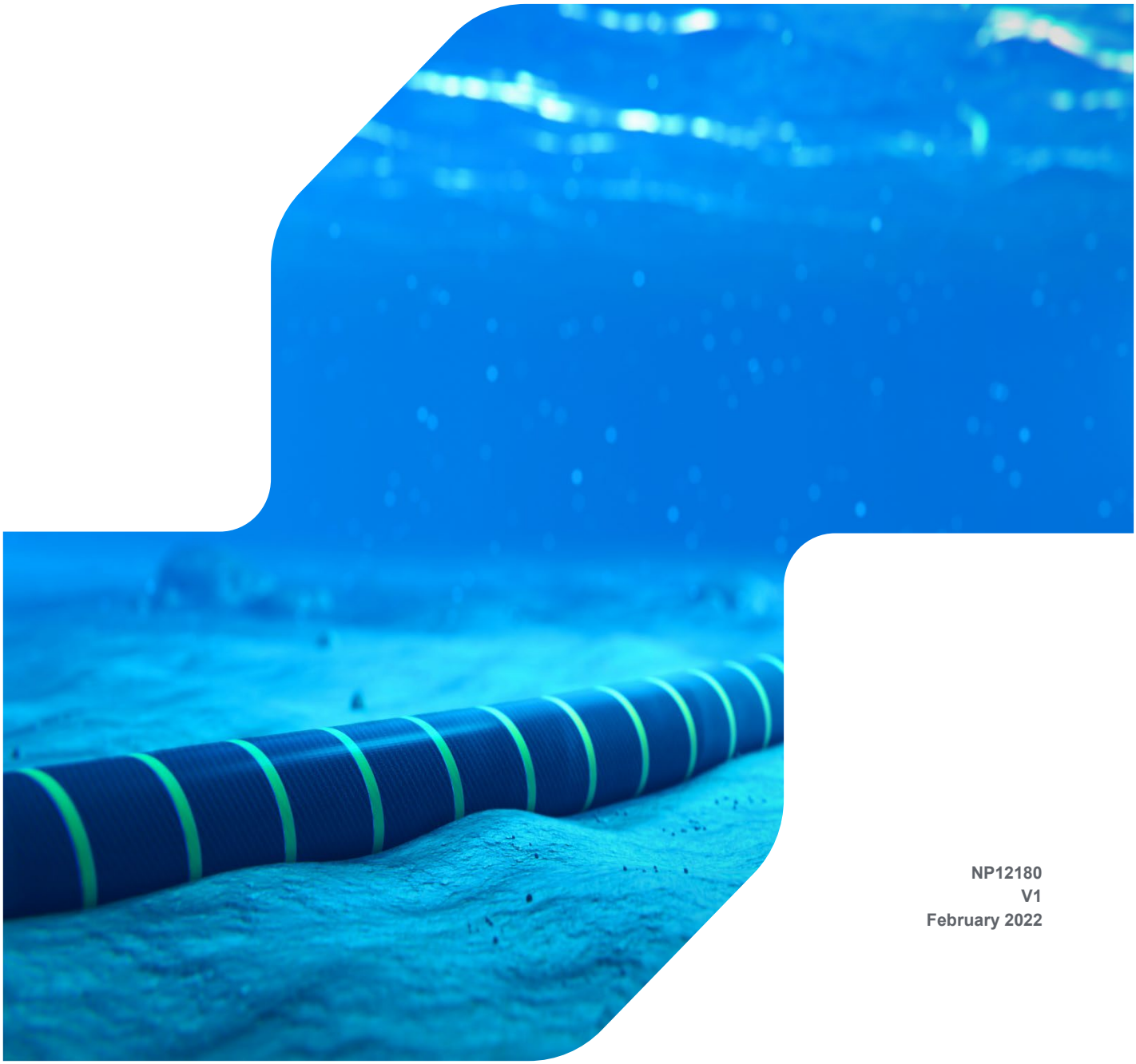
XLCC CABLE FACTORY - HUNTERSTON

EIA Report Appendix 5.1: Ecology and Nature Conservation Technical Report (Part 1)



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EXECUTIVE SUMMARY

RPS was commissioned by XLCC Limited (XLCC) to undertake an Ecological Assessment of the proposed Cable Manufacturing Facility (the Project). The Project site is located on land west of the A78 approximately 3 km south of Fairlie, North Ayrshire (central Ordnance Survey (OS) grid reference NS 20223 53317). The location of the proposed development is shown in Figure 5.1.

Desk Study

The desk study identified three statutory designated sites and thirteen non-statutory designated sites within 2 km of the Project site boundary. A Tree Preservation Order site falls directly to the east of the current Project site and extends to the south. Southannan Sands SSSI is located approximately 100 m west of the Project site and Ballochmartin Bay SSSI is located approximately 1.5 km north-west of the site on Great Cumbrae Island.

Historic data from the 2009 Clydeport Bulk Terminal and Construction Yard EIA was reviewed for the desk study. Field signs highlighting the presence of otter were observed as potential resting areas, slides and spraint along the length of Burn Gill, 650 m south-west of the Project site; spraint was observed at Glen Burn 300 m east of the Project site boundary; and spraint at the mouth of Burn Gill. Bat activity surveys identified the presence of foraging common pipistrelle and soprano pipistrelles within the broad-leaved woodland to the south of the Project site. The cuckoo bee was recorded within sandy grasslands behind the shoreline to the south-west of the Project site. The Cuckoo bee is rare in Scotland. This was the third record in Scotland and the first in Ayrshire at the time of reporting. In addition, Grayling, which is a UK BAP species was noted outside the Project site to the south-west. Three fish species were noted in Burn Gill, approximately 650 m south of the Project site, brown/sea trout, brown trout and flounder.

Field Surveys

The following field surveys were completed in 2021 and are reported here: an ecological constraints walk over, an otter survey and a badger survey.

Habitat Assessment

Habitats identified using data pertaining to a survey undertaken in 2018 as provided by the client, did not identify any habitats within the Project site to be Annexe1, Biodiversity Action Plan habitats or Groundwater Dependent Terrestrial Ecosystems (GWDTEs). Although no specific habitat surveys were conducted, visits to the Project site coupled with photographs taken during surveys confirmed that no obvious changes of note had occurred since 2018. The main finding was the presence of invasive non-native plant species (INNPS) including rhododendron (*Rhododendron ponticum*), Japanese knotweed (*Reynoutria japonica*), giant hogweed (*Heracleum mantegazzianum*), none of which were noted in the 2018 Phase 1 Habitat survey report. The habitats within the Project site have been assessed as having low conservation value.

Protected Species

- Potential bat foraging habitat was identified adjacent to the Project site boundary with low roosting potential. No suitable habitat for foraging or roosting bats was identified within the Project site boundary.
- Field surveys identified the presence of otter in the Survey Area, outwith the Project site, but no resting sites were recorded.

- No suitable habitats for water vole, terrestrial invertebrates or fish were identified within the Survey Area.
- A targeted badger survey did not observe any field signs of badger, however during the Ecological Constraints Assessment walkover, a single badger footprint was observed. No habitat suitable for foraging or with sett building potential was observed within the Project site boundary.
- No targeted reptile surveys were completed, however potential reptile habitat was identified adjacent to the Project site.
- Three ponds were observed within the Survey Area; however all were deemed to be of poor suitability for great crested newts.
- Potentially suitable mixed woodland was observed to the east of the site which may provide suitable foraging and commuting habitat for red squirrel (*Sciurus vulgaris*). A potential red squirrel drey was observed within a Scots pine (*Pinus sylvestris*) tree.

