

HORIZON

NUCLEAR POWER



Wylfa Newydd Project

Horizon's Tern Compensation Proposal

PINS Reference Number: EN010007

10 April 2019

Revision 1.0

Examination Deadline 9

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

[This page is intentionally blank]

Contents

1	Purpose	1
1.1	Introduction	1
1.2	Draft DCO Requirement	1
1.3	Number of Compensation Sites	2
1.4	Habitat Delivery	4
2	Tern Compensation Strategy	5
2.1	Introduction	5
2.2	Objective	5
2.3	Definitions	5
2.4	Suitable breeding habitat	6
2.5	Site management	6
2.6	Site monitoring and adaptive management	7
2.7	Site demobilisation	8
2.8	Establishment and Management Schemes	9

Appendices

Appendix 1-1	Drawing WN0903-JAC-OS-DRG-00034
Appendix 1-2	Figure 1 Dulas Bay
Appendix 1-3	Figure 2 Glan y Môr & Morfa Madryn
Appendix 1-4	Figure 3 Tern Island
Appendix 1-5	Figure 4 Abermenai Point

[This page is left blank intentionally]

1 Purpose

1.1 Introduction

- 1.1.1 This note has been produced in response to the request by Natural Resources Wales (NRW), at the Wylfa Newydd Power Station Development Consent Order (DCO) Issue Specific Hearings held in March 2019, that compensation for disturbance effects on terns is secured if the Secretary of State determines that the Wylfa Newydd DCO Project risks an Adverse Effect on the Integrity of the Morwenoliaid Ynys Môn/Anglesey Terns Special Protection Area (SPA), and is satisfied that there are no alternative solutions, and that imperative reasons of overriding public interest have been demonstrated. It reflects the outcome of detailed discussions with NRW and is largely agreed, except where specified.
- 1.1.2 If the Secretary of State determines that there is a risk of an Adverse Effect on the Integrity of the SPA, a DCO requirement is proposed as a means by which Tern Compensation Sites could be secured. This DCO requirement could be located at the end of the current "WN" requirements.
- 1.1.3 The proposed wording for such a DCO requirement is set out in the box provided below. This DCO requirement would be supported by a Tern Compensation Strategy to be included in the Main Power Station Site sub-Code of Construction Practice (CoCP) and the Marine Works sub-CoCP as a new Section 13; the proposed wording of which is provided in Section 2.

1.2 Draft DCO Requirement

"Tern breeding period" means the period from the date on which the first terns begin to establish nests at the Cemlyn Lagoon tern colony (the start date) until the point where late or second nesting tern chicks fledge and begin to leave the colony. These dates are anticipated to be 15 April to 15 August each year but will vary on an annual basis to take account of early or late arrivals and departures. Such variations are to be agreed with the NWWT site managers and NRW. Nest establishment will be defined as activities that constitute the establishment of nesting territories by any tern species that is a qualifying feature of the Morwenoliaid Ynys Môn/Anglesey Terns Special Protection Area, these being aerial display flights over the nesting islands and/or courtship behaviour on the ground by scrape making.

If the Cemlyn Lagoon colony observers (to be in place from early March) determine that the Black-headed gulls nesting behaviour appears to be affected by construction noise (if there is a lack or low numbers (based on Black-headed gull status and trends) of recorded Black-headed gull nesting attempts) then the start date shall be deemed to be the date such determination by the Cemlyn Lagoon colony observers is notified to and confirmed by the ECoW.

"Tern Compensation Strategy" means the strategy included in Section 13 of the Main Power Station Site sub-CoCP and Marine Works sub-CoCP setting out the measures to provide suitable compensatory habitat for one or more of breeding Sandwich tern (*Sterna sandvicensis*), common tern (*Sterna hirundo*), or Arctic tern (*Sterna paradisaea*) on a Tern Compensation Site.

"Tern Compensation Sites" means any of:

- the identified sites at:
 - Dulas Bay;
 - Glan y Môr;
 - Morfa Madryn;
 - Abermenai Point; or
 - 'Tern Island' (Inland Sea).

WN[x]

- (1) No Works shall commence on the WNDA unless two Tern Compensation Sites have been provided, in accordance with the establishment and management scheme approved under sub paragraph (2), prior to the start of a full tern breeding period.
- (2) No works for the provision of a Tern Compensation Site may commence until an establishment and management scheme for that Tern Compensation Site has been prepared in accordance with the principles in the Tern Compensation Strategy, submitted to IACC and approved by IACC (in consultation with NRW).
- (3) The provision of the Tern Compensation Sites and their ongoing management must be carried out in accordance with the establishment and management scheme approved under sub paragraph (2), unless otherwise approved by IACC.
- (4) Sub paragraph (1) shall not apply to Work No 3 or Work No 12 (except no works may be commenced on land to the west of Afon Cafnan as identified on [Drawing WN0903-JAC-OS-DRG-00034] (Appendix 1-1) during the tern breeding period, unless otherwise agreed with IACC).

