

Peterhead Low Carbon CCGT Power Station – Post-submission Additional Bird Survey Data

Introduction

The potential impacts of the proposed Peterhead Low Carbon Combined Cycle Gas Turbine (CCGT) Power Station (hereafter referred to as the 'Proposed Development') on breeding and non-breeding birds were assessed as part of the project's Environmental Impact Assessment (EIA). The assessment in relation to non-breeding birds was based on information collected through desk study and a programme of field survey carried out for the Proposed Development between September and November 2021.

Due to the timing of submission of the EIA to the Energy Consents Unit (ECU) of Scottish Government, as part of the planning application for the Proposed Development, a full non-breeding season of surveys had not been completed by November 2021. This was recognised in **Chapter 11: Biodiversity and Nature Conservation** (EIA Report Volume 2), however the combined results of the desk study and field survey completed by the time of submission were considered sufficiently reliable for the purposes of assessing the potential impacts on non-breeding birds.

Regardless, in order to collect field data from an entire non-breeding season, surveys were carried out in December 2021 and February 2022, following submission of the planning application for the Proposed Development.

This document provides the results of these additional post-submission surveys and concludes that the data obtained do not change any of the conclusions of the EIA or the Habitats Regulations Appraisal (HRA) of the Proposed Development.

Methods

To inform the EIA, survey for waterbirds¹ was carried out once per month between April 2021 and November 2021, inclusive, within the Proposed Development Site plus a 500m buffer. The months of September-November, inclusive, are considered to have covered the non-breeding season for waterbirds. Full details of the methods adopted can be found in **Appendix 11D: Breeding and Non-breeding Birds** (EIA Report Volume 4), however the survey generally followed the method used by the British Trust for Ornithology (BTO) for the national Wetland Bird Survey (WeBS) scheme (<https://www.bto.org/our-science/projects/wetland-bird-survey/taking-part/core-counts-methods>).

To complete a full non-breeding season of data collection, surveys were carried out post-submission of the planning application for the Proposed Development. The methods adopted were consistent with those carried out between April and November 2021. Details of the post-submission surveys are given in Table 1.

¹ The BTO define 'waterbirds' as wildfowl (ducks, geese and swans), waders, rails, divers, grebes, cormorants, herons, gulls and terns. This BTO definition was adopted for the EIA of the Proposed Development.

Table 1. Post-submission waterbird survey details

Survey date	Tidal state	Time of low / high tide	Start time	End time	Weather conditions
13 December 2021	Low	14:29	13:30	15:30	Force 3 south-westerly wind. Partial cloud cover with good visibility and no precipitation. Temperature approximately 6°C.
09 February 2022	Low	12:37	11:40	13:40	Force 5 south-westerly wind. Clear skies with excellent visibility and no precipitation. Temperature approximately 5°C.
25 February 2022	Low	13:25	12:40	14:40	Force 2-3 north-westerly wind. Partial cloud cover with good visibility and no precipitation. Temperature approximately 6-7°C.

Limitations

General limitations associated with the waterbird survey are described in **Appendix 11D: Breeding and Non-breeding Birds** (EIA Report Volume 4).

It was not possible to conduct a waterbird survey in January 2022. However, survey was completed in early-February and again in late-February to compensate for the ‘missed’ month. By completing the survey early in the month of February, it is very unlikely that any temporal variation in bird numbers or distribution will not have been detected. The survey effort across the whole of the non-breeding season is also considered to be sufficient for informing the EIA, particularly with the availability of WeBS data. There is consequently no limitation to this assessment with respect to survey dates.

Results

The full results of the waterbird surveys in December 2021 and February 2022 are presented in Tables A1, A2 and A3 in Annex A and illustrated on Figures 11D.18, 11D.19 and 11D.20 in Annex B. Table 8 in Appendix 11D presented the summarised results of the waterbird surveys carried out between April and November 2021. This table has been updated, using the results of the surveys in December 2021 and February 2022 and is given below as Table 2. Where a change has been made to the original table presented in the EIA Report, based on the results of the post-submission surveys, this is highlighted as blue text.

