

Mitigation Area Creation, Management and Monitoring Strategy



Site:	Harbour Place, Bedhampton
Client:	Barratt David Wilson Homes
Job Number:	A108712
Survey Type(s):	Mitigation Area Creation, Management and Monitoring Strategy
File Location:	I:\Projects\Projects A108000 on\A108712 Harbour Place\REPORTS

1.0 Introduction

1.1 Background

WYG were commissioned by Barratt David Wilson Homes to prepare a detailed strategy for the establishment, management and monitoring of the proposed Winter Bird Mitigation Area as part of the approved development at Harbour Place (see WYG, 2019¹).

This is intended to fulfil the requirements of the Section 106 Agreement and discharge Condition 7 of the Outline planning consent.

The Site encompasses H04B and H04C which have been monitored for the presence of brent geese as part of the Solent Waders and Brent Goose Strategy. H04B is also listed as a SINC - Forty Acres Farm B – designated due to the historic presence of large numbers of brent geese. Using the latest data from winter bird surveys across the Solent (which incorporates spatial considerations such as movements rather than just numbers), H04B has been listed as 'low use' and H04C as a 'secondary support site'.

It is proposed that the majority of H04C is enhanced and managed in perpetuity for brent geese over the winter period. Dark-bellied brent geese are a qualifying feature of the Chichester and Langstone Harbours SPA, along with a broader assemblage of wading birds.

1.2 Baseline

The site has been monitored as part of the Solent Waders and Brent Goose Strategy and is identified as Fields H04B and H04C for the purposes of the study.

Using the latest data from winter bird surveys across the Solent (which incorporates spatial considerations such as movements rather than just numbers), H04B has been listed as 'low use' and H04C as a 'secondary support site'. These surveys recorded a peak count of 50 brent geese within H04C and none within H04B (HBIC, 2018).

Wintering bird surveys were undertaken at the site by Havant Borough Council between the years 2012-2015. The survey time was three hours around high tide for three days every month from November to March and consisted of 11 visits to Forty Acre Farm.

¹ WYG, (2019). Land at Forty Acre Farm, Havant Road, Havant: Winter Bird Mitigation Strategy.

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No brent geese were recorded utilising the survey area during this period. Two lapwing were observed in the western extent of Forty Acre Farm. These were observed in January so this does not confirm breeding at the site.

WYG wintering bird surveys undertaken between October 2015 and March 2016 recorded small number of brent geese were feeding on the southern extent of the site, west of the industrial area. Red listed curlew were noted along the south eastern extent of the site in the clover ley field, as well as two noted west of the industrial area in the clover ley. Amber listed oystercatcher were noted on two occasions feeding along the southern boundary of the site, west of the industrial area, as well as seen feeding east of the industrial area in the clover ley field.

1.3 Mitigation Summary

H04C is currently listed as a Secondary Support Area for brent geese under Policy E17 of the Draft Havant Local Plan. The mitigation strategy is to secure this area in perpetuity and enhance its foraging habitat creating a mitigation area measuring 4.85 ha.

2.0 Methodology

2.1 A – Fencing

The first action is to install exclusion fencing to protect the mitigation area during construction. This will be installed as per the fencing plan, Figure 1.

The central portion of the site will comprise a permanent close-board timber acoustic fence along the line of the final plot boundaries, and will also form the final boundary fence along the eastern edge of the mitigation area.

North and south of the permanent fence, temporary acoustic fencing will be installed comprising Heras (or similar temporary fencing) with acoustic membrane affixed.

Following the installation of the fencing, a sign-off inspection will be completed by the developer's ecologist and the HCC Ecologist and/or Natural England.

2.2 B – Decoys

To maximise the likelihood of uptake by geese following the improvement works to the mitigation area, 6 no. brent goose decoys (based on available package size) will be installed within the southern portion of the mitigation area. These will be placed by the developer's ecologist near the centre of the mitigation area with good sightlines. No maintenance requirement is anticipated but the decoys will be replaced if they are lost within the first three years following establishment.