1 INTRODUCTION

Background

1.1 The Project site is located on part of the former Hunterston Coal Yard within the wider Hunterston Port and Resource Centre, located on the coast of the West of Scotland, south of the settlement of Fairlie, and north of the EDF Hunterston Power Station. The project site centre point grid reference is approximately NS 20238 53343 and is approximately 50.7 ha in size. It is proposed to construct a Cable Manufacturing Facility which will comprise of buildings of a steel portal frame clad with composite panels.

Report Objectives

1.2 The key objectives of the study were to:

- make an assessment of the broad habitat types and dominant floral communities within the survey area;
- identify the presence of Groundwater Dependant Terrestrial Ecosystems (GWDTEs);
- identify the presence of, or suitable habitat capable of supporting legally protected and notable species of conservation concern; and
- identify the presence of Invasive Non-Native Plant Species (INNPS) subject to legal control.

Relevant Legislation

1.3 A summary of the legislation relevant to protected species, or those which may pose a potential constraint to the scheme as identified in this report, are provided in Annex A and includes:

- Conservation of Habitats and Species (Amendment) (EU Exit) regulations 2019.
- The Wildlife and Countryside Act 1981 (as amended).
- The Protection of Badgers Act 1992.

Terms, Conditions of Use & Limitations

1.4 The following definitions are used in this report and are delineated in Figure 5.1.

- The Project site: the area of the Project in which all works will be undertaken, and which is the subject for the application for consent; and
- Survey Area: an area encompassing the proposed application site (main Project site) plus a specific buffer dependent on the type of survey.

1.5 The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for 24 months, notwithstanding any considerable changes to the site conditions.

1.6 The data for the Phase 1 Habitat survey derives from a survey undertaken in 2018 as provided by the Applicant. The current Project layout extends beyond the survey boundary used in 2018 and so aerial imagery from Google Maps was utilised to fill in the additional areas in the northern section of the Project site. The areas mapped using aerial imagery were predominantly hard standing and bare earth and so this is not considered a constraint to the assessment. This survey was conducted by a third party and as such RPS cannot assure accuracy of this survey and cannot be held liable for any error(s) in these data.

1.7 The desk study data is third party controlled data, purchased for the purposes of this report only. RPS cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

2 METHODOLODY

Desk Study

2.1 A desk study was undertaken to gather information on the potential value of the Project site and wider area for protected and notable species through the following:

- a request was made to South West Scotland Environmental Information Centre (SWSEIC) for all records of Notable and Protected Species within 2 km of the site within the last 10 years;
- NatureScot SiteLink[1] website was consulted to identify the presence of any protected areas within 2 km of the site boundary (e.g. Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPAs) and Special Areas of Conservation (SACs));
- Scotland's Environment Web[2];
- aerial imagery which was studied prior to the survey to inform any areas of high sensitivity which might require additional survey effort during the site visit. This included an assessment of Saving Scotland's Red Squirrels' (SSRS) interactive map, which plots red squirrel sightings across Scotland[3] (Saving Scotland's Red Squirrels, 2022).

2.2 Historic data from the 2009 EIA submission in support of the provision of a multi-fuel power station and associated onsite carbon capture and storage infrastructure development and a Phase 1 Habitat Survey map, produced in April 2018, was supplied to RPS by the Applicant. The northern section of the assessment area overlaps the current application boundary and so a review of the relevant data was undertaken as part of the desk study.

Field Surveys

2.3 Surveys undertaken and buffers applied are set out below. Full details of the methodologies used are included in Annex D with survey areas shown in Figure 5.1:

- Habitat assessments undertaken during the Ecological Constraints Walkover include:
  - an assessment of suitable habitats for the potential to support badgers (*Meles meles*) was carried out within the ecology constraints walkover area;
  - ground level Preliminary Bat (*Chiroptera* spp.) Roost Assessment (PBRA) on trees and structures in the ecology constraints walkover area;
  - as assessment of all watercourses and ditches within the ecology constraints walkover area for the potential to support otters (*Lutra lutra*) and water vole (*Arvicola amphibious*);
  - a great crested newt (GCN) (*Triturus cristatus*) habitat suitability assessment (HSA) was undertaken on any ponds observed within the ecology constraints walkover area;
  - an assessment of potential reptile habitat and resting / hibernation areas within the ecology constraints walkover area;
  - an assessment of suitable habitat to support water vole within the ecology constraints walkover area;

[1] NatureScot Sitelink database website (https://sitelink.nature.scot/home) accessed 30 July 2021

[2] Scotland's Environment Web (https://map.environment.gov.scot) accessed 30 July 2021

[3] Saving Scotland's Red Squirrels – Saving Scotland's red squirrels through community action (scottishsquirrels.org.uk) accessed 30 July 2021

  - an assessment of suitable habitats for the potential to support terrestrial invertebrates was carried out within the ecology constraints walkover area; and
  - an assessment for fish and potential fish habitats was carried out within the ecology constraints walkover area;
- Protected Species Surveys completed include:
  - an otter survey on watercourses/ditches and along the shoreline within the Project site and 200 m from the Project site boundary;
  - a badger survey of the main Project site and a 100 m buffer from the Project site boundary;

3 RESULTS

Desk Study Results

3.1 Desk Study Requested data from SWSEIC has not yet been received at the time of writing the report and so cannot be commented on.

Designated Sites of Nature Conservation Interest

3.2 Three statutory designations relating to the Project site boundary and thirteen non-statutory designations are located within 2 km of the Project site. Table 1 and Figure 5.2 provide further details.

3.3 A Tree Preservation order (TPO) (Hunterston No. 1) was noted to the east and the south of the site covering an unnamed woodland and Kilruskin Wood Ancient Woodland Inventory (AWI) sites.

Table 1: Statutory and Non-Statutory Designated Sites

Site	Designation	Distance from Project site
Statutory Sites		
Hunterston No. 1	Tree Preservation Order (TPO)	0 km
Southannan Sands	SSSI. Designated for the intertidal marine habitats and saline lagoons: Sandflats	0.1 km
Ballochmartin Bay	SSSI. Designated for the intertidal marine habitats and saline lagoons: Sandflats	1.5 km
Non-Statutory Sites		
Allan Wood	Ancient Woodland Inventory - Semi Natural	0.2 km
The Glen	Ancient Woodland Inventory - Semi Natural	0.2 km
Unnamed Woodland	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	0.3 km
Kilruskin Wood	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	0.4 km
Unnamed Woodland	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin. Covered by TPO	0.9 km
Ninian Brae	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	0.9 km
Fairlie Glen	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	1.1 km
Unnamed Woodland	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	1.1 km
Kilruskin Glen	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin. Covered by TPO	1.6 km
Unnamed Woodland	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	1.8 km
Unnamed Woodland	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	1.8 km
Unnamed Woodland	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	1.9 km

Dykes Plantation	Ancient Woodland Inventory. Long-established Woodland of Plantation Origin.	2 km

Habitats

3.4 A Phase 1 Habitat survey undertaken in 2018 which covered the majority of the current Project site showed the site to be dominated by bare ground. Areas of semi-improved natural grassland were found to the north-west and the south-west of the 2018 Phase 1 Habitat Survey Area, however the latter area currently falls outwith the current Project site boundary. An area of broadleaved woodland was mapped to the south east of the 2018 Phase 1 Habitat Survey Area; however this falls outwith the current Project site boundary. Areas of scattered scrub were observed within the semi-improved natural grassland to the north-west. In addition, a narrow strip of ruderal tall herb and fern on the eastern edge of the Project site boundary was recorded.