Table 2. Summarised results of waterbird survey, April 2021 to February 2022

Species	Number of surveys during which species was present	Minimum count (during any survey when present)	Peak count during one survey (and month)	% of relevant SPA population represented by peak count
Black-headed gull <i>Croicocephalus ridgibundus</i>	9	1	84 (early February)	-
Common gull <i>Larus canus</i>	3	1	5 (early February)	-
Common tern <i>Sterna hirundo</i>	1	-	2 (September)	25% (Ythan Estuary, Sands of Forvie and Meikle Estuary Special Protection Area (SPA))*
Cormorant <i>Phalacrocorax carbo</i>	9	1	28 (October)	-
Curlew <i>Numenius arquata</i>	9	1	55 (early February)	-
Eider <i>Somateria mollissima</i>	11	2	39 (early February)	1.2% (Ythan Estuary, Sands of Forvie and Meikle Estuary SPA)**
Fulmar <i>Fulmarus glacialis</i>	6	1	44 (June)	1.6% (Buchan Ness to Collieston Coast SPA)*
Gannet <i>Morus bassanus</i>	3	1	3 (August)	-

Species	Number of surveys during which species was present	Minimum count (during any survey when present)	Peak count during one survey (and month)	% of relevant SPA population represented by peak count
Goldeneye <i>Bucephala clangula</i>	3	2	6 (late February)	4% (Loch of Strathbeg SPA)**
Great black-backed gull <i>Larus marinus</i>	11	1	19 (August)	-
Grey heron <i>Ardea cinerea</i>	2	1	1 (August, November)	-
Guillemot <i>Uria aalge</i>	3	1	2 (November)	<0.1% (Buchan Ness to Collieston Coast SPA)*
Herring gull <i>Larus argentatus</i>	11	27	560 (August)	9.0% (Buchan Ness to Collieston Coast SPA)*
Kittiwake <i>Rissa tridactyla</i>	1	-	8 (August)	<0.1% (Buchan Ness to Collieston Coast SPA)*
Lapwing <i>Vanellus vanellus</i>	1	-	2 (April)	<0.1% (Ythan Estuary, Sands of Forvie and Meikle Estuary SPA)**
Lesser black-backed gull <i>Larus fuscus</i>	2	4	5 (June)	-
Oystercatcher <i>Haematopus ostralegus</i>	11	1	34 (late February)	-
Pink-footed goose <i>Anser brachyrhynchus</i>	1	-	250 (December)	0.8% (Loch of Strathbeg SPA) 2.0% (Ythan Estuary, Sands of Forvie and Meikle Estuary SPA)**
Purple sandpiper <i>Calidris maritima</i>	5	1	31 (October)	-
Razorbill <i>Alca torda</i>	3	1	4 (September)	-
Red-breasted merganser <i>Mergus serrator</i>	1	-	1 (November)	-
Red-throated diver <i>Gavia stellata</i>	1	-	2 (October)	-
Redshank <i>Tringa totanus</i>	8	2	22 (early February)	0.8% (Ythan Estuary, Sands of Forvie and Meikle Estuary SPA)**
Ringed plover <i>Charadrius hiaticula</i>	2	1	7 (August)	-
Sanderling <i>Calidris alba</i>	1	-	6 (August)	-
Sandwich tern <i>Sterna sandvicensis</i>	3	4	10 (August)	0.7% (Ythan Estuary, Sands of Forvie and Meikle Estuary SPA)*
Shag <i>Phalacrocorax aristotelis</i>	8	2	46 (September)	6.7% (Buchan Ness to Collieston Coast SPA)*
Turnstone <i>Arenaria interpres</i>	7	3	43 (October)	-
Whimbrel <i>Numenius phaeopus</i>	1	-	3 (April)	-

* Proportion based on latest SPA population estimate given in Scottish Government (Marine Scotland) (2012).

