase site security. This will be planted with native reed and bulrush to encourage species such as reed (*Acrocephalus scirpaceus*), sedge (*Acrocephalus schoenobaenus*) and Cetti's warbler (*Cettia cetti*). The ditch line vegetation will be left in-situ over winter and will help to provide screening from disturbance and light-spill from the adjacent residential area. A bird viewing screen will be installed in the centre of the northern boundary bund to encourage public engagement with the reserve and signage will be placed along the adjacent footpath to provide further information about local bird populations. Access into the site for management will be provided from the residential area. The reserve must be in-situ prior to the commencement of the construction of the residential area and the grassland habitat for the geese must be established first.

The brent goose specific area of the site will measure approximately 250 metres wide and 150 metres high and the total area is approximately 3.75 hectares. This is similar in size or larger than other primary support areas within Portsmouth Solent area, including H85 (1.52ha up to 584 geese), P40A (2.86ha, up to 120 geese) and H60J (3.36ha up to 750 geese). Studies have shown that where foraging quality is high, the geese are less likely to be disturbed and therefore, size of the site and levels of disturbance may be mitigated by providing a high value foraging resource (Riddington *et al*, 1996). This may explain why brent geese are sometimes more approachable on sports field and publicly accessible estuary grassland sites along the Solent coast.

Brent geese naturally show preference to fertilised grassland swards, which are nitrogen rich and offer the highest amount of energy for the foraging effort expended (Rowell & Robinson, 2004). The geese are able to identify these by “greenness” from the air. However, due to the nitrogen sensitivity of the sites location, it will not be possible to use additional nitrogen fertilisers. In the absence of fertilisers, brent geese favour a short sward of less than 7cm, which is generally naturally lower in fibre and more nitrogen rich (Riddington *et al*, 1996). White clover (*Trifolium repens*) is preferred over grass species

including perennial rye (*Lolium perenne*) (McKay *et al*, 2001) however, a low diversity sward with some grass species present early in the autumn season has been shown to be more attractive than monoculture pasture and is easier to manage. Perennial ryegrass is the most efficient grass for nitrogen conversion from the soil and is therefore an ideal companion to clover for providing grazing nitrogen for the geese. The percentage of ryegrass must be kept lower to prevent it outcompeting the clover.

To create a high value foraging site, the grassland will be sown with a white clover and grass mix at a ratio of 80% white clover to 20% perennial ryegrass. The site will initially be cleared to bare earth, with organic weed management taking place for up to six weeks prior to sowing. The site will then be drill-sown with this mix, which will establish quickly. This will be done in early spring to establish the grassland before the geese arrive in autumn. In the centre of the site, a scrape will be created to provide a freshwater source and additional foraging habitat for geese and waders. Regular cutting of the sward will be undertaken to allow the clover to dominate and keep the grass at a suitable height for the geese when they arrive in autumn.

Whilst the focus of the grassland creation is for brent geese, it is likely that it will also be utilised for foraging by wader species in the winter, including curlew (*Numenius arquata*), oystercatcher (*Haematopus ostralegus*) and common redshank (*Tringa totanus*).

Enhancement area

In the narrow strip in the west of the reserve, an integrated SuDS area will form a network of waterbodies. These will provide a water resource and breeding habitat for a variety of species. A sand martin (*Riparia riparia*) and kingfisher (*Alcedo atthis*) nesting bank will be created on the edge of one of the waterbodies. The waterbody will be managed as open water throughout the year to provide foraging habitat for these species, with vegetation regularly cleared. The remaining waterbodies will be allowed to vegetate, with intermittent clearance to create habitat suitable for breeding wetland bird species.

Surrounding the SuDS features, an area of damp grassland will be created, with marsh and shade suitable plants included to best fit the position of this area. To the north of the SuDS area, willow and alder woodland will be planted to form a barrier inside the boundary fence.

3.0 MANAGEMENT AND MONITORING

Management of the site will be categorised into the various habitat types and time periods. These are summarised below, however a detailed management plan will be submitted for approval to the Local Planning Authority upon acceptance of the bird reserve design by Natural England.

Grassland for brent geese

- The habitat for brent geese must be established prior to any commencement of development adjacent to the site. This should include installing the perimeter fence, scraping ditch lines out and the central scrape and sowing the grassland. The SuDS area can be created at a later date.
- The site will be prepared in early spring by clearing any existing vegetation. Organic weed management by harrowing or flaming should be undertaken for up to six weeks.
- The white clover and perennial ryegrass mix at a ratio of 80%/20%, will be sown in late April.
- In the first year this will be allowed to establish until the grass begins to outgrow the clover. Cuts will then be taken regularly to prevent the grass out competing the clover up until September when a 5cm cut should be made if necessary, to encourage brent geese to use the site.
- Once established after the first winter, the grassland should be placed into a cutting regime of bi-monthly intervals, with cuts in late April, late June and late August. The arisings should be left in-situ to ensure nitrogen is released back into the soil and maintain soil fertility.
- If the grass is longer than 7cm by mid-September, an additional cut should be made down to 5cm to ensure viability for the brent geese.
- This management regime is flexible and will be reviewed annually alongside brent goose data for the site and by the status of clover and perennial ryegrass. Clover dominance is favoured, and it may be necessary to sheep graze the sward to select the grass if it has become dominant. Stocking density and time grazed will be based on ensuring the clover persists at a high density. If grazing is unsuccessful, additional grassland management and sowing of clover will take place.
- The grassland will be given a condition assessment monthly for the first year of establishment. Changes to management or additional sowing will be undertaken if required. Long term monitoring will be carried out during breeding bird and then regular phase 1 habitat surveys.
- The central scrape will be created by digging to 2 feet, which will retain water until early or late spring and will remain wet throughout the winter. The scrape will be kept open and clear of vegetation on an annual basis.