Legally Protected and Notable Species of Conservation Concern

3.5 Protected species surveys undertaken in 2008 and 2009 to inform the 2009 Clydeport Bulk Terminal and Construction Yard EIA included surveys for: otter; bats; great crested newt; amphibians and reptiles; invertebrates and fish.

Bats

3.6 The 2009 report identified minimal bat roost potential was identified within the Project site boundary. However, the broad-leaved woodland and areas of scrub to the east, outwith the Project site boundary, were assessed as providing optimal foraging opportunity for bats. Activity surveys were conducted and there was no evidence that there were bat roosts within the woodland. Common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*) were recorded foraging along the woodland to the south and east of the Project site boundary.

Otter

3.7 Data from the previous 2009 otter survey, reported habitat with foraging and sheltering potential was found along Burn Gill, approximately 800 m to the south of the Project site. The dense network of tree roots was suitable for holt excavation, and dense vegetation provided sheltering opportunities. Field signs highlighting the presence of otter were observed. These were slides, potential resting areas, and spraint along the length of Burn Gill; spraint was observed along Glen Burn 300 m east of the Project site boundary; and spraint at the mouth of Burn Gill, 700 m south-west of the Project site boundary. This suggests that Glen Burn and Burn Gill may form part of an otter territory.

Red Squirrel

3.8 The desk study data taken from the SSRS website confirmed the presence of red squirrel in the data search area with the most recent sighting dating from 2021.

Badger

3.9 The 2009 report noted the habitats on the Project site and in the survey area offered good potential for foraging badger and sett creation. Within the wider landscape the land to the east contains a mosaic of farmland, and woodland which will offer moderate foraging and sett building potential for badgers, so it is possible that badgers are present in the local area. During a targeted survey for badger, no setts or field signs of were observed within the Project site. However, during the Ecological Constraints Assessment walkover, a single badger footprint was observed to the

south of the Project site. The ground to the east of the Project site was unsuitable for sett building, but the mixed woodland on the eastern embankment provided potential foraging and sett building habitat.

Amphibians and Reptiles

3.10 The 2009 report found no evidence to suggest a population of great crested newt was present. The reptile survey also found no evidence of the presence of any reptile species, despite suitable sheltering and basking habitat being observed.

Invertebrates

3.11 The diversity of invertebrate groups was found to be low in the survey area to the south of the Project site boundary, including the former oil rig construction yard to the south-west. The numbers of individual spiders and number of species of spider recorded was very low. In addition, bees and wasps were low in number and all common, apart from the cuckoo bee (*Sphecoides pellucidus*), which is rare in Scotland. This was the third recorded site in Scotland and the first in Ayrshire at the time of reporting. Being the first record of cuckoo bee in Ayrshire, gives it regional value. Eight species of day flying moth were recorded, one of which, the Grayling (*Hipparchia Semele*), is a UK BAP species. This was recorded on the former oil-rig construction yard approximately 800 m south-west of the Project site. The small population of Grayling at Hunterston is considered to be of Regional value.

Fish and Fish Habitat

3.12 Burn Gill, 650 m to the south of the Project site boundary, was surveyed and the presence of brown/sea trout (*Salmo trutta*), brown trout (*Salmo trutta* ssp. *fario*) and flounder (*Platichthys flesus*) were noted.

Field Survey Results

3.13 The following sections outline the survey findings of the 2018 Phase 1 Habitat survey undertaken by a third party and the field surveys undertaken in 2021 by RPS.

Phase 1 Habitat Survey

3.14 Habitats identified using data provided by the client pertaining to a Phase 1 Habitat survey undertaken in 2018 (Figure 5.3), did not identify any habitats within the Project site to be Annexe 1, UK Biodiversity Action Plan (UKBAP) habitats or Groundwater Dependent Terrestrial Ecosystems (GWDTEs).

3.15 During subsequent surveys, no significant change to these habitats was noted and they have been assessed as having low conservation value.

3.16 The main habitats recorded previously within the Project site boundary are detailed in Table 2 and in Figure 5.3.

Table 2: Habitats Present and Their Total Areas within the Survey Area

Phase 1 Habitat Type	Survey Area (ha)	Project Site (ha)
Bare ground (J4)	58.0	39.7
Cultivated/disturbed land - ephemeral/short perennial (J1.3)	8.4	1.7
Scrub - dense/continuous (A2.1)	7.3	2.0
Broadleaved woodland - semi-natural (A1.1.1)	6.2	-

Phase 1 Habitat Type	Survey Area (ha)	Project Site (ha)
Neutral grassland - semi-improved (B2.2)	4.6	3.0
Hardstanding	3.8	3.8
Buildings (J3.6)	0.8	0.1
Other tall herb and fern – ruderal (C3.1)	0.4	0.3
Marsh/marshy grassland (B5)	0.4	-
Total	89.9	50.67

Invasive Non-Native Plant Species

3.17 INNPS were recorded within the Survey Area (See Figure 5.4). These included rhododendron (*Rhododendron ponticum*), Japanese knotweed (*Reynoutria japonica*), giant hogweed (*Heracleum mantegazzianum*).

Protected / Notable Species

Bat Species

3.18 The woodland to the east of the site provides moderate foraging and commuting opportunity for bats; however, the Project site itself is dominated by bare ground with little vegetative cover. Although some water bodies were recorded within the survey area, the cluster of ponds located in the northwest of the site were unlikely to provide foraging potential for bats. As such, the site is considered to have low foraging potential and to have no roosting opportunities for bats.

Otter

3.19 The habitat to the west of the Project site, offered suitable potential for foraging otter; resting sites such as couches; and holt building potential. Signs of otter were recorded outwith the Project site in the survey buffer to the west. A series of prints were observed within the sand to the west (TN1, 2 & 3, Figure 5.4), leading into the rock armour along the shoreline, leading to potential resting areas. Due to the hazardous nature of the rock armour, detailed assessment of this was unable to be made at the time of survey.

Badger

3.20 The habitats on the Project site and the survey area offer limited potential for foraging badger and sett creation. Within the wider landscape the land to the east contains a mosaic of farmland, and woodland which will offer moderate foraging and sett building potential for badgers, so it is possible that badgers are present in the local area.

3.21 During a targeted survey for badger, no setts or field signs were observed within the Project site. However, during the Ecological Constraints Assessment walkover, a single badger footprint was observed within the south end of the Project site. The ground to the east of the Project site was unsuitable for sett building, but the mixed woodland on the eastern embankment provided potential foraging and sett building habitat.

Water Vole

3.22 The site did not contain any flowing water courses at the time of survey, though dry ditches were observed. The closest presumed permanent watercourse being an unnamed burn approximately 60 m east of the site. No evidence of water vole was observed around any of the dry drainage

ditches. The habitats here were not suitable for water vole owing to the nature of the banks (comprising a mix of compacted crushed stone sub-base and coal). The site is understood to be outside of the currently known range of fossorial water voles. Therefore, water vole are not considered likely to utilise the site, nor to be affected by the Project. Consequently, water vole can be scoped out of further assessment.