1.3 Number of Compensation Sites

- 1.3.1 It is Horizon's view that, in the context of the potential disturbance of terns using one of the three tern breeding sites available in the Anglesey Terns SPA (and the only site used by Sandwich tern), the provision of two compensation sites is proportionate.
- 1.3.2 NRW is advocating the provision of four compensation sites on the basis that there are recognised challenges in creating new habitats for terns and because it is atypical for Arctic and common terns to nest with Sandwich terns [REP8-080, para 1.1.4]. Horizon recognises this point and, consequently, is proposing to develop two compensation sites for Sandwich, Arctic and/or common terns. These two sites would be provided in addition to the site in Cemlyn Lagoon, that would still be available to breeding terns during the works, and the breeding sites used by Arctic and common terns on the Skerries and at Ynys Feurig. In this way, if terns choose not to breed on Cemlyn Lagoon during the main construction phase, the conservation objectives of the SPA would be maintained; because at least three sites (and up to five) would be available for use by Sandwich, Arctic and common terns during the breeding season.

- 1.3.3 In terms of overcoming the challenge associated with creating new breeding habitats for terns, the shortlisted sites are “suitable for the provision of compensatory habitat” [NRW REP8-080 para 1.1.3] and best practice and specialist expertise will be drawn upon to create and manage the sites to attract terns. Horizon will work with NRW, the NWWT and the RSPB to this end.
- 1.3.4 A requirement on Horizon to deliver four compensation sites, and to control the works in the WNDA to maintain noise levels at Cemlyn Lagoon below levels at which the Cemlyn terns exhibit disturbance reactions, would be disproportionate.
- 1.3.5 However, at this stage, Horizon is endeavouring to progress all of the identified sites listed above; to provide options. There are five sites included in this list, but the Glan y Môr and Morfa Madryn sites are being treated as one ‘compensation site’ for the purpose of this exercise (albeit they are in two different but proximate physical locations and would require Horizon to invest in the development of two schemes).
- 1.3.6 If the Secretary of State determines that four Tern Compensation Sites need to be provided, then the following changes would need to be made to the proposed requirement. Sub paragraph 1 should be replaced and a new sub paragraph 2 inserted as follows:
- (1) No Works shall commence on the WNDA unless, and subject to sub paragraph 2, four Tern Compensation Sites have been provided, in accordance with the establishment and management scheme approved under sub paragraph (2), prior to the start of a full tern breeding period.
- (2) Four Tern Compensation Sites are to be provided unless IACC and NRW agree that a site has become unavailable because the landowner will not provide the necessary real estate interests or for other reasons outside of the undertaker's control.
- 1.3.7 Further, references in the new sub paragraph (4) to "sub paragraph 2" should be replaced with "sub paragraph 3".

1.4 Habitat Delivery

- 1.4.1 The Tern Compensation Strategy proposed to be included in the Main Power Station Site sub-CoCP and Marine Works sub-CoCP sets out the generic measures required to provide suitable compensatory habitat for each of breeding Sandwich tern (*Sterna sandvicensis*), common tern (*Sterna hirundo*) or Arctic tern (*Sterna paradisaea*) at the Tern Compensation Sites.
- 1.4.2 The land that Horizon proposes to have control over is shown on the figures included in the Strategy for each short-listed site and is at least three times the area provided on the islands in Cemlyn Lagoon at Dulas Bay, and more at Glan y Môr and Morfa Madryn; providing room for adaptation (for example, for the fenced area to be adjusted if terns nest outside it). The area over which Horizon can exercise control is limited on Tern Island to the area above Mean High Water and any 'rafts' and, at Abermenai Point, by land ownership (with negotiations currently ongoing).
- 1.4.3 The proposed DCO requirement enables works to commence immediately (and during the tern breeding period) as long as two tern compensation sites have been provided prior to the start of a tern breeding period. The reason for this relates to the significant constraint to the Wylfa Newydd DCO Project that would occur if works cannot commence until a full tern breeding period has ended. However, the strategy aims to deliver at least one site, and the second if possible, a full breeding season before works commence on the WNDA (as defined above). This will allow for the prospecting of sites by terns and the establishment and management protocols to be tested prior to the potential for an adverse effect to arise.
- 1.4.4 The site establishment and management schemes to be prepared and approved prior to the provision of a Tern Compensation Site will set out the objectives and provide detailed design, a construction workplan and management and monitoring procedures for each site. The intention will be to 'design' different sites for use by the three different tern species.

2 Tern Compensation Strategy¹

2.1 Introduction

- 2.1.1 This Tern Compensation Strategy will only take effect if the Secretary of State determines that the Wylfa Newydd DCO Project risks an Adverse Effect on the Integrity of the Morwenoliaid Ynys Môn/Anglesey Terns Special Protection Area (SPA) and inserts into the Order a DCO requirement that requires the provision of tern compensation sites.

2.2 Objective

- 2.2.1 The objective of the Tern Compensation Strategy is to deliver two Tern Compensation Sites that provide suitable breeding habitat for Sandwich tern (*Sterna sandvicensis*), common tern (*Sterna hirundo*) and/or Arctic tern (*Sterna paradisaea*).
- 2.2.2 The strategy aims to address the need to deliver favourable conservation status in line with the conservation objectives of the Morwenoliaid Ynys Mon/Anglesey Terns SPA.

