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A30 Chiverton to Carland Cross Environmental Statement

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Nightjar Survey Report**

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A30 CHIVERTON CROSS TO CARLAND CROSS

NIGHTJAR SURVEY REPORT

CONFIDENTIAL

JANUARY 2018

A30 CHIVERTON CROSS TO
CARLAND CROSS
NIGHTJAR SURVEY REPORT
Highways England

**Final
Confidential**

Project no: 70004582
Date: January 2018

WSP
The Forum
Barnfield Road
Exeter, EX1 1QR

Tel: +44 (0) 1392 229 700
Fax: +44 (0) 1392 229 701

www.wsp.com

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1 INTRODUCTION

1.1 OVERVIEW

- 1.1.1 WSP was commissioned by Highways England to undertake ecological surveys in respect of the proposed A30 Chiverton Cross to Carland Cross Improvement Scheme (hereafter referred to as 'the proposed Scheme'). The proposed Scheme involves a new dual carriageway to run alongside the existing single carriageway road to relieve traffic pressures within the area. Surveys are required in order to inform an Ecological Impact Assessment (EIA) forming part of an Environmental Statement (ES) supporting a Development Consent Order (DCO) Application for the proposed Scheme.
- 1.1.2 The presence of habitat suitable for nightjar *Caprimulgus europaeus* within proximity to the proposed Scheme was established during a Phase 1 Habitat Verification Survey¹ undertaken in August 2015. In addition, desk records confirmed the historic presence of nightjar within the 5 km area surrounding the existing A30 between Chiverton Cross and Carland Cross. Accordingly, a nightjar survey was recommended.
- 1.1.3 The objective of the survey was to identify the presence or likely absence of breeding nightjar in suitable habitat that may be affected by the proposed Scheme. If nightjar presence was confirmed, the results would enable the potential effects of the proposed Scheme to be established and measures required to mitigate or compensate for significant adverse effects to be determined.

1.2 SITE CONTEXT

- 1.2.1 The A30 is a major trunk road running through the centre of Cornwall from West to East. The A30 forms an important route through the county of Cornwall and is under pressure during the summer months due to the high volume of tourism-related traffic. The section of road is a traffic pinch point, where the dual carriageway narrows to single carriageway in both directions between two roundabouts at Chiverton Cross and Carland Cross. The single carriageway sits between grid references SW 74759 46978 at the western end and SW 84665 53957 at the eastern end.
- 1.2.2 The area assessed for its suitability to support nightjars consisted of the 500 m area either side of the 12.7 km length of the proposed Scheme (hereafter referred to as the 'survey area'). It should be noted that at the early stage of the survey design, the preferred Scheme option had not been finalised. As such, the survey area incorporated additional Scheme options and variations that have been subsequently removed.
- 1.2.3 The proposed Scheme area covers a variety of habitats; predominately arable farmland, but also including areas of heathland, woodland, wetland and grassland. The soft estate along this section of road contains hedgerows in some areas but also includes wide grass verges in others. The road at times is raised up offering panoramic views, at others it is cut into the bed rock with steep banks above.

1.3 NIGHTJAR ECOLOGY

- 1.3.1 Nightjar are crepuscular and nocturnal birds that arrive in the UK between late April and mid-May before returning to Africa in August or September². They hunt at dusk and dawn for larger moths around heathlands, open areas of woodland or clear felled conifer plantations and scrubby vegetation. They traditionally nest in lowland heath and require an area of at least 2 hectares, but can forage up to 3 km from their nest sites³.
- 1.3.2 Nightjar are very well camouflaged when on the nest or roosting. However, their distinctive call or 'churring' identifies their location, along with wing claps and contact calls. They are territorial and will often fly quite close to anybody walking through their territory.
- 1.3.3 Nightjars are found around England, Wales and south western Scotland, though they are largely absent from central England².