Amphibians and reptiles

3.23 The site itself provides little vegetative cover and so does not provide suitable opportunities for reptiles. However, the surrounding habitats to the east and west provide opportunities for reptiles (TN17 and TN18, Figure 5.4). This is through a combination of being open to the south and thus will catch the sun and having a varied vegetative assemblage including scrub and grassland habitats. In addition, these areas hold potential for resting, sheltering, and hibernation due to piles of rocks and logs associated with the former industrial use of the site.

Great Crested Newt

3.24 Three ponds were surveyed, upon which a Habitat Suitability Index (HSI) assessment was conducted. Further detail of the HSI assessment can be found in Annex A. Of the three ponds surveyed, all were deemed to be of poor suitability for great crested newts (TN9, 10 and 11Figure 5.4). Therefore, great crested newt can be scoped out of further assessment.

Red Squirrel

3.25 Potentially suitable mixed woodland was observed to the east of the site which may provide suitable foraging and commuting habitat for red squirrel. A potential red squirrel (*Sciurus vulgaris*) drey was observed within a scots pine (*Pinus sylvestris*) next to the A78, to the east of the site (TN4, Figure 5.4). It should be noted, however, that it is not possible to distinguish red squirrel dreys and feeding remains from those of grey squirrels (*Sciurus carolinensis*). As no squirrels were observed using the drey during the survey, it was not possible to confirm if the drey was active and confirm which species was using it.

3.26 The desk study data taken from the SSRS confirms the presence of red squirrel in the area with the most recent sighting dating from 2021.

Terrestrial Invertebrates

3.27 Open mosaic habitats on previously developed land (OMHPDL) are typically considered to provide complex habitat structure with a wide range of micro-habitats which provide opportunities for niche invertebrates and can host the same invertebrate diversity as semi-natural habitats (Cathrine, 2020). While habitats were identified in the southern survey boundary which may fall into this category, the habitats within the Project site were considered to offer negligible potential for terrestrial invertebrates due to the dominance of bare ground and as such terrestrial invertebrates can be scoped out of further assessment.

Fish and Fish Habitats

3.28 The site did not contain any flowing water courses at the time of survey though dry ditches were observed. The closest presumed permanent watercourse being an unnamed burn approximately 60 m east of the site. Owing to the regularity of use of the habitat between the site and the unnamed burn (the Ayrshire Coastal Path), fish and their habitats are not considered to be affected by the proposals and can be scoped out of further assessment.

4 CONCLUSIONS

Desk Study

4.1 One statutory designation relating to the Project site boundary was identified. Southannan Sands SSSI is located approximately 100 m west of the Project site boundary.

4.2 During the surveys undertaken in 2008-2009 to inform the 2009 Clydeport Bulk Terminal and Construction Yard EIA, the following were discussed:

- the presence of bat species, common pipistrelle and soprano pipistrelle were identified in the broadleaf woodland bordering the Project site boundary;
- no evidence of amphibians or reptiles was recorded even though suitable habitat was noted;
- a rare bee species, the cuckoo bee and the grayling, a UK BAP species of day-flying moth were recorded to the south of the Project site boundary;
- field signs of otter were noted, including slides, potential resting areas and spraint; and
- three notable fish species recorded within Burn Gill 650 m to the south of the site: brown/sea trout, brown trout and flounder.

Habitat Assessment

4.3 All habitats recorded during a previous Phase 1 Habitat survey 2018 were of low conservation value. Following an aerial assessment of the area covered within the most recent iteration of the Project site layout, no habitats greater than low conservation value were observed.

4.4 The habitats within the wider area are considered to be of high conservation value due to the proximity of Southannan Sands SSSI to the west and its qualifying features.

4.5 Multiple species of INNPS were recording in the Survey Area. These species are rhododendron, Japanese knotweed, and giant hogweed which are all listed under Schedule 9 of The Wildlife and Countryside Act 1981 (Amendment) (Scotland) Regulations 2001.

Protected Species

4.6 No field signs were recorded during the field surveys for bats, water vole, reptiles, great crested newts or fish within the Project site boundary. The presence of otter and badger was identified in the Survey Area in the form of footprints, but no resting sites were recorded.

4.7 No bat activity surveys were conducted, however an assessment of structures, natural features, and trees within the Survey Area for their bat roosting potential (Collins, 2016) was undertaken and the Project site was assessed as having low foraging potential and no roosting potential. The woodland to the east was considered to provide moderate foraging and commuting potential.

4.8 No targeted reptile surveys were completed; and no reptile habitat was identified within the Project site. However, two areas of suitable habitat to the west and east (TN17 and 18 respectively, Figure 5.4) in the form of varied vegetative assemblages including scrub and grassland habitats. In addition, these areas hold potential for resting, sheltering, and hibernation due to piles of rocks and logs.

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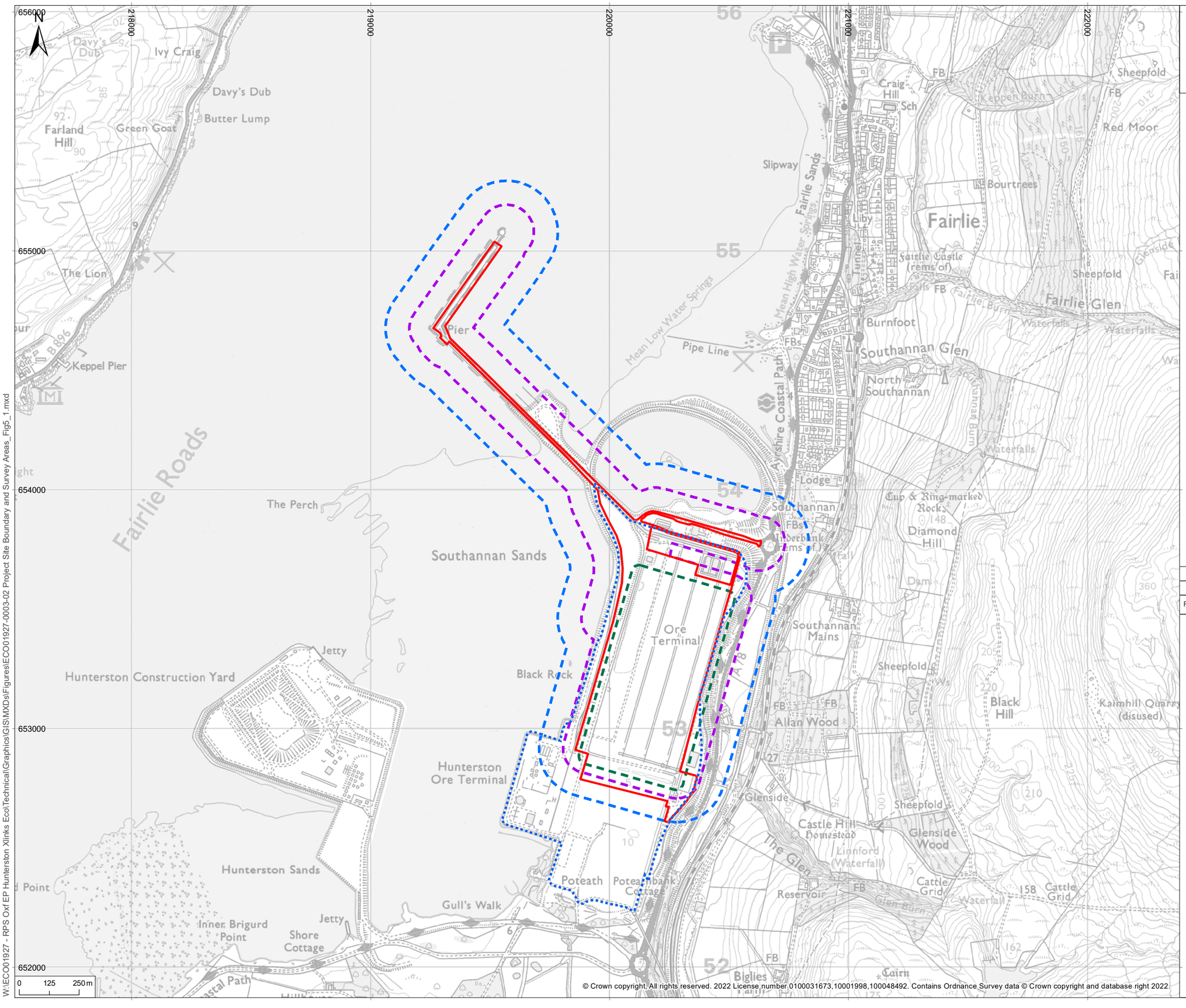
FIGURES