2.3 C – Wader Scrapes

To improve the habitat suitability for other wading birds (either qualifying species for the SPA or part of the qualifying assemblage) three wader scrapes will be created within the mitigation area. These will be of irregular shape with an average area of 50m². To create a range of conditions and support different species the scrapes will be of variable depth with shallow margins and a deeper centre of 0.5m depth. Water supply for the scrapes will come from rainfall and surface water runoff.

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The primary objective is to hold perched water during the winter, but it is anticipated that deeper areas will also hold water for part of the summer and provide an enhancement for breeding birds. The deeper central section of the scrape will occupy approximately 50% of the total area to maximise the likelihood of water retention. Scrapes will be created using an excavator with arisings piled adjacent to the margins to improve water retention and provide bare ground areas suitable for invertebrates.

Locations of scrapes will be chosen by the developers ecologist by observing ground conditions during winter monitoring surveys in 2019/20. The developers ecologist will then supervise the scrape construction.

2.4 D – Site Preparation

Vegetation Clearance

The former arable fields within the mitigation area will be flailed to ground-level to remove existing vegetation and dead growth. This will be using a tractor-mounted flail and will take place as early as possible in 2020 once the local brent goose population has migrated.

Soil Preparation

These areas will then be prepared for seeding using a disc harrow to a maximum of 150 mm depth to prevent fertile soil being moved below root depth. If necessary, a chain harrow will be used to remove arisings from flailing and prevent smothering of seedlings (this will also help seed-to-soil contact).

Sowing

The seed mix to be sown will be a suitable grazing mix dominated by hard-wearing grasses (e.g. perennial rye grass *Lolium perenne*) and a minimum of 10% white clover *Trifolium repens*.

Seeding will take place by broadcast at a density of approximately 18 kg/ha. Seed should be sown within 10 mm of the soil surface.

Due to the inclusion of a high density of white clover in the seed mix, it is not considered necessary to include artificial fertiliser application.

Consolidation

Following sowing, the seed bed will be rolled. This will improve seed-to-soil contact, moisture retention and will minimise establishment of pest species.

Cutting

The grassland will be left to establish through the year and prior to the winter of 2020/21 the established grassland will be cut to a height of 60 mm ready for grazing by geese.

2.5 E – Install Footpath: North Section

Installation of the boundary footpath along the northern edge of the mitigation will take place in Summer 2020. This area is shown in Figure 2. This will be carried out in accordance with the approved plans and will include the installation of fencing to prevent access into the mitigation area

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(timber post and rail fencing with wire stock-proof fencing attached), and the planting of a mixed native species hedgerow on the mitigation area side of the fence in accordance with the approved landscape plans. Note that footpath and fencing works must be completed by October 2022. Planting of hedgerow plants will take place during the suitable planting season (November – February) but will be preceded by a toolbox talk given by the developer's ecologist to minimise disturbance of wintering birds.

Hedgerow planting is set out on the Landscape Proposals plan (Covey Design drawing ref: 17745 B) and will comprise the following native species mix:

- Hawthorn *Crataegus monogyna* – 30%
- Dogwood *Cornus sanguinea* – 20%
- Bird cherry *Prunus padus* – 10%
- Elder *Sambucus nigra* – 10%
- Hornbeam *Carpinus betulus* – 30%

The completion of these works will be signed off by the developer's ecologist along with the HCC Ecologist and/or Natural England.

2.6 F – Monitoring

The mitigation area will be monitored in the winter of 2020/21 by the developer's ecologist. This will comprise twice-monthly vantage point surveys during suitable conditions between October and March by a suitably experienced ornithologist. Each visit will commence two hours before high tide and continue for four hours.