** Proportion based on latest SPA population estimate given in Stroud *et al* (2016).

A total of fifteen species were recorded in December 2021 and February 2022, with pink-footed goose and goldeneye being the only species which had not previously been recorded by field surveys completed prior to the submission of the planning application for the Proposed Development.

It can be seen from Table 2 that a total of 29 species were recorded during all the waterbird surveys, including twelve (previously ten) which are qualifying or notified species of designated sites within 15km of the Proposed Development Site. Herring gull remained the most abundant species and was present on every survey visit including those completed post-submission. Eider, great black-backed gull and oystercatcher were the only other species recorded on every survey visit. Other than herring gull, the only species for which a peak count of more than 20 birds was recorded were:

- Black-headed gull;
- Cormorant;
- Curlew;
- Eider;
- Fulmar;
- Oystercatcher;
- Pink-footed goose;
- Purple sandpiper;
- Redshank;
- Shag; and
- Turnstone.

Curlew, eider, pink-footed goose and redshank were the only species recorded having a peak count of more than 20 birds during December 2021 and February 2022 which had not previously been recorded with a peak count of over 20 birds during the pre-submission surveys.

Of the qualifying species of Special Protection Areas (SPA) within 15km of the Proposed Development Site, common tern, eider, fulmar, goldeneye, herring gull, and shag were all recorded in numbers representing more than 1% of the respective SPA population (eider and goldeneye being the only species not previously present in numbers representing more than 1%).

Along with the locations described in **Chapter 11: Biodiversity and Nature Conservation** (EIA Report Volume 2) (i.e. the rocky shore / islands at Boddam Harbour and the outflow pipe) two grassland fields to the south of the Proposed Development Site were found to be of relative importance to waterbirds. One field in the very south of the 500m survey buffer with a wet patch was used by 53 curlew in February 2022 and five redshank in November 2021. Another field approximately 120m south-west of the Proposed Development Site was used for foraging by a flock of 250 pink-footed geese in December 2021.

Other parts of the survey area were used by low numbers of birds, including Sandford Bay which supported small numbers of foraging eider, goldeneye, shags and other birds occasionally roosting on the beach.

Discussion

As described in **Chapter 11: Biodiversity and Nature Conservation** (EIA Report Volume 2), there will be no loss of shoreline habitat. Furthermore, as the majority of works will take place distant from the coast and/or screened by existing buildings or topography, significant disturbance of waterbirds on the shore or sea is not predicted. Minimal disturbance may occur in the area of shoreline where the cooling water intake is located and the small number of birds utilising this area would be likely to relocate to similar habitat nearby away from any disturbance. This assessment remains the same following the post-submission surveys as there were no significant differences in the peak counts or locations of any species recorded on the shoreline.

The only locations used by foraging waterbirds which were not considered in the EIA were two grassland fields to the south of the Proposed Development Site. No waterbirds were observed using these fields between September and November 2021, however they were found to be used by curlew, redshank and pink-footed geese in post-submission surveys. However, the numbers of each species using these fields was small and, based on there being no other observations of birds in these fields, it would appear that they are only rarely used by birds. Furthermore, there are a large number of alternative grassland fields suitable for foraging by these species in the surrounding area and the landscape between the Proposed Development and relevant European sites.

NatureScot, in their consultation response to the planning application for the Proposed Development, dated 29 April 2022, concluded that the project would not adversely affect the integrity of European sites, including Loch of Strathbeg SPA, Ythan Estuary, Sands of Forvie and Meikle Loch SPA, and Collieston Coast SPA, for the following reasons:

- The large number of alternative agricultural fields available for foraging geese in the surrounding area;
- No construction works are required in the marine or intertidal environment or on the shore above the tidal limit, reducing the potential for disturbance to breeding and wintering birds;
- No changes to the volumes or discharge consent for sea water used in the cooling system, reducing the potential for impacts on marine supporting habitats and species;
- Air quality modelling predicts operational emissions give rise to no significant effects on designated sites for oxides of nitrogen (NO_x), ammonia or other pollutants; and
- The draft Construction Environmental Management Plan (CEMP) and embedded design to reduce emission levels of NO_x and disturbance to surrounding habitats and species.