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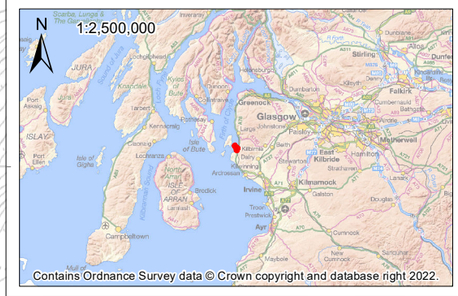
Legend

- Site Boundary
- Phase 1 Habitat survey area (2018)
- Ecology constraints walkover area (30m buffer)
- Badger survey area (100m buffer)
- Otter survey area (200m buffer)



Rev	Description	By	CB	Date

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Client	XLCC Ltd
Project	XLCC Hunterston
Title	Project Site Boundary and Survey Areas

Status	Drawn By	PM/Checked By
DRAFT	AC	-
Project Number	**Scale @ A3**	**Date Created**
ECO01927	1:15,000	JAN 2022
Figure Number		**Rev**
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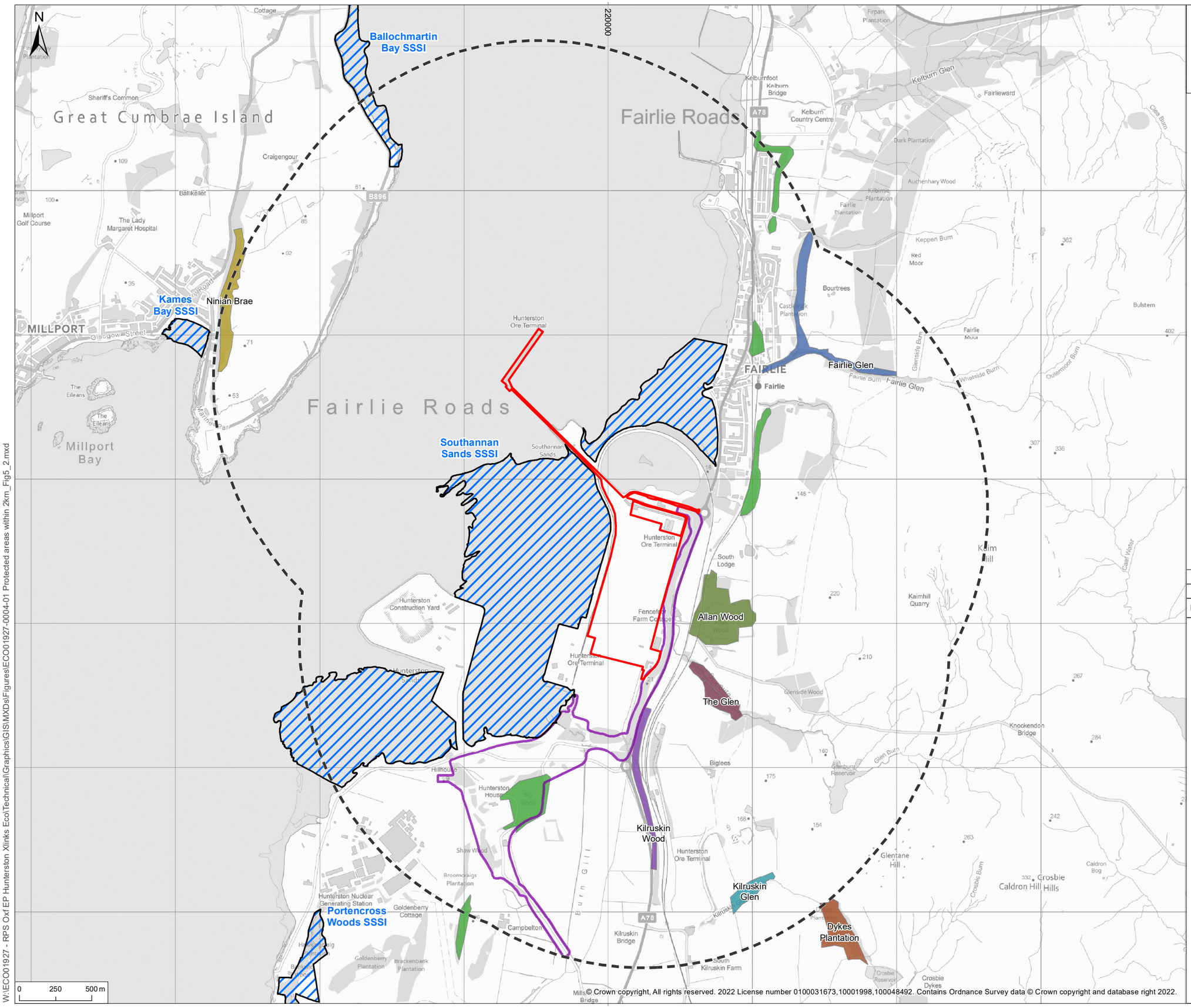

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Legend

- Site Boundary
- 2km search area
- Sites of Special Scientific Interest (SSSI)
- Tree Preservation Order

Ancient and Long-established Woodland Sites

- Allan Wood
- Dykes Plantation
- Fairlie Glen
- Kilruskin Glen
- Kilruskin Wood
- Ninian Brae
- The Glen
- Unnamed

Rev	Description	By	CB	Date

Atholl Exchange, 1st Floor, 6 Canning Street, Edinburgh EH3 8EG
T: +44(0)131 555 5011 E: rpsed2@rpsgroup.com

Client: XLCC Ltd

Project: XLCC Hunterston

Title: Protected areas within 2km of the Project site boundary

Status	Drawn By	PM/Checked By
DRAFT	KAG	-

Project Number	Scale @ A3	Date Created
ECO01927	1:25,000	JAN 2022

Figure Number: **5.2**

Rev: -

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Legend

- Site Boundary
- Phase 1 Habitat survey area (2018)

Phase 1 Habitats

- A1.1.1 - Broadleaved woodland - semi-natural
- A2.1 - Scrub - dense/continuous
- B2.2 - Neutral grassland - semi-improved
- B5 - Marsh/marshy grassland
- C3.1 - Other tall herb and fern - ruderal
- J1.3 - Cultivated/disturbed land - ephemeral/short perennial
- J3.6 - Buildings
- J4 - Bare ground
- Hardstanding
- A2.2 - Scrub - scattered

