



Rook Farm,
Hayling Island

Brent Goose Mitigation Strategy

Prepared by
CSA Environmental

on behalf of
Gladman

Report No: CSA/4956/09

November 2022

This report may contain sensitive ecological information. It is the responsibility of the Local Authority to determine if this should be made publicly available.

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1.0 INTRODUCTION

- 1.1 This report has been prepared by CSA Environmental on behalf of Gladman. It sets out a strategy to address impacts on brent geese associated with nearby European site designations which could otherwise occur at Rook Farm, Hayling Island (hereafter 'the Site'). Residential development is proposed at the Site, for which an outline planning application has been made to Havant Borough Council (APP/21/01434).
- 1.2 The Site occupies an area of c. 11.77ha and is located around central grid reference SZ 7192 9978, in South Hayling. It comprises two arable fields with margins of semi-improved grassland, a large area of semi-improved grassland and scrub parcels to the east, and a central pond and farm building. The Site is bounded by residential properties to the south and east, open greenspace adjoining Hayling Island Holiday Park to the west, and an agricultural field connected to the grounds of the Church of St Marys to the north.
- 1.3 The proposed development is to comprise up to 300 dwellings (including affordable housing) and is to include "*provision for structural planting and landscaping; informal public open space; children's play areas; sustainable drainage system (SuDS); a new vehicular access from St Mary's Road; and associated ancillary works.*" All matters are reserved except for means of vehicular access.
- 1.4 The proposals fall under Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017. As Havant Borough Council (HBC) considered the development is likely to have significant effects on the environment by virtue of factors such as its nature, size or location, a statutory Environmental Impact Assessment (EIA) was required. The application was therefore supported by an Environmental Statement (ES), chapter 7 of which addressed matters of ecology and nature conservation. This was based upon an Ecological Impact Assessment (EclA; ES Appendix 7.1; CSA/4956/05) and Habitats Regulations Assessment (HRA; ES Appendix 7.2; CSA/4956/06).
- 1.5 Following validation of the outline planning application in January 2022, consultation responses have been provided by Hampshire County Council (HCC) Senior Ecologist Tristan Norton, the Hampshire and Isle of Wight Wildlife Trust (HIWWT), the Royal Society for the Protection of Birds (RSPB) England and Natural England. Each consultee placed a holding objection on the application; in each case in view of the then outstanding baseline winter bird survey data, and details of the proposed off-site mitigation to ensure the continued favourable conservation status of brent geese. The purpose of this document is to provide this information.

2.0 BASELINE CONDITIONS

Habitats

- 2.1 Baseline habitat conditions at the Site are described in the EclA, further to a baseline survey under the UK Habitat Classification (UK Hab) method by CSA Environmental in August 2021. Cultivated cropland fields are the dominant habitat present, which were planted with a broad bean crop at the time of survey. A large area of semi-improved grassland lies to the east of the Site in the position of a former allotment garden. A Habitats Plan is available at Appendix A of the EclA.

Desk Study

- 2.2 Extensive survey work has been undertaken into the relationship between individual terrestrial sites and the protected designations of the Solent complex, as well as their use by the brent geese and other species, as reported within the Solent Waders and Brent Goose Strategy (SWBGS). The principal objective of the SWBGS is to inform decisions relating to strategic planning as well as individual development proposals, to ensure that sufficient feeding and roosting resources continue to be available and the integrity of the network of sites is restored and maintained, in order to ensure the survival of the Solent's coastal bird populations (Whitfield, 2020). The Strategy identifies the network of terrestrial sites around the Solent and classifies them according to their value to the waders and brent geese, as part of a framework to establish mitigation measures:

- Core Area
- Primary Support Area
- Secondary Support Area
- Low Use Site

- 2.3 A desktop study exercise undertaken to inform the EclA established, through records obtained from the Hampshire Biodiversity Information Centre (HBIC), that populations of dark-bellied brent goose have previously been recorded within the Site, with a peak count of 1100 individuals feeding during the winter of 2017. As a result, the entirety of the Site is adopted as a 'Core Area' under the SWBGS.
- 2.4 Conversely, winter bird surveys carried out at the Site by Ecology Solutions Ltd in 2017/18 concluded that, at the time of the surveys, the overall habitat was unsuitable for brent geese as the arable fields had been recently ploughed, leaving expansive bare ground, and no brent geese were recorded during the surveys. This exemplifies that the presence of brent geese is dependent upon the management of any site, particularly the status of the arable fields over the course of the

winter season, with stubble or short improved grassland habitat being preferred.