2.3 Definitions

- 2.3.1 "Tern Compensation Sites" means any of the identified sites at:
- Dulas Bay (figure 1) (Appendix 1-2);
 - Glan y Môr (figure 2) (Appendix 1-3);
 - Morfa Madryn (figure 2) (Appendix 1-3);
 - 'Tern Island' (Inland Sea) (figure 3) (Appendix 1-4); or
 - Abermenai Point (figure 4) (Appendix 1-5).
- 2.3.2 Two sites will be provided prior to the start of a full tern breeding period. The works on the WNDA (except for Works No 3 or 12 in the Order which can progress in advance) cannot commence until they have been provided.
- 2.3.3 Horizon will aim to establish at least one site, and the second if possible, a full breeding season before works commence on the WNDA (except for Works No 3 or 12 in the Order).
- 2.3.4 Horizon will use reasonable endeavours to secure all of the identified sites listed above until the point that they can no longer be secured on reasonable terms, are no longer suitable as tern compensation sites (to be agreed with NRW and IACC) or are no longer required (when it is agreed with NRW and IACC that there is no longer a need for compensation).
- 2.3.5 "Suitable breeding habitat" is described below.
- 2.3.6 Sites will be provided based on individual Establishment and Management Schemes. "Establishment and Management Scheme" means a scheme

¹ Text to be added to Main Power Station Site sub-CoCP and Marine Works sub-CoCP as a new Section 13.

prepared in accordance with the principles of this Tern Compensation Strategy and approved by IACC (in consultation with NRW) under Requirement WN[33] of the Order.

2.4 Suitable breeding habitat

- 2.4.1 The Tern Compensation Sites that have been short-listed by Horizon each already contain some suitable habitat for Sandwich, common and Arctic tern nesting and, consequently, in general will require only minor habitat management.
- 2.4.2 This will include, but not be limited to, the deposit of suitable nest-building substrate (sand, shingle and/or cockle shells) at each site and the planting or maintenance of shelter-providing vegetation, such as dune grassland species. In addition, for the Inland Sea site, floating tern nesting rafts will be installed (if this site is taken forward).
- 2.4.3 In addition to habitat provision, chick boxes, tern decoys and tape lures (playback of recordings of terns and Black-headed gulls, where possible using a recording of the Cemlyn colony for 'local dialect') will be used to encourage tern nesting during the tern nest establishment period [see 11.4.2].
- 2.4.4 The extent of the area where habitat management will occur at each site will be at least the area of the breeding habitat provided on the islands at Cemlyn Bay (0.46ha) unless otherwise agreed with NRW and the IACC. The land that Horizon proposes to have control over is shown on the figures included for each short-listed site and is at least three times this area at Dulas Bay and more at Glan y Môr and Morfa Madryn; providing room for adaptation. The area over which Horizon can exercise control is limited on Tern Island to the area above Mean High Water Springs and at Abermenai Point by land ownership. Furthermore, where possible, a "buffer zone" will be established around (or, in the case of spit locations, in advance of) the operational area, within which the wardens will aim to control access and predators.
- 2.4.5 For Dulas Bay (for example) it is proposed that the 0.5ha of habitat creation will be undertaken within the identified 1.4ha of operational land and no active habitat creation works will be undertaken within 10m of the fence. Wardens would manage the habitat within, and within 150m of, the operational area, and members of the public, dogs and predators would be actively discouraged from this area (the buffer zone).

2.5 Site management

- 2.5.1 The key threat to the success of any created tern nesting habitat will be its accessibility to mammalian predators. Therefore, electric fencing will be positioned around the areas above Mean High Water Springs and wardens will be employed or funded as an important measure in ensuring the availability of nesting habitat through deterring predation and anthropogenic disturbance pressures. This will require welfare facilities (shelters) to be

- provided. Wardens will also employ all reasonable measures to manage threats from avian predation.
- 2.5.2 Once sites have been established, at an appropriate point in time prior to each establishment period (i.e. late winter), a survey will be undertaken to assess the need for any management / maintenance (e.g. vegetation control and/or substrate replacement) at each site. Further details will be provided for each site within their own Establishment and Management Scheme.
- 2.5.3 The presence of wardens at the sites will be key in the weeks prior to the nest establishment period (e.g. to deter some other species), and will continue to the point at which the terns depart each year (assuming breeding colonies are established).
- 2.5.4 For the duration of the tern breeding period, a 24-hour full time (seven day-a-week) wardening presence will be in place where breeding terns are present and there is a risk of predation or other limiting factors. Further details of the proposals for wardening will be provided for each site within their own Establishment and Management Scheme. The number of wardens to be provided overall will be dependent on the number of sites established and their occupation by terns. However, four wardens would be required to be in place for four sites.
- 2.5.5 At the end of each tern breeding period, chick boxes, electric fencing and the temporary warden shelters will be removed from the sites. However, the vegetation and substrate deposit at the sites will be maintained between the end of each tern breeding period until the next establishment period.
- 2.5.6 If, after an appropriate period (which will be agreed with NRW) one or more of the sites established have not been occupied, then wardening will not be continued at those sites for the remainder of that tern breeding period.