Rev	Description	By	CB	Date

Atholl Exchange, 1st Floor, 6 Canning Street, Edinburgh EH3 8EG
T: +44(0)131 555 5011 E: rpsed2@rpsgroup.com

Client: XLCC Ltd

Project: XLCC Hunterston

Title: Phase 1 Habitat Survey Results

Status	Drawn By	PM/Checked By
DRAFT	AC	-
Project Number	**Scale @ A3**	**Date Created**
ECO01927	1:12,000	JAN 2022
Figure Number		**Rev**
5.3		**-**

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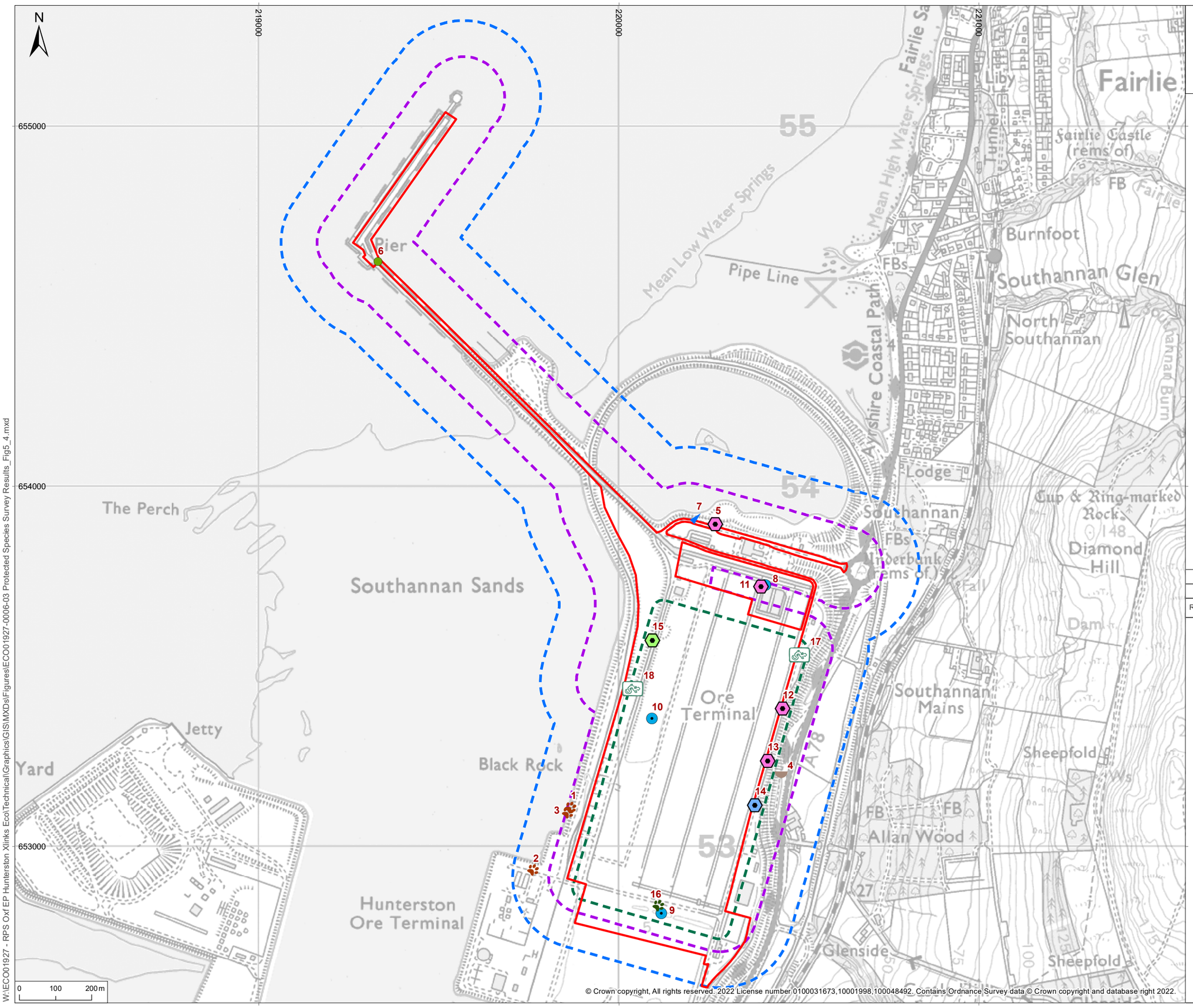

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Legend

- Site Boundary
- Ecology constraints walkover area (30m buffer)
- Badger survey area (100m buffer)
- Otter survey area (200m buffer)

Target notes (2021)

- Potential bird nesting site (1)
- Rhododendron (4)
- Giant hogweed (1)
- Japanese knotweed (1)
- Badger print (1)
- Pond (3)
- Otter print (3)
- Squirrel sp. drey (1)
- Unidentified mammal path (1)
- Reptile refugia (2)

Rev	Description	By	CB	Date

Atholl Exchange, 1st Floor, 6 Canning Street, Edinburgh EH3 8EG
T: +44(0)131 555 5011 E: rpsed2@rpsgroup.com

Client	XLCC Ltd
Project	XLCC Hunterston
Title	Protected Species Survey Results

Status	Drawn By	PM/Checked By
DRAFT	KAG	-
Project Number	**Scale @ A3**	**Date Created**
ECO01927	1:10,000	JAN 2022
Figure Number		**Rev**
5.4		-

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ANNEXES

Annex A

Great Crested Newt Habitat Suitability Index Results

Pond Ref	Easting	Northing	Geographic location (SI1)	Pond Area (SI2)	Permanence (SI3)	Water quality (SI4)	Shade (SI5)	Waterfowl (SI6)	Fish (SI7)	Pond count (SI8)	Terrestrial habitat (SI9)	Macrophytes (SI10)	Overall HSI score	Pond suitability	Notes
1	220406	653724	C (0.01)	4200 m^2 (OMIT)	Never dries (0.9)	Moderate (0.67)	0 (1)	Minor (1)	Absent (1)	4 (0.66)	Poor (0.33)	20 (0.5)	0.50	Poor	Large and deep settlement pond to the north of the site.
2	220118	652814	C (0.01)	150 m^2 (0.02)	Dries annually (0.1)	Moderate (0.67)	0 (1)	Minor (1)	Absent (1)	4 (0.66)	Poor (0.33)	5 (0.25)	0.29	Poor	very shallow ephemeral pond.
3	220092	653356	C (0.01)	3000 m^2 (OMIT)	Sometimes dries (0.5)	Poor (0.33)	0 (1)	Major(1)	Absent (1)	4 (0.66)	Poor (0.33)	5 (0.25)	0.29	Poor	Several ponds in this location, all show signs of intense use by birds (notably: Canada geese).