Baseline Surveys

Methods

- 2.5 Eight wintering bird survey visits were carried out at the Site between November 2021 and March 2022 to provide an updated assessment of the Site's importance for birds during the winter. During this time there is reduced territoriality and the formation of wide-ranging, mixed-species flocks that can cause significant variation in species diversity and bird numbers on a daily basis. In addition, weather factors, such as snow cover, can also result in the movement of birds to or from an area.
- 2.6 The surveys were completed by Andy Johnson, a locally based specialist ornithologist, and the conduct of the fieldwork was commensurate with good ornithological practice. The purpose of the survey was to assess the composition of the wintering bird community within the Site, the population size of each species present and the species distribution within the survey area. In doing so, the surveys provided an updated assessment of the status of the Site as functionally linked land, providing supporting habitat for brent geese associated with nearby European site designations.
- 2.7 Survey work also focused on determining the presence/likely absence of any protected or notable species of National, Regional or Local conservation importance, and to determine whether any populations of such species are significant at a local or wider level, with a particular focus on brent geese. Data provided on the distribution of species within the survey area indicates the importance of parts of the site to each bird species and to birds in general.
- 2.8 The survey methodology adopted follows the standard Common Birds Census (CBC) method and comprised:
 - Identification of all birds seen and heard with locations of Red and Amber Listed species mapped on a largescale plan, and
 - Records of the total numbers of birds seen
- 2.9 On each survey the surveyor walked a route across the whole Site which ensured that both species of open and boundary habitats would be detected. Alternative versions of the route were taken on each visit so that different parts of the Site would be surveyed at different times of the morning, thus avoiding temporal bias associated with bird activity or other factors such as increasing traffic noise. Surveys commenced between morning and early afternoon, timed to coincide with the high tide period (so that intertidal habitats are not available to foraging geese). Birds were detected by sound or sight, using a pair of binoculars.

- 2.10 All birds detected at the Site were recorded using standardised codes to map their distribution and behaviour. Records were made of any bird species observed on land adjacent to the survey area or flying over the Site. However, these fly-over species were not included when assessing the importance of the survey area.

Limitations

- 2.11 Only a proportion of individuals of each species will be detected on each visit, and some particularly secretive or low-density species, can be elusive and require several visits to detect. Furthermore, the importance of a site for birds can change depending on factors such as food availability, presence of roosting features and weather conditions.

Evaluation

- 2.12 The importance of the wintering bird assemblage on the site was assessed using the criteria suggested by Fuller (1980) (see Table 2 below).

Table 2. Assessment criteria for the wintering bird assemblage at the site

Importance	Number of Wintering Bird Species
Local	25-54
County	55-84
Regional	85-114
National	115+

Results

- 2.13 A summary of the timing of and survey conditions during the wintering bird surveys is presented in Table 3 below.

Table 3. Weather conditions for wintering bird surveys

Date	Start time	Temp (°C)	Cloud (Oktas)	Wind (Beaufort scale)
13/11/21	08:45	9	7/8	1
04/12/21	11:00	8	1/8	3
25/12/21	14:15	9	8/8	2
03/01/22	12:30	13	8/8	3
23/01/22	14:30	6	8/8	1
07/02/22	14:00	10	6/8	3
19/02/22	12:00	7	8/8	5
05/03/22	12:00	8	7/8	4

- 2.14 A total of 16 species were recorded on or adjacent to the Site during the surveys. Ten species of conservation interest were recorded including one species listed on Schedule 1 of the Wildlife and Countryside Act, 1981 (as amended). The full results of the wintering bird survey are presented in Tables 4 below.