2.6 Site monitoring and adaptive management

- 2.6.1 The wardens will monitor and record the site usage by Black-headed gull and terns on an annual basis and report on such usage at the end of the season, sharing such reporting with NRW². The success of the various techniques (i.e. substrate deposit, vegetation cover, chick shelters, electric fencing, decoys and lures) will also be recorded and will be adjusted within the operational land area of the sites when terns are not present, based on any behavioural reactions by the colony.
- 2.6.2 Different approaches may be tried on different sites, depending on measured success, in an adaptive management regime. The management of the proposed Tern Compensation Sites will be an iterative process and

² This will include monitoring of the Cemlyn lagoon colony by the site observers proposed to be in place for the tern breeding periods that coincide with the construction phase of the project. In this way it will be able to be determined if the conservation objectives of the colony are being met at Cemlyn lagoon.

may need to be adapted for different sites over the implementation phase of the compensation.

- 2.6.3 Within a tern breeding period, if a significant number of terns (to be agreed with NRW) show a preference to nest in an area within the buffer zone controlled by Horizon but not within the operational area of the site, assuming it is within their power to do so, Horizon will adapt (move) the operational area to suit the terns.
- 2.6.4 Should the area favoured by terns lie within the vicinity of, but out with, the operational land and buffer zone around the sites identified, Horizon will not be required to acquire/have control over this land but should continue to maintain and encourage (by the placement of chick boxes, tern decoys and tape lures) terns to use the Tern Compensation Site.

2.7 Site demobilisation

- 2.7.1 After a period to be agreed with NRW, a review will be undertaken to establish whether management needs to continue at all established sites, based on whether terns are utilising sites. If site management was to cease, and some sites decommissioned (see below), this would need to be approved by IACC in consultation with NRW.
- 2.7.2 If at the end of construction and Commissioning of Unit 2, terns are not breeding in numbers at the Cemlyn lagoon colony sufficient to meet the conservation objectives of the Anglesey terns SPA, any of the compensation sites which terns have utilised during the construction phase will be maintained in accordance with their Establishment and Management Schemes until terns return to breed at the Cemlyn lagoon colony (in numbers sufficient to meet the conservation objectives of the SPA). However, this obligation will not be required if it can be demonstrated, following agreement with IACC in consultation with NRW, that the absence of terns from Cemlyn lagoon is not the result of the Wylfa Newydd DCO Project.
- 2.7.3 If at the end of construction and Commissioning of Unit 2 terns are breeding at the Cemlyn lagoon colony in numbers sufficient to meet the conservation objectives of the SPA and one or more of the compensation sites have been utilised by breeding terns, Horizon will engage with NRW regarding the transition of responsibility for and management of the site(s) to NRW or a third party ahead of decommissioning the Tern Compensation Sites.
- 2.7.4 If NRW or a third party do not wish to take responsibility for the sites, they will be decommissioned. If one or more of the Tern Compensation Sites are decommissioned, any fencing, tern rafts and welfare facilities will be removed from the sites, with only the shingle and cockle shell deposits to remain on the site. The decommissioning works will only occur outside of the establishment and tern breeding period.
- 2.7.5 If terns abandon the Cemlyn lagoon colony during the construction of the Power Station in sufficient numbers to mean that the conservation objectives of the SPA are not being met, this is linked to the Wylfa Newydd