Photographic References for GCN HSI

Pond 1

Pond 2

Pond 3

Annex B

Protected Species Target Notes

TN ID	Easting	Northing	Comment
1	219867	653109	Otter footprints leading to within the rock armour. Due to the hazardous nature of the rock armour, it was not possible to assess whether this area was being used as a resting site.
2	219763	652935	A set of muddy otter prints over concrete ground.
3	219859	653094	Otter footprints in addition to possible body prints within the sand where an otter may have rolled to dry off.
4	220451	653199	A squirrel drey within a Scots pine tree. It was not possible to determine the species or whether the drey was still in use.
5	220268	653895	Two large groups of rhododendrons either side of a paved path leading to the water.
6	219332	654625	A shag (*Gulosus aristotelis*) resting on a shelf of the jetty, highlighting a potential bird nesting site.
7	220216	653914	An unknown mammal path leading north towards the area designated as a Local Nature Reserve.
8	220406	653724	Large and deep settlement pond to the north of the site
9	220118	652814	A very shallow ephemeral pond.
10	220092	653356	Several ponds in this location, all show signs of intense use by birds (notably: Canada geese).
11	220402	653723	Rhododendron - single shrub next to pond.
12	220455	653383	Rhododendron – several mature shrubs just outside of the site fence line.
13	220414	653238	Rhododendron - mature shrub just outside of fence line.
14	220378	653115	Giant hogweed - several plants within and just outside the site fence line.
15	220094	653573	Japanese knotweed – large stand amongst sea buckthorn just outside of the site boundary.
16	220111	652836	Badger print within soft mud next to puddle.

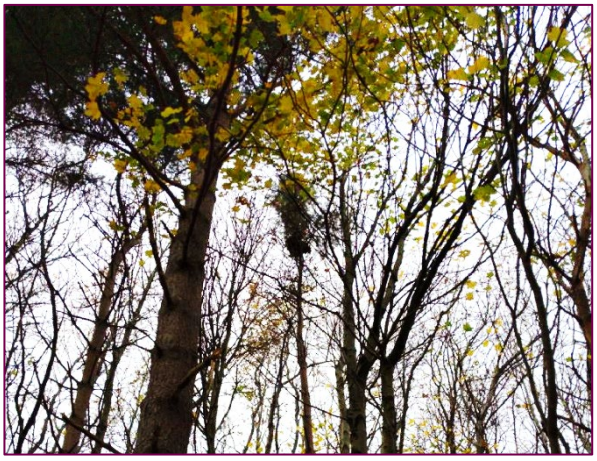
TN ID	Easting	Northing	Comment
17	220502	653532	Potentially suitable reptile habitat comprising of a flat area of compacted type 1 crushed aggregate. Successional vegetation provides cover and varied habitat structure, as well as opportunities for resting and hibernation.
18	220039	653438	High reptile habitat suitability, flat, rough grassland, shrubby, will catch sun all day, varied floral height and structure.

Photographic References for Protected Species Target Notes

TN1

TN2

TN3



TN4

TN5

TN 6

TN7

TN8

TN9

TN10

TN11

TN12

TN13

TN14

TN15

TN16

TN17

TN18

Annex C

Relevant Legislation

European Protected Species

European Protected Species are defined under the European Commission (EC) Habitats and Species Directive 92/43/EEC and include species such as otter, and all species of bat. The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) translates this European legislation into UK law. This was updated to the Conservation of Habitats and Species (Amendment) (EU Exit) regulations 2019 following the UK's exit from the European Union.

This legislation makes it an offence to deliberately or recklessly kill, injure or disturb European Protected Species. Their places of shelter are fully protected, and it is an offence to damage, destroy or obstruct access to or otherwise deny the animal use of a breeding site or resting site, whether deliberately or not. It is also an offence to disturb in a manner that is, or in circumstances which are likely to significantly affect the local distribution or abundance of the species, disturb in a manner or circumstances which are likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young. Any activity which is likely to affect such a species requires prior consultation with the relevant statutory nature conservation organisation. In Scotland, the relevant statutory consultee is NatureScot.

A licence from the NatureScot is required in cases of potential disturbance of European Protected Species or damage or destruction of a resting site as a result of work activities. Under the Conservation of Habitats and Species (Amendment) (EU Exit) regulations 2019 licences may be granted for:

- preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.

Importantly in order for a licence application to be successful, two tests must be satisfied, namely:

- there is no satisfactory alternative (including retaining the status quo); and
- the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in its natural range.

The Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 provides protection to a range of species and habitats. The Nature Conservation (Scotland) Act 2004 and Wildlife and Natural Environment (Scotland) Act 2011 then amend the Wildlife and Countryside Act in Scotland.

Section 9 of the Act provides protection to certain animal species. Enhanced protection is provided for species listed in Schedule 5 which includes water voles and red squirrels. It is an offence to intentionally or recklessly kill, injure or take animals listed in Schedule 5, with the exception of water voles, which are protected in respect of Section 9(4) only, meaning that water vole habitat is protected, although the animals themselves are not. It is also an offence to recklessly damage, destroy or obstruct access to any place used for shelter or breeding by species listed under Schedule 5. Any works which may potentially cause disturbance to such a species requires prior consultation with NatureScot.

The Wildlife and Countryside Act 1981 (as amended) also protects against the spread of invasive non-native plant and animal species (INNS). Specifically, in relation to plants, it is an offence under this legislation to plant or otherwise cause a plant to grow in the wild at a place outwith its native range and includes species such as Japanese knotweed (Fallopia japonica), giant hogweed (Heracleum mantegazzianum) and rhododendron (Rhododendron ponticum and hybrids).

In addition to the above, all wild birds, their nests and their eggs are protected under the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to intentionally or recklessly:

- kill, injure or take any wild bird (excluding certain specified game and other licence-controlled species);
- take, damage, destroy or otherwise interfere with the nest of any wild bird while it is in use or being built;
- obstruct or prevent any wild bird from using its nest; or
- take or destroy the egg of any wild bird.

In addition, there are some rare breeding species, such as golden eagle, barn owl or kingfisher, which are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), which receive extra protection, making it an offence to intentionally or recklessly:

- disturb any species listed under Schedule 1 of the Act whilst at the nest site, or while building a nest;
- disturb the dependent young of any species listed under Schedule 1;
- disturb any species listed under Schedule 1 which leks while it is doing so;
- harass any wild bird included in Schedule 1A; or
- take, damage, destroy or otherwise interfere with any nest habitually used by any wild bird included in Schedule A1, even when that nest is not in use.

The Protection of Badgers Act 1992

Badgers are protected under the Protection of Badgers Act 1992. In Scotland, this legislation was updated by the Nature Conservation (Scotland) Act 2004, which makes it an offence to recklessly take, injure or kill a badger, or destroy, disturb or interfere with its sett. In addition, badgers are afforded protection from cruel ill-treatment. This has been defined to include preventing a badger access to its sett, as well as causing the loss of significant foraging resources within a badger territory.

A licence from NatureScot is required in cases of potential disturbance of badgers or damage or destruction of a badger sett as a result of work activities.

Annex D
Methodology

Protected Species Surveys

An otter and badger survey was undertaken on 09 November 2021. Survey buffers used are presented in Figure 5.1. During the survey all incidental field signs or observations relating to protected wildlife species were also recorded.