1.4 LEGISLATION

- 1.4.1 Nightjar, their nests and eggs are protected by the Wildlife and Countryside Act (1981, as amended) (WCA). It is an offence to intentionally kill, injure, or take a nightjar, or take or destroy an egg. It is also an offence to damage or destroy the nest of a nightjar whilst being built, or in use.
- 1.4.2 Nightjar are also listed in Annex I of the EU Birds Directive (Directive 79/409/EEC); on Schedule 41 of the Natural Environment and Rural Communities (NERC) Act, 2006, making them a priority species; and are included on the Birds of Conservation Concern (BoCC) Amber List due to historic and current population changes.

¹ WSP|PB (2015). A30 Carland Cross to Chiverton Cross Phase 1 Habitat Verification Survey. A Report to Highways England

² <http://www.rspb.org.uk/birds-and-wildlife/bird-and-wildlife-guides/bird-a-z/n/nightjar/index.aspx>. Accessed 29/08/2017

³ <https://www.forestry.gov.uk/forestry/nightjar>. Accessed 29/08/2017

2 METHODOLOGY

2.1 DESK STUDY

- 2.1.1 A desk study was completed in 2015 as part of the Phase 1 Habitat Verification Survey. A search for any statutory or non-statutory designated sites where birds are an interest feature within 5 km of the existing A30 between Chiverton Cross and Carland Cross was undertaken.
- 2.1.2 Records of nightjar were also requested from the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS) within 5 km of the existing A30 between Chiverton Cross and Carland Cross. The local birding group, Cornwall Bird Watching and Preservation Society (CBWPS), were also contacted for records within 2 km of the current A30.
- 2.1.3 The ecological desk study provides background information on the biodiversity interest of the site, which complements data collected in the field by providing additional context for the site and its surroundings. It should be noted that an absence of desk study records for particular species or habitats does not necessarily convey an absence of such species or habitats in that area, but may be indicative of under-recording.

2.2 SCOPING

- 2.2.1 During scoping, the presence of suitable habitat within 500 m of the proposed Scheme options under consideration at that time was assessed.
- 2.2.2 Current best practice guidelines⁴ do not recommend buffers for survey effort from proposed infrastructure. As a result, the 500 m area for survey was extrapolated based upon knowledge of disturbance to nightjar, and through consultation with Natural England⁵. It was considered that disturbance within 500 m was most likely to have an impact upon breeding nightjar⁶.
- 2.2.3 At this stage three options were still present and as such the habitats were assessed across all of these options. Due to the specific habitat preferences of nightjar, heathland habitats with scrub or woodland components were scoped-in for assessment.
- 2.2.4 Aerial imagery was used to scope sites along with knowledge of the site from the Phase 1 Verification Survey undertaken in 2015. Mapping through GIS identified the size of these areas. The areas were ground-truthed during the first survey visit.

⁴ Gilbert, G., Gibbons, D. W., & Evans, J. (1998). *Bird Monitoring Methods*. RSPB, Bedfordshire.

⁵ Pers. Comms. With Richard Saunders, Natural England on 03/07/2017. Followed up in email to Richard Saunders on 06/07/2017 at 12:02

⁶ M. Ruddock & D. P. Whitfield (2007). A review of Disturbance Distances in Selected Bird Species. A Report from Natural Research (Projects) LTD. To Scottish Natural Heritage.

2.3 FIELD SURVEY

2.3.1 The field surveys were carried out in three scoped-in areas. Surveys were undertaken in line with best practice guidelines⁴ in order to identify churring males. Two surveys were carried out in the first half of July at dusk (between 22:00 and 23:30). As recommended in the best practice guidelines, each of the surveyed areas were less than 80 hectares and transect routes were pre-determined to reach within 100 m of all suitable habitats within each area, where safe to do so as identified in Figure 1. This was to ensure full coverage of the survey area within the recommended survey timing parameters.