2.7 G – Tree Removal

In Spring 2021, the developers ecologist will provide monitoring survey results to the HCC Ecologist and Natural England and the potential removal of the central tree line will be reviewed. If monitoring is inconclusive then a further review will be undertaken in Spring 2022 and an update to this strategy issued reflecting the change. Tree removal will only take place if it is concluded that the tree line is limiting the use of the northern section of the mitigation area (due to perceived overlooking of foraging geese).

2.8 H – Overseeding

If bare areas are identified in Spring 2021, overseeding using the same seed mix as 2.4 will take place to fill these areas. Overseeding will be preceded by a light harrow, or chain harrow, to prepare the seedbed without causing significant damage to the established grassland.

2.9 I – Install Footpath

Installation of the remaining boundary footpath will take place in Summer 2021. This will be carried out in accordance with the approved plans and will include the installation of fencing to prevent access into the mitigation area (timber post and rail fencing with wire stock-proof fencing attached), and the planting of a mixed native species hedgerow on the mitigation area side of the fence in accordance with the approved landscape plans. Note that footpath and fencing works must be

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completed by October 2021. Planting of hedgerow plants will take place during the suitable planting season (November – February) in accordance with Section 2.5 but will be preceded by a toolbox talk given by the developer's ecologist to minimise disturbance of wintering birds.

The completion of these works will be signed off by the developer's ecologist along with the HCC Ecologist and/or Natural England.

2.10 J – Remove Tree Line

If it is determined that the tree line should be removed (see 2.6), this will take place in September 2021. This is as late as possible to avoid the peak nesting bird season without running into the overwintering bird season. All removal will be supervised by the developer's ecologist to check for active bird nests and carry out fingertip searches for reptiles if necessary. All chippings will be removed from the site. Suitable logs will be retained to create reptile hibernacula and/or invertebrate habitat within the informal open space south of the site.

2.11 K – Disposal of Mitigation Area

Once the mitigation area is fully established and all works to the footpath, fencing etc. are complete, it will be offered to the management body. A final sign off visit will take place by the developers ecologist, HCC Ecologist, Natural England and management body. If all are satisfied the transfer will take place in accordance with the Section 106 Agreement. If any issues are identified, an amendment will be made to this strategy and issued to all parties setting out the corrective actions required.

2.12 L – Long-term Monitoring

The long-term mitigation area monitoring will commence in the winter of 2021/22 and comprise two stages.

Stage 1 will comprise annual winter bird surveys as per Section 2.6 and continue for 10 years until the winter of 2030/31. Twice-monthly vantage point surveys during suitable conditions between October and March by a suitably experienced ornithologist. Each visit will commence two hours before high tide and continue for four hours. Results will be reported to the Owner and LPA.

Stage 2 will comprise remote camera surveys every 5 years for a further 70 years. Two cameras will be deployed for a period of five days each month from October to March, one in the north east corner of the mitigation area and one in the south west. Cameras will be set to take photographs at 30 minute intervals. These will subsequently be checked by an ornithologist to confirm the presence or absence of brent geese. Results will be reported to the Owner and LPA. Should remote camera monitoring determine that birds are no longer using the mitigation area, corrective action will be undertaken and a further period of manual monitoring may be required to monitor its effectiveness. This will be agreed with the LPA.

2.13 M – Long-term Management

Cutting

The grassland will be cut twice per year. The first cut will take place in late July / early August to a height of 150 mm with arisings left to allow nutrients to re-enter the soil. The second will take place

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in late September to a height of 60mm with arisings removed to leave a short sward for foraging geese.

Hedgerow Management

Hedgerows will be cut annually in early October to maintain a height of 1.5 m and width of 1.0 m. Each year only one side or the top will be cut to maintain structure and fruit production for birds and mammals.

Scrape Management

Scrape banks will be strimmed to ground level every three years in late September / early October to prevent scrub or ruderal species from becoming established.