- The perimeter fence will be checked regularly during management visits to ensure there is no damage or breaches, which should be repaired immediately.
- The bird hide or viewing screen area should have information boards installed that provide visitors with information about the importance of the area to brent geese and other bird species likely to use the reserve.

Ditch lines

- Ditch lines will be planted up with common reed (*Phragmites australis*) and bulrush (*Scirpoides holoschoenus*) and will be periodically cleared in spring when it becomes too densely vegetated for water to be retained. This is typically every five years. The vegetation will be left in situ from August to March to provide screening of the reserve area and

SuDS areas

- Three SuDS waterbodies will be created as part of the proposals. One will be managed as open water with edge vegetation for foraging birds including sand martin and kingfisher and the other two smaller waterbodies will have dense vegetation established for breeding water bird species such as moorhen (*Gallinula chloropus*).
- The open waterbody will have a sand martin and kingfisher nest bank installed on one side. This is a manmade bank with tubes inserted to provide nesting opportunities for these species. These tubes are filled with sand to allow the birds to create their preferred nesting sites. The tubes should be cleared and refilled annually to ensure the long-term success of the feature.
- All three waterbodies will require intermittent clearance to maintain suitable conditions. For the open feature this is likely to be required every 2-5 years, whereas the densely vegetated features can be cleared once every 5-10 years, depending on how water is flowing through the system.
- A damp/marshy grassland area will be created to the south of the SuDS area by sowing a mix such as Emorsgate EM8.
- To the north of the SuDS, willow/alder woodland will be planted. This will be managed only to stop encroachment into the SuDS area by cutting back when required.

The bird reserve should initially be managed by a private contractor, under the responsibility of the developer, to ensure the site is properly established. This is likely to be a period of five years. To ensure the management of the reserve in perpetuity, a pre-commencement agreement should be made with a competent habitat management contractor for the site. This could be Hampshire Countryside Services, The Wildlife Trust or a private habitat management firm. This could be funded by an endowment or placing a service charge on the proposed residential properties. To ensure the site is continually managed effectively in the instance of a contractor not meeting the terms of the

management plan or being unable to continue the management, a step in clause will be included for the local authority to take control.

The success of the management plan should be based on detailed monitoring results of the habitats and species present. An annual review will be submitted to Natural England the initial five-year establishment period and changes to management or habitat types will be adopted if required.

Monitoring of the reserve will be managed through the following suite of annual surveys during for an initial ten-year period.

- Three Breeding Bird Surveys (BBS) from April until June
- Six Winter Bird Surveys (WBS) from October to March
- During the breeding bird surveys, habitats will be monitored for successful establishment
- A phase one habitat survey of the site should be carried out annually in June from year 3-10. This will establish a record of baseline conditions at the site and provide a botanical overview for successful maintenance of bird populations.

After this initial ten-year period, the site should be included in the national voluntary BBS and Wetland Bird Survey (WeBS) schemes, to ensure that it is monitored on an annual basis in perpetuity. This should be agreed in advance with the BTO. Voluntary surveying through the Solent Bird Aware scheme could also be agreed and this should be reviewed as part of the payment agreement as discussed in section 5.0 below.

4.0 PUBLIC GREEN SPACE PROPOSALS

As part of the development proposals, it must be shown that there is suitable provision for green space in lieu of a large area being designated as a bird reserve with no public access. The primary aim of this is to prevent increased recreational pressure on the nearby statutory protected sites.

As part of the proposals, an area of public greenspace will be created in the western side of the development area as shown in figure. In addition to this, the site has play areas and good footpath, cycle routes and vehicular access routes to nearby recreational areas. Whilst these features provide some recreational facilities for the proposed development, the proximity of the site to the coastal statutory protected sites makes it impossible to rule out any recreational impacts. Therefore, contributions to the Solent Bird Aware scheme will be required. These payments are based on the total number of dwellings and the number of rooms that each dwelling has. A flat rate is payable at £595 if agreed with the LPA, or the charging schedule below may be more appropriate.

- 1 bedroom property £356
- 2 bedroom property £514
- 3 bedroom property £671
- 4 bedroom property £789
- 5 bedroom property £927

5.0 REFERENCES

Emorsgate Seeds Mixtures, Wetland and Pond- Accessed 27th May 2020.
<https://wildseed.co.uk/mixtures/view/9/meadow-mixture-for-wetlands>

Liley, D. and Sharpe, J. (2010) *Solent Waders and Brent Geese Spatial Analysis Report*. Footprint Ecology.

McKay, H. V., Milsom, T. P., Feare, C. J., Ennis, D. C., O'Connell, D. P. & Haskell, D. J. (2001). *Selection of forage species and the creation of alternative feeding areas for Dark-bellied Brent Geese Branta bernicla bernicla in southern UK coastal areas*. Agriculture, Ecosystems and Environment 84: 99-113.

Riddington, R., Hassall, M. and Lane, S.J. (1996) *The selection of grass swards by brent geese Branta b. bernicla: interactions between food quality and quantity*. Biological Conservation 81 (1997) 153-160.

Rowell, H.E. & Robinson, J.A. (2004). *Feeding areas for Dark-bellied Brent Geese Branta bernicla bernicla around Special Protection Areas (SPAs) in the UK*. The Wildfowl & Wetlands Trust, Slimbridge.

Whitfield, D (2019) *Solent Waders and Brent Goose Strategy 2019 Interim Project Report: Year One*. Hampshire and Isle of Wight Wildlife Trust. Curdrige.

APPENDIX I: Proposed bird reserve design



Figure 1- Proposed bird reserve design