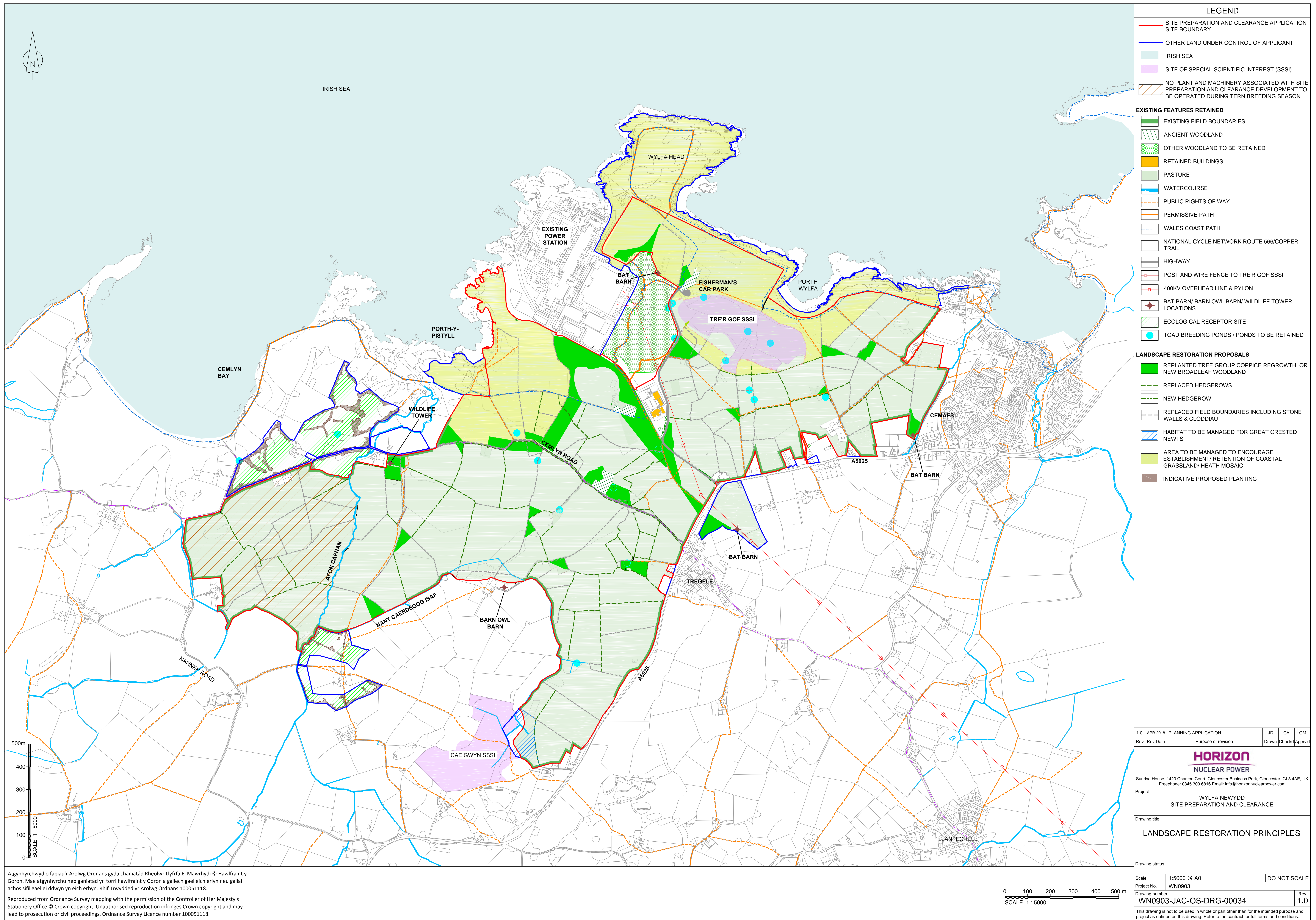
DCO Project, and none of the Tern Compensation Sites established are being utilised by breeding terns, a review of the compensation package would need to be undertaken (by Horizon, IACC and NRW) and an appropriate way forward agreed.

2.8 Establishment and Management Schemes

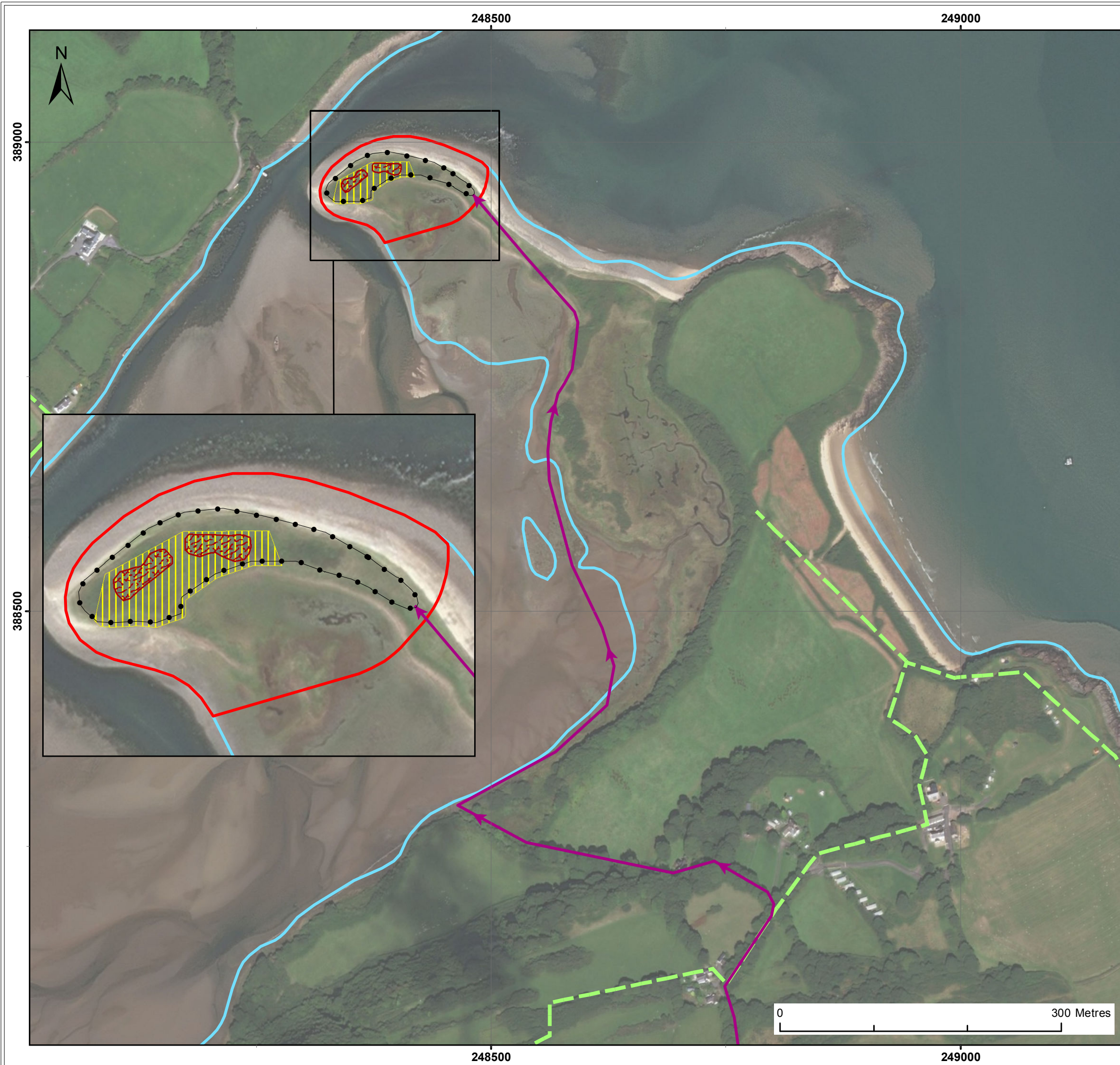
- 2.8.1 Prior to commencing works on the Tern Compensation Sites, Horizon will prepare and submit for approval an establishment and management schemes for each of the sites in accordance with the Requirement WN[33] in Schedule 3 of the Order. The establishment and management schemes will be prepared in accordance with the principles of this Tern Compensation Strategy. Subject to paragraph 2.7 above the approved establishment and management schemes (or any approved variations) will be implemented for the duration of the construction period unless otherwise approved by IACC (in consultation with NRW). The establishment and management schemes will draw on best practice guidance and the advice of tern and management specialists as appropriate. These will be submitted to IACC and approved by IACC (in consultation with NRW) prior to the commencement of works to establish the sites.
- 2.8.2 The establishment and management schemes will set out:
- Site objectives (in accordance with the above objective).
 - Detail of the works required on the site, to include vegetation management, shingle deposit and fencing installation.
 - Material specifications and quantities.
 - A schedule of plant and working methods and the specification of suitable access route(s).
 - Methodologies for encouraging tern and Black-headed Gull colonisation.
 - Predator control and wardening plans.
 - Monitoring, reporting and adaptive management plans for each site.
- 2.8.3 The Environment Engagement Group will be consulted on the proposed establishment and management schemes.
- 2.8.4 Horizon will engage with and report to the Environment Engagement Group (at least annually or more frequently in agreement with the Environment Engagement Group) throughout the period in which the Tern Compensation Sites are being operated by them.