Overseeding

Every 10 years, the grassland will be supplemented by additional overseeding using the same seed mix as 2.4. Overseeding will be preceded by a light harrow, or chain harrow, to prepare the seedbed without causing significant damage to the established grassland. This will refresh the seed bank and make sure that perennial rye grass and white clover remain the dominant species within the sward.

Furniture

Furniture, including fences, footpaths and interpretation boards will be inspected at minimum on an annual basis in early September, with repairs or corrective action completed prior to October.

Establishment Operations

Table 1 sets out the actions to be taken, timings and responsibilities for establishing the mitigation area.

	Timescale	Operation	Undertaken By	Additional Supervision
A	March 20	Install acoustic barrier along western boundary of mitigation area. This will comprise a combination of permanent fencing (boundary treatment for proposed dwellings) and temporary fencing (to the north and south). To remain in place until completion of development.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE
B	March 20	Install goose decoy (x 6) within southern section of mitigation area.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE
C	March / April 20 (1 week)	Create wader scrapes (x 3) within southern section of mitigation area using medium-sized excavator.	Developer's contractor	Guided by developer's ecologist.

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D	March / April 20 (1 week)	Flail of arable areas of mitigation area to remove vegetation growth.	Developer's contractor	n/a
	March / April 20 (1 week)	Prepare arable areas using disc harrow (or similar) to maximum of 150 mm with chain harrow (if necessary) to remove arisings.		n/a
	April 20 (1 week)	Sow seed mix (perennial rye grass & white clover) using broadcast seeding at c.18 kg/ha.		n/a
	N/A	Fertiliser application is not considered necessary due to the inclusion of nitrate-fixing clover within the mix.		n/a
	April 20 (1 week)	Consolidate seed bed via rolling.		Sign-off by developer's ecologist, agreed by LPA / NE
	September 20	Cut grassland to 60 mm in height.		Sign-off by developer's ecologist, agreed by LPA / NE
E	May – September 21	Install boundary footpath S38 Section , fencing (post & rail with livestock fencing) and hedgerow.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE
F	October 20 – March 21	Monitoring of mitigation area for use and establishment.	Developer's ecologist	In consultation with LPA / NE
G	March - April 21	Review whether removal of central tree line is necessary.	Developer's ecologist	In consultation with LPA / NE
H	April 21	Over-seed bare areas if necessary.	Developer's contractor	n/a
I	May – September 21	Install boundary footpath, fencing (post & rail with livestock fencing) and hedgerow.	Developer's contractor	Sign-off by developer's ecologist, agreed by LPA / NE
J	September 21	Remove tree line, if determined necessary in agreement with LPA / NE.	Developer's contractor	Supervised by developer's ecologist.
K	September 21	Dispose of mitigation area to future owner / manager – The Land Trust.	Developer / Management Body	n/a

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L	October 21 – March 31	Stage 1 long-term monitoring.	Developer's ecologist	LPA
	October 31 – March 2101	Stage 2 long-term monitoring.	Management Body	LPA
M	Late July / early August 22 then Annually	Cut grassland to 150 mm in height.	Management Body	n/a
	September 22 then Annually	Cut grassland to 60 mm in height.		
	October 22 then Annually	Cut hedgerows – each year only one side or the top.		
	Late September / early October 23 then Every 3 Years	Strim scrape banks to ground level		
	April 31 then Every 10 Years	Over-seed grassland.		
	September 22 then Annually	Inspect furniture and carry out corrective action / repairs.		