Table 4. Birds recorded at the Site during the wintering bird surveys

Systematic List of Species	Nov 13	Dec 4	Dec 25	Jan 3	Jan 23	Feb 7	Feb 19	Mar 5
Black-headed gull	26	10			8	45	30	40

Systematic List of Species	Nov 13	Dec 4	Dec 25	Jan 3	Jan 23	Feb 7	Feb 19	Mar 5
<i>Chroicocephalus ridibundus</i> †								
Carion crow <i>Corvus corone</i>	1	4				1		19
Common gull <i>Larus canus</i> †	1	16		70		13	6	15
Dark-bellied brent goose <i>Branta bernicla bernicla</i> †§			600	500	500			
Feral pigeon <i>Columba livia</i>	3	5				1		
Great black-backed gull <i>Larus marinus</i> †							1	
Herring gull <i>Larus argentatus</i> *§		4	10	30	12	39	40	15
Jackdaw <i>Corvus monedula</i>	2	7	2		1	9		10
Lesser black-backed gull <i>Larus fuscus</i> †							1	
Magpie <i>Pica pica</i>	16	3		2	2	14		15
Meadow pipit <i>Anthus pratensis</i> †	3							
Mediterranean gull <i>Larus melanocephalus</i> †¶						1	3	
Pale-bellied brent goose <i>Branta bernicla hrota</i> †				1				
Skylark <i>Alauda arvensis</i> *								1
Stock dove <i>Columba oenas</i> †	17	17				2	12	10
Woodpigeon <i>Columba palumbus</i> †	3	2				2	2	4

* BoCC Red List ; † BoCC Amber List; § NERC Act Section 41; ¶ W&C Act Schedule 1

- 2.15 Brent geese regularly feed in the northern field at the Site, with 500-600 on three surveys in December and January, despite regular disturbance.
- 2.16 The only other species recorded at the Site were variable numbers of gulls, pigeons and crows, with three migrant meadow pipits in November and a skylark back on territory in March. None of these species occurred in significant numbers and the vast majority of these were recorded in the northern of the two fields.
- 2.17 In accordance with Fuller (1980), the wintering bird assemblage is considered to be of ecological importance at the Local level, however the population of brent geese utilising the Site are considered to be important at the International level.

3.0 DEVELOPMENT EFFECTS

- 3.1 The Site lies in close proximity to the Solent Complex, including the Chichester and Langstone Harbours Special Protection Area (SPA) and Ramsar site c. 750m east of the Site, and further afield the Portsmouth Harbour SPA and Ramsar site and the Solent and Southampton Water SPA and Ramsar site. Comprehensive details on the characteristics of these European sites are provided in the HRA, including their spatial relationship with the Site, component Sites of Special Scientific Interest (SSSIs), published conservation objectives and any known vulnerabilities or threats to their favourable conservation statuses. In each case however, their qualify features include the overwintering populations of dark bellied brent geese.
- 3.2 Dark bellied brent geese are attracted to the Solent due to the availability of extensive mudflats associated with the harbours and estuaries, where they can feed on eelgrass and algae, while the wading species tend to feed on invertebrates. At high tide these food sources are unavailable, so the birds will use inland terrestrial sites (such as parks, agricultural and playing fields) to feed and roost. The suitability of terrestrial sites to support these functions is influenced by their distance from the coast, management, visibility, levels of disturbance and proximity to other sites. These terrestrial sites are described as functionally linked land or supporting habitat.
- 3.3 Within the HRA (CSA/4956/06), it was recognised that the species forming qualifying features of spatial designations do not restrict their movements or activities to the confines of such a designated area, and that impacts which threaten the viability of a species population will by extension undermine the integrity of an associated designation, regardless of where said impacts occur.
- 3.4 In the case of the subject site, the entirety of the Site is classified as a Core Area under the SWBGS, in view of surveys undertaken in the winter of 2017/18. The updated winter bird surveys undertaken over the winter of 2021/22 by CSA Environmental support this classification, and it is clear that given the right conditions the Site is capable of fulfilling an important role as supporting habitat for the SPA and Ramsar birds. In the absence of mitigation, the permanent loss of the on-site habitats as a result of the proposed development therefore has the potential to undermine the conservation status of the brent goose population, and by extension the conservation objectives of the European sites of the Solent complex. Under Guidance on Mitigation and Off-setting Requirements produced by the SWBGS Steering Group (2018), any damage to or deterioration of the integrity of Core Areas is considered likely to have a significant effect on the European sites.