- 2.3.2 Surveys began approximately 20 minutes after sunset and all positions of churring males, calls and associated flight paths were marked on the maps. Surveys were carried out on the following dates and times (areas described in section 3.2 below):
- ▲ Area 1: 3rd July 2017, 2130-2310 and 17th July 2017, 2130-2300;
 - ▲ Area 2: 4th July 2017, 2230-2300 and 18th July 2017, 2220-2250;
 - ▲ Area 3: 4th July 2017, 2140-2215 and 18th July 2017, 2130-2200.

2.3.3 Due to the size of two of the three areas, surveys were completed on the same night.

2.3.4 Surveys were carried out in suitable weather conditions, where wind speeds were less than Beaufort Force 3, visibility was good and the weather was dry. The surveys were carried out by two experienced ornithologists with experience of carrying out nightjar surveys.

2.4 LIMITATIONS

2.4.1 The nightjar surveys were carried out at the beginning of July, and therefore the June period of the survey window was missed. As a result, it is possible that churring males present only in June may have been missed. However, of the habitats surveyed, the most suitable was at Newlyn Downs. The areas at Allet Common and south of Carland Cross were considered to be sub optimal during the surveys. These areas were considerably wetter and did not support a good heathland community; they were also not subject to management through grazing. Nightjar were recorded at Newlyn Downs churring on both visits during July and as such this later survey period was not considered to be a significant limitation in the local area.

2.4.2 The transect routes were designed in order to cover the survey areas and be within 100 m of the suitable habitat where possible. Due to the nature of Area 1 having uneven ground and old mining workings, the route was limited to paths already present within the heathland. This included main footpaths and mammal tracks created by the grazing cattle. Some areas were approximately 200 m from the transect route, however, due to the topography within the area it was possible to hear sound travelling from further than 100 m. For example the first recording of the churring nightjar was at approximately 250 m from its location. It is therefore considered that this was not a significant limitation.

2.4.3 Within Area 2 and Area 3 the habitat was less accessible than Area 1 due to overgrown vegetation and wet uneven ground conditions. Again, the transects were designed to incorporate existing tracks where possible and were focussed into the better habitat within these areas. It was not considered that this was a significant limitation due to the sub-optimal habitat.

2.4.4 Due to the size of the Areas 2 and 3, it was possible to complete the surveys consecutively on an individual night. Area 3 was surveyed first with the surveys beginning at 2140 and 2130 on the two survey dates, ten minutes after sunset. Area 2 was surveyed second with the surveys beginning at 2230 and 2220 with both surveys being completed by 2300 and 2250 respectively. Therefore all surveys were completed within the appropriate survey period within 1.5 hrs after sunset within the dusk period and this was not considered to be a significant limitation to the survey results.

3 RESULTS

3.1 DESK STUDY

- 3.1.1 The desk study returned no records of nightjar within the last ten years.
- 3.1.2 However, historic records were present within the data set, dating from 1932 until 2004 and this historic presence was identified by Natasha Collins (Cornwall Council County Ecologist) during informal pre-scoping consultation⁷. In total, 24 historic records of nightjar were returned. The more recent records (14) from 2000 onwards, showed presence within three areas, around Porthtowan and Mount Hawke 3 km to the north west; near to Perranporth 5 km north; and around Newlyn East 3 km to the north east. There were two records returned in the vicinity of Carland Cross in 2002 and 2003, the Grid Reference provided only comprised four digits (SW8453) and therefore the precise location of these records could not be identified.
- 3.1.3 The records held by the CBWPS also identified one record of a churring male within Newlyn Downs in 2009. No grid reference was given for this record; however, the closest point of Newlyn Downs to the proposed Scheme is 138 m to the north.