Otter

All waterbodies, watercourses, and minor ditches within the Survey Area were assessed for their potential to support otters, where access permitted and where it was safe to do so. Any signs of otter activity were recorded. Otter field signs are described in Bang and Dahlstrøm (2001) and include resting sites (e.g. holts and couches), spraints, prints and feeding remains. Descriptions of these and other field evidence terms are provided below:

- Holts - these are underground features where otters live. They can be tunnels within bank-sides, underneath root-plates or boulder piles, and even man-made structures such as disused drains. Holts are used by otters to rest up during the day due to the crepuscular nature of their foraging activities and may be used as natal or breeding sites. Otters may use holts permanently or temporarily;
- Couches - these are above ground resting sites. Couches can be very difficult to identify, sometimes consisting of no more than an area of flattened grass or earth, and are best identified by the presence of other field signs (e.g. spraints);
- Prints - otters have characteristic footprints that can be found in soft ground and muddy areas;
- Spraints - otter faeces can be used to mark territories, often on in-stream boulders. They can be present within or outside the entrances of holts and couches. Spraints have a characteristic smell and often contain fish remains;
- Feeding signs - the remains of prey items may be found at preferred feeding stations. Remains of fish, crabs or skinned amphibians can indicate the presence of otter;
- Paths - these are terrestrial routes that otters take when moving between resting-up sites and watercourses, or at high flow conditions when they will travel along bank sides in preference to swimming; and
- Slides and play areas - slides are typically worn areas on steep slopes where otters slide on their bellies, often found between holts/couches and watercourses.

Any of these field signs are diagnostic of the presence of otters although spraints are the most reliably identifiable evidence of the species' presence. Otters are active all year and so there is no optimal time of year in which to undertake otter surveys. However, otter surveys should be timed to avoid periods of heavy rain or high water (following period of prolonged heavy rain), which might wash away field signs, thus potentially leading to under-recording or failing to confirm the species presence.

Badger

All areas of suitable habitat (e.g. woodland and scrub) within the Survey Area where access permitted and where safe to do so were assessed for their potential to support badgers. Any signs of badger activity were recorded.

Badger field signs are described in Bang and Dahlstrøm (2001) and SNH (2001) and include:

- Setts - used by badgers which can be sub-categorised into the following:
  - Main setts: several holes (sometimes up to 30) with large spoil heaps and obvious paths emanating from and between sett entrances;
  - Annex setts: Normally less than 150 m from the main sett, comprising several holes and usually with well-defined runs connecting it to the main sett;
  - Subsidiary setts: Normally fairly close to the main sett (at least 50 m away), typically comprising 3-5 entrances, generally with no tracks connecting them to other setts and only signs of occasional use; and
  - Outlier setts: Typically consisting of just one or two entrances with little spoil outside the entrance holes, often with no obvious paths connecting them to other setts.
- Latrines - dung pits used as territorial markers;
- Prints - distinctive in shape;
- Guard hairs - these are distinctive in shape and colour and are often found snagged on wire fencing; and
- Foraging signs - snuffle holes and excavated wasp/bee nests.

Any of the above signs (with the exception of foraging signs) can be taken as diagnostic evidence of the presence of badger.

Ecological Constraints Walkover

The scope of the survey was to establish a baseline of ecological constraints specifically relating to protected or notable species and ascertain whether the proposed development will have the potential to affect protected or notable species. Therefore, a survey field visit was undertaken on 03 June 2021 during daylight hours to identify the presence of notable species of plant and animal and make notes on the likelihood of these species' use of the site. Target species/groups considered were: badgers, bats, otters, water vole, amphibians, reptiles, terrestrial invertebrates, fish and fish habitats and INNPS.

Badgers

Signs of badger (e.g. latrines, push-throughs, paths, and setts) were sought within the ecological constraints survey area with notes taken on the apparent regularity and recency of use and classified in line with best practice guidelines.

Bat

Structures, natural features, and trees within the study area were assessed for their bat roosting potential as per the current Bat Conservation Trust guidelines (Collins, 2016). Areas and broad habitats which presented opportunities to support roosting, foraging, and commuting bats were also noted.

Table B.1: Bat suitability Criteria (taken from Collins, 2016)

Suitability	Description Roosting Habitat	Commuting and Foraging Habitat
Negligible	Negligible habitat features on site not likely to be used by roosting bats.	Negligible habitat features on site not likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as gappy hedgerows or unvegetated streams, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to its size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site close to and connected to known roosts.

Otter

All waterbodies, watercourses, and minor ditches within the Survey Area were assessed for their potential to support otters, where access permitted and where it was safe to do so.

Water Vole

Any watercourses within the study area were assessed for their suitability to support water voles (by looking at the bank structure, vegetation height and composition, and water availability) and any evidence of voles was recorded in line with best practice guidelines (Dean, et al., 2016).

Great Crested Newts

Habitat Suitability Assessment

Any ponds/standing water within the Survey Area, where access was permitted and safe to do so, were assessed for the suitability of supporting great crested newts. The great crested newt Habitat Suitability Assessment (HSA) survey uses the Habitat Suitability Index (HSI) as described in ARG UK Advice Note 5 (2010). The HSI takes into account ten key habitat criteria which influence the presence or likely absence of great crested newts, including factors such the size, water quality, permanence, shading, and macrophyte cover of potential breeding ponds. The assessment also

includes the quality of the surrounding terrestrial habitat which should ideally comprise a mosaic of rough grassland, scrub, and woodland, with opportunities for shelter and hibernation, as well as other potential breeding ponds. Ponds which support high densities of fish and/or waterfowl and those which are very shallow, dry-up regularly, or are polluted are generally considered to be unsuitable (Gent and Gibson, 2003).

Each criterion is scored according to its suitability and the resulting HSI scores, which are between 0 and 1, provide an indication as to the likelihood of a pond's potential to support great crested newts. In general, ponds with high scores are more likely to support great crested newts than those with low scores, although just because a pond achieves a poor HSI score does not necessarily mean that great crested newts will not be present.

The HSI score bands presented in Table B.2 have been developed to provide a rough guide as to the likelihood of ponds surveyed to support great crested newts based on their HSI scores. These scores act as a guide to the suitability of waterbodies for great crested newts; however, professional judgement is applied to these scores to give the final suitability of any pond assessed.

Table B.2 Great Crested Newt Habitat Suitability Index

GCN Habitat Suitability Index	
HIS Score	**Pond Suitability**
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Reptiles

Broad habitats within the study area were assessed for their suitability to support populations of reptiles by looking at various features (e.g. aspect, potential hibernacula, patch size, and habitat structure or naturalness) in line with best practice guidance (Edgar et al., 2010). Evidence of reptiles (e.g. sightings or presence of sloughs) was also recorded.

Invasive Non-Native Plant Species

The most damaging invasive non-native species (*Rhododendron ponticum*, Japanese knotweed (*Reynoutria japonica*), giant hogweed (*Heracleum mantegazzianum*), and Himalayan balsam (*Impatiens glandulifera*) were specifically sought within the site. However, evidence of any other non-native species (e.g. grey squirrel [*Sciurus carolinensis*] or giant rhubarb [*Gunnera manicata*]), where observed, were recorded as points within the study area.

Terrestrial Invertebrates

Broad habitats within the study area were assessed for their likelihood to support terrestrial invertebrates of conservation note. There is little available guidance on this and so generally, habitats which are atypical within a local, regional, or national context are considered likely to support invertebrate communities of conservation priority, as are: semi-natural broadleaved woodland, semi-natural coniferous woodland, flower-rich grasslands, peatlands, wetlands, and open mosaic habitats on previously developed land in line with expert recommendations (Cathrine, 2020).

Fish and Fish Habitats

A basic assessment of any water courses within the study area for their accessibility for fish (e.g. through identification of downstream barriers to fish movement) was combined with an assessment of the watercourse for signs of pollutants and presence of three key features which can affect a watercourses suitability for fish: The presence of cover (e.g. vegetation, fallen trees or overhanging banks); the depth of water; and the substrate where it can be seen.