4.0 PROPOSED REFUGE SITE

Mitigation Strategy

Policy and Guidance

- 4.1 Havant Borough Council (2022) record that a developing initiative of the SWBGS is the provision of permanent refuge sites for overwintering birds. As much of the existing supporting habitat lies within agricultural land the location and suitability of supporting habitat is dependent to a large degree on the vagaries of crop rotation practices. This could, it's acknowledged, mean that in any given year there may be no or a minimal amount of supporting habitat available. The establishment of refuges could ensure that suitable habitat is available on a permanent and consistent basis, contributing towards the favourable conservation status of the European sites' qualifying species.
- 4.2 The Site was formerly allocated under the submission version (updated 23/06/2021) of the now withdrawn Havant Borough Local Plan (HBLP) for residential development consisting of c. 390 dwellings (Policy H27). Notwithstanding that the HBLP has been withdrawn, it is understood that the Council continue to support the principle of such allocations. The allocation policy made specific prescription for development to secure the part delivery and implementation of the Hayling Island Brent Goose and Wader Refuge (E26), or alternative provision in perpetuity agreed by the local planning authority, which (as further required by Policy E17):
- Contributes to a biodiversity net gain to the SWBG network;
 - Is of an equal or, where possible, greater size and quality to the Core Area being lost or damaged; and
 - Is secured through a costed Habitat Management and Monitoring Plan.
- 4.3 The Policy went on to state that mitigation/replacement land should be within the locality of, and provided prior to the loss or damage of, the site being proposed for development. The mitigation land should be secured and managed in perpetuity.
- 4.4 Under Guidance on Mitigation and Off-setting Requirements produced by the SWBGS Steering Group (2018), in order for developments impacting Core Areas to demonstrate no adverse effect on the integrity of the relevant European site(s) then a suitable replacement site of an equal, or in some circumstances greater, size and quality must be provided in close enough proximity to the Core Area affected to fully replace its ecological function. It is stated that the freehold or long term lease (in perpetuity, i.e. 80 year minimum) of the replacement site must be passed to an appropriate conservation body, or the LPA, in a suitable condition, and managed in perpetuity as a nature reserve for waders and / or brent geese. These requirements build up the mitigation criteria

for the lesser 'Primary Support Areas', which must equally be met, and are summarised as follows:

- Habitat Type – the proposed off-setting site must support habitats, or be suitable for recreating habitats that provide the same, or enhanced, ecological function as those that are to be lost or damaged.
- Disturbance – the ecological function of an off-setting site is likely to be seriously undermined if subject to regular disturbance from recreational use and unmanaged public access.
- Area of habitat – where the replacement habitat would be of equal ecological quality the area required should be of a similar extent to the site being lost or damaged.
- Timing and availability of habitat – operational at the time it is required.
- Geographic location – for ecological reasons of structure and function it is considered appropriate for the off-setting habitat to be provided as close to the original site as practicable.
- The solution should also be capable of being:
 - Validated in respect of achieving its ecological function / purpose; and
 - Monitored for effectiveness; and
 - Adapted to adjust to unfolding circumstances in future management; and
 - Resilient in the face of predictable future pressures such as natural population fluctuations and climate change.

Proposed Refuge Site

- 4.5 In order to mitigate for the effects of the loss of the SWBGS Core Area at the Site, it is proposed that a permanent wintering bird refuge site be established on land west of West Lane, Hayling Island, identified in the Refuge Habitats Plan (CSA/4956/104; Appendix A). Like the Site, the proposed refuge site is designated as a Core Area within the SWBGS; parcel references H48C (to the north) and H48D (to the south). At its closest the proposed refuge site exists c. 1.2km north of the Site.
- 4.6 The (withdrawn) H27 Rook Farm allocation policy required any proposed development to provide a refuge area of at least equal size. It further stated that it was expected that this would be provided as part of the 'Hayling Island Brent Goose and Wader Refuge' as safeguarded by Policy IN1. The proposed refuge site does indeed fall within land which had been allocated by Policy IN1K as part of the Hayling Island Brent Goose and Wader Refuge, therefore the principle of their use for the intended purpose had been accepted.
- 4.7 The Council's Biodiversity Strategy (January 2019) gives further analysis of land parcels H48C and H48D. It is stated that these large arable fields routinely support large numbers of SPA bird species and, due to their

adjacent coastal location, are ideally suited to become permanent refuges. The Biodiversity Strategy draws reference to existing limiting factors to the land's suitability for SPA birds; disturbance during farming operations and by recreational visitors along the Hayling Billy Trail along the western boundary. These are factors which will be addressed through the in-perpetuity funding and implementation of appropriately targeted habitat creation and management, as part of the refuge establishment.