3.2 SCOPING

- 3.2.1 The scoping identified three areas to be surveyed. These areas are shown on Figure 1 and are described below:
- ▲ Area 1 Newlyn Downs: This area was designated as a Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) due to it being the largest area of Southern Atlantic wet heath with Dorset heath *Erica ciliaris* and cross leaved heath *Erica tetralix* in Cornwall. It was associated with dry and wet heath and mire communities and stands of willow scrub. The area was lightly grazed by cattle as part of the management of the site, and as such there were areas of open bare ground, and a variation in the sward height throughout the site. The area measured approximately 75 hectares of heathland.
 - ▲ Area 2 Adjacent to Trewaters Farm: This area was scoped-in for survey due to the presence of open areas within a wider woodland belt. The ground was largely wet and dominated by rank grassland with some small areas of heath interspersed. Some areas had recently been cleared of vegetation and provided potentially good foraging habitat. It was, however, considered during the survey, that the 17.6 hectares of habitat was sub-optimal for nesting nightjar due to a lack of dry, bare ground.
 - ▲ Area 3 Allet Common: This area was part of a Cornwall Wildlife Trust reserve and also was scoped-in for survey due to the presence of a clearing within an area of woodland. This area did not support any heathland and was dominated by rank grassland tussocks. It provided a suitable foraging area, but as with Area 2, during the surveys the 4.79 hectares of habitat was considered to be sub-optimal for nesting opportunities, due to a lack of dry, bare ground.

3.3 FIELD SURVEY

- 3.3.1 The field survey identified nightjar within Area 1. Areas 2 and 3 recorded no observations of nightjar.

⁷ Cornwall Council response to Stage 1 EAR Scoping Report. Environmental Growth Opportunities: A30 Carland Cross to Chiverton Cross. May 2017.

- 3.3.2 Within Area 1, one pair of nightjar were recorded making contact calls, churring and undertaking territorial flights on both survey visits around grid reference SW 8357 5408. The results are shown in Figure 2.
- 3.3.3 During the first survey visit, a male nightjar was heard churring within the first 15 minutes of survey near to a track in the south eastern side of the survey area. As the surveyors approached the area, the bird was noted to fly north and then west over them, where the bird 'clapped' near to them. The bird then began churring to the west of its original position before moving further west to continue churring. A female alarm call was also heard during this survey to the north east of the males' original location. The male carried out territorial flights within 250 m of the female.
- 3.3.4 During the second survey visit, a male was again heard churring in the vicinity of the first survey visit. During the course of the survey within that area, the male was seen to make three flights between churring locations, and was seen to make use of a telegraph post from which to perch. As with the first survey visit, the flights were seen to be territorial with some wing clapping and flying close to the surveyors. A female was heard calling within close proximity (80 m) from where she was heard on the first survey visit.
- 3.3.5 Due to the repeat nature and localised activity of the nightjar, and presence of male and female birds, it was considered that this pair was breeding within the survey area.