The results of the waterbird surveys carried out in December 2021 and February 2022 do not affect any of the above reasons for reaching a conclusion of no adverse effect, and it is therefore reasonable to conclude again that on the basis of evidence collected, the Proposed Development will have no adverse effect on the integrity of any European site, either alone or in-combination with other plans or projects.

Conclusion

The waterbird surveys carried out in December 2021 and February 2022 recorded two additional species and an increased peak count of birds in six species in comparison to the original April-November 2021 surveys. However, for the reasons described above, the results of the post-submission surveys do not change any of the conclusions of the submitted EIA or the HRA and the Proposed Development will not have significant adverse effects on non-breeding birds.

References

Scottish Government (Marine Scotland) (2012). Final Report. Population Sizes of Seabirds Breeding in Scottish SPAs. Available from: <https://www.gov.scot/publications/population-sizes-seabirds-breeding-scottish-special-protection-areas/documents/>.

SNH (2016). Assessing Connectivity with Special Protection Areas (SPAs). Version 3 – June 2016. Available from: <https://www.nature.scot/doc/assessing-connectivity-special-protection-areas>.

Annex A – Full Results of Waterbird Surveys December 2021 and February 2022

Table A1. Results of waterbird survey 13 December 2021

BTO code	Species	Conservation designation(s)	Number present during survey
BH	Black-headed gull	SBL	18
CA	Cormorant	-	3
CU	Curlew	SBL; Red List BoCC	4
E.	Eider	Qualifying species of Ythan Estuary, Sands of Forvie and Meikle Loch SPA	6
F.	Fulmar	-	1
GN	Goldeneye	Red List BoCC; qualifying species of Loch of Strathbeg SPA	2
GB	Great black-backed gull	-	6
HG	Herring gull	SBL; Red List BoCC; qualifying species of Buchan Ness to Collieston Coast SPA	249
OC	Oystercatcher	-	22
PG	Pink-footed goose	Sch2 WCA; qualifying species of Loch of Strathbeg SPA and Ythan Estuary, Sands of Forvie and Meikle Estuary SPA	250
PS	Purple sandpiper	Sch1 WCA; SBL	3
RK	Redshank	Qualifying species of Ythan Estuary, Sands of Forvie and Meikle Loch SPA	13
SA	Shag	Red List BoCC; qualifying species of Buchan Ness to Collieston Coast SPA; notified species of Bullers of Buchan Coast SSSI	46
TT	Turnstone	-	29