Quality Control

Version: 1 **FINAL**

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Project Ecologist

Checked and Verified By:  David West CEnv MCIEEM
Associate Ecologist

Version:	Date:	Updated by:	Verified by:	Description of changes:



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Figure 1 Acoustic Fencing Plan



Tree Protection Fence			Tree Protection Fence			Tree Protection Fence			Tree Protection Fence			Tree Protection Fence			Tree Protection Fence			Existing Hedge Fencing			Security Fencing			Acoustic Fencing		
POINT	EASTINGS	NORTHINGS	POINT	EASTINGS	NORTHINGS	POINT	EASTINGS	NORTHINGS	POINT	EASTINGS	NORTHINGS	POINT	EASTINGS	NORTHINGS	POINT	EASTINGS	NORTHINGS	POINT	X-COORD	Y-COORD	POINT	EASTINGS	NORTHINGS	POINT	EASTINGS	NORTHINGS
1	468897.769	105837.513	31	469501.526	105972.262	61	469440.362	105653.266	91	468950.633	105543.709	121	469009.582	105767.662	151	469075.964	105540.533	181	4689291.437	105736.756	1	4689893.231	105855.114	1	469364.516	105929.372
2	468901.500	105834.281	32	469502.363	105976.577	62	469422.011	105645.320	92	468946.355	105563.246	122	469003.611	105766.082	152	469078.838	105530.913	182	469285.436	105755.835	2	469006.882	105861.079	2	469370.133	105810.176
3	468916.059	105838.149	33	469523.048	105983.407	63	469403.497	105637.757	93	468941.903	105582.744	123	468908.056	105785.295	153	469068.946	105532.080	183	469249.180	105773.971	3	469030.533	105867.043	3	469375.749	105890.981
4	468935.389	105843.284	34	469539.098	105994.972	64	469384.980	105630.197	94	468937.444	105602.241	124	468992.588	105804.533	154	469062.887	105551.243	184	469300.963	105706.156	4	469051.768	105873.022	4	469381.365	105871.786
5	468954.777	105848.193	35	469558.001	105974.896	65	469358.000	105617.395	95	468934.000	105617.395	125	468987.426	105793.854	155	469058.570	105567.983	185	469303.341	105709.896	5	469088.397	105882.302	5	469386.982	105852.591
6	468974.191	105852.999	36	469567.712	105976.232	66	469347.955	105615.136	96	468931.644	105616.693	126	469006.508	105755.821	156	469055.348	105577.769	186	469317.816	105686.601	6	469124.060	105981.288	6	469392.598	105833.396
7	468979.911	105854.458	37	469570.851	105974.512	67	469328.816	105613.327	97	468929.680	105622.786	127	469012.549	105757.532	157	469239.107	105612.667	187	469315.052	105670.538	7	469161.505	105901.135	7	469398.214	105814.200
8	468983.928	105862.743	38	469573.296	105969.045	68	469317.407	105615.160	98	468932.573	105623.581	128	469019.498	105735.980	158	469249.119	105595.680	188	469306.310	105672.822	8	469181.029	105905.421	8	469403.831	105795.005
9	469216.551	105922.699	39	469586.656	105962.872	69	469321.335	105596.804	99	468930.556	105630.222	129	469024.517	105716.621	159	469254.417	105596.235	189	469309.029	105687.311	9	469149.447	105775.810	9	469409.447	105757.810
10	469221.610	105915.335	40	469592.878	105940.749	70	469324.066	105568.456	100	469254.066	105568.456	130	469026.408	105709.107	160	469260.207	105579.032	190	469308.416	105667.104	10	469159.988	105753.453	10	469415.988	105753.453
11	469232.513	105917.139	41	469590.172	105920.950	71	469246.790	105571.293	101	468925.651	105631.871	131	469019.686	105706.478	161	469265.873	105859.912	191	469324.472	105662.690						
12	469252.366	105919.319	42	469587.940	105901.076	72	469235.651	105566.554	102	468924.025	105631.522	132	469014.514	105715.803	162	469269.101	105848.511	192	469323.983	105645.499						
13	469271.971	105923.274	43	469584.758	105881.336	73	469217.891	105557.453	103	468906.540	105712.012	133	469009.357	105745.126	163	469259.281	105844.257	193	469320.113	105632.194						