Refuge Site Baseline Conditions

Habitats

- 4.8 An extended Phase 1 Habitat Survey of the proposed refuge site was carried out on 26th July 2021 by Mark Rose MCIEEM and Sophie Vines. Results are described below, and a Refuge Habitats Plan is provided at Appendix A.
- 4.9 The Site comprises a single arable field, which contained an established cereal (wheat) crop at the time of the Phase 1 survey. Field margins exhibited localised variation between tall ruderal and semi-improved grassland dominated swards, however the overall species composition remained relatively constant. Uncultivated margins also varied in width; generally 1-2m. The predominant species present in the margins were common herbs and coarse grasses, including common nettle *Urtica dioica*, hedge bedstraw *Galium mollugo*, perennial ryegrass *Lolium perenne*, false oat-grass *Arrhenatherum elatius*, broadleaved plantain *Plantago major* and prickly sow-thistle *Sonchus asper*.
- 4.10 The proposed refuge site contains and is bounded by numerous seasonally wet drainage ditches. These are present on all aspects of the field except for the eastern boundary along West Lane. A ditch divides the field centrally from east to west.
- 4.11 Structural boundary vegetation on-site varies from scattered tree lines to dense hedgerows. The former is present along Boundaries B1 and B4 and contains primarily mature oak *Quercus robur* with occasional ash *Fraxinus excelsior*, field maple *Acer campestre* and English elm *Ulmus procera*. The hedgerows are all adjacent to ditches, some with standard (generally oak) trees. Boundary B2 is a blackthorn *Prunus spinosa* dominated hedgerow with standard mature oak trees, which connects to the northern edge of Boundary B3. This hedgerow varies from localised scrub dominated vegetation, including bramble *Rubus fruticosus* and gorse *Ulex europaeus*, to a more mature blackthorn hedgerow with elder *Sambucus nigra*, field maple and oak, with occasional gaps.

Brent Geese

- 4.12 The proposed refuge site has been surveyed alongside the Site to understand the current usage of this area by brent geese, and to assess its suitability to support populations under its current management regime. The timings and methods of data collection are provided above.
- 4.13 Nine bird species were recorded at the proposed refuge site during the wintering bird surveys, including 8 of conservation significance. During the surveys, brent geese were found to regularly feed in the northern field (H48C), with 200-1000 in December, February and March. As remarked above, brent geese were also found to feed in the northern field at the Site, with 500-600 on three surveys in December and January. It appears likely that the same birds might make use of both sites, as a large flock was present at one or other locality on all but the first survey, but never at both on the same day. This was further backed up by a single pale-bellied brent goose being noted within the flock at both sites (the area supports large numbers of dark-bellied brent geese, with pale-bellied brent only a scarce visitor).

Table 5. Birds recorded at the proposed refuge site during the wintering bird surveys

Systematic List of Species (and BTO species code)	Nov 13	Dec 4	Dec 25	Jan 3	Jan 23	Feb 7	Feb 19	Mar 5
Black-headed gull†	1	1		2	34		2	2
Common gull†								6
Curlew <i>Numenius arquata</i> *§		10						
Dark-bellied brent goose†§		800		4		600	1000	200
Golden plover <i>Pluvialis apricaria</i>						5		
Lapwing <i>Vanellus vanellus</i> *§						50		
Mediterranean gull†¶								40
Oystercatcher <i>Haematopus ostralegus</i> †				1				
Pale-bellied brent goose†						1		

* BoCC Red List; † BoCC Amber List; § NERC Section 41; ¶ W&C Act Schedule 1

- 4.14 Other species recorded at the proposed refuge site included generally small numbers of gulls (40 Mediterranean gulls in March were breeding birds returning to Langstone Harbour) and occasional visits from a number of waders (oystercatcher, lapwing, golden plover and curlew), but none of these species appeared to make regular use of these fields during the survey period. All birds at the proposed refuge site were recorded within the northern field, with the exception of the curlews on 4th December.
- 4.15 The results suggest that both SWBGS Core Areas (the Site and proposed refuge site) are important parcels of functionally linked land; each providing a food source for brent geese when the other has been depleted.