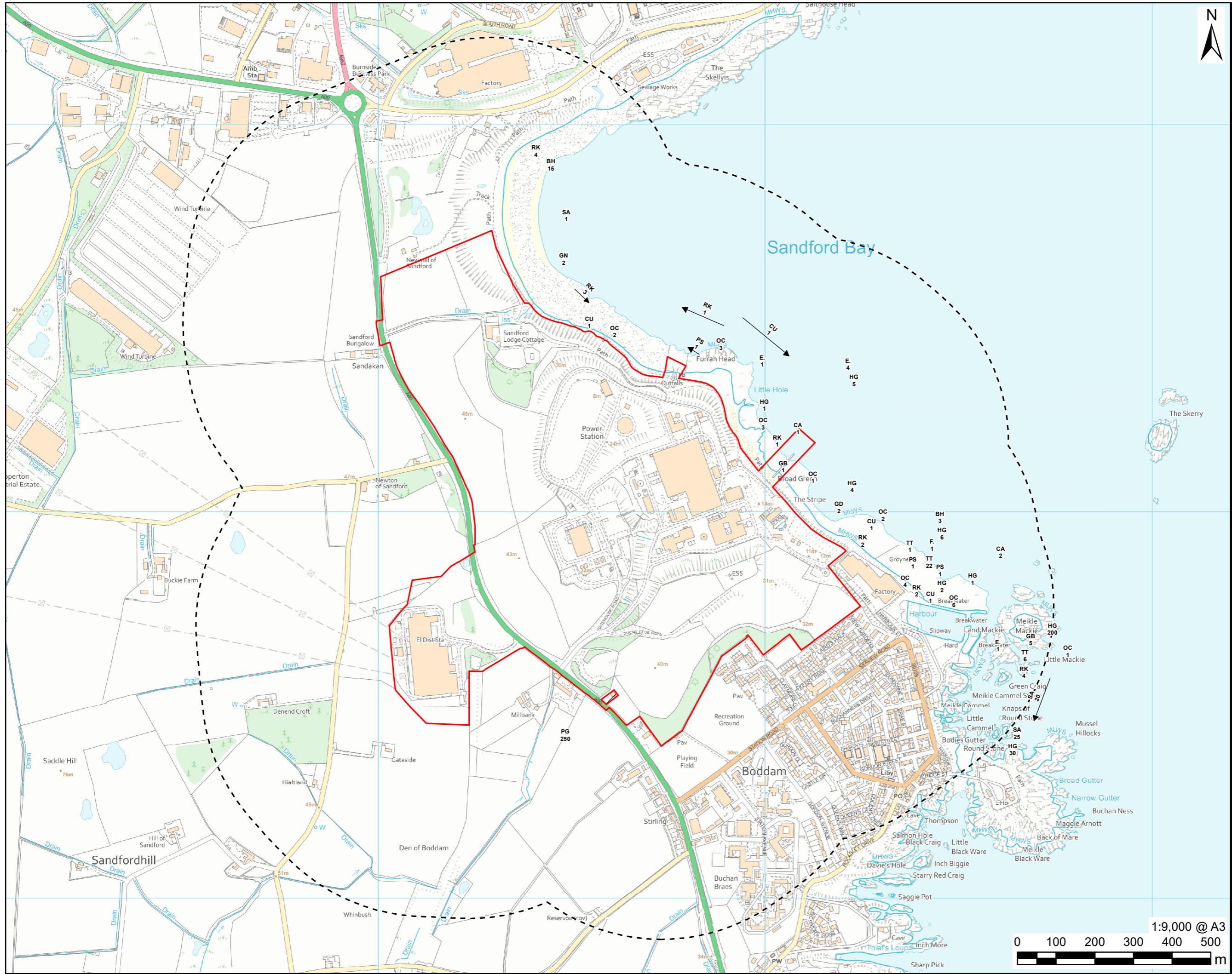
Table A2. Results of waterbird survey 09 February 2022

BTO code	Species	Conservation designation(s)	Number present during survey
BH	Black-headed gull	SBL	84
CM	Common gull	-	6
CA	Cormorant	-	13
CU	Curlew	SBL; Red List BoCC	55
E.	Eider	Qualifying species of Ythan Estuary, Sands of Forvie and Meikle Loch SPA	39
GN	Goldeneye	Red List BoCC; qualifying species of Loch of Strathbeg SPA	3
GB	Great black-backed gull	-	2
HG	Herring gull	SBL; Red List BoCC; qualifying species of Buchan Ness to Collieston Coast SPA	170
OC	Oystercatcher	-	28
PS	Purple sandpiper	Sch1 WCA; SBL	7
RK	Redshank	Qualifying species of Ythan Estuary, Sands of Forvie and Meikle Loch SPA	22
SA	Shag	Red List BoCC; qualifying species of Buchan Ness to Collieston Coast SPA; notified species of Bullers of Buchan Coast SSSI	6
TT	Turnstone	-	15