3.4 SUMMARY

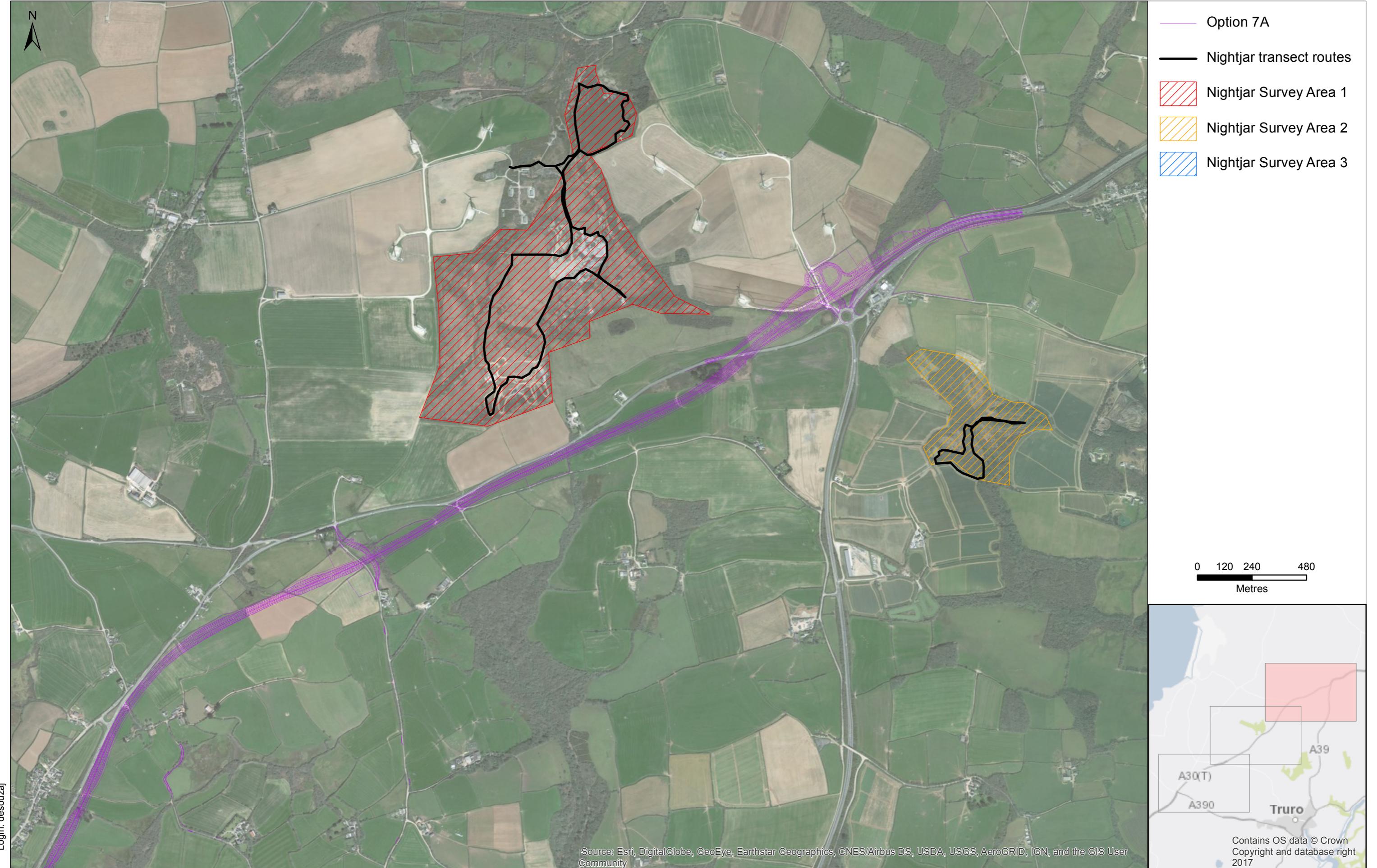
- 3.4.1 The nightjar surveys were carried out during the latter part of the breeding season in 2017. Three areas of suitable habitat were identified and consequently surveyed. Two of the areas, Area 2 and Area 3, recorded no nightjar activity and were considered unlikely to support breeding nightjar. Area 1 recorded breeding activity on both survey occasions. It was considered that the birds recorded in Area 1 were a breeding pair.

Appendix A

FIGURES







| Rev | Date | Description | By | Chk | App | Notes: |
|-----|------------|-------------|----|-----|-----|--------|
| | 12/10/2017 | | | | | |



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WSP
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www.wsp.com