Funding, Ownership and Responsibilities

- 4.16 Capital works will seek to address the Council's Biodiversity Strategy (January 2019) draws reference to existing limiting factors to the land's suitability for SPA birds; disturbance during farming operations and by recreational visitors close to its boundary. Such interventions could, for example, include supplementary planting along the western boundary to further limit intervisibility with the Hayling Billy Trail. Other capital works are likely to include the installation of security fencing, and discrete enhancements such as the creation of shallow scrapes and pools. All agreed capital works required to support the ecological function of the site for brent geese and waders will be fully funded by the developer of the Site.
- 4.17 The developer will furthermore provide funding for the in-perpetuity management of the refuge site. In this context, 'in-perpetuity' is taken to mean a period of 80 years.
- 4.18 In accordance with Guidance on Mitigation and Off-setting Requirements produced by the SWBGS Steering Group (2018), the freehold or in-perpetuity lease of the refuge site will be passed to an appropriate body or HBC. The present consultation draft version of this document will be used for the basis of consultation with relevant stakeholders. One aspect of this consultation shall be to identify a suitable and willing owner and management organisation.
- 4.19 Following payment of the agreed financial sums to cover capital works and in-perpetuity management, responsibility for delivery will pass from the developer to the owner / management organisation. Contract terms will include an agreed date for the delivery of the refuge site, as no commencement of development at the Site will be permissible in advance of this.

Management and Monitoring

- 4.20 There are different options for the management of the refuge site which could be implemented to achieve the targeted function for Solent waders and brent geese, and it will ultimately be for the agreed owner / management organisation to determine their preferred approach. It is likely that the approach will be centred around the establishment and maintenance of grassland. Ongoing management may be through a low intensity and seasonally sensitive grazing or cutting regime.
- 4.21 Full details of management proposals, once agreed, will be included within a later revision of this strategy document, which will include full costings. These costings will make provision for ongoing monitoring to ensure the success of the refuge site, and a budget allocation for remedial actions should the monitoring ascertain this to be necessary.

5.0 REFERENCES

Bird Aware Solent, 2017. *Solent Recreation Mitigation Strategy*.

Chartered Institute of Ecology and Environmental Management, 2017. *Guidelines for Ecological Report Writing*. Winchester: CIEEM.

Eaton, M., Aebischer, N., Brown, A., Heam, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R., 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 108, pp.708-746.

Fuller, R.J. 1980. A method for assessing the ornithological interest of sites for conservation. *Biological Conservation*. 17. 229-239. 10.1016/0006-3207(80)90058-0.

Havant Borough Council (2019). *Havant Borough Biodiversity Strategy*.

Havant Borough Council, 2021. *Havant Borough Council Submission Local Plan 2036*. Havant.

Havant Borough Council, 2022. *Habitats Regulations Assessment Screening for the Local Plan*. Building a Better Future; August 2022.