Table A3. Results of waterbird survey 25 February 2022

BTO code	Species	Conservation designation(s)	Number present during survey
BH	Black-headed gull	SBL	80
CA	Cormorant	-	11
CU	Curlew	SBL; Red List BoCC	1
E.	Eider	Qualifying species of Ythan Estuary, Sands of Forvie and Meikle Loch SPA	35
GN	Goldeneye	Red List BoCC; qualifying species of Loch of Strathbeg SPA	6
GB	Great black-backed gull	-	3
HG	Herring gull	SBL; Red List BoCC; qualifying species of Buchan Ness to Collieston Coast SPA	360
OC	Oystercatcher	-	34
PS	Purple sandpiper	Sch1 WCA; SBL	1
RK	Redshank	Qualifying species of Ythan Estuary, Sands of Forvie and Meikle Loch SPA	6
SA	Shag	Red List BoCC; qualifying species of Buchan Ness to Collieston Coast SPA; notified species of Bullers of Buchan Coast SSSI	2
TT	Turnstone	-	12

Annex B – Figures of Results of Waterbird Surveys December 2021 and February 2022



AECOM

PROJECT
 Peterhead Low Carbon
 CCGT
 Power Station Project

CLIENT
 SSE Thermal Generation
 (Scotland) Limited

CONSULTANT
 AECOM Limited
 7, Aurora
 120 Bothwell St,
 Glasgow, G2 7JS
 T: +44-(0)141-248-0300
 www.aecom.com

LEGEND

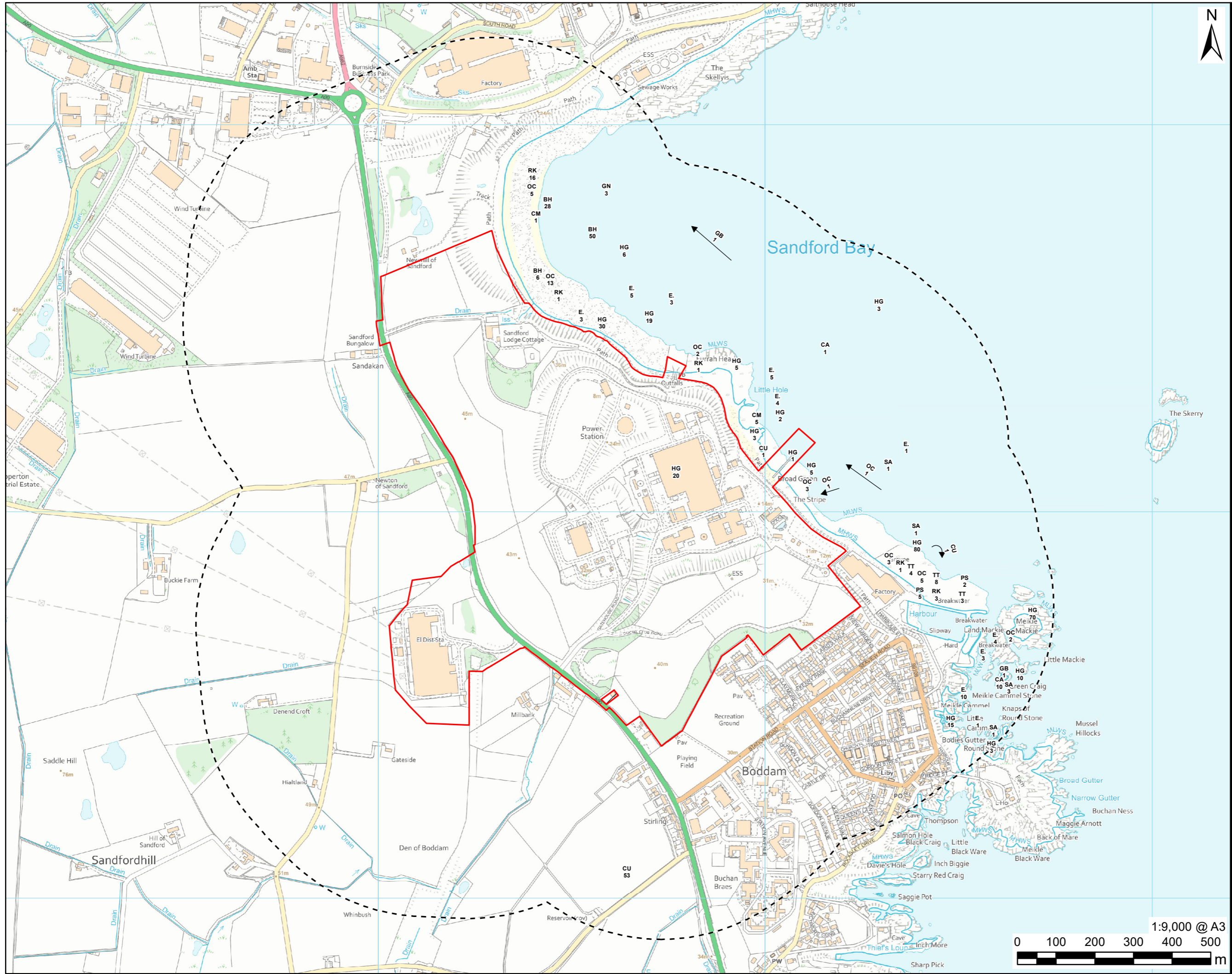
- Proposed Development Site
- Excluded Property
- 500m buffer for waterbird survey
- Flight Direction