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1 INTRODUCTION

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3 RESULTS

3.1 DESK STUDY

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3.2 SCOPING

- 3.2.1 The scoping identified three areas to be surveyed. These areas are shown on Figure 1 and are described below:
- ▲ Area 1 Newlyn Downs: This area was designated as a Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) due to it being the largest area of Southern Atlantic wet heath with Dorset heath *Erica ciliaris* and cross leaved heath *Erica tetralix* in Cornwall. It was associated with dry and wet heath and mire communities and stands of willow scrub. The area was lightly grazed by cattle as part of the management of the site, and as such there were areas of open bare ground, and a variation in the sward height throughout the site. The area measured approximately 75 hectares of heathland.
 - ▲ Area 2 Adjacent to Trewaters Farm: This area was scoped-in for survey due to the presence of open areas within a wider woodland belt. The ground was largely wet and dominated by rank grassland with some small areas of heath interspersed. Some areas had recently been cleared of vegetation and provided potentially good foraging habitat. It was, however, considered during the survey, that the 17.6 hectares of habitat was sub-optimal for nesting nightjar due to a lack of dry, bare ground.
 - ▲ Area 3 Allet Common: This area was part of a Cornwall Wildlife Trust reserve and also was scoped-in for survey due to the presence of a clearing within an area of woodland. This area did not support any heathland and was dominated by rank grassland tussocks. It provided a suitable foraging area, but as with Area 2, during the surveys the 4.79 hectares of habitat was considered to be sub-optimal for nesting opportunities, due to a lack of dry, bare ground.

3.3 FIELD SURVEY

- 3.3.1 The field survey identified nightjar within Area 1. Areas 2 and 3 recorded no observations of nightjar.

⁷ Cornwall Council response to Stage 1 EAR Scoping Report. Environmental Growth Opportunities: A30 Carland Cross to Chiverton Cross. May 2017.

- 3.3.2 Within Area 1, one pair of nightjar were recorded making contact calls, churring and undertaking territorial flights on both survey visits around grid reference SW 8357 5408. The results are shown in Figure 2.
- 3.3.3 During the first survey visit, a male nightjar was heard churring within the first 15 minutes of survey near to a track in the south eastern side of the survey area. As the surveyors approached the area, the bird was noted to fly north and then west over them, where the bird 'clapped' near to them. The bird then began churring to the west of its original position before moving further west to continue churring. A female alarm call was also heard during this survey to the north east of the males' original location. The male carried out territorial flights within 250 m of the female.
- 3.3.4 During the second survey visit, a male was again heard churring in the vicinity of the first survey visit. During the course of the survey within that area, the male was seen to make three flights between churring locations, and was seen to make use of a telegraph post from which to perch. As with the first survey visit, the flights were seen to be territorial with some wing clapping and flying close to the surveyors. A female was heard calling within close proximity (80 m) from where she was heard on the first survey visit.
- 3.3.5 Due to the repeat nature and localised activity of the nightjar, and presence of male and female birds, it was considered that this pair was breeding within the survey area.