[This page is left blank intentionally]

Appendix 1-1 Drawing WN0903-JAC-OS-DRG- 00034



Appendix 1-2 Figure 1 Dulas Bay



Legend

- Proposed area of Horizon Control
- Mean High Water
- Indicative area of proposed shingle/cockle shell/sand deposits
- Vegetation to be managed / cleared
- Fencing
- Public Footpath
- Temporary access by foot/vehicle

© HaskoningDHV UK Ltd.
© Crown copyright and database rights 2018
Contains OS data © Crown Copyright and database right 2018
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Client: 	Project: Wylfa Newydd - Anglesey Terns SPA: Habitat Compensation
-------------	---

Title:
**Dulas Bay
Proposed Habitat Creation Design**

Figure: 1

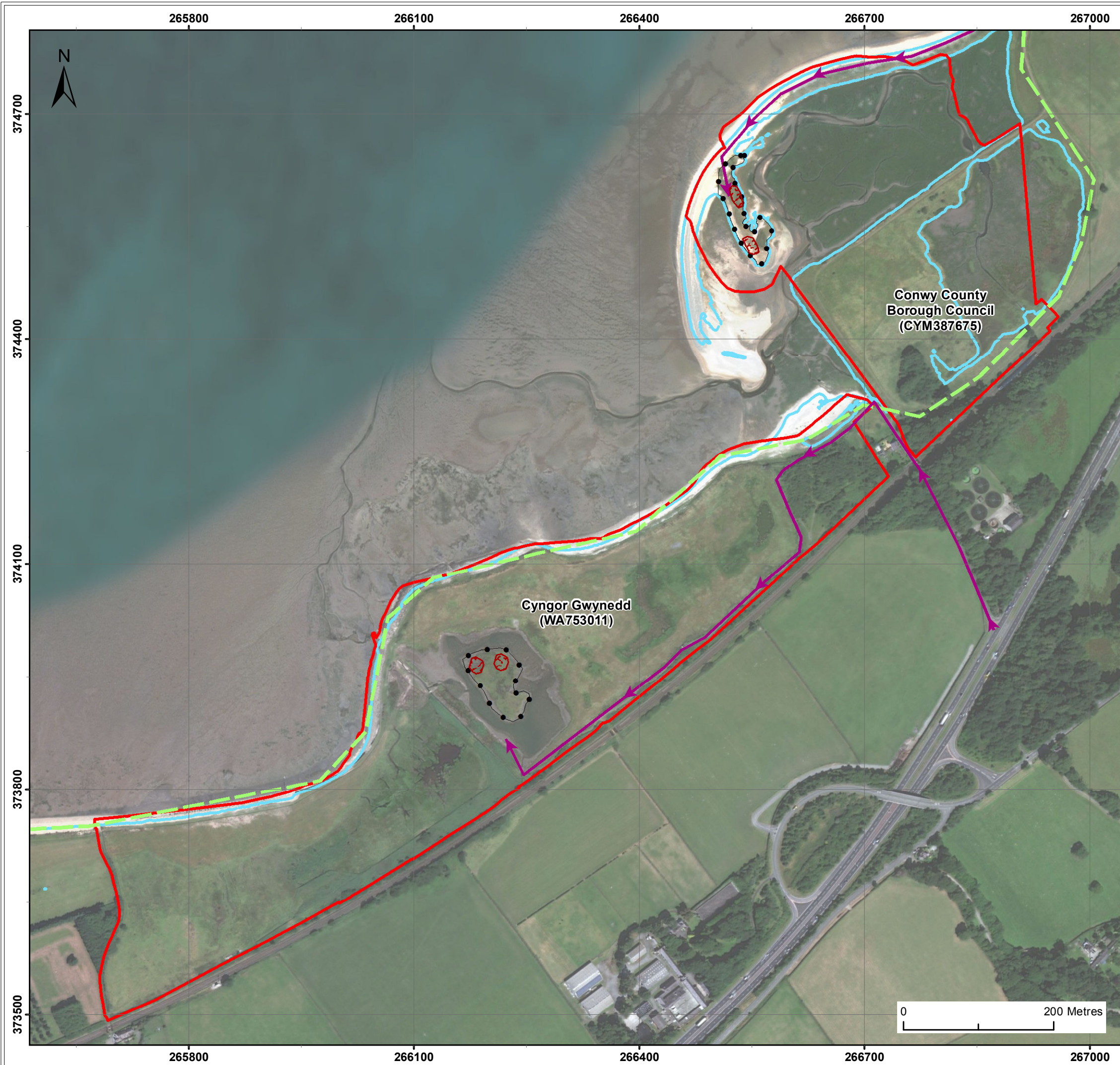
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
0	04/04/2019	TC	CG	A3	1:4,000