NOTES
 Reproduced from Ordnance Survey digital map data © Crown copyright 2022. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
 ENVIRONMENTAL
 IMPACT ASSESSMENT
PROJECT NUMBER
 60650403
SHEET TITLE
 Waterbird Survey Results
 13 December 2021

SHEET NUMBER
 Figure 11D.18

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as signed by AECOM or as required by law. AECOM accepts no responsibility and disclaims any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



AECOM

PROJECT
 Peterhead Low Carbon
 CCGT
 Power Station Project

CLIENT
 SSE Thermal Generation
 (Scotland) Limited

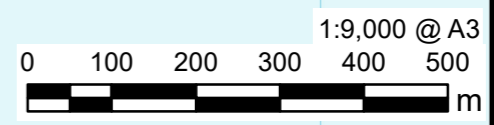
CONSULTANT
 AECOM Limited
 7, Aurora
 120 Bothwell St,
 Glasgow, G2 7JS
 T: +44-(0)141-248-0300
 www.aecom.com

LEGEND
 Proposed Development Site
 Excluded Property
 500m buffer for waterbird survey
 Flight Direction

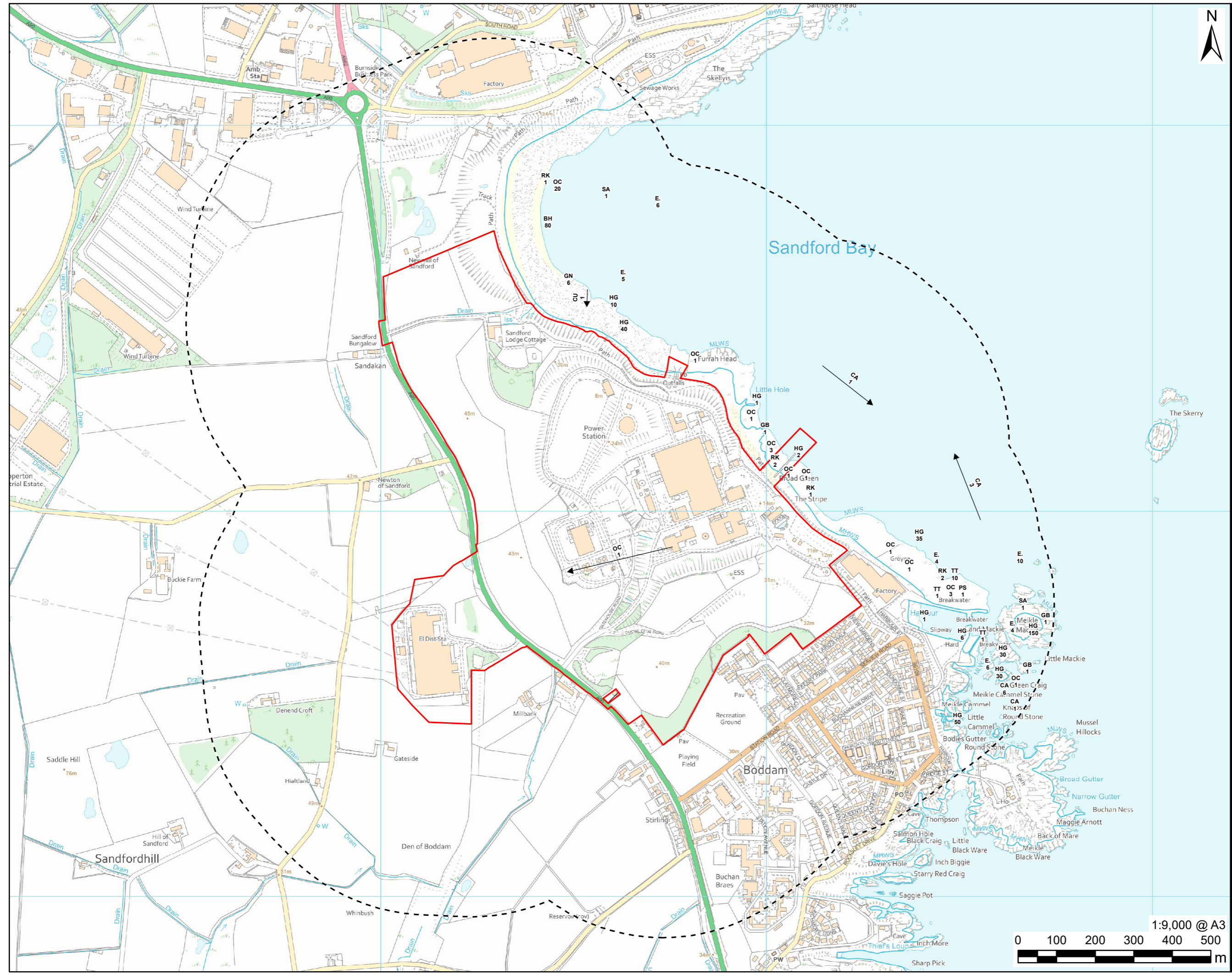
NOTES
 Reproduced from Ordnance Survey digital map data © Crown copyright 2022. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
 ENVIRONMENTAL
 IMPACT ASSESSMENT
PROJECT NUMBER
 60650403
SHEET TITLE
 Waterbird Survey Results