14	469291.697	105926.510	44	469581.312	105861.635	74	469199.600	105549.363	104	468909.432	105712.919	134	469022.827	105698.091	164	469253.886	105863.505	194	469312.232	105632.385						
15	469311.386	105929.923	45	469577.323	105842.044	75	469181.309	105541.274	105	468908.011	105718.670	135	469029.067	105699.942	165	469248.059	105882.638	195	469309.956	105649.524						
16	469331.124	105933.075	46	469572.445	105822.653	76	469163.016	105522.653	106	468905.351	105718.164	136	469030.999	105693.572	166	469242.306	105901.792	196	469312.262	105627.516						
17	469345.078	105935.450	47	469567.309	105803.398	77	469144.538	105525.536	107	468900.542	105741.866	137	469036.742	105674.415	167	469273.173	105833.415	197	469318.707	105624.541						
18	469344.266	105941.953	48	469559.948	105784.765	78	469126.098	105517.793	108	468901.537	105742.141	138	469042.415	105655.236	168	469279.309	105814.271	198	469308.962	105613.034						
19	469350.718	105943.425	49	469550.521	105767.648	79	469107.748	105509.839	109	468900.911	105746.377	139	469047.654	105635.938	169	469285.161	105795.147	199	469301.661	105615.562						
20	469352.461	105937.001	50	469517.317	105735.820	80	469098.398	105501.884	110	468989.708	105746.139	140	469052.632	105616.567	170	469287.914	105786.061	200	469305.420	105622.656						
21	469358.289	105935.288	51	469516.912	105744.257	81	469094.912	105494.257	111	468993.981	105746.389	141	469058.981	105617.111	171	469289.819	105784.812	201	469307.771	105624.412						
22	469377.521	105946.694	52	469534.917	105753.051	82	469052.331	105486.859	112	468998.606	105764.440	142	469052.093	105595.352	172	469272.534	105800.885	202	469433.240	105945.404						
23	469388.342	105948.787	53	469552.346	105758.270	83	469033.711	105479.560	113	468987.837	105768.780	143	469046.286	105614.491	173	469266.596	105819.982	203	469436.754	105934.162						
24	469391.354	105944.425	54	469542.853	105738.654	84	469014.963	105472.602	114	468996.139	105768.505	144	469041.084	105633.800	174	469264.012	105828.173	204	469442.249	105911.338						
25	469411.488	105949.152	55	469533.246	105721.113	85	468996.428	105465.088	115	468986.845	105834.889	145	469035.736	105653.071	175	469266.435	105831.582	205	469430.532	105906.936						
26	469427.664	105952.474	56	469523.639	105703.571	86	468971.252	105454.657	116	468989.991	105837.201	146	469030.296	105672.317	176	469290.235	105777.014	206	469425.524	105924.599						
27	469434.880	105951.387	57	469512.351	105687.697	87	468967.987	105466.980	117	468996.439	105816.365	147	469024.770	105691.538	177	469294.529	105762.493									
28	469450.377	105956.070	58	469495.221	105677.561	88	468963.352	105486.434	118	469001.762	105805.376	148	469063.475	105584.998	178	469302.870	105737.617									
29	469469.594	105961.607	59	469476.859	105669.635	89	468955.907	105504.729	119	469001.762	105805.376	149	469066.579	105573.786	179	469307.647	105719.346									
30	469488.722	105967.412	60	469458.611	105661.451	90	468951.715	105524.166	120	469006.685	105778.792	150	469070.454	105559.764	180	469297.617	105576.789									



DAVID WILSON HOMES

WHERE QUALITY LIVES

Site:-

Harbour Place,
Forty Acre Farm,
Bedhampton

Drawing Title:-

FENCE
SETTING OUT
LAYOUT

Date: December 2019

Scales: 1:1000 at A1

Drawn: PJ

Checked: AC

Approved: TRS

Drawing No.

BSO/E4519/620 A

WORK IN PROGRESS



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Figure 2 North Footpath Plan



Figure 3 Landscape Layout