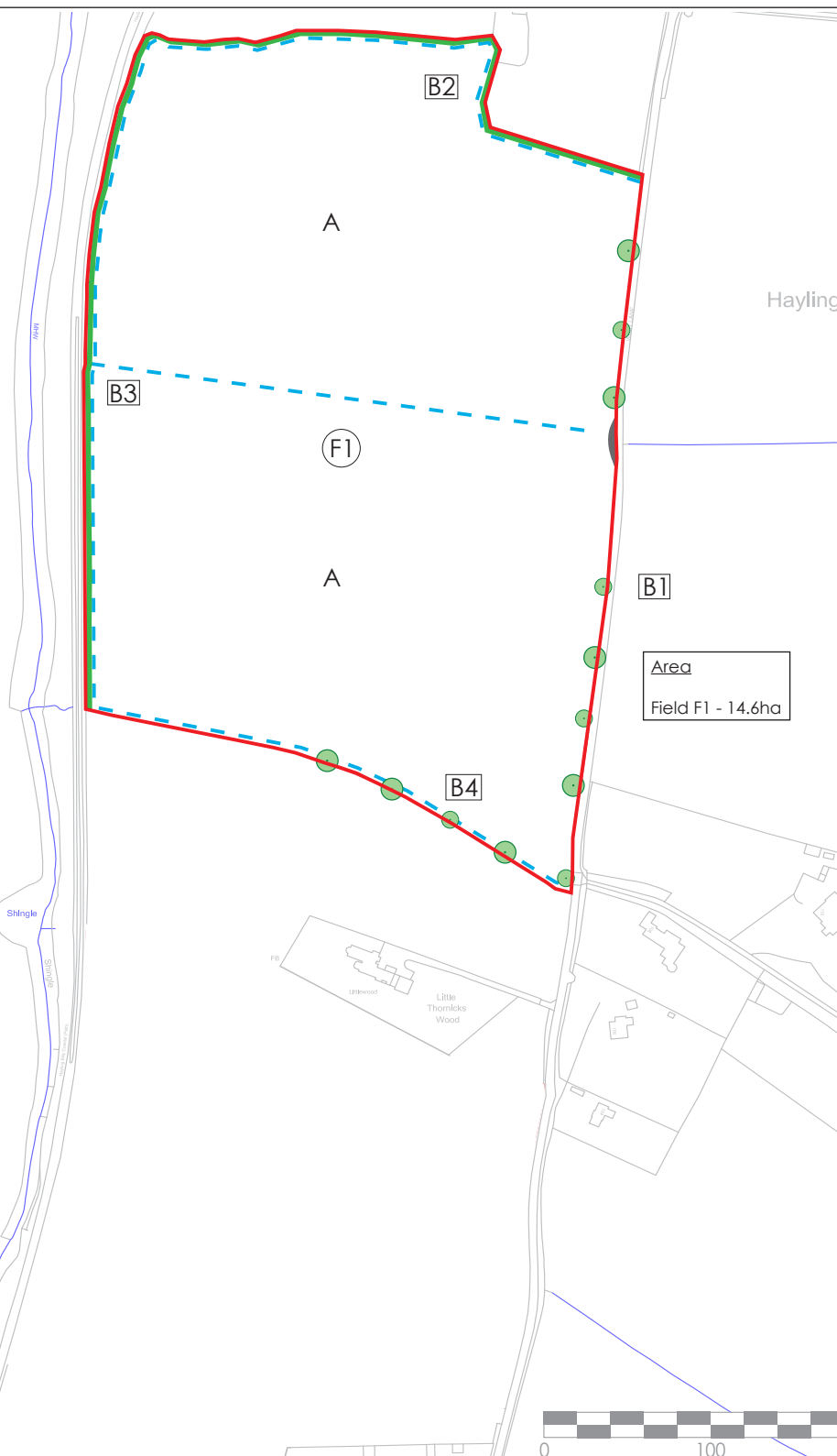
Rodewald, P. & Shumar, M. 2013. *Bird Atlas 2007-11: The Breeding and Wintering Birds of Britain and Ireland*. The Auk: Ornithological Advances. 131. 252-254. 10.1642/AUK-14-22.1.

SWBGS Steering Group, 2018. *Guidance on Mitigation and Off-setting Requirements*. Solent Waders and Brent Goose Strategy. Final Report, October 2018.

Whitfield, D. (2020). *Solent Waders and Brent Goose Strategy*. Hampshire and Isle of Wight Wildlife Trust. Curdridge.

Appendix A

Refuge Site Habitats Plan



Site boundary



Seasonally wet ditch



Field ref. number



Arable



Tree



Boundary ref. number



Boundary vegetation



Hardstanding



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Project Rook Farm, Hayling Island

Drawing Title Refuge Habitats Plan

Client Gladman Developments

Drawing No. CSA/4956/104

Scale Refer to scale

Date November 22

Rev -

Drawn SV

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Appendix B

Photographs



Photograph 1. View west along southern boundary.



Photograph 2. View north-west toward northern boundary.



Photograph 3. View north along western boundary (north field).



Photograph 4. View north along western boundary (south field).



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