3.4 SUMMARY

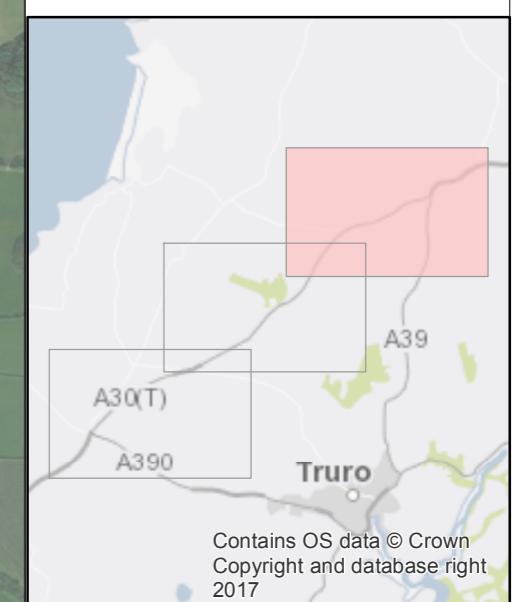
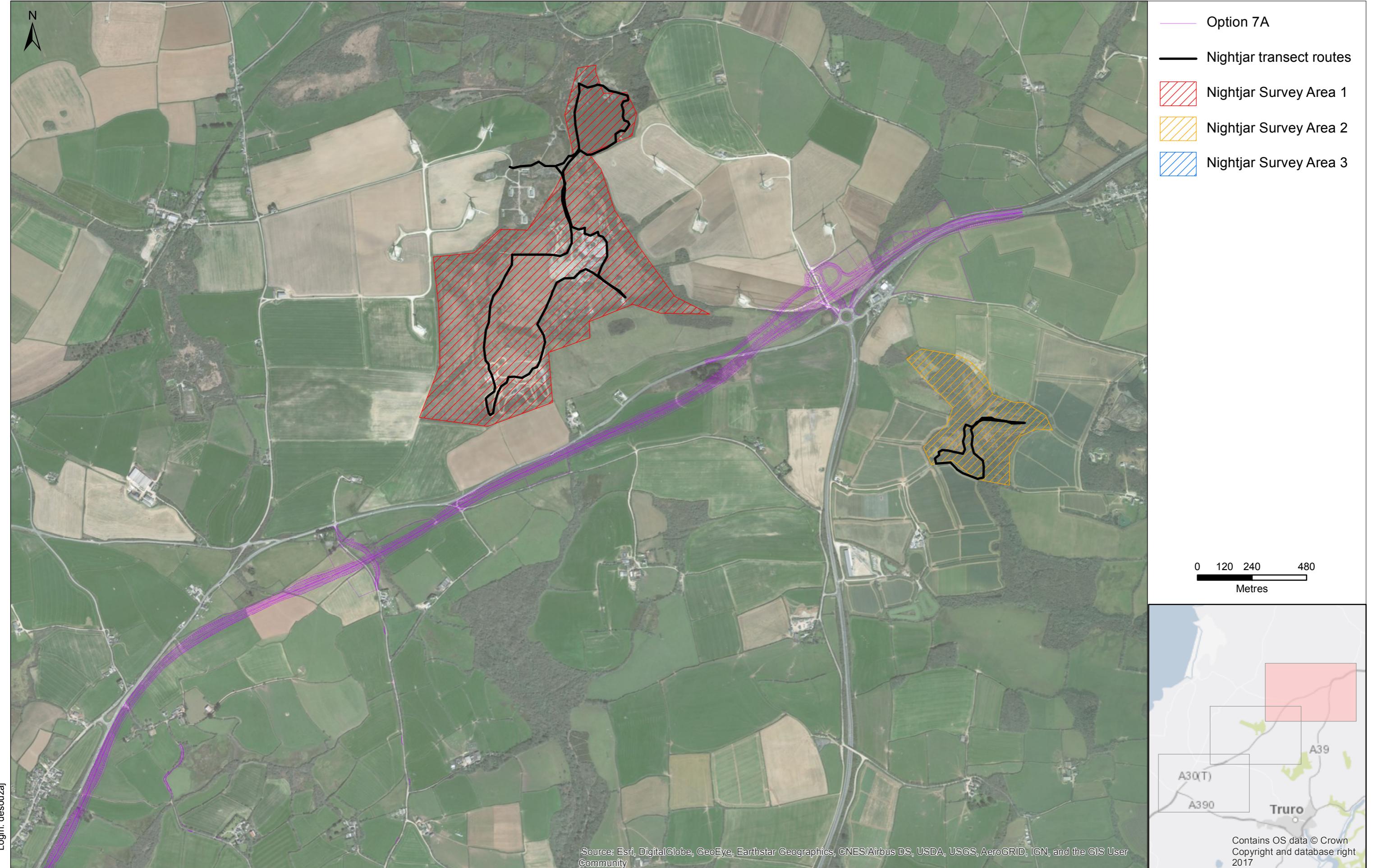
- 3.4.1 The nightjar surveys were carried out during the latter part of the breeding season in 2017. Three areas of suitable habitat were identified and consequently surveyed. Two of the areas, Area 2 and Area 3, recorded no nightjar activity and were considered unlikely to support breeding nightjar. Area 1 recorded breeding activity on both survey occasions. It was considered that the birds recorded in Area 1 were a breeding pair.

Appendix A

FIGURES







Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

| Rev | Date | Description | By | Chk | App | Notes: |
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| | 12/10/2017 | | | | | |



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