 09 February 2022

SHEET NUMBER
 Figure 11D.19



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as signed by AECOM or as required by law. AECOM accepts no responsibility, and disclaims any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.



AECOM

PROJECT
 Peterhead Low Carbon
 CCGT
 Power Station Project

CLIENT
 SSE Thermal Generation
 (Scotland) Limited

CONSULTANT
 AECOM Limited
 7, Aurora
 120 Bothwell St.
 Glasgow, G2 7JS
 T: +44-(0)141-248-0300
 www.aecom.com

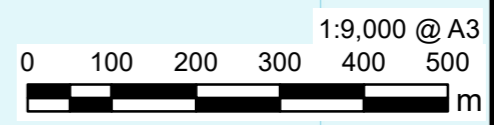
LEGEND

- Proposed Development Site
- Excluded Property
- 500m buffer for waterbird survey
- Flight Direction

NOTES
 Reproduced from Ordnance Survey digital map data © Crown copyright 2021. All rights reserved. Licence number 0100031673.

ISSUE PURPOSE
 ENVIRONMENTAL
 IMPACT ASSESSMENT
PROJECT NUMBER
 60650403
SHEET TITLE
 Waterbird Survey Results
 25 February 2022

SHEET NUMBER
 Figure 11D.20



This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as signed by AECOM or as required by law. AECOM accepts no responsibility, and disclaims any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.