Co-ordinate system: British National Grid

Royal HaskoningDHV
Enhancing Society Together

ROYAL HASKONINGDHV
Marlborough House
Marlborough Crescent
Newcastle-upon-Tyne, NE1 4EE
+44 (0)191 211 1300
www.royalhaskoningdhv.com

Appendix 1-3 Figure 2 Glan y Môr & Morfa Madryn



- Legend**
- Proposed area of Horizon Control
 - Mean High Water Springs
 - Indicative area of proposed shingle/cockle shell/sand deposits
 - Fencing
 - Public Footpath
 - Temporary access by foot

© HaskoningDHV UK Ltd.
© Crown copyright and database rights 2018
Contains OS data © Crown Copyright and database right 2018
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Client:	Project:
	Wylfa Newydd - Anglesey Terns SPA: Habitat Compensation

Title:
Glan y Môr Elias and Morfa Madryn Reserves
Proposed Habitat Creation Design

Figure: 2

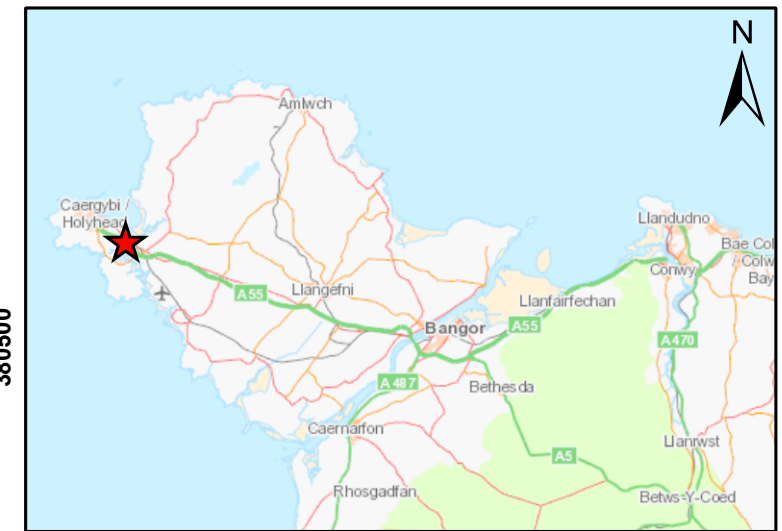
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
0	04/04/2019	TC	CG	A3	1:5,000

Co-ordinate system: British National Grid

Royal HaskoningDHV
Enhancing Society Together

ROYAL HASKONINGDHV
Marlborough House
Marlborough Crescent
Newcastle-upon-Tyne, NE1 4EE
+44 (0)191 211 1300
www.royalhaskoningdhv.com

Appendix 1-4 Figure 3 Tern Island



Legend

- Proposed area of Horizon Control
- Mean High Water
- Indicative area of proposed shingle/cockle shell/sand deposits
- Fencing
- Access by foot
- Vessel access required during site establishment

© HaskoningDHV UK Ltd.
© Crown copyright and database rights 2018
Contains OS data © Crown Copyright and database right 2018
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Client:

HORIZON
NUCLEAR POWER

Project:

Wylfa Newydd -
Anglesey Terns SPA:
Habitat Compensation

Title:

'Tern Island' (Inland Sea)
Proposed Habitat Creation Design

Figure: 3

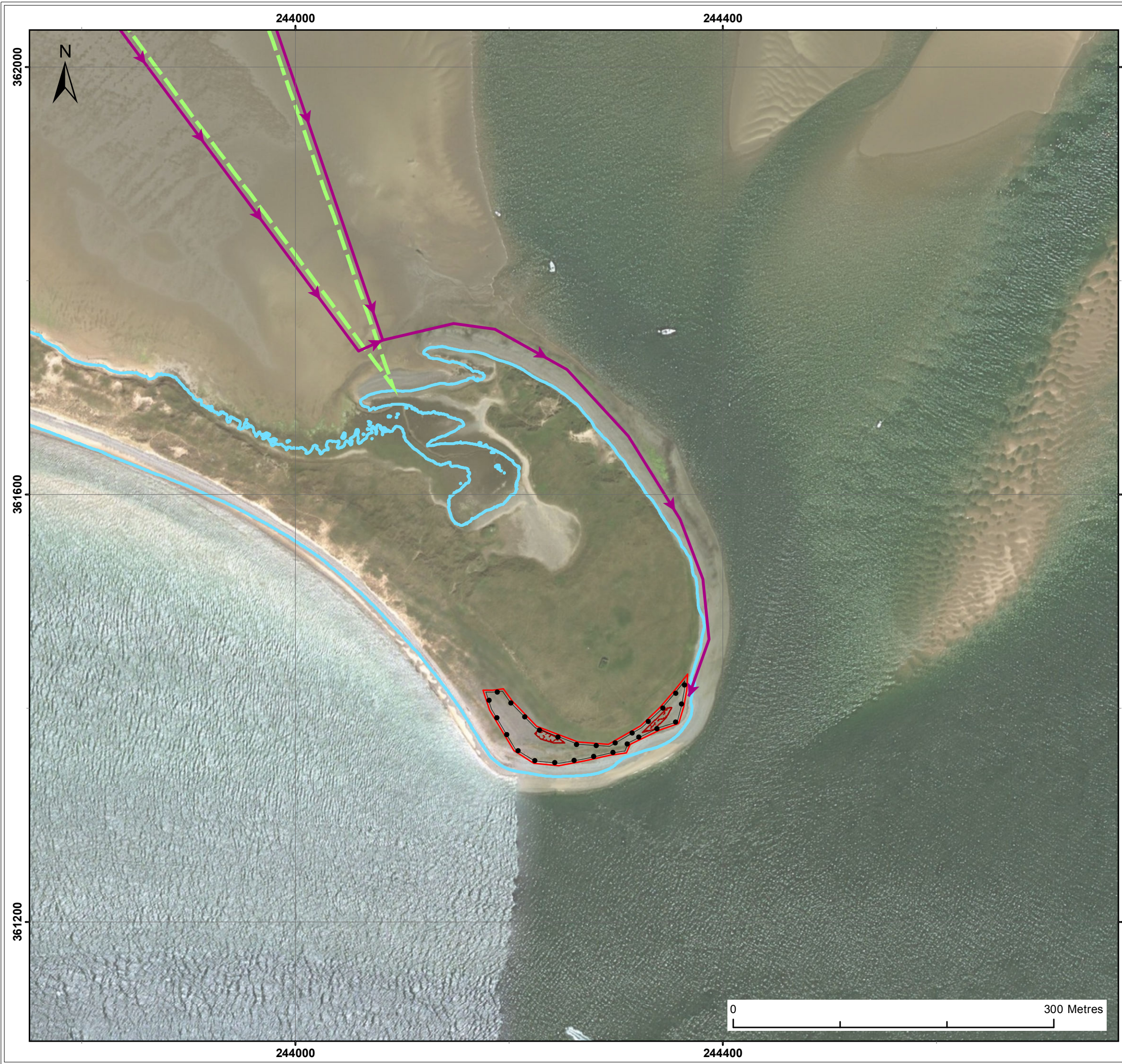
Revision:	Date:	Drawn:	Checked:	Size:	Scale:
0	04/04/2019	TC	CG	A3	1:5,000

Co-ordinate system: British National Grid









ROYAL HASKONINGDHV
Marlborough House
Marlborough Crescent
Newcastle-upon-Tyne, NE1 4EE
+44 (0)191 211 1300
www.royalhaskoningdhv.com

Appendix 1-5 Figure 4 Abermenai Point



Legend

-  Proposed area of Horizon Control
-  Mean High Water Springs
-  Indicative area of proposed shingle/cockle shell/sand deposits
-  Fencing
-  Public Footpath
-  Access by foot/lightweight or amphibious vehicle

© HaskoningDHV UK Ltd.
Contains OS data © Crown Copyright and database right 2018
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Client:


Project:
Wylfa Newydd -
Anglesey Terns SPA:
Habitat Compensation

Title:
**Abermenai Point
Proposed Habitat Creation Design**

Figure: 4

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
0	04/04/2019	TC	CG	A3	1:3,500

Co-ordinate system: British National Grid



ROYAL HASKONINGDHV
Marlborough House
Marlborough Crescent
Newcastle-upon-Tyne, NE1 4EE
+44 (0)191 211 1300
www.royalhaskoningdhv.com

[This page is intentionally blank]